UNIVERSITÄT BIELEFELD

Sustainability Report 2023

uni-bielefeld.de/nachhaltigkeitsbericht2023

Table of Contents

Preface

Dear Readers,

It is with pleasure and pride that we present this first Sustainability Report of Bielefeld University. As Vice-Rector for Science and Society and Chancellor of the University, it is important for us to give you a comprehensive insight into our efforts and progress in the field of sustainability.

The implementation of sustainability and climate protection is undoubtedly an enormous challenge, of which we are fully aware as a university. Given the global urgency of these issues, we take our responsibility very seriously. We understand that it is essential that our university plays its part in shaping a sustainable future.

With the adoption of the Sustainability Mission Statement in July 2023, our university set out to bring about a sustainable transformation that does equal justice to environmental, social and economic aspects. We are committed to promoting and integrating sustainable thinking and action in all areas of our institution.

However, we would also like to emphasise that a university such as ours poses particular challenges, especially with regard to the building fabric. Nevertheless, we are not discouraged by these obstacles. On the contrary, they motivate us all the more to develop innovative solutions and to do our best. However, we cannot achieve this alone, but depend on support from the state government, for example.

As a university, we stand first and foremost for research and teaching, and we are aware that as an academic department we can play a significant role in finding solutions to the pressing challenges of our time. Therefore, we take on this task with special care. However, all our goals and measures must also remain compatible with precisely our tasks in research and teaching.

Alexandra Kaasch and Stephan Becker

In this report, we would like to show you transparently how we are facing all these challenges so far. This report is an important milestone on our way to a more sustainable university. Aligned with our mission statement, it displays the status quo of our efforts, documents our progress and makes it clear that we want to continue to develop. We are aware that this is a process that requires perseverance and shared commitment. We are determined to further intensify our efforts in the coming years and to plan ambitious measures to continuously implement the goals from the Sustainability Mission Statement.

Finally, we would like to thank everyone who was involved in the preparation of this report. Your dedication and expertise have helped to ensure that this report provides a comprehensive picture of our sustainability efforts.

Yours sincerely

Prof. Dr. Alexandra Kaasch
Prorector for Science & Society

Dr. Stephan Becker
Chancellor

The Sustainability Report: Development, Objectives, Data Selection

This first Sustainability Report of Bielefeld University was conceived and written on behalf of the university management, coordinated by the Prorectorate for Science and Society and under the leadership of the Sustainability Office.

It is a *status quo* report that provides information on the sustainability activities of Bielefeld University in the fields of study and teaching, research and operations. It is based on a comprehensive understanding of sustainability with ecological, economic and social perspectives along the lines of Bielefeld University's Sustainability Mission Statement. The report also explains the structures and strategies for dealing with sustainability at Bielefeld University (see Governance section).

This Sustainability Report is the starting point for regular monitoring and quality management in order to create transparency about the process and the status of achieving the goals formulated in the Sustainability Mission Statement. Its main features are based on the university-specific German Sustainability Code (HS-DNK).

The Sustainability Report is published exclusively as a web version. This saves considerable resources compared to a print medium and makes it easier to link to more extensive information and related topics.

Data selection

The selection of indicators and data is based on the HS-DNK and the Sustainability Mission Statement of Bielefeld University. Quantitative and qualitative data are presented. The quantitative data (especially the GHG balance) cover the period up to and including 2021 (data for 2022 will be available from the next report). The qualitative data (e.g. on research projects) were included up to and including the first half of 2023.

Currently, not all necessary data is available to the same extent and quality. In subsequent reports, we anticipate an increasingly better and more complete data situation, which will increasingly enable us to better record and present developments and trends.

In other respects, too, this Sustainability Report makes no claim to completeness: In particular, the projects presented in the various fields of action often reflect only a selection. They are intended to give an impression of the various activities with which the topic of sustainability is being advanced at Bielefeld University.

Sustainability Mission Statement of Bielefeld University

From April 2022 until the end of 2022, the central project in the development of a sustainability strategy at Bielefeld University was a comprehensive participation process that gave all university members the opportunity to take part in the development of a Sustainability Mission Statement. In July 2023, the Sustainability Mission Statement of Bielefeld University was adopted. The following chapter presents a comprehensive account of the process and the mission statement itself.

© Bielefeld University

Sustainability Mission Statement of Bielefeld University

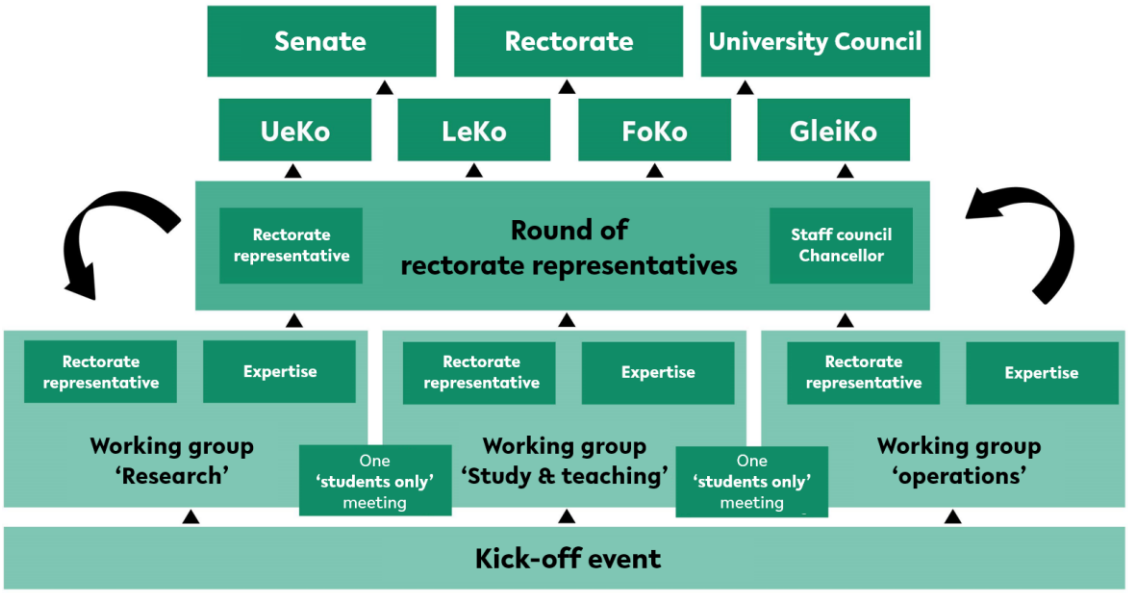
The sustainability mission statement is a central element in the development of the sustainability strategy at Bielefeld University. It reflects the university's fundamental understanding of sustainability and contains long-term objectives for the pursuit of sustainable development at the university. The mission statement is the guideline for future decisions in various areas of the university, but it is not itself a catalogue of measures.

The sustainability mission statement represents an external commitment to sustainability at the university and at the same time signals the willingness of university members to dedicate themselves to the sustainable development of Bielefeld University. It is therefore formulated in the "we" and addresses all members of the university equally, not just the university management.

Development of the Sustainability Mission Statement

A participatory process took place until the end of 2022, giving all members of the university the opportunity to contribute to an initial draft of the sustainability mission statement and contribute ideas.

Initial ideas for a sustainability-focused university were collected at a *kick-off event*. These were further elaborated in the three *working groups*, Studies & Teaching, Research and Operations, which were led by four Rectorate representatives. One meeting of each working group was a "students only" meeting, for which students could register separately. The additional "students only" meetings were intended to allow students to explicitly contribute their views on the respective topic area as well as specific wishes and hits in a space created especially for them.



Structure of the participation process for the sustainability mission statement © Bielefeld University

An initial version of the sustainability mission statement was developed in collaboration with the Rectorate representatives at the beginning of 2023. This was further elaborated during intensive discussions in the Rectorate and in the university's committees. The sustainability mission statement was finally adopted by the Senate on 5 July 2023 and by the Rectorate on 11 July 2023. An editorial group is still making adjustments, which will be discussed again by the Senate and the Rectorate.

Participation as part of strategy development

A central aspect in the development of a sustainability strategy at Bielefeld University is the participation of university members. Not only was a participation format provided for this as part of the development of the sustainability mission statement. Various participation and information formats are also being developed beyond this in order to pursue transparent and open communication about initiatives and projects in the area of sustainability (for example via the sustainability portal and the sustainability newsletter) and to encourage all university members to join in and follow suit.

Governance

As an educational and research institution, Bielefeld University has set out to support the transformation towards a sustainability-oriented society through teaching and research (see "External sustainability-related target agreements & internal recommendations for action"). With almost 24,500 students and around 3,500 employees, Bielefeld University is the size of a small town. This makes sustainable development at the university a very complex task. The following agreements, structures and networks have been developed for this purpose:

Sustainability mission statement

Institutional structures

External networks

External target agreements / Internal sustainability-related guidelines

The university's sustainability strategy and sustainability mission statement are the result of the intensive commitment of many university members, who have formulated clear and ambitious goals based on the university's strengths. **External sustainability-related guidelines and target agreements define the framework conditions.** These include, for example, the 17 Sustainable Development Goals set out in the 2030 Agenda, the statement on sustainability by the German Rectors' Conference, the German Sustainability Strategy, the Climate Neutral State Administration (KNLV) and the Climate Protection Act of the State of North Rhine-Westphalia, which was passed by the state parliament on 1 July 2021. In addition, Bielefeld University has agreed to the "Strengthening study and teaching" future agreement of the state of North Rhine-Westphalia and the side letter, an addendum to the NRW 2021 university agreement, which explicitly includes a commitment to sustainability.

Bielefeld University is also subject to the obligations of various university agreements and contracts. The Higher Education Agreement NRW 2026 forms the basis for cooperation between the state and the university and secures its development and funding. The university agreement stipulates that universities develop strategies and measures for sustainable university development. Sustainability is understood as a cross-cutting issue that is taken into account by the universities in the core areas of teaching, research and transfer. This concern is underpinned by a side letter to the Higher Education Agreement 2021, in which the universities undertake to report on the identification of measures, initiatives and the status quo of their strategy for sustainable development as well as their involvement in external networks.

In addition, Bielefeld University is required to comply with specified energy standards in the building sector with regard to new construction and renovation measures and in most cases goes well beyond the minimum requirements of the Energy Saving Ordinance (EnEV) and the Building Energy Act (GEG). All specific measures for energy and resource efficiency can be found in the respective subject areas in the Operation section.

These guidelines provide a framework for actively shaping the sustainability strategy at the university. Internal guidelines and procedures are based on this, which are intended to ensure a more sustainable use of resources, for example: The most recent example is an adaptation of the university's travel guidelines, which is currently being drafted. The guidelines are intended to take into account aspects of climate-friendly travel by excluding funding for certain short-haul flights and levying a climate levy per flight.

In addition, Bielefeld University is in the process of developing measures to reduce paper consumption and climate-friendly construction.

As part of the implementation of the sustainability mission statement, possibilities for further guidelines are being explored. As sustainability is seen as a shared responsibility at Bielefeld University, the university also relies on the individual responsibility of each and every member of the university.

Institutional structures

With the development of a clear sustainability strategy, Bielefeld University has established supporting structures since autumn 2021. The topic of sustainability is continuously being thought ahead and is firmly anchored in the rectorate with the Vice-Rectorate for Science and Society. This is where the sustainability strategy is developed, elaborated and implemented in cooperation with the Chancellor.

Various other structures and functions have been created to pursue this goal:

A sustainability steering group has been set up
A sustainability steering group consisting of the Vice-Rector for Science and Society and the Chancellor (supported by the Sustainability Office and the Head of Facility Management) was set up for the development phase of the sustainability strategy. The transition to the medium-term planning phase will take place in 2024, for which appropriate committees will be set up to decide on suitable implementation measures and the use of resources.
A Sustainability Office has been set up
The Sustainability Office is the central point of contact for all university members with sustainability-related concerns. It also plays a key role in coordinating ongoing sustainability processes and organising exchanges between those involved in the process.
Climate Protection Management was established
Climate Protection Management is part of the Facility Management (FM) department, organises the university's climate protection activities and supports the implementation of political guidelines on climate protection at university level. In addition to preparing and updating the university's greenhouse gas balance sheet, the Climate Protection Management team initiates, monitors and evaluates measures to reduce greenhouse gas emissions.
A participatory process to develop a sustainability mission statement was set up and implemented, respectively
In terms of strategy development, the initial focus was on the formulation of objectives as part of the development of the sustainability mission statement by means of a participatory process. As part of this process, a total of four rectorate officers were appointed to lead the working groups in formulating the

sustainability mission statement. The participatory process was completed in the end of 2022 and the sustainability mission statement was discussed by the university's committees.

Further promotional measures and accompanying public relations work have been initiated

At the same time, initial measures were already underway that were closely coordinated with the participatory process (e.g. Quality Fund plus with a focus on sustainability and interdisciplinarity). With this first sustainability report, the status quo of sustainability activities at Bielefeld University was recorded. This first phase served to give more space to the topic of sustainability at the university and to make the activities in the various fields of action more visible, as well as to encourage participation. Among other things, the "Sustainable Semester" was launched for this purpose.

With these institutional structures for the area of sustainability, the university is orientating itself towards an overall institutional approach: ecological, economic and social sustainability are to be integrated into the fields of study & teaching, research and operations in the long term. To this end, the institutional structures will be further developed and the sustainability mission statement will be translated into a concrete catalogue of measures in the further course of the procedure.

External networks

An essential component of a successful sustainability strategy is the exchange of knowledge and experience with other universities and institutions.

The German Society for Sustainability at Universities (DG HochN) is an important network in this regard. As a non-profit organisation, DG HochN makes sustainable developments at universities visible and strengthens the creative exchange between various university stakeholders. Bielefeld University has been an institutional member of DG HochN since 2022. This enables all members of the university to participate in various formats, such as the different co-creative hubs on various sustainability topics or network meetings. Prof Dr Alexandra Kaasch, Vice Rector for Science and Society at Bielefeld University, leads the recurring DG HochN HUB on the topic of "Exchange between rectorates and presidencies" in order to sponsor application-related exchange between rectorate and presidency members.

In 2021, the 16 universities in the state of NRW - including Bielefeld University - joined forces with the Wuppertal Institute for Climate, Environment and Energy to form the sustainability initiative of the universities in NRW - HumboldtN. Here, joint research interests and sustainability efforts of the various universities are coordinated and expertise is pooled. Prof Dr Angelika Epple, Rector of Bielefeld University, is a member of the HumboldtN board. As part of a travelling poster exhibition in 2022, Bielefeld University, together with the 15 other universities, presented a poster on the topic "Under pressure. Sustainability and its areas of tension", in which it presented the participation process for the sustainability mission statement, the Sustainable Semester and the new Y lecture theatre building. The posters have been and will be exhibited at various locations in NRW, such as the state parliament, various universities and the Wuppertal Institute.

Study & Teaching

"We consider studying and teaching to be particularly important for achieving the sustainability goals, as the graduates of today can be the multipliers of tomorrow."

— Lore Knapp, Thomas Hermann

As the rectorate's representative for sustainability in teaching and learning, we were tasked with developing goals for this area as part of a participatory process. We faced numerous challenges right from the start: What exactly does sustainability mean in the context of studying and teaching? What definition of sustainability should we use? How can we specifically measure the achievement of our goals? What horizon do we set for the goals? And in view of the alarmingly accelerating escalation of the climate emergency, is it not too indirect to create an impact years from now through degree programmes that last many years, when we need immediate change?

We consider studying and teaching to be particularly important for achieving the sustainability goals, as the graduates of today can be the multipliers of tomorrow - as leaders in companies, as teachers, as researchers. The better they have understood the extent of the sustainability crisis, the more inspired they are to work on solutions, and as people who are immune to disinformation and lobbying due to their ability to think critically. Education for sustainable development is future-orientated as it empowers people to find solutions to unexpected problems in a complex world. All students at the university should have the opportunity to engage with the principles and challenges of sustainability.

With this in mind, we set out to formulate initial goals for a sustainability mission statement for the university together with 24 committed members of the Study and Teaching Working Group. It quickly became apparent that different ideas prevailed as to how we should approach the problem: some emphasised that it was sufficient to convey information about mechanisms of action, while others saw the need to question more deeply what conditions are necessary to ensure that education does not stop at the acquisition of skills, but that transformation actually happens. Still others saw systemic resistance to introducing sustainability topics into disciplinary education at all. These discussions in such an interdisciplinary and diverse group, with representatives from all status groups, were not always easy, but ultimately enriching - and they reflect how different the views on the topic are, even in the small context of the university, even in the exchange between those who are committed to sustainability. The balancing act between 'too ambitious' and 'not ambitious enough', together with the task of ultimately formulating something that is connectable and can make its way through the committees, allowed us to find a consensus - in which one or two heartfelt concerns fell by the wayside.

Lore Knapp and Thomas Hermann, Rectorate representatives in the participation process for the creation of the sustainability mission statement

We hope that, despite various compromises, the positive feeling will prevail in the end. And we are convinced that our mission statement is more than just a compromise, that it is a testimony to the fact that through dialogue, participation and a lot of seriousness, core lines have become visible and that we can use it to align ourselves well as a university, to anchor the topic of sustainability in teaching - and at the same time to teach and learn more sustainably.

The process shows that the road is long - but we are on our way, and we are travelling together.

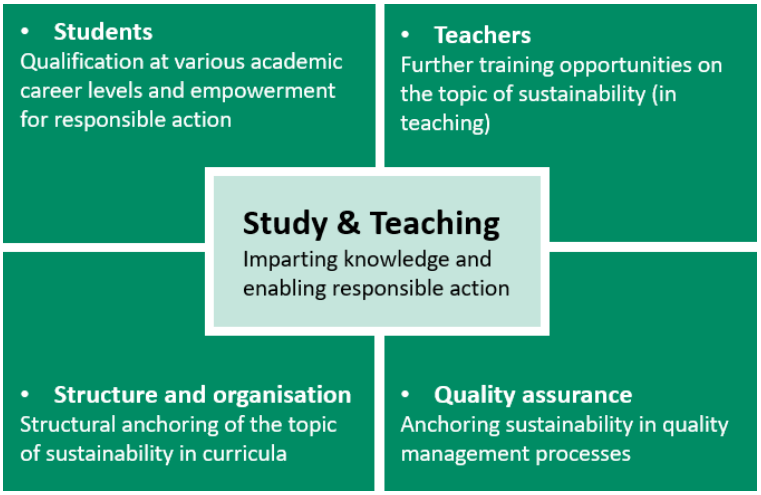
Anchoring sustainability in studying and teaching

The "sustainability" aspect has been added to the mission statement for teaching. It is closely linked to the quality management of teaching and learning and must be taken into account when introducing and further developing degree programmes. In order to ensure the further development of the quality of teaching and learning, all relevant and interlinked fields of action for teaching and learning are included in quality development and reviewed through regular evaluation. By including sustainability in the mission statement for teaching, the topic of sustainability is now also regularly considered and evaluated in the further development of degree programmes in order to bring about and monitor continuous development.

For many students at Bielefeld University, there is a comprehensive offer to attend modules or courses of their own interest outside of their fixed curricula as part of the individual subsidiary subjects. This gives Bachelor's students in particular the opportunity to include modules on sustainability topics in their degree programmes, even if these are not part of their regular curricula.

With its sustainability mission statement, Bielefeld University has set itself the goal of structurally anchoring sustainability in the curricula of its degree programmes. The aim is to enable students to recognise and assess problems of sustainable development in their context and to derive creative and scientifically sound solutions to sustainability issues. Teaching staff, instructors and lecturers should also be supported, for example through further training opportunities, in identifying sustainability topics relevant to their teaching and integrating them into their teaching.

The Centre for Teaching and Learning (ZLL) offers various services to support teaching staff and departments in the future-oriented design of teaching, the qualification of teaching staff and the development of innovative teaching, learning and examination concepts. Students are also empowered to make their voices heard in participatory processes. In 2021, for example, many teaching staff, instructors, lectures came together as part of BI.teach to discuss sustainability in teaching. This dialogue was continued as part of the LehrBar Spezial, which has already been held twice on the topic of sustainability. Another step in this direction is the acquisition of a campus licence for the Sustain 2030 simulation game, which enables teaching staff, instructors, lectures and their students to learn about the 17 Sustainable Development Goals (SDGs) of the United Nations in a playful way.



In order to recognise the commitment of individual teaching staff, instructors, lectures and provide incentives for sustainability efforts, the university sponsored the testing of new sustainability-related teaching formats for the first time in 2022 as part of the Quality Fund. This funding was initially aimed at sustainability-related teaching innovations at course level. In order to also focus on modules and entire degree programmes and to encourage and ensure that sustainability-related topics are firmly anchored in the curriculum, a special call

for proposals for the newly created Quality Fund plus was initiated with the Sustainability Office in 2023.

