

SUSTAINABILITY REPORT 2023

MENDEL UNIVERSITY IN BRNO



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**GO GREEN,
GO MENDELU**

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Introductory word

"I believe that Mendel University studies and research will inspire the change in thinking that we urgently need for sustainable life on our planet."

Jan Mareš, Rector

Mendel University in Brno (hereinafter "MENDELU") can undoubtedly be perceived as a "green" university, offering education in the fields of agriculture, forestry, ecology, and many more. Not only due to its name, associated with the name of an important scientist, teacher and monk who devoted part of his life to studying peas, the University has chosen green as "its" colour.

The location of individual University campuses and facilities only confirms the perception of MENDELU as a green institution. The campus with the Rector's office, four of the five faculties, and the Institute of Lifelong Learning is set just outside the centre of Brno in a quiet neighbourhood and is directly connected with the MENDELU Botanical Garden and Arboretum. The campus of the Faculty of Horticulture is located in Lednice, i.e. within the Lednice-Valtice area, a UNESCO World Heritage Site since 1996. University's properties include two school enterprises - the University Forest Enterprise Masaryk Forest in Křtiny, with an area of 10.2 thousand ha of forest land, adjacent to the north of Brno, and the University Agriculture Enterprise in Žabčice, located south of Brno.

MENDELU's mission is to find sustainable solutions, gradually in all areas of its activities, and to set an example not only within its boundaries but also outside.

MENDELU and sustainability in 2023

MENDELU priority aims related to the UN Sustainable Development Goals – SDGs

Mendel University in Brno is mainly committed to the following six SDGs, but its activities relate to other SDGs as well.



End hunger, achieve food security and improved nutrition and promote sustainable agriculture



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Achieve gender equality and empower all women and girls



Ensure availability and sustainable management of water and sanitation for all



Take urgent action to combat climate change and its impacts



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Currently, MENDELU does not have a separately defined sustainability and social responsibility strategy, this document will be prepared during 2024. However, the above listed significant topics are part of University strategic documents:

- *Strategic plan of Mendel University in Brno for the period starting in 2021;*
- *Implementation plan for the Strategic Plan of Mendel University in Brno for 2023.*

The University is thus committed to social responsibility and sustainability. Most of the activities in this area are carried out at the level of faculties, institutes, or even individuals among students and University staff. Many activities are organised by student societies. Sustainability was included in the powers of one of the vice-rectors in 2022; the sustainability report has been drafted since 2022.

In this respect, the actors at MENDELU can be divided into primary and secondary. The primary actors are usually University decision-making bodies in the form of "stakeholders". Secondary actors are various advisory committees, boards, and societies.

Primary actors:

- *Board of Trustees of Mendel University in Brno* – the body approving the economic and strategic direction of the University;
- *Rector's Advisory Board of Mendel University in Brno* – members are vice-rectors, bursar, deans and other members appointed by the Rector;
- *Academic Senate of Mendel University in Brno* – composed of academic staff and students.

Secondary actors:

- *Rector's Committee for Strategy and Sustainability of Mendel University in Brno*;
- *Advisory Board of University Forest Enterprise Masaryk Forest in Křtiny*;
- *Advisory Board of University Agriculture Enterprise in Žabčice*;
- *MENDELU Centre for Social Responsibility and Sustainability (CSR MENDELU)*;
- *MENDELU Sustainability Working Group*;
- student societies;
- staff representatives (academic and non-academic);
- student representatives – active students (individuals) who are involved in University activities.

Sustainability at MENDELU permeates all the three important levels – research, education, and the complementary third role of the University:

1. at the research level, over 1,000 articles directly addressing or mentioning sustainability are reported in international publication databases each year;
2. educational activities include over 280 courses addressing sustainability topics;
3. the third role of the University is performed by dozens of events for the professional and general public every year.