The sustainability prize for final theses was created as an incentive to engage with sustainability topics in the early qualification phase. This prize incentivises students to promote sustainable development with their academic contributions, e.g. as part of research-based learning.

Evaluation of sustainability in studies

In 2022, sustainability was integrated into the student survey for the first time in order to gain an overview of the status quo of the topic in the various degree programmes and subjects from a student perspective. Faculties were also asked to provide a self-assessment of sustainability issues in their degree programmes. This self-assessment is intended to provide an overview of the current offerings, focal points and any need for expansion.

Current projects

LehrBar special focus on sustainability

© Bielefeld University / Pollmeier

The Centre for Teaching and Learning (ZLL) at Bielefeld University regularly organises the LehrBar, an exchange format by and for teaching staff, instructors, lectures and researchers at Bielefeld University on the design of university teaching. External consultants are invited to the LehrBar Special to discuss specific topics. Teaching staff can thus receive impulses for the design of their own teaching and exchange ideas with colleagues about (new) teaching approaches, problems and solutions in a specific subject area. In the summer semester 2022, the ZLL offered two LehrBar Spezial on the topic of sustainability in teaching. In the Lehrbar Spezial with the title "Think global: sustainability topics in university teaching", the Scientists for Future Regional Group Bielefeld and the working group "Sustainability topics in teaching" provided an impulse on how teaching staff, instructors and students can address the challenges of climate change and integrate sustainability topics into their own university teaching. As part of the Sustainable Semester 2023, the ZLL also organised a special teaching bar on the topic of sustainability in April with the title "Saving the world through learning? - An impulse on the topic of education for sustainable development". Marius Albiez from the Karlsruhe Transformation Centre for Sustainability and Cultural Change (KAT) gave an impulse on how Education for Sustainable Development (ESD) is used in the Karlsruhe real-world laboratory context and what potential this offers for science, teaching and practice. Further information on upcoming and past events organised as part of the LehrBar can be found here.

Qualitäty fund for teaching

© Bielefeld University / Pollmeier

Bielefeld University has been sponsoring ideas and examples of good practice in the area of teaching and learning with the Teaching Quality Fund since 2017. Teaching staff, instructors, lectures can apply for funding for small teaching innovations and ideas on topic-specific focal points in order to develop their teaching. In the winter semester 2022/23, the focus was on the topic of "Lehren und Lernen [Centre for teaching and learning] sustainability", where projects could be submitted that dealt with the various facets of sustainability in terms of content or didactics. Further information on the Quality Fund for Teaching can be found here.

For example, the project "Designing space sustainably - applied landscape analysis in the context of current (environmental) changes" from the Faculty of Biology was sponsored within this framework. The aim of the project ending date was to establish the special module "GIS-based landscape analysis", in which students can take a look at the landscape with a focus on vegetation as a scientific subject and critically analyse the use of nature vs. the conservation of species and biotopes. On the other hand, the module serves to impart skills for work in planning offices, agencies and nature conservation.

The "Just Transformation and Tenancy Law" project from the Faculty of Law was also sponsored by the Teaching Quality Fund. This supports a format in which students can develop their position on Just Transformation of the national rental housing stock and contribute to the sustainability debate through an interdisciplinary exchange on the concept of sustainability in tenancy law.

Qualitäty fund plus

© Bielefeld University / Pollmeier

The Quality Fund Plus has been available for the first time since 2023. In addition to individual digital teaching innovations (variant 1), this call for proposals also enables teaching staff, instructors, lectures to implement more far-reaching curriculum-related innovations in degree programmes (variant 2) with significantly greater financial support. Variant 2 is aimed at redesigning or further developing qualification or study programme objectives and is advertised with changing thematic focuses. In 2023, the call for proposals focussed on the two topics of interdisciplinarity and sustainability. This was implemented through a cooperation with the Sustainability Office, which increased the call for proposals for curriculum development by 40,000 euros if the topic of sustainability is addressed. University teaching has a special responsibility, as it imparts theoretical knowledge about sustainability in the various areas of ecological, economic and social transformation. On the other hand, sustainability-focussed teaching can provide students with the skills to deal with complex conflicts of objectives in the area of sustainability and encourage them to reflect on future-oriented perspectives. As scientific and educational institutions, universities can thus also contribute to the development of personal and social competences in order to find solutions to problems in the areas of climate protection, energy transition, climate change adaptation and social and economic sustainability issues. The funding provides teaching staff, instructors, lectures with financial support to redesign or further develop qualification and study programme objectives.

BI.teach – Day for teaching

© Bielefeld University / Pollmeier

The "BI.teach - Day for Teaching" was organised for the first time in 2016 by the Vice-Rectorate for Studies and Teaching at Bielefeld University and has since invited teaching staff, instructors, lectures and employees from all Faculties to network and exchange ideas on a current topic related to teaching.

On 23 November 2022, the Centre for Teaching and Learning (ZLL) hosted the seventh "BI.teach" day for teaching at Bielefeld University under the banner of sustainability in order to facilitate an exchange between teaching staff, instructors and lecturers across faculties. The theme of the event was "Lehren und Lernen [Centre for teaching and learning] - Making teaching fit for the future", at which Prof. Dr Annette Kehnel gave a brief history of sustainability in her keynote speech. In the subsequent panel discussion, Prof. Dr Annette Kehnel, Anna Lena Grüner, Prof. Dr Walter Pfeiffer, Dr Franz Mauelshagen and students Elsa Mauruschat and Johanna Weidelt discussed ways of addressing sustainability in teaching and learning. This was followed by poster sessions, examples of good practice, presentations and workshops on the topic of sustainability to provide inspiration for your own university teaching.

Teaching and learning spaces of the future

The aim oft he project ending date ist o transform a classic seminar room into a flex seminar room. read more

Curriculum development in medicine

Climate change has a direct and indirect impact on human health and favours certain diseases. read more

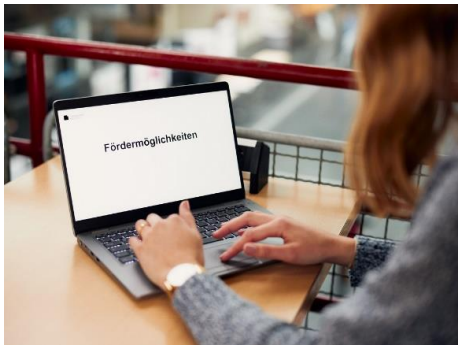
Sustain2030

© Bielefeld University / Pollmeier

Since the summer semester 2023, Bielefeld University has had campus licences for the Sustain2030 simulation game, in which the use of various measures to achieve the 17 Sustainable Development Goals is simulated in a fictitious citizens' council. The simulation game is designed to impart knowledge in the field of sustainable development goals and to familiarise students with the complex conflicting goals of the 17 Sustainable Development Goals (SDGs). The playful process gives students a feel for the many facets and complexity of the different levels of sustainability. Sustainability is not only understood in ecological terms, but also integrates social and economic aspects. The licences have been available to all teaching staff, instructors, lectures since the summer semester 2023.

In the events "Integrating the Sustainable Development Goals (SDGs) into teaching in a playful way - The Sustain2030 simulation game" as part of the staff development programme for researchers and lecturers, teaching staff, instructors, lectures were able to prepare for using the simulation game in their own teaching at the end of March and in September 2023. Further information on the campus licence and the PEP event can be found here.

Sustainability award for final theses



© Bielefeld University / Pollmeier

Bielefeld University honours outstanding theses that deal with theoretical or practical research into sustainability developments with the Sustainability Award. The award not only honours theses that deal with ecological sustainability, but also explicitly with economic or social sustainability. Students from all subject areas can apply with their final thesis for the Sustainability Award, which is endowed with 400 euros. In this way, Bielefeld University is incentivising students to take an academic approach to the topic of sustainability and make it visible to society. Further information can be found here.

Open Educational Ressources (OER)

© Bielefeld University / Pollmeier

As in its digitalisation strategy, Bielefeld University is also committed in its sustainability mission statement to creating extensive teaching and learning materials for students and teaching staff, instructors, lectures in cooperation with other universities. Open Educational Resources (OER) make educational materials publicly available. Open licensing enables free approval and the redistribution, editing and use of teaching/learning materials for staff, people outside the university. The advantages include the fact that these teaching/learning materials can be integrated into your own curriculum planning, the lifecycle of these resources is extended and they can therefore be used more sustainably. The ORCA.nrw platform has been published in NRW as a platform for the exchange of such materials.

As not only didactic but also legal aspects need to be considered when using and publishing OER, Bielefeld University offers a range of counselling services. The ORCA.nrw Coordination in the Centre for Teaching and Learning (ZLL) - Department of University Didactics and Teaching Development offers a checklist, special workshops and individual consultations for the use of OER. Copyright questions can be answered by the legal department of the Department of Teaching and Learning. At Bielefeld University, OER projects have already been sponsored by the Quality Fund for Teaching and the "Digi Fellowships " funding line of the state of North Rhine-Westphalia. In addition, projects are and have been sponsored by the OERcontent.nrw funding line, in which Bielefeld University is involved, including the following projects by teaching staff, instructors, lectures:

With Bielefeld University as consortium leader

- „KoLidi: Collaborative literary history digital and interactive“ (start 2020)

With Bielefeld University as consortium partner

- AUTHENTIC ENGLISHES.NRW – Production of digital teaching/learning programmes for NRW on linguistic varieties of English (1st OERcontent.nrw funding line)
- DigiMal.nrw – (digital maths teacher training) (1st OERcontent.nrw funding line) INKLUD.NRW – Development of an online teaching/learning environment for use in heterogeneity-oriented teacher training programmes (2nd OERcontent.nrw funding line)

- EkommMed – E-learning resources for competence-orientated communication training in the healthcare sector in North Rhine-Westphalia Digitales GWP-Curriculum.nrw (2nd OERcontent.nrw funding line)
- BInQ-Bio – Educational equity and inclusion as a cross-sectional task in biology teacher training programmes (3rd OERcontent.nrw funding line)

Evaluation: Sustainability in studying & teaching

Sustainability topics (ecological, economic, social) in the curricula of the various degree programmes

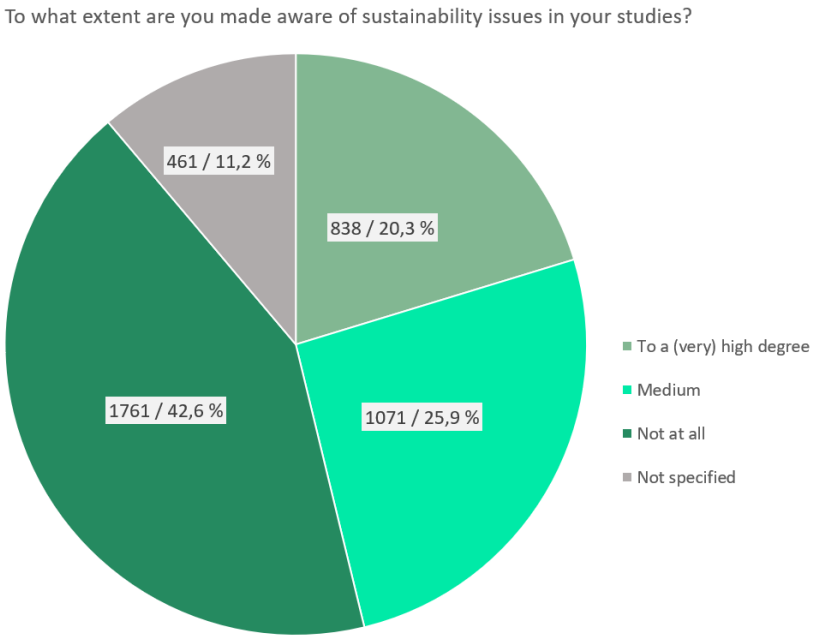
In the summer semester 2022, there was a cross-faculty survey on the topic of sustainability in teaching and learning. The various Faculties were asked to assess the curricular anchoring of sustainability topics in their various subjects and to describe which sustainability topics are already being implemented. Sustainability was defined in ecological, economic and social terms. The survey was conducted on a voluntary basis for the faculties and not all faculties responded with an assessment, which was partly due to the fact that there is still a need for information from the faculties on the definition of sustainability in the degree programmes.

The survey shows that sustainability topics with a social or economic reference are also anchored in the curricula of the various Faculties, but that the focus is on ecological sustainability topics. The survey also made it clear that there are differences between the degree programmes with regard to the anchoring of sustainability topics, although these cannot be quantified. For example, some Faculties stated that the topic of sustainability was already anchored in all of their degree programmes. Others, on the other hand, were unable to identify any anchoring in any degree programmes or stated that some courses were related to sustainability without there being any explicit curricular anchoring in the degree programmes.

Results of the students survey

In addition to this survey to determine the existing curricular anchoring of sustainability topics, the student perspective was also determined. To this end, in the winter semester 2022/23, students were asked for the first time in the student survey about their experiences and wishes regarding sustainability topics in teaching. Among other things, students were able to indicate the extent to which they had already been sensitised to the topic of sustainability in their previous teaching, i.e. whether they had already come into contact with sustainability topics.

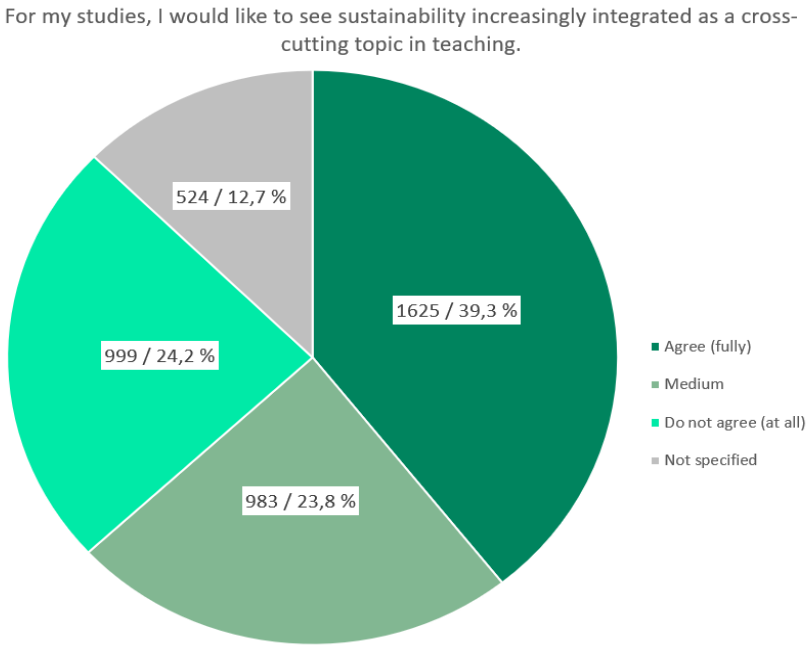
"Awareness" was explicitly asked for, as the curricular and modular design of sustainability topics can differ greatly between degree programmes.



© Bielefeld University

As part of the student survey in the winter semester 2022/23, 42.6 % of respondents stated that they had not yet been made aware of the topic of sustainability during their studies. In contrast, 20.3 % stated that they had been sensitised to sustainability issues to a (very) high degree and 25.9% to a medium degree. 11.2 % did not provide any information on this.

On the other hand, the student survey revealed that 39.3 % of students would like sustainability to be increasingly integrated as a cross-cutting topic in teaching for their own degree programmes. In contrast, 24.2 % stated that they did not agree with this wish (at all) and 23.8% agreed to a medium extent. 12.7 % did not provide any information on this.



© Bielefeld University

Research

"Placing a new focus on sustainable research conditions."

— Eleonora Rohland

Bielefeld University sees itself as a research university. Research and research-based teaching (see below) are therefore among the central tasks and main pillars of the university. In the context of sustainability, this means placing a new focus on sustainable research conditions. We had largely delegated this function from the Research Working Group to Campus Life and Operations in the participation process in order to avoid too much overlap and to be able to concentrate more on the other side, the research *content* on the topic of sustainability. At the same time, it was clear that this focus must not affect or restrict the freedom of research.

Our first step was to take stock of research projects at Bielefeld University that deal with sustainability issues in the broadest sense. In other words, we agreed in the working group that sustainability should also include research on climate change and the Anthropocene. To this end, we asked all Deans to forward our enquiry to their Faculties. The response was pleasingly intensive, so that we were able to compile a detailed list of current research projects, some of which are currently being applied for. In a next step, this list served as the basis for a bundling and visualisation of topics, which at the same time became the basis for the development of Bielefeld University's own concept of sustainability. This preliminary work showed the working group - and the work of the Sustainability Office - how intensive, diverse and interdisciplinary research on sustainability topics is being conducted at Bielefeld University. However, from the point of view of the working group, what has been missing so far is a platform or institutional infrastructure that could also make this research visible within the university.

Eleonora Rohland, rectorate representative in the participation process for the creation of the sustainability mission statement
@ Universität Bielefeld

As a result, substantial innovation potential has been and is being wasted, especially at a university for which interdisciplinarity is part of its DNA. Therefore, one of the central concerns of the working group for the sustainability mission statement was the creation of a platform to bundle and visualise research on sustainability topics, as well as the networking of researchers as incubation moments for new, interdisciplinary project ideas in the field of sustainability.

I would like to thank the Vice-Rector for Science and Society, my co-Rectorate representatives, the members of the Research Working Group, students and staff for their dedicated collaboration. The process was always accompanied by controversy and sometimes heated discussions, which ultimately always led to a better understanding and getting to know each other.

Strengthening sustainability in research

Bielefeld University endeavours to promote excellent researchers in an attractive research environment. We transcend boundaries - between disciplines, between people and between science and society. This principle of Transcending Boundaries is the driving force behind basic research at an international level. Sustainability issues are playing an increasingly important role. This applies to the content orientation of research projects as well as to a more sustainable organisation of research operations (e.g. less consumption of resources or energy).

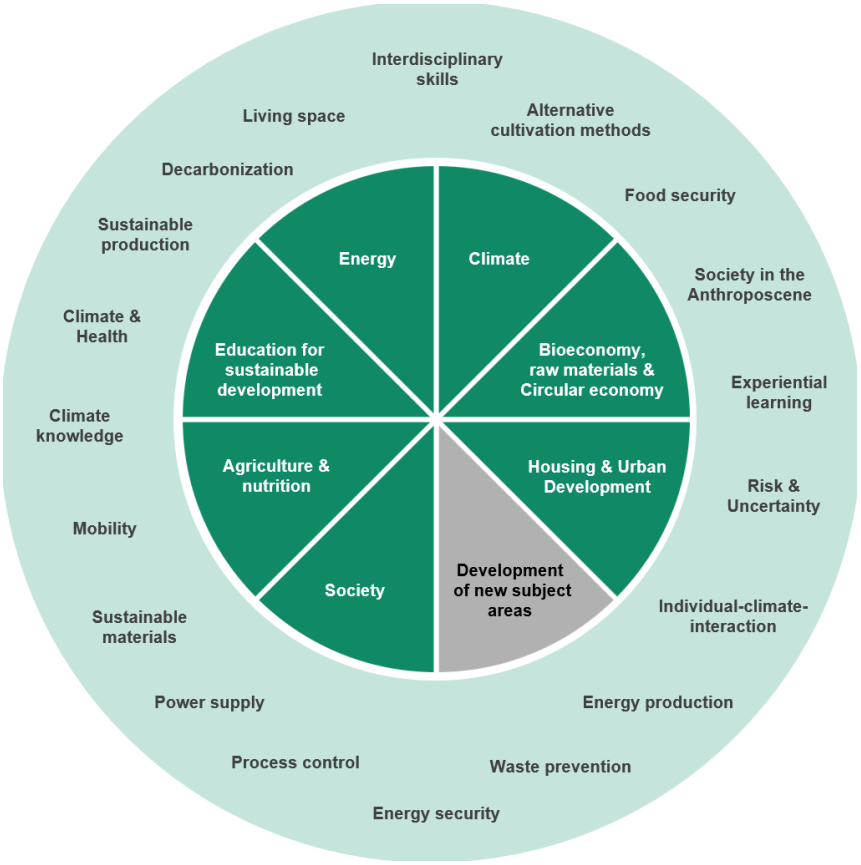
Building on the goals formulated in the sustainability mission statement, Bielefeld University aims to strengthen and expand research in the field of sustainability. The focus here is on both basic and applied research. Interdisciplinarity plays an important role here, especially joint research between the humanities, social sciences and natural sciences. The process of profile building is also central, through which sustainability can be anchored in the university's focus of research. Bielefeld University would like to:

- Create **institutional structures** to promote research in the field of sustainability.
- Conduct **research** in a resource-efficient and sustainable manner.
- Qualify researchers to design sustainable research projects by **imparting sustainability knowledge**.
- Establish **transdisciplinary networks** that enable exchange across disciplines and status groups, global and local research references and the integration of relevant stakeholders.

Research on sustainability at Bielefeld University

At Bielefeld University, sustainability issues are central to or included in an increasing number of research projects and projects ending dates. In addition, efforts to make research more sustainable can be seen in many areas.

This is displayed in surveys from 2020 and 2022, in which planned, current and completed sustainability-related research projects at Faculties were surveyed. The main topics covered range from climate and energy to society, education for sustainable development, housing & urban development, agriculture & nutrition, bioeconomy & circular economy.



© Bielefeld University

The figure shows the variety of topics in research projects in the inner circle. The outer circle shows sub-topics from which the overarching topics can be condensed. Due to frequent topic overlaps, however, the sub-topics are not clearly assigned to the overarching topics.

The area "Development of new subject areas" symbolises the continuous striving for further development and the opening up of new research areas at the university.

Research information system

The University's Research Information System (FIS) provides an overview of research projects and publications. Projects and publications can be entered here using any keyword and searched for. External interested parties have access to this database via the FIS-Portal. Example search in the FIS portal for the keyword „Nachhaltigkeit“ or „sustainability“.

Bielefeld 2000plus – research projects on the region

Environmental working group

With the initiative "Bielefeld 2000plus - research projects on the region", which is equally funded by the city and Bielefeld University, Bielefeld has succeeded in making an important contribution in this respect: the expertise of the university's researchers is increasingly being used to deal with problems relating to the region, approval is being facilitated for university employees to gain experience in local departments and an attempt is being made to promote dialogue between the university and the social groups that shape the city and, above all, to provide suggestions for the discussion of long-term effective political decisions.

Since 1997, Bielefeld University, the University of Applied Sciences and the City of Bielefeld have been working closely together under the umbrella of "Bielefeld 2000plus - research projects for the region" in order to utilise the locational advantage of the "university" aspect for Bielefeld and the region to an even greater extent. The aim is to intensify the networking of science, the city and the region and to promote the cross-institutional exchange of expert knowledge.

Bielefeld 2000plus organises working groups and projects in which science, city administration, citizens, cultural, educational and urban development stakeholders cooperate on content, create synergies and generate new ideas with a view to jointly overcoming future challenges.

The Environmental Working Group has been in existence for around 20 years. This inter- and transdisciplinary working group deals with challenges in the areas of the environment, climate change, mobility and sustainability at a regional level. Numerous research projects - always with a regional focus - have been launched since then. A selection of research projects is published online.

The Environmental Working Group is made up of representatives from the Bielefeld Environmental Agency, Bielefeld University of Applied Sciences, the Bielefeld Food Council, the Teutoburger Wald-Verein Bielefeld e.V. and researchers from the Faculties of Biology, Health Sciences, Economics and the Medical School OWL, among others.

Sustainable research projects

Assigned to the three dimensions of sustainability, "social", "ecological" and "economic", you will find below an exemplary selection of various research projects related to sustainability:

Social affairs

The Anthropocene as multiple crisis

As part of the Maria Sybilla Merian Center for Advanced Latin American Studies (CALAS) Bielefeld/Guadalajara, the research team, research unit, research group "Coping with Environmental Crises" is working on the topic of "The Anthropocene as a Multiple Crisis: Latin American Perspectives". The project aims to define and contribute new methodological and analytical foci to the understanding of the Anthropocene in Latin America and the Caribbean as well as in the social sciences and humanities. One of the main outcomes of this interdisciplinary and transatlantic project group is a 6-volume bilingual handbook on the history of the Anthropocene in Latin America. Although the start date of the Anthropocene is not uncontroversial, it is now widely accepted that it began in 1950, under the term "Great Acceleration", due to the rapid increase in polluting activities that made up the crisis of the Anthropocene that began at that time. However, if there is a "Great Acceleration", this also implies a preceding phase of slower condensation of these "Anthropocene" processes. Precisely because so many of the extractivist-capitalist practices that are part of the Western "enlightened" energy model and cultural construction have their origins in Latin America and the Caribbean, the project looks at the prehistory of the Anthropocene since 1492.

Contact: Prof. Dr. Olaf Kaltmeier (olaf.kaltmeier@uni-bielefeld.de), Prof. Dr. Eleonora Rohland (eleonora.rohland@uni-bielefeld.de)

to the project website

Cooperations:

University of Guadalajara: Prof. Dr. Gerardo Gutiérrez Cham
ITESO, Guadalajara: Prof. Dr. Susana Herrara Lima

YaBiNaPA – Yaoundé-Bielefeld Graduate School

Pis and doctoral students from YaBiNaPA at a network meeting in Yaoundé © YaBiNaPA

Traditional African medicine is still scientifically unexplored, although a large proportion of the population (up to 90%) uses it as their primary healthcare. Experts in therapy based on ethnopharmaceutical principles are urgently needed. YaBiNaPA aims to overcome this problem by providing doctoral students with interdisciplinary and translational training and by creating a communication platform between the disciplines of biology, chemistry and pharmacology, including traditional healers. YaBiNaPA is funded by the DAAD [German Academic Exchange Service] with funds from the BMZ. Among the 17 UN Sustainable Development Goals, YaBiNaPA focuses in particular on SDG 3 (Good Health and Well-being) and SDG 4 (Quality Education).

Faculty of Chemistry

Contact: Prof. Dr. Norbert Sewald (norbert.sewald@uni-bielefeld.de)

to the project website

Cooperation:

University of Yaoundé I: Prof. Dr. Bruno Lenta

Duration: 2016 - 2025

From insight to action – thoughtfulness, everyday living and socio-ecological transformation

In terms of transformative research, the conditions of the genesis of action-oriented knowledge for anchoring action - in this case biodiversity-related action - in everyday practice are investigated.

The focus in Bielefeld is on experiences of nature and their reflection - based on the assumption that a change in attitudes and practices with regard to biodiversity only has a chance if people reflexively relate their experiential, intuitive images and fantasies, their latent images of the world and people on the one hand to concrete experiences and rational ecological, political, social or cultural arguments on the other. In addition, the political self-image will be analysed, as participation is particularly important for a socio-ecological transformation. The aim of the research is 1) a qualitative reconstruction of latent ideas and fantasies or narratives about the concept of biodiversity and 2) a quantitative pre-post survey of the effect of our intervention with regard to the aforementioned socio-ecological transformation. We see the attempt at an inner transformation of the individual as a possible leverage point to achieve a social paradigm shift starting from the individual.

Faculty of Educational Science

Contact: Prof. Dr. Ulrich Gebhard (ulrich.gebhard@uni-bielefeld.de), Yasmin Goudarzi (yasmin.goudarzi@uni-bielefeld.de)

Cooperations:

Black Forest National Park: Dr. Kerstin Botsch (Sociology), Dr. Susanne Berzborn (Ethnology)
PH Ludwigsburg: Prof. Dr. Armin Lude, Maxi Ritter (Biology didactics)

Duration: 2022 - 2026

Project & practical guide "Raising awareness and implementing climate (protection) measures and health impact aspects as cross-cutting topics in medical and medicine-related degree programmes"

© MedKlimaGesund project

The aim of the MedKlimaGesund project is to raise awareness of the topic of "health and climate" in the university context and to create incentives for its implementation in the education of students, especially in human medicine and other health professions. As part of the project ending date, an interdisciplinary online symposium was held with researchers and experts from the fields of climate change, sustainability and health. The findings will be used to develop a practical guide for lecturers on the topic of "Raising awareness and implementing climate (protection) measures and health impact aspects as cross-cutting topics in medical and medicine-related degree programmes".

Medical School OWL, AG 1 Sustainable Environmental Health Sciences

Contact: Univ.-Prof.'in Dr. med. Claudia Hornberg (projekt management), Rebecca Lätzsch (M. Sc. Public Health) (project coordination), Miriam Falk-Dulisch (M. Sc. Public Health) and Susanne Lopez Lumbi (M. Sc. Public Health) (project members)

medklimagesund.medizin@uni-bielefeld.de

to the project in the sustainability portal

Duration: 01.01.2023 - 31.09.2023

Ecology

Bio-inspired oxidation catalysis with iron complexes (BioOxCat)

The decarbonisation of energy production and the sustainable use of non-renewable hydrocarbon resources from oil, gas and coal are necessary to achieve global climate targets. In this respect, the selective functionalisation of hydrocarbons through catalytic oxidation reactions is a key technology for the production of both basic and fine chemicals from natural oil and gas resources as well as new active ingredients, e.g. pharmaceutical products. Nature often uses enzymes with iron ions in the active centres for the selective oxidation of organic substrates. The aim of this research team, research unit, research group is to develop bio-inspired catalysts for oxidations with environmentally friendly oxidising agents such as O_2 and H_2O_2.

Faculty of Chemistry

Contact: Prof. Dr. Thorsten Glaser (thorsten.glaser@uni-bielefeld.de)

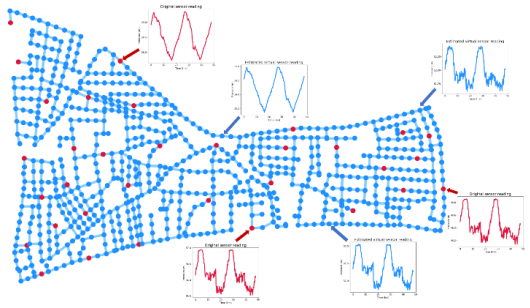
to the project website

Cooperations:

Further project partners see project website

Duration: 07/2022 - 06/2026

Smart Water Futures: Designing the Next Generation of Urban Drinking Water Systems



Exemplary network for drinking water supply with limited sensor technology at only a few nodes. AI processes make it possible to provide virtual sensors at all nodes and thus address challenges such as the detection of leaks or other faults in the system.
© Smart Water Futures

As a result of global climate change, almost 80% of the world's population will be exposed to a high threat in terms of a safe water supply; the sixth Sustainable Development Goal formulated by the United Nations accordingly formulates the demand for clean water and sanitation. The WaterFutures project addresses the drinking water supply in cities as a highly relevant aspect of this demand against the background that 70% of the world's population is expected to live in urban regions from 2050. An interdisciplinary team is analysing the spectrum from the short-term control of drinking water networks and their medium-term planning through to long-term maintenance. The team from Bielefeld University's Machine Learning working group is contributing methods from the field of explainable AI that make it possible to make the processes manageable in the context of limited sensor technology and high computational complexity, while at the same time integrating all stakeholders involved in decision-making processes through cognitively compatible interfaces.

Faculty of Technology / CITEC

Contact: Prof. Dr. Barbara Hammer (bhammer@techfak.uni-bielefeld.de)

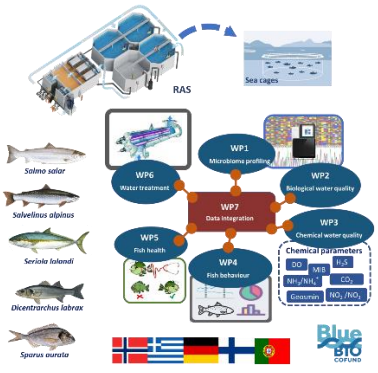
to the project website

Cooperations:

University of Cyprus: Prof. Dr. Marios Polycarou, KIOS Research and Innovation Centre of Excellence (Head)
KWR Water Research Insitute (Netherlands) und University of Exeter (UK): Prof. Dr. Dragan Savich
Athens University of Economics and Business, ReSEES Laboratory on Socio-Economic and Environmental Sustainability: Prof. Dr. Phoebe Kondouri

Duration: 2021 - 2027

DIGIRAS



© Sintef Ocean

Sustainable aquaculture systems are one of the strongest pillars for achieving the key UN Sustainable Development Goals, in particular SDG 14 (Life Below Water), SGD 2 (Zero Hunger), SDG 12 (Sustainable Consumption & Production) and SDG 13 (Climate Action). The most important advantages of land-based recirculating aquaculture systems are the improved possibilities for optimising fish health and yield as well as improved waste management. The DIGIRAS project aims to explore these benefits systematically and at all levels in order to achieve concrete improvements in such aquaculture systems.

Centre for Biotechnology

to the project website

Contact: apl. Prof. Dr. Jörn Kalinowski (joern@cebitec.uni-bielefeld.de)

Duration: 09/2020 - 11/2023

Economy

Labour and Welfare in the Global South: "Welfare for Migrant Factory Workers: Moral Struggles and Politics of Care under Market Socialism" (Welfare Struggles)

© Minh Nguyen

How do welfare systems provide for workers in market economies ruled by communist party states? To answer this question, the EU-funded WelfareStruggles project turned to China and Vietnam. These are countries that have transformed themselves from former centrally planned economies into market economies and introduced a system that is now referred to as "market socialism". This transformation has been driven by the labour of millions of migrant workers from rural areas, many of whom are employed in global factories in urban and industrial centres. In this context, the project focuses on the provision of social services to migrant workers and their families. With the support of an ethnographic approach and comparative social policy analysis, it will shed light on the politics of care that underlies the provision of social benefits to workers in these so-called factories of the world.

Faculty of Sociology

Contact: Prof. Dr. Minh Nguyen (minh.nguyen@uni-bielefeld.de)

to the project website

Duration: 2019 - 2024

OPTI-TRIALS

The researchers involved in the OPTI-TRIALS joint project between Bielefeld University, Helmholtz Munich and the Helmholtz Centre Hereon want to find ways to reduce the number of animals used in medical tests and at the same time gain more knowledge. To this end, methods are to be developed that manage with fewer measuring points and still provide meaningful data. In addition to mathematical models, estimation methods and hypothesis tests, the centre is also developing software and training courses.

Faculty of Business Administration and Economics

Contact: Prof. Dr. Christiane Fuchs (christiane.fuchs@uni-bielefeld.de), Julian Wäsche, Houda Yaqine

to the project website

Cooperations:

Helmholtz Munich

Helmholtz Centre Hereon

Duration: 12/2022 - 11/2025

Campus Life & Operations

"Understanding the university as a laboratory for sustainability."

— Dominik Schwarz

The 2021 Nobel Prize in Physics, which was awarded for a physical model of the Earth's climate, the quantification of its fluctuations and the reliable prediction of global warming, once again made it unmistakably clear that there is a fundamental scientific consensus on the current change in the Earth's climate and the causal role of humans. Based on the United Nations' 2030 Agenda for Sustainable Development, the international community agreed to curb climate change back in 2015 with the Paris Agreement.

As an interdisciplinary reform university, Bielefeld University is predestined to contribute to research into the Earth-human system. The social mandate for the university to provide the next generations with the knowledge to deal with the challenges of nature and society also means that the university itself must be seen as a laboratory for sustainability.

The operation of the university in particular opens up numerous opportunities to act in a more resource- and energy-efficient manner. This applies, for example, to the planning of new buildings for the Faculty of Medicine, the choice of means of transport on the way to university, or the promotion of biodiversity on campus.

As part of the Operations working group, we have investigated how we can organise studies, research and teaching as well as life on campus in such a way that we use our resources sustainably and have developed corresponding sustainability goals for campus life and operations.

To this end, we have carried out an initial stocktaking in eight subgroups on the topics of construction and real estate, procurement and controlling, food and drink, energy, information technology, materials management, employees and mobility and bundled ideas for the future of Bielefeld University. We have exchanged ideas with external partners such as Bau- und Liegenschaftsbetrieb NRW and Studierendenwerk [Association for Student Affairs] Bielefeld, as many of the goals cannot be achieved without the cooperation of various institutions. We have derived ambitious and, in our opinion, achievable goals for each of the eight aspects mentioned and submitted them to Bielefeld University's committees in the draft sustainability mission statement.

Dominik Schwarz, Rectorate representative in the participation process for the creation of the sustainability mission statement @ Universität Bielefeld

Once again, I would like to take this opportunity to thank the students and staff of Bielefeld University who have contributed their knowledge and ideas to the process with great commitment. I would also like to thank everyone who took part in the discussion in the university committees. Your questions and comments have helped us to make this sustainability mission statement a solid basis for the next steps. With the Sustainability Report 2023, we now have an up-to-date, publicly accessible assessment of the situation.

Finally, I would like to thank the employees of the Sustainability Office. You have provided us with outstanding support in terms of both organisation and content.

I wish all readers of the report an informative read!

Building & Campus design

From 1971 to 1976, the construction of Bielefeld University's main university building (UHG) was one of the largest construction sites in Germany and today, with a gross floor area of 314,000 m², it is one of the largest contiguous buildings in Europe. The university campus covers a total building area of 187,086 m², spread over 13 buildings, three of which are currently under (re)construction and three others are in the planning stage. This area will continue to grow with the arrival of the Medical School OWL. The campus is also continuing to develop with the refurbishment of the UHG, which has been underway for several decades. Building projects of these dimensions require and tie up numerous resources, such as building materials and energy. The University would therefore like to take advantage of this opportunity and get involved at a political level to ensure that the University's building fabric is refurbished to ambitious energy standards. The following section provides an overview of how the university can influence the design of construction measures and the sustainability aspects that are taken into account.

Refurbishment of the main university building (UHG)

The modernisation of the UHG is being carried out as a core refurbishment, i.e. as a dismantling to the shell, in six construction phases. The client is the Bau- und Liegenschaftsbetrieb (BLB NRW), which is largely responsible for the design of the modernisation in coordination with the university. Work on the first construction phase (start date 2014) should be completed by March 2024. Planning for the other construction phases is already underway. In order to maintain teaching and research operations as well as administrative activities at the university, new buildings have become necessary, the construction of which is the responsibility of Bielefeld University. Compared to these new buildings and the new buildings of the campus extension for the Faculty of Medicine, the University's ability to influence the refurbishment of the UHG is very limited. Nevertheless, the University is in regular dialogue with the SU in order to represent the University's interests, particularly with regard to sustainability efforts.

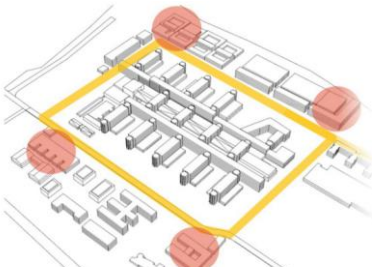
New buildings location concept Campus South

The Campus South location concept was developed in 2019 with the support of the architecture and planning firm AS+P for the integration of the Faculty of Medicine into Campus Bielefeld. The basis for this is the decision to realise the Faculty of Medicine in a multi-building solution consisting of new buildings and conversions on Morgenbreede/Konsequenz. As things stand at present, a total of eight construction measures will be realised in order to provide the necessary teaching, research and office space. Bielefeld University is the client for these measures. The buildings will be handed over to the BLB in the future, with the university as the tenant.

About the Bau- und Liegenschaftsbetrieb NRW (BLB)

BLB NRW is the owner and landlord of almost all properties by the state of North Rhine-Westphalia - including university buildings. With around 4,100 buildings, a rental area of around 10.3 million square metres and annual rental income of around 1.5 billion euros, BLB NRW is responsible for one of the largest property portfolios in Europe. Its services include the areas of development and planning, construction and modernisation as well as the management and sale of technically and architecturally highly complex properties. In addition, BLB NRW plans and realises the civil and military construction projects of the Federal Republic of Germany in North Rhine-Westphalia as part of the federal construction programme. BLB NRW employs more than 2,700 people at eight locations. Further information can be found at www.blb.nrw.de.

Campus South location concept



© AS+P

The location concept for campus south integrates the Faculty of Medicine into the existing campus, south of the main university building. A current ring (loop) around the main university building will connect various areas and will be largely car-free in the future.

Places to linger are to be created with attractive green spaces, squares and furniture. The buildings will be integrated into the slope - the topographical features will be taken into account and incorporated into the concept. Two large aisles in the east and west of the area will provide the necessary fresh air supply. When planning the storey heights for the buildings, care was taken to ensure that the trees on the edge of the forest remain visible from the main university building. Further information ↗

Good to know: Energy standards

BNB Silver
The Assessment System for Sustainable Building for Federal Buildings of the Federal Ministry of Transport, Building and Urban Development aims to describe and assess the quality of the sustainability of buildings and structures in all their complexity. In the course of certification, the ecological, economic, socio-cultural and functional dimensions as well as the technical quality, the quality of the planning and execution process and the site characteristics are taken into account. Depending on the degree of fulfilment achieved, the building receives a BNB certificate in gold (> 80 %), silver (> 65 %) or bronze (> 50 %).
Building Energy Act (GEG)
The Building Energy Act contains requirements for the energy quality of buildings, the creation and use of energy performance certificates and the use of renewable energies in buildings. The aim of the GEG is to minimise the use of energy in buildings, including the increasing use of renewable energies to generate heating, cooling and electricity for building operation. The GEG brings together the Energy Saving Ordinance (EnEV), the Energy Saving Act (EnEG) and the Renewable Energies Heat Act (EEWärmeG) in order to standardise energy-saving legislation for buildings.
Efficiency building 40 (EGB 40 - also known as: KFW 40, EH 40, BEG 40, EG 40)
EGB 40 refers to buildings that fulfil a particularly energy-saving construction and refurbishment standard. These buildings require only 40 % of the primary energy demand compared to the reference building and have comprehensive thermal insulation of the building envelope. The reference building is a "virtual auxiliary building" and has the same geometry, floor space and orientation as the building "in progress". However, the building envelope of the reference building - external walls, windows, doors, ceilings, roof - and its system technology are equipped as standard, as prescribed by the GEG for residential buildings.
Passive house
The passive house is a low-energy house. It is highly insulated and allows very little heat to escape. It passively utilises existing heat sources such as solar radiation, waste heat from residents and electrical appliances and heat recovery from the ventilation system. The requirements for a passive house are described by the passive house energy standard. Although several limit values must be achieved at the same time, the limit value "heating requirement ≤ 15 kWh/(m^2a)" is usually emphasised.