Among others, sustainability is addressed within the framework of partial project activities based on the comprehensive *MENDELU Strategic Management Support Programme 2022-2025*, in which the University commits to achieving specific objectives set on the basis of the Strategic Plan and its Implementation Plan for a given year. In 2023, these were mainly priority objectives 1, 2 and 5. The centralised development project *Engagement for sustainability – University leaders in SDGs II (UNILEAD II)*, in which most Czech public universities participated in 2023, built on the previous project with the aim of transferring information, know-how and identifying actions leading to the development of sustainability at all participating schools.

The most significant obstacles on the way to the sustainable functioning of the University are the lack of available resources to finance more expensive projects and the lack of a *sustainability manager*.

Projects that will help the University on the road to sustainability, for example in terms of employee wellbeing, are gradually being implemented. As an example, a reconstruction of some corridors in building A and the entire building D can be mentioned. The tender documentation for these construction contracts strictly defines what materials can be used in the reconstruction.

The already finished studies and designs in the field of sustainability, e.g. the rainwater management at the Brno-Černá Pole campus, the use of water for watering the nearby arboretum (MENDELU Botanical Garden and Arboretum), the placement of solar panels or photovoltaic panels on the University's lands or buildings, are directed towards sustainable operation.

It is desirable to involve students in activities aimed at sustainability, in addition to employees, e.g. in the form of student project competitions or topics for their theses.

MENDELU is actively involved in social responsibility and sustainability activities. Since 2019, the *MENDELU Centre for Social Responsibility and Sustainability* has been operating at the University on a voluntary basis; not being a part of the University's organisational structure. Through the Centre, the University is involved in the Association of Social Responsibility and the Corporate Social Responsibility Platform of Stakeholders. The Centre organises public lectures and discussion meetings with experts from practice, excursions for students and employees to socially responsible companies, prepares significant events together with students, such as the *Social Responsibility Day* or the *MENDELU Good-Fair*, and much more.

Other platforms of which MENDELU is a member, such as the Institute of Circular Economy, the South Moravian Agency for public innovations JINAG, and various clusters that put sustainability at the forefront of their interests, may also be mentioned.

A very important achievement of the University in 2018 was the HR Award in the field of human resources from the European Commission - MENDELU succeeded as the first Czech university. The University was preparing to defend the award during 2023.

Students are motivated to engage in socially responsible activities not only in the classroom, but also through the MENDELU ESN (Erasmus Student Network of Mendel University).

A significant motivation for students and employees is the opportunity to receive the *Rector's Award for a significant contribution to the development of civil society*. The winner gains a diploma, a medal and a financial reward.

MENDELU is a signatory of the *Memorandum of Long-term Cooperation in the Fulfilment and Enhancement of the Statutory City of Brno Commitment to Reduce CO₂ production* and continues to participate in the activities of the #PřipravBrno and #brno2050 strategies.

The University regularly participates in global and international environmental rankings of universities; the result in the UI GreenMetric ranking is improving year on year - in 2023 MENDELU ranked 361st out of 1,183 participating schools.



Educational affairs



The topic of sustainability in educational affairs

A large part of the University study programmes is more or less related to issues of sustainability, especially regarding its environmental aspects. In 2023, the study programmes *Biomaterials* (Bachelor's degree, Faculty of Forestry and Wood Technology) and *Circular Horti-production* (Bachelor's degree and Master's degree, Faculty of Horticulture) were newly authorised for institutional accreditation. In study programme *Biomaterials*, students gain an overview of the development, production and processing of innovative materials and products based on wood and other lignocellulosic materials and biomaterials. The programme also focuses on product life cycle analysis, i.e. the application of sustainability principles including life cycle thinking and ecodesign. The Bachelor's study programme *Circular Horti-production* combines theoretical knowledge in the field of plant biology with technological innovations and modern methods of food resources production. The emphasis is on sustainability, ecosystem, food quality and socio-economic aspects. In the follow-up Master's study programme, students deepen their knowledge of sustainability, precision technologies and food quality. The study programme will help them acquire a wide range of skills and knowledge in areas that are key to addressing today's environmental and economic challenges.

Support for lifelong learning

The University implements a wide range of programmes and courses in the field of lifelong learning, especially through the University's Institute of Lifelong Learning. The Continuing Professional Education Department of the Institute of Lifelong Learning offers and organises a wide range of courses in the fields of teaching, agriculture, viticulture, economics, IT, personal development and language training; the courses are suited for professional purposes as well as hobbies. The Senior Education Department of the Institute of Lifelong Learning is the guarantor and implementer of the University of the Third Age. Another essential activity is the intergenerational university. The Counselling and Career Centre of the Institute of Lifelong Learning is also involved in the implementation of educational activities, which are mainly used by the University students. These include seminars and courses aimed at promoting personal development, preventing academic failure, developing competences to increase readiness for the labour market and workshops on mental health. PhD study programme students and staff are offered lectures on working with students with special needs. In 2023, the University implemented 163 lifelong learning courses attended by a total of 5,079 people. Compared to the previous year, there was a 9% increase in the number of courses and a 15% increase in the number of participants. The Institute of Lifelong Learning also organises the annual *ICOLLE* conference, focusing on lifelong learning.

In 2023, the association called *Centre of Vocational Excellence – Water in Landscape* was founded at Mendel University in Brno. The association is conceived as a non-profit organization with the purpose of fulfilling the common interest, which is to support innovative solutions in education in the field of water management in the landscape and educational activities in the sustainable management of water sources. It is therefore not only an educational but also a communication platform in the field of water management and related disciplines. Many educational activities have also been implemented by the University Forest Enterprise Masaryk Forest in Křtiny, which offers a range of several forest teaching programmes available to the public, including suburban camps. In 2023, on the occasion of the celebration of 100 years since its foundation, the University Forest Enterprise Masaryk Forest in Křtiny organised an open-air exhibition on the history of the enterprise, entitled "*A varied life in a varied forest*", focusing on the events in the forest and forestry challenges for the 21st century. The exhibition was held in the centre of Brno. The University Forest Enterprise Masaryk Forest in Křtiny also builds nature trails on its properties and installs educational elements, e.g. in 2023 the *Praise of Trees (Chvála stromů)* nature trail in the vicinity of Křtiny; it also cooperates in the creation of a relaxation forest park with play and educational elements in Adamov.

Promoting quality education for everybody

MENDELU contributes to increasing the number of qualified secondary school teachers. The Institute of Lifelong Learning offers a Bachelor's programme in *Practical Teaching and Vocational Training*, whose successful graduates can work as teachers at secondary schools. There is also a Bachelor's programme in *Applied Educational Studies*, which prepares future professionals in the field of lifelong learning.

The Institute of Lifelong Learning also organises a number of qualification and competence development courses for current and future teachers and lecturers – for example, in 2023, the programme for obtaining professional qualifications for teachers to teach at secondary schools, *Study of Pedagogy for Teachers*, or the retraining course for *Lecturer in Continuing Education*, was accredited.

The University also supports children's access to pre-school education by running the University nursery school Hrášek, which is primarily intended for children of University employees and students, but anyone can enrol their child if the capacity is not filled.

Ensuring equality in education

The University has established a system of support for students with special needs. Every student and study applicant shall, to the maximum extent possible, be provided with a service or adaptation of their study and environment that will compensate for the effects of their special needs during the study. Support for students with special needs is coordinated at university level by the Counselling and Careers Centre of the Institute of Lifelong Learning. In 2023, the Centre registered a total of 158 students with special needs. The Centre also provides psychological, study and career counselling services to students and employees of the University and the general public. In 2023, a total of 828 hours of individual psychological counselling were provided, as well as 16 hours of counselling for foreign students in English. Other group activities included seminars and workshops in 16 thematic areas in the field of mental health protection (mental hygiene) and personal development, soft skills and healthy lifestyle, which were attended by a total of 177 students or university employees. In the area of academic counselling, mainly focused on reducing academic failure, 187 hours of individual counselling and workshops in 7 thematic areas were carried out, attended by a total of 115 students.