Certification system of the German Sustainable Building Council (DGNB)

Like the Assessment System for Sustainable Building (BNB), the certification system of the German Sustainable Building Council (DGNB) takes a holistic approach to sustainability by taking into account the ecological quality (22.5 %), economic quality (22.5 %), socio-cultural quality (22.5 %), technical quality (15 %), process quality (12.5 %) and site characteristics (5 %) of the building project. In addition to the percentage weighting of the main criteria groups, the award logic of the DGNB also differs. In terms of the overall degree of fulfilment, the DGNB differentiates between platinum (≥ 80 %), gold (≥ 65 %), silver (≥ 50 %) and bronze (≥ 35 %). DGNB certification is applicable to numerous building categories, including multi-storey car parks.

Sustainability with a role model function

According to the NRW Climate Protection Act of 8 July 2020, the state has set itself the goal of achieving a climate-neutral state administration by 2030. As a university sponsored by the state, Bielefeld University is not obliged to achieve climate neutrality by 2030, but must fulfil a role model function in climate protection, in particular to reduce greenhouse gas emissions.

In its role as the developer of the new buildings on Campus south, Bielefeld University is required to comply with the specified energy standards in the building sector as part of the NRW Climate Protection Act and the associated role model function. In its sustainability mission statement, the university has committed to constructing new and replacement buildings in a way that conserves resources as much as possible with the means at its disposal. All new buildings under construction and in planning at Bielefeld University on Campus south fulfil at least the "Efficiency Building Bund 40 (EGB 40)" energy standard. This means that the new buildings under construction and in planning achieve an efficiency standard that goes well beyond the minimum requirements of the Building Energy Act (GEG) of 8 August 2020. At the same time, they are based on the requirements (optional for Bielefeld University) for the implementation of the climate-neutral state administration of North Rhine-Westphalia to comply with the energy standard EGB 40 for new buildings to be constructed. In some cases, the aim is even to achieve energy standards that go beyond EGB 40. For example, building R4 will be constructed as a passive house and building R7 as an EGB 40 in accordance with the EE (renewable energy) class, meaning that at least 55 % (from 1 January 2023 at least 65 %) of the energy required for heating and cooling will also be covered by renewable energies.

With the circular decree on the introduction of the Assessment System for Sustainable Building (BNB) of 5 October 2021, Bielefeld University is obliged to achieve an overall degree of fulfilment of at least 65 % of the sustainability criteria (silver standard) in the course of construction measures for which the requirements planning has not yet been completed. This applies to construction measures R4 and R8. In addition, an overall degree of fulfilment of at least 65 % (gold certification) according to the German Sustainable Building Council (DGNB) is targeted for the new multi-storey car park to be built on Wertherstrasse. The DGNB certification system will be used in this case, as it also covers the car park building category.

In order to generally improve the ecological quality of the new buildings to be erected, buildings R4 to R8 will be constructed predominantly from $_{CO2\text{-}reduced}$ concrete. This means around 40 % less$_{CO2}$ by reducing the cement content compared to conventional concrete.

The obligation to provide information on the energy efficiency of the main university building and Building X is the responsibility of the Bau- und Liegenschaftsbetrieb NRW.

Lecture theatre building Y

© Mike-Dennis Müller, Bielefeld University

The wooden supporting structure made of 200 m^3 of timber from sustainable forestry means that only the core of the building is made of concrete. To protect it from the weather, the timber construction was clad with zinc sheeting and metal window strips. The building is mainly heated and cooled by a heat pump. This is mainly supplied by a photovoltaic system (approx. 25 kWp) on the roof and a condensing boiler for peak loads.

Further information

Photovoltaics & greening

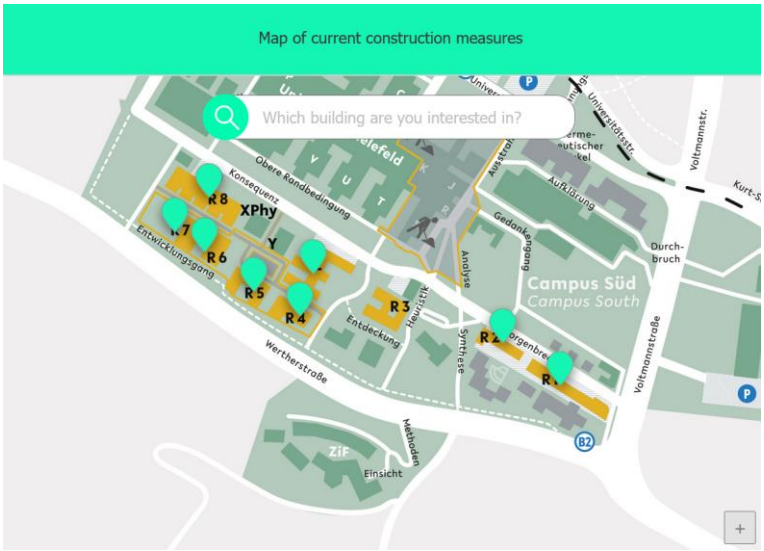
© Bielefeld University

Photovoltaic systems will be installed on the roofs of the new buildings. Building R2 also already has a facade photovoltaic system. The roofs of the new buildings R5 and R7 as well as the façade of building R5 and the planned multi-storey car park on Universitätsstraße will be greened. The roof of building R2 has already been greened.

Campus map sustainability

The most important sustainability aspects of the individual buildings are summarised in the following map. Click on the marked buildings on the map to display information on energy requirements, energy standards or building materials.

To the interactive map



The information on the buildings in detail:

Z building (existing)

© Bielefeld University

Offices of the Faculty of Education and the Faculty of Medicine

- Primary energy requirement: 75 kWh/(m²·a)
- Energy source: Green electricity, natural gas
- Energy generation: Photovoltaic system (49,59 kWp – expansion planned), combined heat and power plant, condensing boiler

Further information

R1 building (existing)

© Bielefeld University

Offices and laboratories of the Faculty of Medicine

Purchased by the Bielefelder Gesellschaft für Wohnen und Immobiliendienstleistungen (BGW).

- Primary energy requirement: 48 kWh/(m²·a)
- Energy source: Green electricity, district heating

Further information

R2 building (existing)

© Mike-Dennis Müller, Bielefeld University

Offices and laboratories of the Faculty of Medicine. Completed in 2022.

- Primary energy requirement: 43 kWh/(m²·a)
- Energy source: Green electricity, district heating
- Energy generation: Photovoltaic system (roof: 22,17 kWp, facade: 55,18 kWp)
- Green roof

Further information

R5 building (in construction)

© HDR architecture office

Building for teaching areas for medicine, biology and catering

- Primary energy requirement: EGB 40
- Building material: CO_2-reduced concrete
- Energy source: Green electricity, district heating
- Energy generation: Photovoltaic system (84 kWp)
- Addition: Green roof and greening of the southern facade

Further information

R6 building (in construction)

© Bielefeld University

Lecture theatre building with anatomy for the OWL Faculty of Medicine

- Primary energy requirement: EGB 40
- Building material: CO_2-reduced concrete
- Energy source: Green electricity, district heating
- Energy generation: Photovoltaic system (70 kWp)

Further information

R4 building (in planning)

Building for office space for the Faculty of Medicine

- Primary energy requirement: Passivhaus
- Sustainability standard: BNB-Silver
- Building material: CO_2-reduced concrete
- Energy generation: Green electricity, environmental heat, district heating

Energy generation: Photovoltaic system

R7 building (in planning)

© HDR architecture office

Animal husbandry building of the Faculty of Biology and the Faculty of Medicine

Primary energy source: EGB 40 EE

- Building material: CO_2-reduced concrete
- Energy source: Green electricity, district heating
- Energy generation: Photovoltaic system (67 kWp)
  - Addition: Green roof

Further information

R8 building (in planning)

Research building of the Faculty of Medicine

- Building material: CO_2-reduced concrete

Campus design

With the construction of eight new buildings, the appearance and quality of the campus will change significantly with the realisation of the Faculty of Medicine. The buildings will be integrated into the landscape in order to minimise the impact on nature. Overall, the university has set itself the goal of designing the university's outdoor areas in an ecologically high-quality and climate-adapted manner with a utilisation and development plan, while at the same time improving the microclimate and the quality of stay on the grounds and in the buildings, as well as using rooms and outdoor areas efficiently in terms of time and space.

Fresh air supply

In the new buildings, the supply of fresh air is ensured by natural fresh air corridors.

© AS+P

Biodiversity on campus

© Bielefeld University

While everyone is now aware of the climate crisis, the biodiversity crisis is still struggling to attract more attention despite its equally serious scale. There are now a number of approaches on Campus Bielefeld University to strengthen insect and plant diversity.

Current biodiversity measures can be found in the sustainability portal.

Lean meadows

In 2022, work began on creating rough pastures on the green areas next to the social field at the building X. They are among the most species-rich types of meadow. On a total of 7,500 m², the nutrient-poor soil allows plants with weak competition to spread, which would hardly stand a chance against fast-growing grasses on fat meadows with a high nitrogen content. They are only mown once a year.

Perennials

Various perennials can already be admired in front of the buildings above the consequence. They are not only rich in colour, but also ecologically beneficial: there are some insects that specialise in these perennials and are thus provided with a habitat.

Flower strips

© Bielefeld University

Eight flower strips with a total area of 650 m² are being created on the green areas between the consequence and upper boundary condition (UHG south side). Preparations for sowing began in March 2023 and smaller areas were also created on the north side (approx. 60 m²). Flower strips increase the diversity of habitats for numerous insects and, above all, offer pollinators a more diverse range than sterile lawns. From autumn 2023, a 100 m² spring onion meadow will also be created on the lower boundary condition. Additional early-flowering geophytes were planted last autumn. This will create a valuable habitat for insects.

Robinia replacement

Also planned: the gradual replacement of the robinia trees on campus with other species from early spring. Robinias are considered invasive from a nature conservation perspective. Although their flowers are popular with bees, they enrich the soil with nitrogen, which hinders the development of species-rich dry grassland. There are also plans to extend the Kugelahornallee at the end of the sequence with additional trees. Further trees were already planted last autumn.

Bird protection

In order to protect the bird population as part of the expansion of campus south and to avoid bird collisions, the university commissioned a species conservation report in advance. The birds affected by the construction work were provided with replacement roosts in the form of artificial nesting aids or cavities in tree trunks.

Tree population

Despite the extensive construction work, trees worthy of protection will be preserved. Any trees that cannot be preserved will be fully replaced elsewhere. A total of 1,149 individual trees were counted on campus in 2022.

Uni-Honey

© Bielefeld University

The university shop sells honey from the university's own honeybees.

Fruit tree campaign

© Bielefeld University

Because a total of 28,000 m² of land had to be cleared in preparation for various construction measures for the Faculty of Medicine in October 2020, Bielefeld University paid the city of Bielefeld a compensation amount for the purpose of reforestation and also financed the production and maintenance costs on an open land biotope of around 6,000 m² in Heepen. A fruit tree campaign also enabled all university employees to receive an apple, plum or cherry tree for their own home free of charge. The response was so great that a total of around 650 half-trunk fruit trees for the garden and around 600 dwarf fruit trees for the balcony or patio were distributed.

Quality of stay

Bielefeld University's aim is for students and employees to experience Campus Bielefeld as a place worth living, studying and working in and to enjoy spending time there. With the aim of continuously improving the quality of life on campus, various structural and infrastructural measures have been implemented in recent years. Many of these also promote sustainability on campus, such as the installation of drinking water dispensers,

the creation of a meadow orchard behind Building Q or the construction of additional bicycle racks, for example by repurposing former car parking spaces.

Many more measures can be found in the overview of measures, which is updated on a current basis, on the Facility Management Department's page on improving campus life.

Drinking water dispenser

© Bielefeld University

There are now a total of three drinking water dispensers on campus, which are also suitable for filling up your own drinking bottle. Two more are planned.

Orchard meadow

© Bielefeld University

The orchard at the ZiF is already 20 years old and includes cherry, apple, pear and mirabelle plum trees.

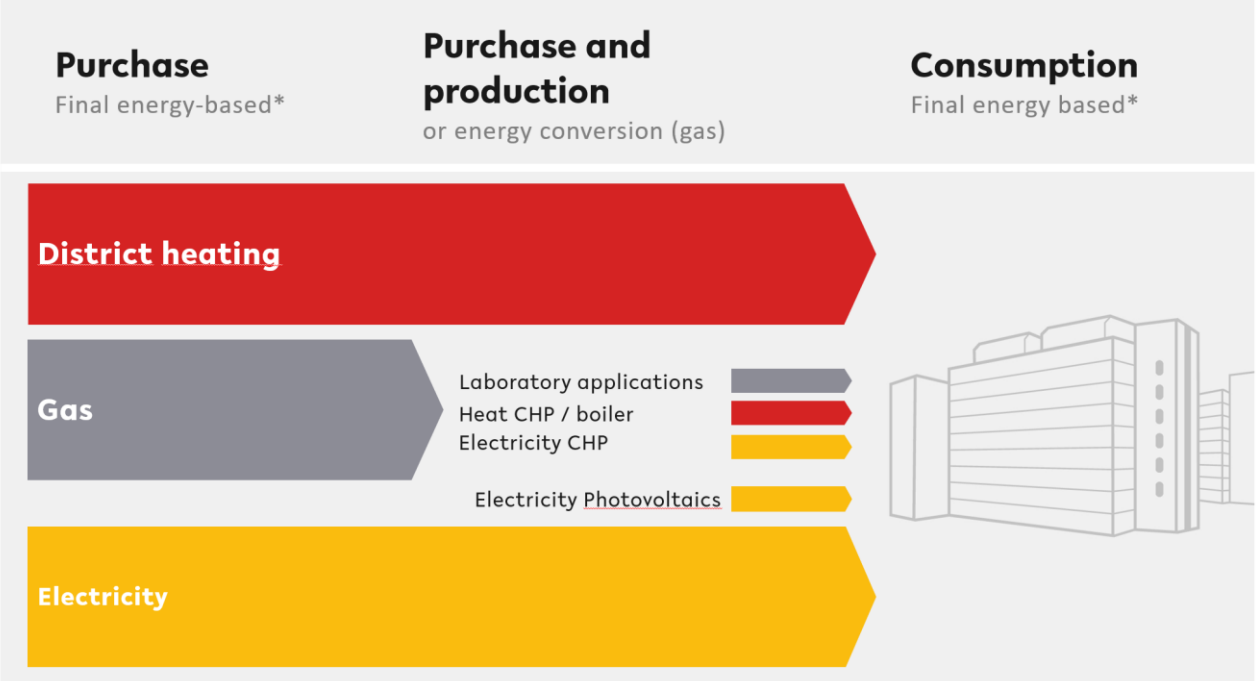
Bicycle stand

© Bielefeld University

By reallocating car parking spaces, among other things, additional covered parking spaces for bicycles were created in multi-storey car park 3 and in the underground car park of building X. There are also new bicycle racks below the pedestrian crossing to the University tram stop, at the C/D tooth of the main university building and at the back of the gym.

Energy

The buildings managed by Bielefeld University are supplied with energy through the purchase of electricity, district heating and natural gas, as well as through the in-house generation of electricity and heat (see figure). The complete data can be viewed in the appendix [Download].



* Final energy refers to the energy that reaches the consumer and is used to generate useful energy (e.g. space heating, lighting). The figure does not show the proportionality of the energy quantities. Exact data can be found in the appendix [Download]. CHP = combined heat and power unit

The development of energy consumption and generation is monitored regularly. Around 680 meters are currently integrated into the energy management system. The consumption of district heating, gas, electricity and water is digitally recorded and analysed using the integrated meters.

In its sustainability mission statement, the university has set itself the goal of consistently identifying and utilising potential energy savings and presenting energy consumption by energy type in an easily understandable way. There are plans to expand the energy management system. The aim is to optimise energy monitoring, i.e. the recording of data and statuses and the introduction of energy controlling, i.e. the creation of energy performance indicators and the identification of potential savings as well as the development of practical solutions for the implementation of measures.

Data appendix incl. greenhouse gas balance

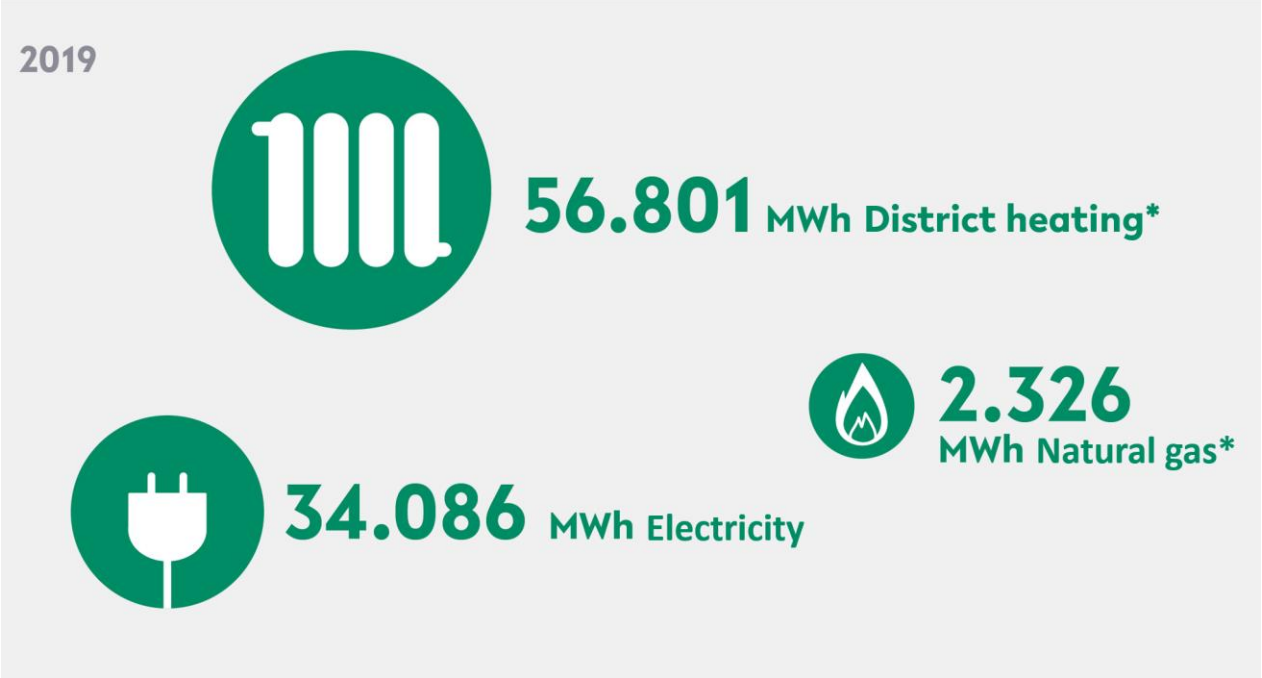
See **greenhouse gas emissions**

Energy-saving measures winter 2022/23

Thanks to energy-saving measures, Bielefeld University was able to exceed its district heating savings target of minus 20 % compared to the previous year. However, as this report only refers to the energy data for the years up to 2021, you will not yet find any details here. If you are interested, you can read the **background & details** but you can already read the background & details.

Energy consumption

Energy consumption 2019 by energy source, excluding Studierendenwerk [Association for Student Affairs] and HSBI



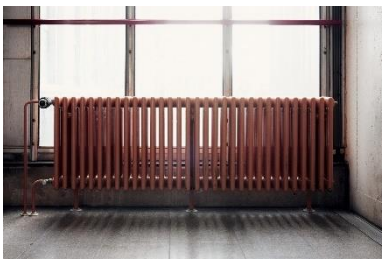
* adjusted for weather conditions

In the buildings of Bielefeld University, heating energy is mainly provided by district heating and to a small extent (<1 %) by natural gas.

Weather adjustment

Annual weather fluctuations and warmer or colder than average heating periods have a significant influence on the level of heating energy consumption. A weather adjustment is therefore essential in order to analyse the long-term development of heating energy consumption. Accordingly, a factor must be determined for each year using the respective degree day number (represents the relationship between the outside air temperature and the desired room temperature), by which the consumption value for the year of recording is multiplied. This results in the consumption value adjusted for an average year.

District heating



© Bielefeld University

District heating is purchased from Stadtwerke Bielefeld University and accounts for around 61 % (weather-adjusted data) of the university's energy consumption (reference year 2019). The majority of the district heating purchased (>95 %) is used to supply the main university building. District heating consumption fell by around 4 % between 2017 and 2019. The increase in district heating consumption in 2020 and 2021 is due on the one hand to the increased ventilation requirements due to COVID-19 and on the other hand to the rental or purchase of the R1 building in the 3rd quarter of 2019. In the coming years, the new buildings being constructed on campus south will also be supplied with district heating. District heating from Stadtwerke Bielefeld enables a relatively low-emission heat supply for the buildings, as only 61 kg of CO_2 is emitted per megawatt hour of district heating consumed. For comparison:

According to the State Office for Nature, Environment and Consumer Protection (LANUV), the national average of CO_2 emissions per megawatt hour of district heating consumed is 286.95 kg of CO_2 equivaltens.

Electricity

Electricity accounts for around 36% of the university's energy consumption (reference year 2019). Electricity consumption has fallen steadily in recent years, e.g. by around 4.5% from 2017 to 2019. The low electricity consumption in 2020 and 2021 is mainly due to the reduced usage times in the university's buildings. In addition, Bielefeld University has been using certified green electricity since 2020. Even before purchasing green electricity, care was taken to ensure that the electricity purchased was produced with as few emissions as possible. By way of comparison, the CO_2 emissions of the electricity purchased in 2019 were 147 kg per megawatt hour, well below the federal electricity mix of 425.4 kg per megawatt hour (source: LANUV).

Natural gas

Natural gas accounts for less than 3 % of the university's energy consumption (reference year 2019). Natural gas is mainly used as an energy source for laboratory applications, e.g. in laboratory autoclaves for sterilisation processes. A small proportion of natural gas is used for heating purposes, e.g. in Building Y (boiler) and Building Z (combined heat and power plant). Gas consumption increased with the expansion of Building Z in Q4 2020 and the completion of Lecture Hall Building Y in Q3 2021.

Heating oil

Heating oil accounts for less than 0.1 % of the university's energy consumption. Heating oil is required for the operation and regular test runs of the emergency power generators. The university is legally obliged to carry out regular test runs of the emergency power generators, known as power failure simulations.

Measures

© Bielefeld University

In recent years, most of the exterior lighting on the university campus has been converted to LED. While the new buildings on campus south are already fully equipped with LEDs, the interior lighting of the existing buildings is gradually being converted to LED. Large areas of the main university building, such as the hall, the library and the swimming pool, have already been converted to LED.

Building Z has been equipped with a photovoltaic system, the electricity generated from which is mainly consumed in the same building. The installed PV capacity will be multiplied in the coming years as part of the construction of campus south.

In terms of heat consumption, the relatively low-emission district heating provided by Stadtwerke Bielefeld will continue to be used. In addition to the highly efficient combined heat and power plant in building Z and the boiler in building Y, which is only used at peak load times, heat pumps are to be used in building R4, which largely utilise environmental energy to generate heat energy.

© Bielefeld University

Only natural refrigerants will be used for decentralised cooling in the new systems in the upcoming buildings on campus south. Compared to conventional refrigerants, natural refrigerants have a significantly better carbon footprint. By way of comparison, the refrigerant R134a, which is widely used in Germany, has a global warming potential of 1,530, while the natural refrigerant propane, for example, only has a global warming potential of 3. The global warming potential describes the contribution of a greenhouse gas to global warming compared to CO_2.

With its sustainability mission statement, the university has set itself the goal of examining the use of further renewable energy systems and implementing them wherever possible.

Resources & Waste management

Various resources are consumed at the university in administration, research and teaching, as well as for the operation and maintenance of buildings and properties. At the same time, waste is generated that must be disposed of properly. In addition to hazardous waste, which is generated in laboratory operations, for example, this also includes recyclable materials, organic, garden and electronic waste. The area of resources and waste management is therefore also a relevant one for the sustainability report.

Dealing with waste

As stated in the university's sustainability mission statement, the university aims to act in the spirit of the circular economy and endeavour to reduce its consumption of resources and the amount of waste generated on campus. The legal requirements for handling waste for the university as a commercial waste producer are much more far-reaching than for private households and differ significantly in some areas. Compliance with the waste disposal requirements is mandatory for all people on campus.

© Universität Bielefeld

Waste separation has been successfully implemented at Bielefeld University for over 20 years. Waste can be separated into packaging, paper, organic waste and residual waste at the waste stations in the university buildings. Many of the separation systems, where organic waste is currently collected in a separate container or not at all, are gradually being equipped with an additional module for organic waste and also for used glass.

Waste hierarchy

As regulated by law in the Closed Substance Cycle Waste Management Act, the handling of waste at the university is based on the waste hierarchy:

1. Waste avoidance
e.g. use of durable products and reusable systems (deposit cup instead of to-go cup), reduction of paper consumption

2. Reuse
e.g. repair instead of disposal, use of internal university second-hand exchanges (IT equipment, old furniture), regulated transfer of material to other universities or non-profit departments, regulated sales, regulated disposal to private individuals (only possible to a limited extent)

3. Disposal
Waste separation in accordance with internal disposal guidelines

Indoor waste stations

© Bielefeld University

Before these waste stations were introduced, the offices were equipped with residual waste bins, but this often led to the disposal of recyclable waste. In an experiment, facility management started removing residual waste bins from the offices and replacing them with waste bins. The waste stations were installed in the corridors and ensured that the waste ended up in the correct bin again after a short familiarisation period. The positive experience led to the decision to extend this model to the entire administration, so that all residual waste bins in the offices were gradually removed.

Waste separation has led to a steady reduction in mixed waste over the years, despite an increase in student numbers.

Outdoor rubbish bins

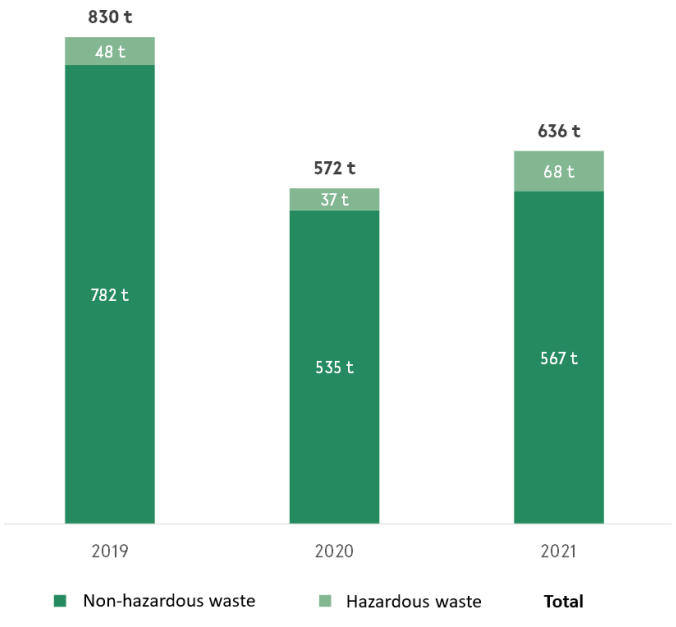
After 90 % of packaging waste was found in the bins outside the university, the bins were labelled with yellow bags and designated as recycling bins. However, it turned out that a mixture of all types of waste could be found in the bins.

Hazardous waste

The Hazardous Waste Disposal department of the Faculty of Chemistry is responsible for waste containing hazardous substances. A waste officer is based in the Infrastructural Facility Management FM.4, with the task of advising and supporting the university management and all university members in matters of waste avoidance and recycling, as well as waste disposal.

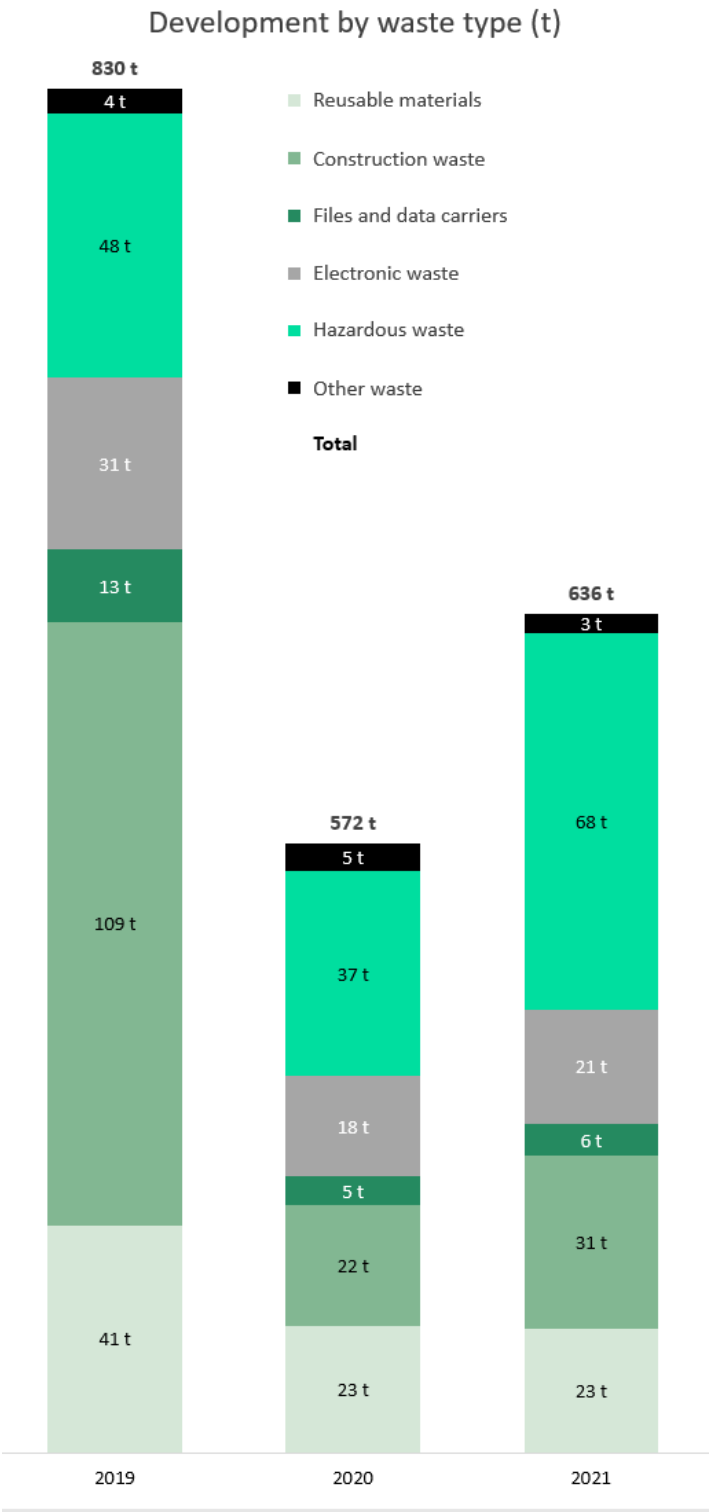
Development of hazardous & non-hazardous waste

Development of hazardous and non-hazardous waste (t)



© Bielefeld University

Waste development by type



In focus

Furniture warehouse

Bielefeld University operates a furniture warehouse from which departments, facilities and faculties of the university can obtain used furniture for their use free of charge. Furniture (desks, cupboards, shelves, chairs, etc.) that is no longer needed can be collected for storage in the furniture warehouse after an appraisal and assessment of the old furniture by the staff.

Current news can be found on the corresponding page of the Facility Management department.

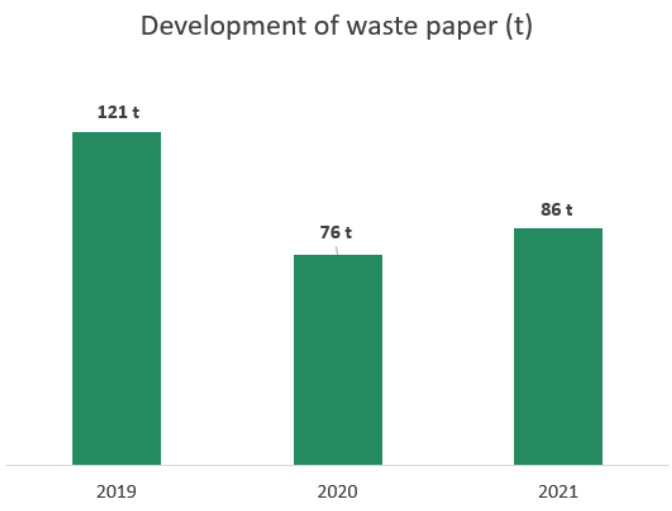
Waste information portal

You can find current information on the subject of waste on the corresponding information portal of the Facility Management department.

Collection of toner cartridges and printer cartridges

There are toner collection boxes for the manufacturer Ricoh and collection boxes from the "Sammeldrache" campaign for non-Ricoh toners in most of the university's copy rooms. In both cases, the collected cartridges are reconditioned and reused after an inspection and only disposed of if they cannot be reconditioned. The respective departments / secretary's offices are responsible for purchasing the Ricoh boxes themselves. The collection box for the Collection Dragon campaign can be requested by sending an email to abfallwirtschaft@uni-bielefeld.de.

Paper waste



© Bielefeld University

Since 2017, paper waste at the university has been reduced by well over 50%. The reason for this is not only the advancing digitalisation of administrative processes (e.g. the digital examination file or paperless notification of UniCard completion), but also the increased awareness of (unnecessary) printouts. In addition to the reduction in paper consumption, a positive consequence of this development is that workstation printers are being used less and less frequently or are being purchased and replaced by group printers that can be accessed from several workstations in the corridor.

A large proportion of the waste paper produced at the university is **office and hygiene paper**.

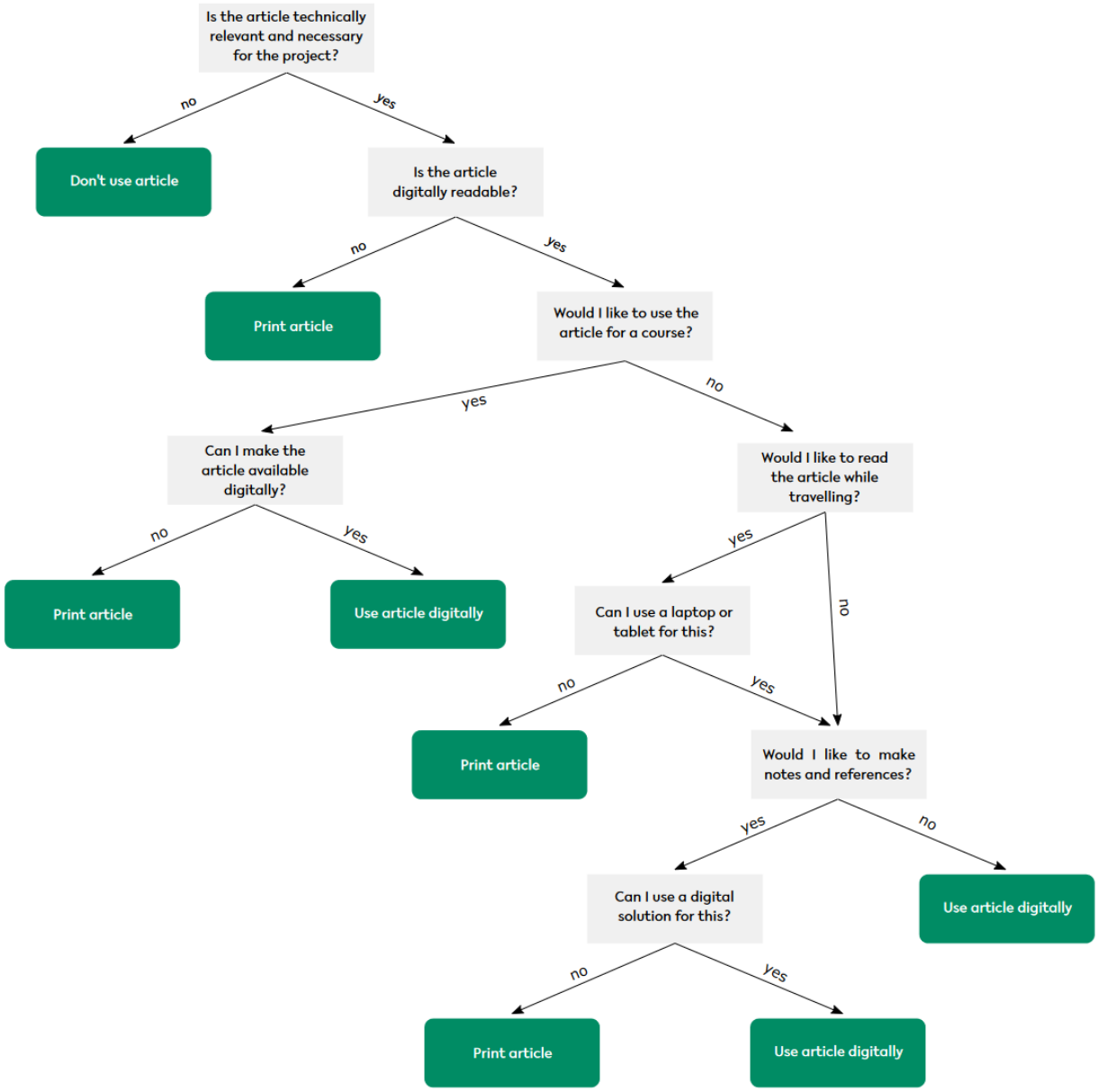
As this is largely procured centrally at the university, you can find further information on this in the section **Procurement**.

Reasons for reducing paper consumption

The reduction in paper consumption also contributes to a lower environmental impact, as an average of 2.46 kg of CO_2-equivalents are released for the production of 500 sheets of virgin paper and 2.21 kg for recycled paper. The water required for production is around 130 litres for virgin paper and around 50 litres for recycled paper (source: Goethe University Frankfurt: Sustainability in the office - saving paper at Industriepark Höchst). High paper consumption also increases the amount of space required for storage and archiving, which in turn ties up additional resources. The amount of work involved in creating, processing and storing paper-based documents is also high. These are all good reasons to reduce paper consumption as much as possible in the interests of sustainability.

Saving paper in everyday university life

Documents or scientific articles are often printed out of habit. With the decision aid below, you can easily check whether you really need to print out your article(s) or whether there are suitable alternatives:



Practical examples

Softphone

After installing Softphone, all employees with a Windows or Mac IT workstation provided by BITS can make calls from the classic physical telephone on their desk via their computer instead of using a classic telephone. The user's own university telephone number is retained regardless of location, even when working from home. Calls can also be made with video and are encrypted. Especially for new employees who do not yet have a physical telephone, this saves new devices and resources.

All information about the softphone can be found on the BITS website.

eFile

As part of the E-Government Act of North Rhine-Westphalia, the use of documents within the administration at Bielefeld University is being continuously digitalised. The introduction of the electronic file (eFile) aims to create a seamless representation and documentation of all administrative processes without media disruptions. A process-orientated approach has been chosen, which also saves work by transferring files between different administrative areas. Other important functions of the eFile are in-house circulars and the filing of service agreements. In future, the special public authority mailbox will also be integrated into the eFile.

BITS printing service

As the digitalisation of their studies progresses, students need fewer and fewer printouts of lecture notes, seminar papers, master's and bachelor's theses or presentations from courses in paper form. The multifunctional devices have been used less and less in recent years, so the provider no longer wanted to continue operating them. Since then, high-quality book scanners have been available in the library, which can be used free of charge and also minimise damage to books and journals.