MENDELU further promotes gender equality in access to education. In 2023, a university-wide analysis of predictors of academic failure was conducted, which included an assessment of academic failure by gender at the university level, university units and in individual study programmes. The data obtained will be used to set up measures to prevent academic failure. Support for students with children (students-parents) can also be included in the area of promoting gender equality. The tools of support mainly include possible interruption of study and prolonging deadlines of study obligations, study officers' assistance with the organisation of studies reflecting the needs of parenthood as well as a possible transfer to a combined form of study (provided that the study programme is carried out in this form). In 2023, an entire issue of the university magazine *Mendel Green* was devoted to the topic of gender equality.

The University also supports equal access to education for students with socio-economic disadvantages, who are provided with a social scholarship on application. In 2023, social scholarships were granted to 22 students in the total amount of 555,000 CZK.

Research, development and innovations



The creative activities of Mendel University in Brno comprise a wide range of activities that often refer to sustainability, or even focus on it. Every year, the research teams participate in projects of a number of national and international providers, including the Technology Agency of the Czech Republic, the Czech Science Foundation, the Ministry of Education, Youth and Sports, the Ministry of Agriculture, the Ministry of Health, the Ministry of Industry and Trade, the Czech Development Agency and the Grant Service of the Forests of the Czech Republic. The major foreign providers include Horizon 2020, Horizon Europe, and Erasmus+.

In 2023, the preparation of the project application in the Ministry of Education, Youth and Sports *Call for Proposals for projects under the "Supporting Green Skills and Sustainability in Higher Education" component 7.4 of the National Restoration Plan for Higher Education 2023–2025* was initiated. The project will be carried out in 2024 and 2025 and will result in newly accredited study programmes, new courses in existing study programmes, new lifelong learning courses, sustainability and green transformation strategies and new strategic partnerships in the field of sustainability.

For example, the Faculty of Forestry and Wood Technology coordinates a four-year project (2021–2024) focused on forestry in Mongolia – *Sustainable Resilient Ecosystem and Agriculture Management in Mongolia* (STREAM). It also coordinates the H2020 project *Adaptation strategies in forestry under global climate change impact* (ASFORCLIC). Within the same programme, the *Water4All – Water Security for the Planet* (2022–2029) project on water sources sustainability continued in 2023. As regards the Faculty of AgriSciences and Horizon Europe, the year 2023 marked the beginning of a project, one of the aims being recognising the role of women in more sustainable rural regions, *FLIARA: Female-Led Innovation in Agriculture and Rural Areas* (2023–2025). The Erasmus+ project *Centre of Vocational Excellence for Climate Smart Agriculture in South Africa* (CoVE South Africa, 2023–2025), focusing on a sustainable rural economy in South Africa, started in 2023. At the same time, projects *Transforming Advanced Water Skilling Through the Creation of a Network of Extended Reality Water Emulative Centres* (WATERLINE, 2022–2025), *Hungry EcoCities* (2022–2026), and *Developing Sustainable Permanent Grassland systems and policies* (SUPER-G, 2018–2024) continued. The Faculty of Business and Economics is part of the Erasmus+ project focused on *Master Studies in Sustainable Development and Management* (2023–2025). As regards the Faculty of Horticulture, an example would be a project implemented within the Ministry of Agriculture programme entitled *Sustainability of cultivation practices in vegetable production using targeted applications and robotic platforms* (2023–2025). At the Faculty of Regional Development and International Studies, a project from the Technology Agency of the Czech Republic SIGMA programme entitled *Proposal possibilities for sustainable regional development of forestry from the bioeconomy point of view* (2023–2026) started.

The Grant Agency of Gregor Johann Mendel (GAGJM) supported a project on food waste with social and environmental impact within the call for interdisciplinary internal research projects. The project of the researchers from the Faculty of AgriSciences and the Faculty of Business and Economics, entitled *System of food waste collection in urban estates*, which is implemented in 2022–2025, focuses on the management and processing of food waste in households. The aim of the project is to design a suitable system for the collection of this type of waste in a housing estate, which will be acceptable for all stakeholders (households, local governments, waste management companies).