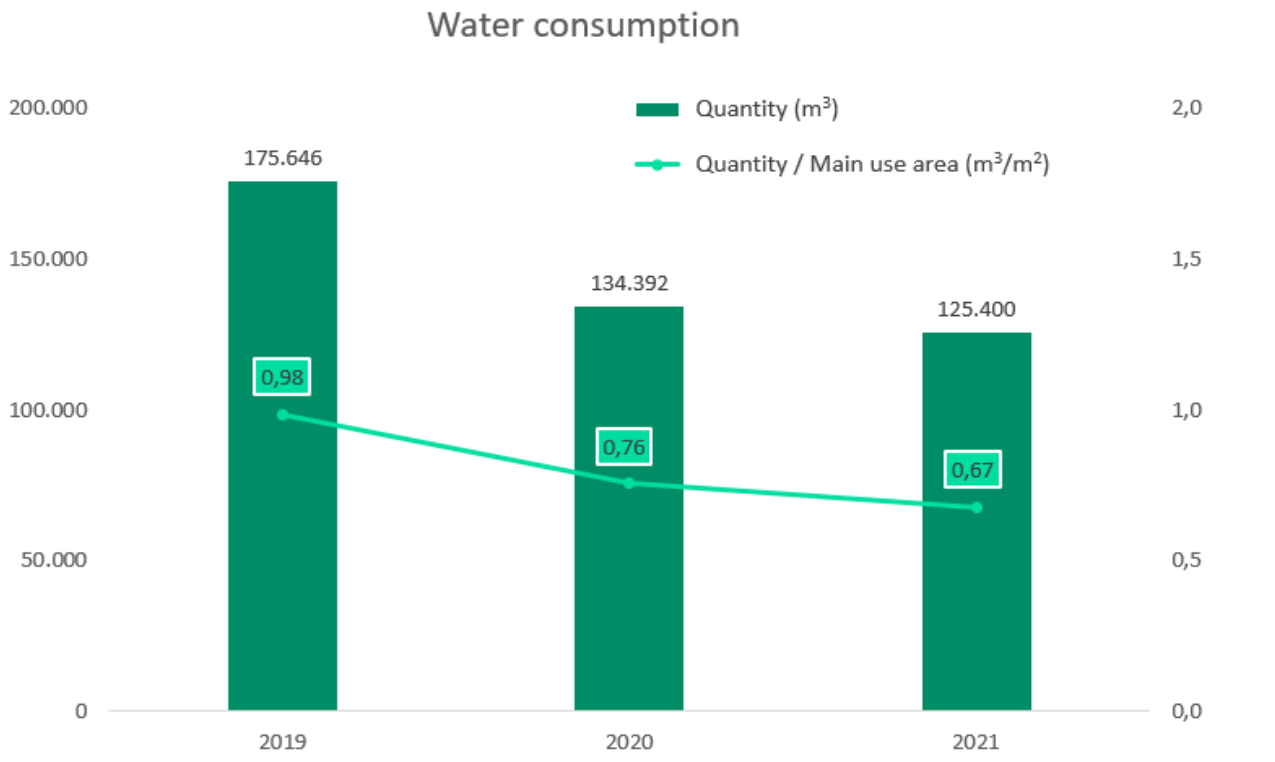
Digital Christmas cards

Since 2021, university employees have been able to create their own personalised Christmas greetings using a greeting card generator and send them to as many recipients as they like. Various designs and text modules are available that can be customised. There are no paper Christmas and New Year cards at all.

(Waste) Water

The university has set itself the goal of reducing fresh water consumption and aiming to use grey water and rainwater.

The figures for 2020 and 2021 cannot be used to assess progress due to the restrictions on on-site operations caused by the coronavirus pandemic.



Procurement

Procurement at the university is organised both centrally and decentrally. Decentralised procurement usually involves smaller or individual requirements of departments, Faculties, etc. However, many products and services are purchased centrally. However, many products and services are purchased centrally - an effective lever for making procurement more sustainable. At the same time, the procurement of products and services at Bielefeld University is subject to various legal requirements such as the Act against Restraints of Competition (GWB), the UVgO (Sub-Threshold Procurement Regulations), the Ordinance on the Award of Public Contracts (VgV) or the Higher Education Business Management Ordinance (HWFVO NRW) as well as the Act on Combating Corruption (KorruptionsbG), in addition to the principles of economic efficiency and economy.

Blue Angel

The Blue Angel is an eco-label awarded by the German government to products and services that are particularly environmentally friendly. A wide variety of product groups such as paper, IT, vehicles, textiles, drugstores and many more are now covered by the Blue Angel.

In addition, the University has formulated the goal of defining criteria for sustainable procurement in its sustainability mission statement. In addition to price comparisons, the following aspects are to be taken into account for certain product groups: Life cycle, manufacturing conditions, transport routes, flexible use and recyclability. Criteria are to be defined and institutional structures created. Cooperation with other universities is still possible and desirable. This means that the criteria of other universities can also be recognised. In addition, the university aims to advocate for sponsoring political framework conditions. This should be accompanied by the labelling of products and communication measures to promote sustainable purchasing.

The Act against Restraints of Competition (GWB) now stipulates that social and environmental aspects must be taken into account in addition to quality and innovation when awarding contracts to service providers. At the same time, the university remains committed to the principle of freedom of teaching and research.

Office equipment

For example, the requirements of the environmental management standard 14001 are taken into account when procuring **office equipment** such as office chairs, IT clients and laptops. IT clients have also been awarded the "Energy Star 8.0" ecolabel. Both should be covered by framework agreements wherever possible. For the first time, sustainability criteria are weighted with up to 25 % in tenders for office supplies. Copier paper that is recycled or labelled with the "Blue Angel" is also procured via a framework agreement. Server tenders are also largely carried out with selected "Blue Angel" criteria. We were able to obtain the advice and expertise of the Federal Environment Agency in one procedure and thus incorporate valuable information.

Electricity

Green electricity, i.e. energy from renewable, non-fossil energy sources, is put out to tender for the purchase of electricity. These include wind, sun, geothermal energy, energy from the ambient air, hydrothermal energy, ocean energy, hydropower, biomass, landfill gas, sewage gas and biogas. The quality of the electricity must be certified. Proof can be provided in the form of a certificate in accordance with the Federal Environment Agency's register of guarantees of origin or similar.

Paper procurement

Office and hygiene paper is also procured centrally at the university as far as possible. Overall, paper consumption at the university has been significantly reduced in recent years. The increasing digitalisation in many areas and the simultaneous reduction of workplace printers in particular have led to a continuous reduction in the amount of office paper required. With the implementation of an award management system, paper files in the context of tenders (award documents, tenders, other correspondence, etc.) have been completely replaced, saving around 70,000 sheets of paper. By participating in the **Paper Atlas 2023**, the amount of 80 g/m² office paper used in the administration, Faculties and the BITS printing service in 2022 was systematically recorded for the first time:

Office paper consumption in the administration (2022)	A4 sheet	A3 sheet
... total	6.779.500	37.500
... with „Blue Angel“	5.198.000	23.000
... without „Blue Angel“	1.581.500	14.500

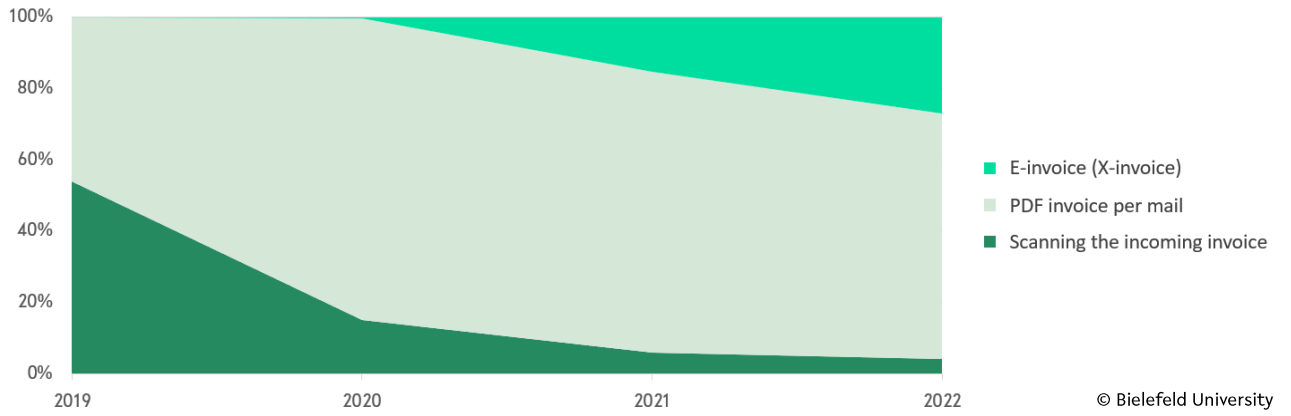
Paper atlas

Every year, the Initiative Pro Recycled paper (IPR) organises the Paper Atlas competition to find the most recycling paper-friendly cities, districts and universities in Germany. The aim is to motivate local authorities and universities to utilise the savings potential of their procurement by using recycled paper. The Federal Ministry for the Environment and the Federal Environment Agency are partners in the project.

The development of this total consumption can only be presented once consumption has been recorded over the next few years.

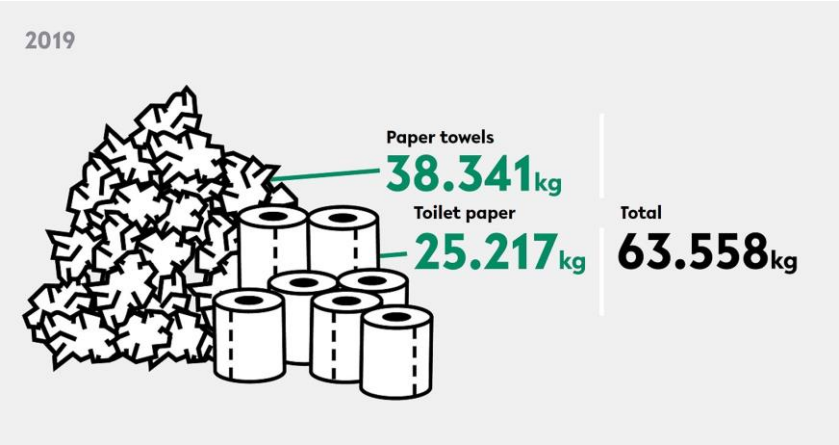
In financial accounting, the switch from paper to PDF documents as well as digital invoices and a paperless annual audit have also contributed to a large-scale reduction in paper consumption. The latter also contributes to lower CO_2-emissions, as travelling for audits is largely eliminated.

Saving paper in financial accounting



Paperless accounting has been a successful digitisation project at Bielefeld University since 2016. Almost all incoming invoices have now been removed from paper-based formats. In addition to other areas within the university, those responsible for financial management are also in dialogue with other universities in North Rhine-Westphalia that have adopted the paperless accounting system from Bielefeld University as a model.

Sanitary paper



© Bielefeld University

In addition to office paper, toilet paper and paper towels also fall under the umbrella term "**sanitary paper**": In 2019, around 25,217 kg of toilet paper and 38,341 kg of paper towels were produced. These quantities fell significantly in 2020 and 2021, but this is due to the reduction in on-site operations during the coronavirus pandemic, meaning that these figures cannot be used for comparison. A test run for a closed recycling loop for towel paper saved 921 kg of towel paper, the equivalent of 19 trees, during the test period from October 2022 to April 2023.

Closed recycling loop for towel paper

In a test run from October 2022 to April 2023, the Kimberly-Clark towel paper take-back system was tested in the sports, swimming pool, UHG, library and behavioural research areas. Instead of disposing of the towel paper in the residual waste, it is collected separately as a monocharge in the "Right Cycle" system, freed from foreign substances and processed into new towel paper. The recovered paper fibres can repeat the cycle several times so that the proportion of virgin fibres required can be significantly reduced. The towel paper used in the test also proved to be more absorbent than cheaper towel paper, meaning that fewer sheets were needed. The towel paper is collected every three weeks in a circular route, which means that not only Bielefeld University, but also other customers within the tour are approached so that no unnecessary journeys are made. The used towel paper is then transported to the local depot in Nottuln, from where it is pressed into bales and transported to the Kimberly-Clark processing plant in Koblenz. It can then be used to manufacture all the products that Kimberly-Clark sells at the Koblenz plant (towel paper, facial tissues, wipes, etc.). During the test period, 921 kg of towel paper was collected and processed in 34 collections - an amount equivalent to 19 trees.

Waste paper

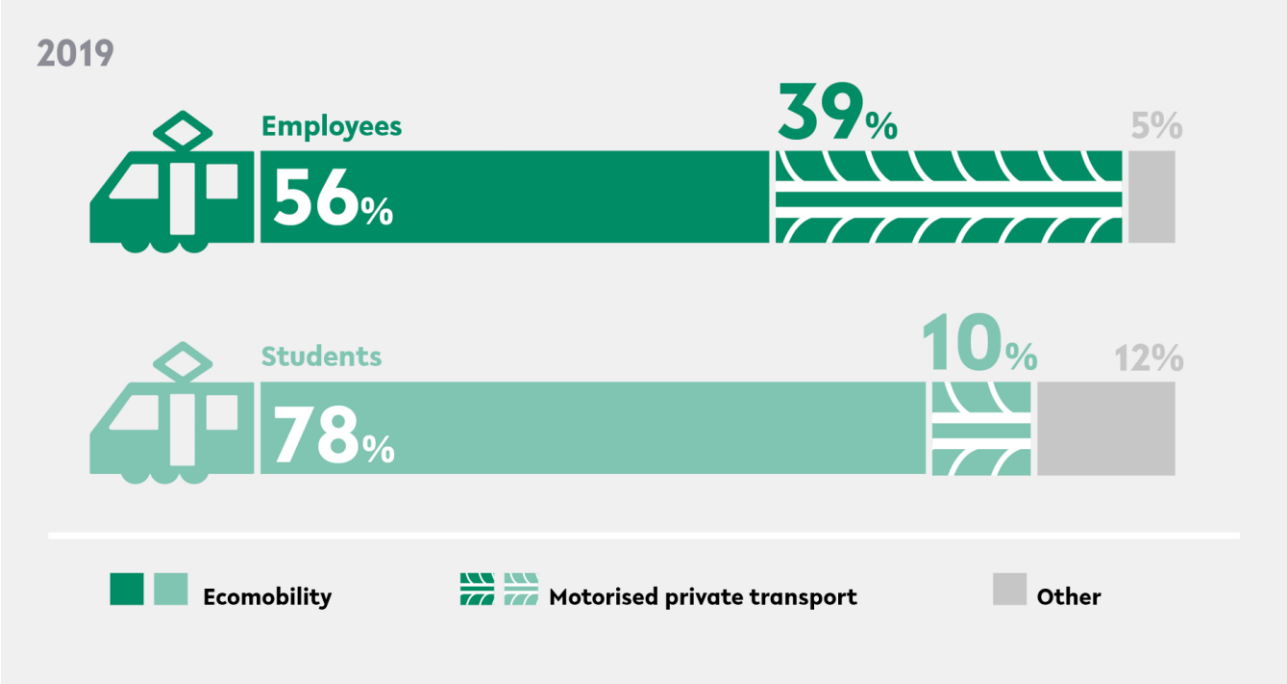
Information on the total volume of waste paper can be found in the Resources & waste management section

Mobility

With almost 25,000 students, around 2,000 research and teaching staff and around 1,200 staff in administration and service, Bielefeld University is a scientific and educational institution with a considerable amount of mobility. Many of these people make their way to the university almost every day, students travel abroad for a semester, researchers present their results at national or international conferences. This means that the university is not only responsible for a corresponding volume of traffic, but also for the associated greenhouse gas emissions. However, it is only through mobility that personal exchange, networking and cooperation are made possible and the university comes alive. Although digital alternatives were also established at Bielefeld University during the coronavirus pandemic for studying, teaching and daily collaboration, face-to-face interaction is still indispensable for many.

Commuting

Staff and students commute to Bielefeld University from a large catchment area. Almost all means of transport are used:



Explanation of terms

Umweltverbund
Includes bicycles (including e-bikes), public transport (tram, bus, taxi), walking and car sharing.
Motorised individual transport
Motorised individual transport (MIV) includes cars and (small) motorbikes.
Modal split
The modal split represents the percentage share of individual modes of transport in the total volume.

In its mobility strategy, the city of Bielefeld stipulates that the "share of eco-mobility in the total traffic volume in Bielefeld is to be increased to 75 %, with a reduction in motorised private transport from 50 % to 25 %". With a 75 % use of eco-mobility among students, this group already fulfils the City of Bielefeld's target. At 56 %, employees are still well below the target. Through infrastructure and behavioural measures, the university would like to contribute to increasing the share of eco-mobility, i.e. walking, cycling and public transport, in the commuting behaviour of university members to ideally at least 75 % by 2030 in order to reduce the contribution of commuting behaviour to Bielefeld University's greenhouse gas balance.

75 % Umweltverbund by 2030

Through infrastructure and behavioural change measures, the university would like to contribute to increasing the share of eco-mobility, i.e. walking, cycling and public transport, in the commuting behaviour of university members to ideally at least 75 % by 2030 in order to reduce the contribution of commuting behaviour to Bielefeld University's greenhouse gas balance.

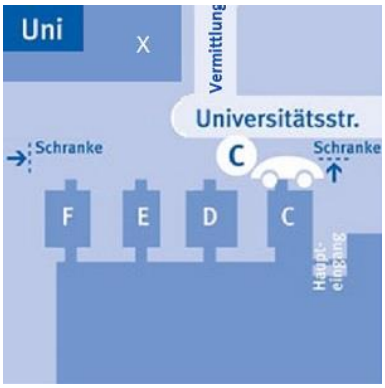
With the OWL semester ticket and the integrated NRW ticket – both financed by the social fee – students can use buses, light rail and local trains in the transport associations and communities of North Rhine-Westphalia. The city railway line 4 and buses stop directly at the university.

Radtschlag

The Radtschlag is the bicycle self-help workshop, financed by the AStA [Student Union]. Appointments can be made on the website.

BISELA cargo bike

The AStA [Student Union] organises the free loan of a cargo bike from Transition Town Bielefeld's BISELA project at Radtschlag. The bike can be reserved online.



Carsharing parking spaces

The university provides the company Cambio with car parking spaces in Building C. Registration with Cambio.

Parking

Commuter traffic at the university requires parking spaces for various means of transport. As part of the traffic concept and the parking space certificate for the construction of the Faculty of Medicine, the utilisation of parking spaces for cars and bicycles on campus was surveyed in 2020. In its sustainability mission statement, the university has also set itself the goal of promoting an electromobility-friendly campus design.

Parking space requirements for cars and bicycles

As part of the traffic concept for the construction of the Faculty of Medicine, a comprehensive parking space survey for car and bicycle traffic in the vicinity of the university was carried out at the end of 2019.

For car parking spaces, the three car park areas North, West/Southwest and Southeast were included in the count. The car park (including the women's car park) on Universitätsstraße, which is currently not available for parking due to the refurbishment of the UHG, was not included in the survey. The survey revealed a total number of 4,015 car parking spaces.

The future demand for car parking spaces was determined in consultation with the city of Bielefeld. One car parking space per ten students with an attendance rate of 80 % and one car parking space per four employees with an attendance rate of 85 % are to be provided. This results in a requirement of around 2,800 car parking spaces for 2022. In the course of the expansion of Bielefeld University on campus south, an additional 384 car parking spaces are expected to be required by the winter semester 2025/2026.

A reduction in the current surplus of car parking spaces is to be achieved, for example, by building a new multi-storey car park on Universitätsstraße.

A total of 1,048 bicycle racks were counted in the area around Building X, the main university building, Konsequenz and Morgenbreede during the 2019 survey. It is assumed that one bicycle rack offers space for two bicycles, meaning that a total of 2,096 bicycle parking spaces were available.

In recent years, an additional 522 bicycle parking spaces have been created in several locations (multi-storey car park 3, educational corridor, main university building C/D, sports centres, buildings X, Y and Z). The total number of bicycle parking spaces in 2023 will be 2,618. More than 300 additional bicycle parking spaces are currently planned for campus south.

New university car park on Universitätsstraße

© BLB NRW

The Bau- und Liegenschaftsbetrieb of the state of Nordrhein-Westfalen (BLB) NRW is building a new multi-storey car park for Bielefeld University from 2024.

The new multi-storey car park will be built in two construction phases on the site of the existing car parks. With a length of 130 metres and a width of 70 metres, the new multi-storey car park will have six levels with a total of 1,600 parking spaces. The multi-storey car park will also be equipped with a high-performance photovoltaic system (up to 700,000 kWp per year) and a green façade and roof. In addition to the car park, there will also be 100 covered parking spaces for bicycles.

Many employees and students are still dependent on their cars to reach the university. Nevertheless, the new car park will reduce the number of parking spaces, meaning that less space will be sealed. To avoid having to do without parking spaces during the construction period, the new multi-storey car park will be built in two phases. Firstly, the existing multi-storey car park 1 will be demolished in 2023 and the first construction phase

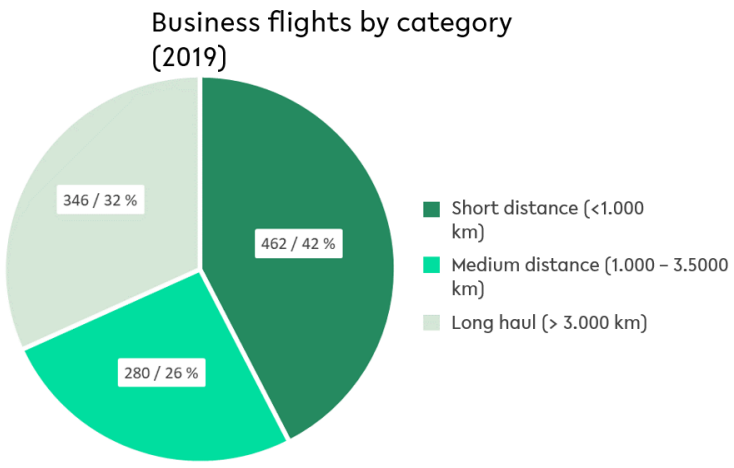
of the new building will be built in its place. Once this has been completed, the second multi-storey car park will be demolished and the second construction phase will be built.

The requirements for charging facilities for electric vehicles will be met so that around a third of the car parks can be equipped with e-charging points in future.

The parking space regulations of the city of Bielefeld stipulate 384 parking spaces for the new buildings as part of the expansion of Campus south by the winter semester 2025/2026. The planned multi-storey car park already has 276 parking spaces and will be built below Wertherstraße. Some of the car parks will be equipped with charging facilities for electric vehicles.

Travelling activities

Business trips



© Bielefeld University

Business trips pose a sustainability dilemma, especially in science: On the one hand, there is the awareness that every flight has a negative impact on the environment that would like to be avoided. On the other hand, maintaining and expanding international contacts, exchanging ideas and conducting research together, as well as experiencing other scientific cultures, are qualitative characteristics of outstanding science.

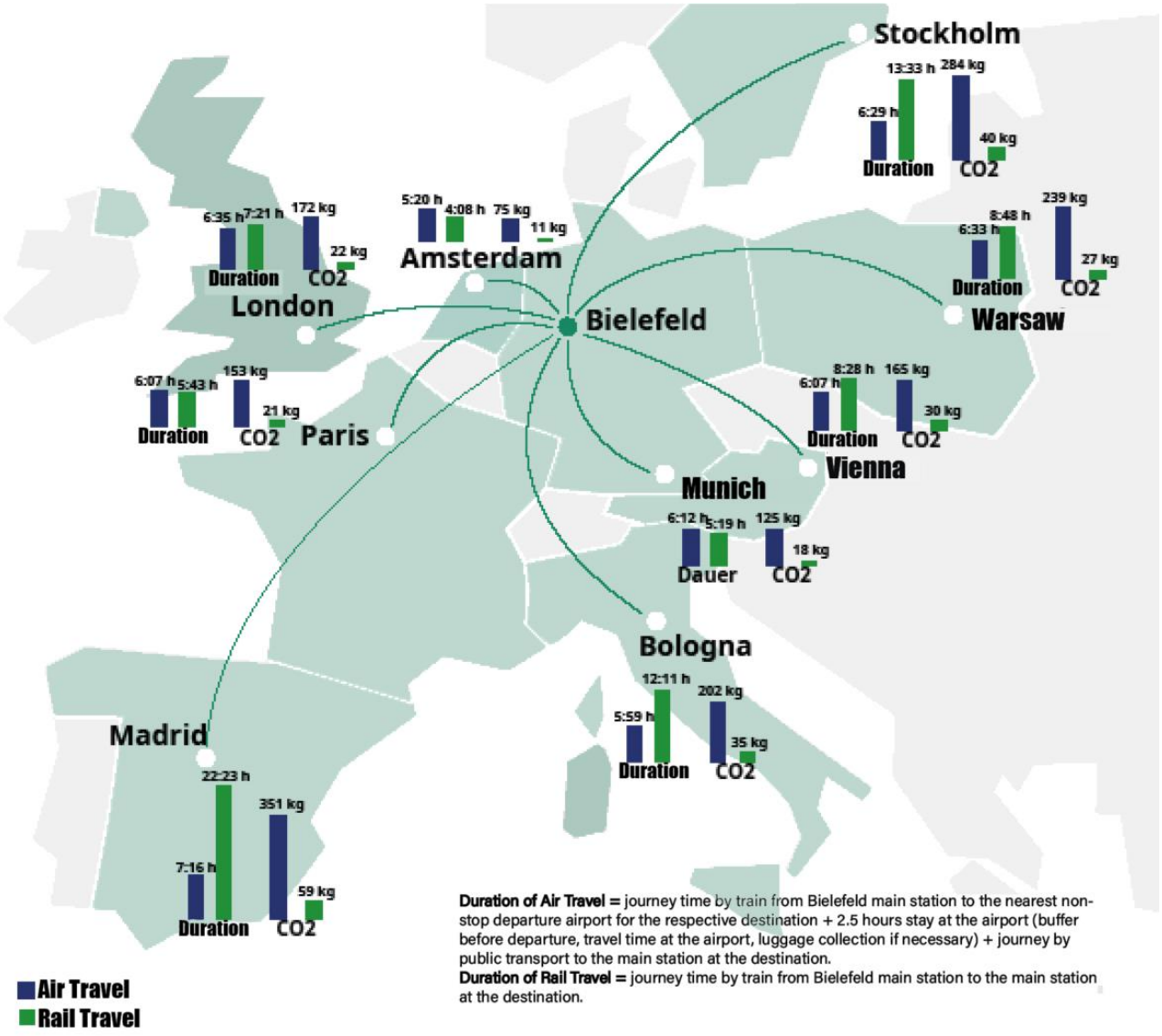
For this reason, Bielefeld University is committed to economic efficiency and economy as well as climate protection when choosing the means of transport (see information sheet on travelling expenses ↗). Flight costs are only reimbursed if the flight is necessary for business reasons (e.g. due to deadlines) or economic reasons (e.g. significantly lower costs than travelling by train) or if the total working time saved is at least one whole working day. A stricter standard must also be applied to domestic German flights.

In the sustainability mission statement, the University has set itself the goal of acting in the interests of greenhouse gas neutrality when employees travel on business and students travel abroad and to sensitise people to the choice of sustainable travel options. Short-haul flights should be avoided and medium- and long-haul flights should only be taken if the journey makes a significant contribution to fostering international cooperation, research or teaching. Where reduction is impossible, compensation complements this endeavour.

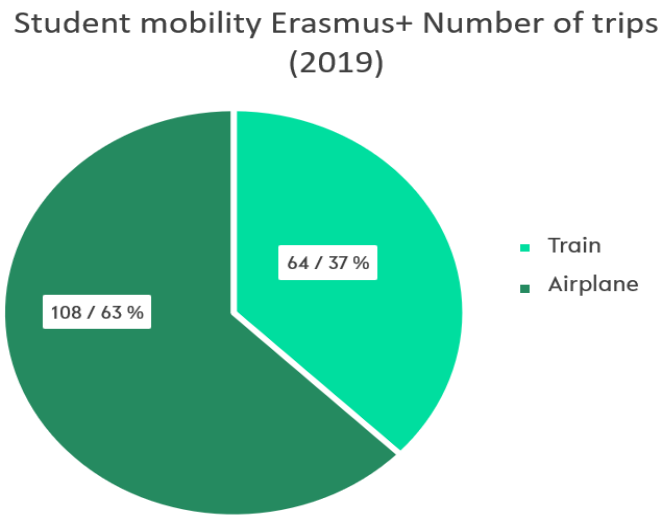
One measure to achieve this goal was implemented at the beginning of 2023: The Rectorate commissioned the Vice Rectorate for Science and Society to develop a concept for how business trips can continue to be sponsored, but at the same time reduce their carbon footprint through an internal compensation mechanism.

(More) Sustainable business trips

Find out how you can make your business trips (more) sustainable and how CO2-emissions differ from air and rail travel within Europe on the topic page in the sustainability portal.



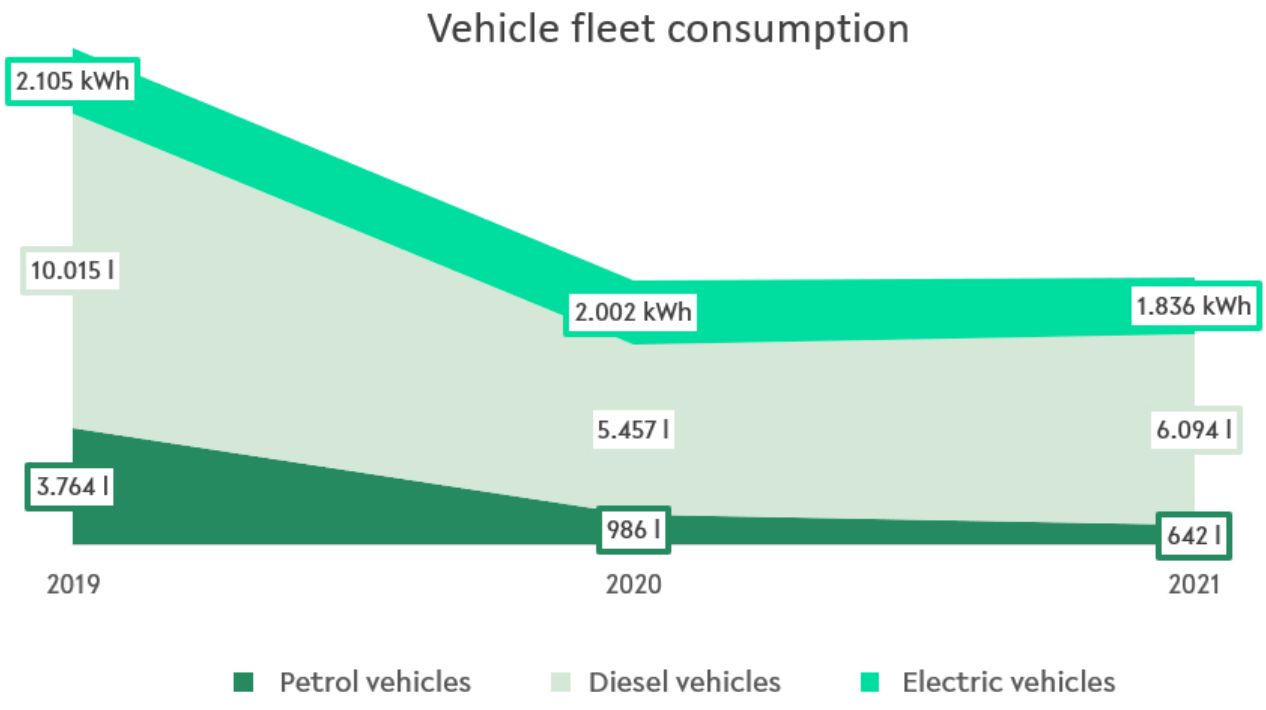
Student mobility



In the 2019 academic year, 172 trips were made as part of student mobility (Erasmus+), 64 of which were by train and 108 by plane. Due to data availability, it should be noted that the breakdown by plane and train is based on extrapolations. A journey only refers to the journey to the destination.

University vehicle fleet

Due to the reduced use during the coronavirus pandemic, a reduction in fuel consumption (or, in the case of electric vehicles, a lower number of kilometres travelled) can be observed for all vehicles, but this has fallen significantly more in relation to each other in the diesel and petrol sectors.



Eat & Drink

On campus, Bielefeld University attaches great importance to sustainable, resource-saving catering with increasingly healthy, plant-based, ecologically produced, regional and seasonal products. As catering at Bielefeld University is largely shaped by the cooperation with the Studierendenwerk [Association for Student Affairs], a regular exchange is sought here in order to represent the interests of university members.

The University's sustainability mission statement stipulates that the above-mentioned criteria are to be increasingly applied in the procurement and purchasing of services by the University. For example, when catering for events, it is possible to influence the sustainable design of the offer. A seasonal, regional, vegetarian and vegan selection at the buffet, plant-based milk for coffee, drinks from the region or tap water in carafes directly improve the ecological footprint of an event. This can be requested directly from the caterer. The use of reusable containers should also be encouraged. The university would like to make developments transparent and accelerate them by providing information.

© Bielefeld University

In order to reduce the number of plastic bottles on campus, three drinking water dispensers are now available, which can also be used to refill your own drinking bottle. Annual tests ensure the high quality of drinking water at the university.

Sustainability in the Studierendenwerk

Information for sustainability at Studierendenwerk [Association for Student Affairs] Bielefeld can be found here .

The most recent annual report 2022 also contains figures, e.g. on the proportion of vegetarian meals served.

(More) Sustainable events

In the sustainability portal on the page “Sustainable events” you will find a variety of tips on how you can organise your event more sustainably.

Good to know: Tap water in the university is drinkable

© Bielefeld University

The drinking water at Bielefeld University is regularly tested and is safe to drink. You can find further information on drinking water quality here.

Restlos boxes

© Bielefeld University

Since the winter semester 2022/23, the Restlos e.V. association has been handing out so-called Restlos boxes. Almost every Tuesday during term time, pre-ordered fruit and vegetable boxes as well as vegan bags with products that have been rejected by wholesalers and retailers, mainly due to external blemishes, can be collected. The revenue from the sale is used to fund social projects.

In the summer semester 2023, a total of 868 leftover boxes and 251 vegan bags were handed out. This saved a total of around 4,900 kg of food.

Further information on the sustainability portal.

IT

IT is largely the responsibility of the Bielefeld IT Service Centre (BITS), a central services unit of the university. Here, sustainability aspects are already taken into account when purchasing equipment.

To the pages of the BITS.

Framework parameters for tenders

- Blue Angel (e.g. servers, printers)
- Power supplies with "Gold", "Platinum", "Titanium" efficiency rating
- "EnergyStar 8.0" (e.g. IT clients)
- Printers with separate, replaceable toner and drum systems or refillable ink tanks

The **useful life of the devices** can also be extended so that new devices need to be procured less frequently. The useful life of pool computers, for example, is over five years, and that of monitors over seven years or until they break down. The useful life of workstation computers, including notebooks, is extended to five to six years by replacing batteries.

Blue Angel
The Blue Angel is an eco-label awarded in Germany for particularly environmentally friendly products. It is awarded by the Federal Ministry for the Environment. Further information can be found here.
Energy Star
Energy Star is an American environmental label for energy-saving devices, among other things, in accordance with the energy-saving criteria of the US Environmental Protection Agency (EPA) and the US Department of Energy. Information for Energy Star for monitors.
80 PLUS
80 PLUS is a North American initiative to promote PC power supply units with an efficiency of 80 % or higher. "Gold": 87 % efficiency "Platinum": 89 % efficiency "Titanium": 90 % efficiency

In its sustainability mission statement, the university has set itself the goal of strengthening green IT by utilising potential savings and efficiency gains in the procurement and current operation of systems. Comprehensive information is to be provided with recommendations for action.

Where possible, each employee has only one laptop that is used both at the university workplace and at home. Instead of a complete docking station, a simple USB-C cable is now sufficient to connect the notebook and monitor and supply them with power at the same time. If more monitor space is required, a larger monitor is now offered instead of two individual smaller monitors. These automatically switch to standby if they are not used for a longer period of time. PCs in the pool rooms for students are switched off completely at night.

As BITS will also be affected by the refurbishment work at the university in the medium term and will have to vacate its current space, care is being taken to ensure that the new **data centre space** required is

characterised by a low PUE value, i.e. high energy efficiency. In addition, increased server virtualisation, which now stands at 70 - 80 %, means that less server hardware and energy is required.

PUE value

To calculate the PUE value (Power Usage Effectiveness), the total energy consumption of a data centre - including building technology such as air conditioning, etc. - is divided by the energy consumption of the IT infrastructure (servers, storage, etc.). The closer the value is to 1, the more of the total energy flows into the actual IT infrastructure and the less is consumed for the building infrastructure.

Server virtualisation

Virtualisation allows several server operating systems to be run on one device. This leads to improved and more flexible utilisation of the physical systems and thus increases their efficiency.

Although the University also uses proprietary software (such as Microsoft Office or Adobe Acrobat), some systems have been **developed in-house at the University**, such as the Bielefeld Information System (BIS). It integrates various applications, such as the electronic course catalogue (eKVV), the BIS examination management system, the directory of staff and departments (PEVZ) and much more. On the one hand, this creates independence from commercial providers and, on the other, enables customised solutions that are precisely tailored to the needs of the key players in central administration and the Faculties.

Greenhouse gas emissions

Key Facts

Bielefeld University reports its greenhouse gas emissions (GHG emissions) in accordance with the Greenhouse Gas Protocol standard, taking into account emissions in Scope 1, Scope 2 and Scope 3. In 2019, Bielefeld University emitted a total of 21,801 tonnes of CO_2 equivalents according to the market-based approach (reference: accounting methodology). This corresponds to 0.76 tonnes of CO_2 equivalents per university member.

Of the total emissions, around 61 % are attributable to Scope 3, 36 % to Scope 2 and 3 % to Scope 1. The largest sources of emissions are commuting by university members (Scope 3), the purchase of electricity and district heating (Scope 2), business trips (Scope 3) and the stationary combustion of natural gas (Scope 1).

2019 as the reference year

Due to the distortion of emissions-related activities caused by the coronavirus pandemic, 2019 is used as the reference year. In order to nevertheless show a trend, the annex also contains key figures for 2020 and 2021. However, it should be noted that individual figures are missing due to a lack of emission factors and data.

Climate protection targets

Bielefeld University aims to achieve greenhouse gas neutrality[1] by 2035 compared to 2019, provided that the state government is responsible for implementing and financing the necessary infrastructural adjustments. Under this condition, greenhouse gas emissions are to be reduced by 40 % by 2025, 60 % by 2027 and 82 % by 2030 compared to 2019, in line with the goals of the Paris Climate Agreement[2]. The university has set these targets in its sustainability mission statement.

[1] Greenhouse gas neutrality means that the climate-impacting emissions recorded a spart of greenhouse gas accounting are avoided and reduced and compensated for by the corresponding absorption elsewhere in ordert o counteract an increase in the concentration of greenhouse gases in the earth's atmosphere ("net zero emissions").

[2] At the 21st UN Climate Change Conference in Paris in December 2015, the international community committed to limiting global warming to well below 2°C, if possible to 1.5°C, compared to pre-industrial levels.

Accounting methodology greenhouse gas balance

The greenhouse gas balance serves to record the current status of emissions at Bielefeld University. Due to the distortion of emissions-related activities caused by the coronavirus pandemic, 2019 is used as the reference year. Emissions resulting from the rental of building space to the Studierendenwerk and Bielefeld University are not included in the greenhouse gas balance.

Bielefeld University's greenhouse gas emissions are accounted for in accordance with the internationally recognised Greenhouse Gas Protocol (GHG Protocol) standard. The GHG Protocol divides emissions into three scopes: Scope 1, Scope 2 and Scope 3.

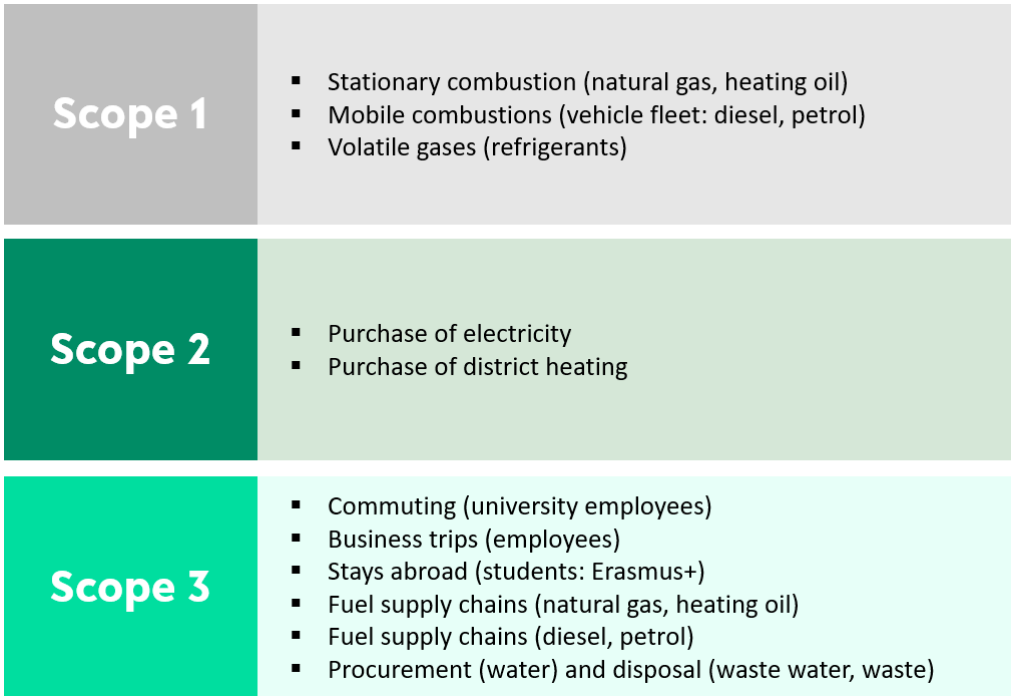
Bielefeld University records all emissions in Scope 1 and Scope 2. Emissions in Scope 3 are determined as comprehensively as possible depending on data availability. Scope 3 will be successively expanded as more data becomes available. The activities listed below are currently being analysed:

"Scope 1" emissions are direct emissions from owned or controlled sources, i.e. predominantly emissions that occur within the boundaries of the university.

"Scope 2" emissions are indirect emissions from the generation of purchased energy. Scope 2 emissions are reported in accordance with the dual reporting principle, i.e. emissions are reported using both the location-based and the market-based approach. The **localised** approach calculates the emissions from electricity procurement, taking into account the federal electricity mix, so that regional differences are balanced out, thus ensuring better comparability of the figures. The **market-based** approach calculates the emissions from electricity procurement taking into account the respective electricity supply contract, so that individual final decisions such as the purchase of electricity from renewable energy sources are included in the greenhouse gas balance.

"Scope 3" emissions are all other indirect emissions that arise in the university's value chain. While the GHG Protocol obliges its users to record Scope 1 and Scope 2 emissions, the recording of Scope 3 emissions is optional.

The following activities are currently being considered:

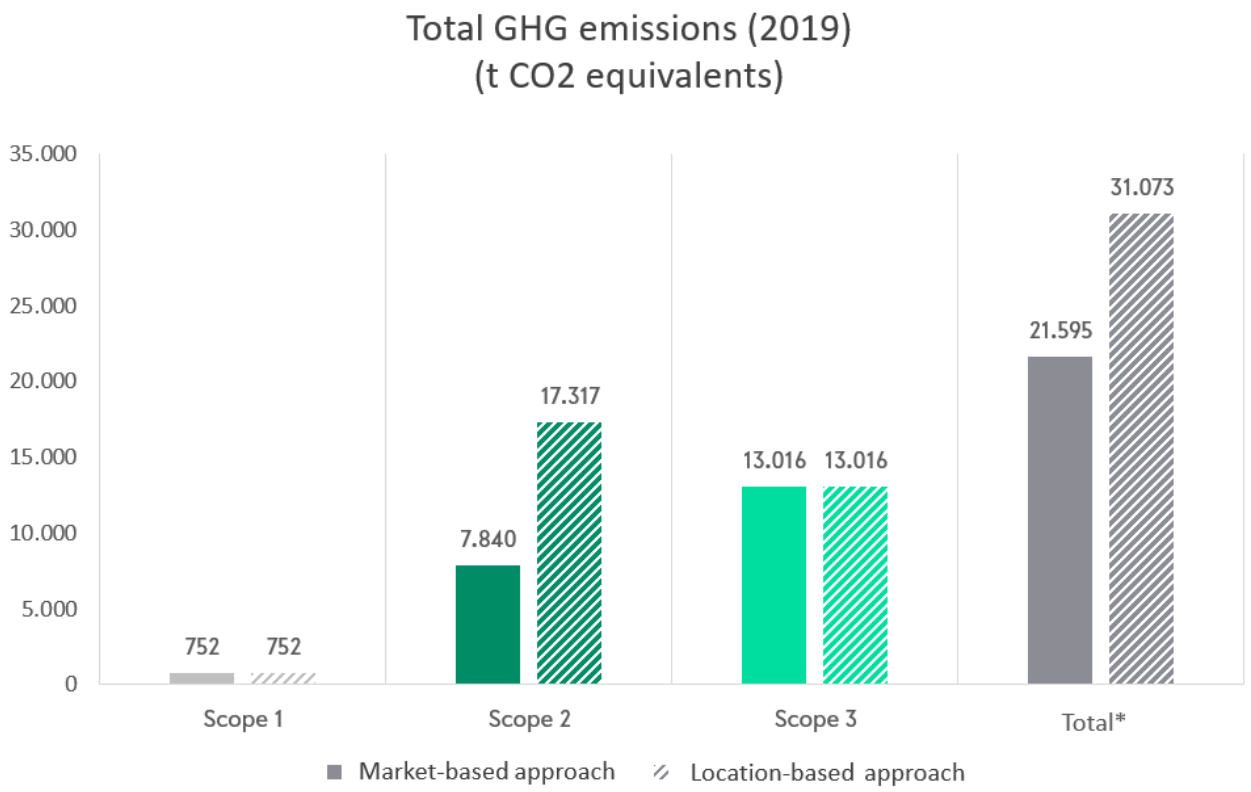


Total emissions

Taking into account the system boundaries, Bielefeld University emitted a total of 31,278 tonnes of CO_2-equivalents in 2019 according to the location-based approach and 21,801 tonnes of CO_2-equivalents according to the market-based approach (see section "Greenhouse gas balance accounting methodology").

Accounting according to the market-based approach

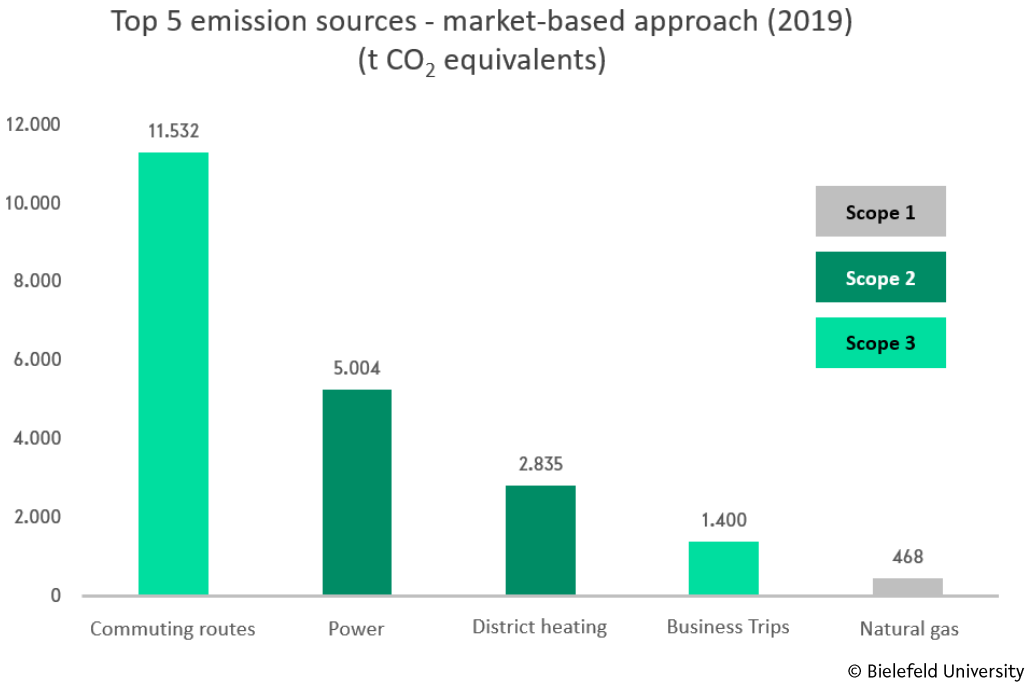
For Bielefeld University, the market-based approach reflects the relevant amount of GHG emissions (see "Greenhouse gas balance accounting methodology").



*The GHG savings from feeding PV electricity into the public grid were included in the total. The total is therefore lower than the addition of the GHG emissions in Scope 1, Scope 2 and Scope 3 © Bielefeld University

The emissions according to the market-based approach are significantly lower, as Bielefeld University already purchased electricity in 2019, 62 % of which came from renewable energy sources. Since 2020, Bielefeld University has purchased electricity from 100 % renewable energy sources. The results according to the market-based approach are shown below as the main variant.

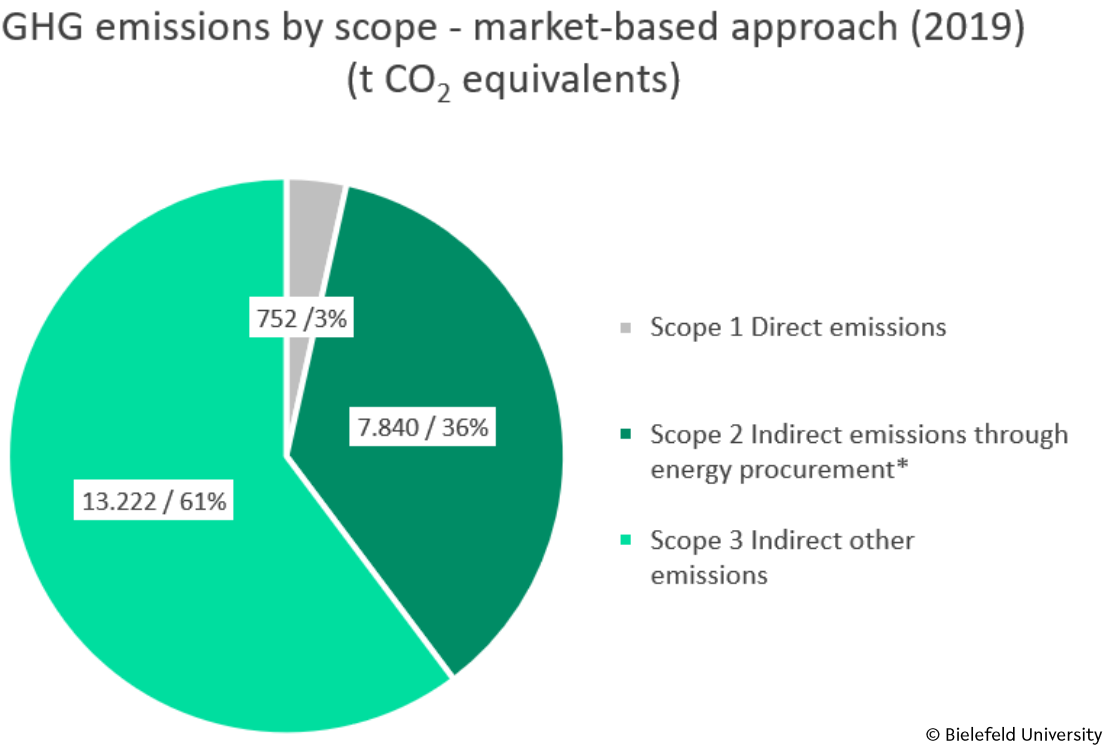
The figure opposite shows the five largest sources of emissions at the university according to the market-based approach. The complete greenhouse gas balances can be viewed in the appendix [Download].



© Bielefeld University

Emissions by scope

Broken down into the three scopes of the GHG Protocol, the emissions for 2019 are shown in the adjacent figure according to the market-based approach.



It is clear that the scopes differ greatly in terms of their share of the overall balance. Scope 1 accounted for a total of 752 tonnes of CO_2-equivalents. Scope 2 accounts for 7,840 tonnes of CO_2-equivalents. At 13,222 tonnes of CO_2-equivalents, Scope 3 accounts for the largest share of total emissions. It should be emphasised here that activities in Scope 3 are partly based on assumptions and rough extrapolations, such as commuting by university staff.

Emissions per university member

As part of the planned update of Bielefeld University's greenhouse gas balance, it is essential to analyse relative key figures in order to be able to present development trends transparently. The emissions per university member take into account the growth of the university in terms of the influx of students, researchers & teaching staff, instructors, lectures and staff in administration and service, as well as the construction and commissioning of new buildings. Bielefeld University will grow over the next few years, particularly in the course of the construction of Campus south. In terms of climate protection, it is therefore essential to track emissions in relation to the number of university members.

In the reference year 2019, emissions per university member amounted to 0.76 tonnes of CO_2-equivalents according to the market-based approach. As already mentioned, the years 2020 and 2021 were heavily distorted by the coronavirus pandemic. This affects both energy-related and mobility-related emissions. For example, the commuting sector could not be included in the balance due to the data situation.

Data appendix incl. greenhouse gas balance

You can download the greenhouse gas balance here:

Download PDF

Note: Bielefeld University's greenhouse gas balance may change as a result of its participation in the current "Climate-neutral state administration" project of the Ministry of Economic Affairs, Industry, Climate Protection and Energy (MWIKE) to create a standardised basis for calculating greenhouse gas emissions.

Society, Social Affairs & Transfer

The sustainability mission statement and the goals set out therein are in line with other cross-cutting university tasks such as inclusion, diversity, equality, internationalisation, health and good cooperation. The cross-cutting university tasks are not subsumed under sustainability at Bielefeld University, but are dealt with as independent areas, but also in coordination with each other. This report is orientated towards the focus of the sustainability mission statement. You can find out more about the other cross-cutting issues here:

Diversity	Health	Equality	Internationali-sation	Good cooperation

Transfer

In order to ensure the transfer of knowledge in the area of sustainability, the aim is to make greater use of existing transfer formats in future. Click on the tiles below to gain an insight into a selection of existing transfer formats.

Teutolabs	WissensWerkStadt Bielefeld	Open Society Forum	Bielefeld 2000plus

Commitment

"As students, we have the opportunity to get involved in university politics in various ways and thus also fight against the climate crisis."

— AStA [Student Union] Bielefeld University

Social transformation processes rarely take place when people only do the bare minimum - which makes commitment to climate protection a necessity. After all, we have been in a crisis for years that can only be mitigated through activism and immediate political action. Even though environmental movements are gaining momentum and media attention, politicians do not seem to be taking the crisis seriously - or want to. This is because hardly any action is being taken to achieve the desired 1.5 °C target. Instead, fossil fuel companies continue to be supported, natural areas are destroyed for roads and activists who peacefully draw attention to these very issues are condemned. Economic interests are still being prioritised at the expense of people and nature.

The term "climate anxiety" does not come from somewhere. The consequences of the climate crisis are far-reaching and probably irreversible. Heatwaves, flood disasters - we are already feeling all these effects. The fact that these weather changes will not improve, but rather the opposite will be the case, does not exactly contribute to a positive feeling. Added to this is anger about the great injustices. Because although a lot will change here: The greatest consequences will be felt by people in the Global South. To counteract this, our approach to climate protection must change fundamentally. A system change is needed that is based on fundamentally different structures. Solutions to the climate crisis do not come from a Eurocentric perspective; they must be thought of globally, question our current economic system - capitalism - and understand discrimination such as racism and sexism as sometimes causes and perpetuating conditions of the climate crisis.

However, many people do not realise the complexity of climate protection. Every cog in society is therefore an important step towards dealing with this crisis appropriately.

Leo and Jasmin, consultants of the department for ecology, nature and climate protection of the 48th AStA

As social institutions, universities also have an important role to play here. As students, we have the opportunity to get involved in university politics in various ways and thus also fight against the climate crisis. One option is to found a university group and become active there. If you would like to make a greater commitment or get more involved in decisions at Bielefeld University, you can also be elected to the student parliament or the various committees. Elections to the student parliament (StuPa) take place every year in June. However, students often do not have the capacity to become more actively involved in politics at university alongside their studies and possible job and family commitments. However, they can always pass on their wishes and concerns to the AStA.

The AStA is the General Students' Committee and is put together on the basis of the StuPa election results. It represents the students at Bielefeld University and is also involved in various areas for more climate protection and sustainability at the university, which we will present below.

Below you can find out more about the projects of student engagement in the field of sustainability. Here are the self-introductions of the respective groups:

Student commitment

AStA Ecology Department

© AStA Bielefeld

The Ecology Department aims to raise students' awareness of climate protection and climate justice and to help make the university more sustainable. To achieve this, we organise various events or participate in university structures. For example, we took part in the participatory process to formulate a sustainability mission statement for the university or engaged in dialogue with the Sustainability Office or Studierendenwerk [Association for Student Affairs]. During our term of office, we also organised workshops on the post-growth economy, which dealt with our current economic system and its connection to planetary boundaries. We also organised a workshop on colonialism, which focused on the people most affected by the climate crisis. In addition to such projects with a social focus, we also support smaller events. For example, we organised bicycle workshops with Radtschlag as part of the Sustainable Semester. Of course, we also organised a clothes swap party and plant giveaways. At the beginning of the year, we also set up a Fairteiler at the university in cooperation with Foodsharing. This is a place where people can bring rescued food or take it from there free of charge. Our Fairteiler consists of a fridge and a shelf and is located in the gallery in the UHG. Feel free to drop by there! Overall, we are always open to new ideas and projects and try to represent student interests at Bielefeld University in the best possible way. So please write to us (oekologie@asta-bielefeld.de) if you have any concerns!

Radtschlag (AStA)

© Bielefeld University / Pollmeier

The Radtschlag is the bicycle self-help workshop, financed by the AStA. If your bike has a flat tyre, the lights no longer work, brakes need replacing or anything else, you can come here. You can then repair your bike with the necessary tools under supervision. The advice and repair help is free of charge, spare parts can be purchased for money. The people there will also be happy to help you with advice on buying used bikes or other bike-related questions. You can also hire a BISELA cargo bike (the Bisela 2) here. You will find the Radtschlag in C02-201.

Urban Gardening AG (AStA)

© Bielefeld University / Pollmeier

Students can try their hand at growing plants and cultivating fields in the AStA's Urban Gardening AG. Various types of fruit and vegetables can be grown here on an area of around 10 square metres. The fields are located at the ZiF at the top of Wertherstraße. No previous experience is required and tools are available in the neighbouring tool shed. The whole thing is explicitly intended to be tried out - for individual students, but also for groups! If you would like to try out small gardening projects, please get in touch at: gardening@asta-bielefeld.de

Students for Future

© Students for Future Bielefeld

We founded the **Students for Future Bielefeld** university group in 2019 with the aim of raising awareness of the climate crisis and measures to combat it in the university context. Since then, we have planned and implemented various projects, some of which we would like to explain below.

Sustainable Semester: We organised two events as part of Bielefeld University's sustainable summer semester 2023. Firstly, two upcycling sewing workshops were organised in cooperation with VHS Bielefeld. Secondly, there was a flea market at Bielefeld University's Social Field at the end of June, where students and staff were able to run their own stall.

Public Climate School: In 2022, we organised and held two events as part of the Public Climate School (PCS). The PCS is an educational programme that aims to raise awareness and provide information on combating the climate crisis for a future worth living on this earth and to enable climate education for students. As part of PCS 2022, there was a panel discussion on climate anxiety and a presentation on the topic of "Climate crisis and health". At the end of the PCS in November 2022, we formed a human chain in the university hall of the main university building to express our demands (including compliance with the 1.5 degree target, rapid expansion of public transport, more climate education).

Sustainability Action Week: As part of the Sustainability Action Week with the Studierendenwerk Bielefeld, we were involved in Instagram recipe campaigns and an information stand under the motto "climate-friendly nutrition", where we provided information about sustainability and nutrition.

Petition: The connections between nutrition and climate were taken up again around a year later when we launched a petition in favour of a larger vegan and regional offering at Studierendenwerk Bielefeld. The petition is still ongoing (as of 12 June 2023: 1,811 supporters) and we plan to hand it over to the Studierendenwerk soon.

We have also been in the StuPa since 2021 and in the Senate since 2022, where we advocate for the interests of students. Furthermore, we have already organised several demonstrations and rallies in the city of Bielefeld.

Sustainability Fund

© Bielefeld University / Pollmeier

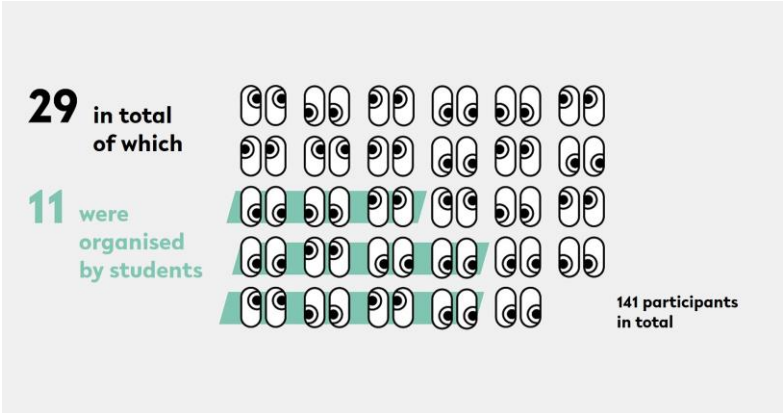
Bielefeld University's Sustainability Fund is designed to encourage researchers and students to plan and implement a sustainability-related project at Bielefeld University. They can apply to the Sustainability Fund and receive support of up to 300 euros for projects ending dates on the campus of Bielefeld University. The focus on sustainability is not only limited to ecological sustainability, but also social and economic sustainability.

The following projects has been sponsored so far:

- **Upcycling sewing café** organised by Students for Future as part of the Sustainable Semester

Das Sustainable Semester

Thanks to the dedicated involvement of students and staff at Bielefeld University, the Sustainable Semester 2023 was realised. It offered all members of the university the opportunity to learn and exchange information on the topic of sustainability through various activities such as presentations, campus tours, lunch & learns, workshops and networking events. A total of 29 events were offered, 11 of which were organised by students. Around 141 staff, people took part in the events in total.



* for events requiring registration © Bielefeld University

Contact

Bielefeld University
Sustainability Office
Universitätsstraße 25
33615 Bielefeld

Phone: 0521. 106-86891