In 2023, Scopus database identified 31 publications of our university authors as related to the UN Sustainable Development Goals, i.e. publications related to topics such as climate change and biodiversity or innovation, technology and circular economy, but also the quality of education.

The University has been a member of BioEast UniNet, an international network of universities promoting sustainability, since 2022. On 14 December 2023, representatives of the University attended a meeting in Prague organised by the BioEast HUB in the Czech Republic, where other foreign universities were added and opportunities for cooperation in the field of bioeconomy were discussed.

The University staff is interpersonally connected with the Global Change Research Institute of the Czech Academy of Sciences (also known as CzechGlobe). They are involved in the *Intersucho* and *FireRisk* portals, as examples.

The *Intersucho* project has been in existence since August 2012, mainly thanks to the collaboration of a number of scientists and experts who, at the time of the project's inception, built on more than ten years of research in the field of drought monitoring and climatology in the Czech Republic, Europe and the USA. The *FireRisk* project team consists of the staff of the Global Change Research Institute, Czech Hydrometeorological Institute, Institute of Forest Ecosystem Research and Mendel University in Brno. The development of an operational tool for monitoring and forecasting weather leading to wildfires is supported by the *SustES* project – *Adaptation strategies for sustainable ecosystem services and food security under adverse environmental conditions*. The preparedness for increased risk of emergencies is one of the key adaptation measures that contribute to reducing the impacts of climate change.

The Botanical Garden and Arboretum contributes to the fulfilment of Goal 15, namely to halting the loss of biodiversity. It is an active member of Index Seminum, an international platform for seed exchange between botanical gardens. The exchange includes seeds from plants collected in the wild as well as seeds from plants grown in gardens. In 2023, the Botanical Garden and Arboretum offered 89 items for exchange, 24 of which were from natural collections.



The third role of the university

External affairs



In the area of sustainability, the following goals have been set:

- to maximise the communication of sustainability to the priority target group of applicants and students;
- to systematically work with secondary schools to present the topic of climate change;
- to support selected student activities that promote the community dimension in the implementation of the sustainability element.

Since the beginning of 2023, Mendel University in Brno has focused on creating the concept of *Changing Mindset*, which connects the entire communication campaign. This concept expresses the importance of changing attitudes and thinking in response to climate change and reminds the general public that the old ways are no longer sufficient. This concept has also been integrated into the recruitment campaign as a key message to candidates.

In order to spread awareness about sustainability at MENDELU and within its goals and activities, a website has been set up <https://mendelu.cz/udrzitelnost/>. This page includes a section called *Telegraficky ("In Short")*, which showcases small activities at the university that support the principles of sustainability.

Among the important events was the opening of the exhibition *Sustainable MENDELU* on 26 April 2023 as part of the *Corporate Social Responsibility Day*. This exhibition presented the University's research projects and activities related to sustainability. Other events worth mentioning are e.g. the organisation of the national round of the *Stockholm Junior Water Prize* for secondary school students, visiting secondary schools to communicate issues related to water sources, and the advent *Punch with Emil*, in which University employees volunteered.

The University is also developing the topic of sustainability at the international level, where it has been involved in a number of projects related to the management of arable land, grassland and forest ecosystems, as well as in the regional development. These projects focus on forest ecosystem restoration and sustainable forest management (projects in Mongolia, the Philippines, Nicaragua) as well as education of small farmers with an emphasis on sustainable management in erosion-prone areas (projects in Zambia and Ethiopia).

Mendel University in Brno continues its long-term efforts to incorporate the principles of sustainable mobility in international projects. Special emphasis is laid on the Erasmus+ programme, which actively promotes sustainable forms of transport. This approach allows both students and academics to receive an increase in their grant through Green Erasmus – a one-off contribution for sustainable travel. The aim of Green Erasmus is not only to promote more environment-friendly ways of travelling, but also raise awareness of environmental issues and encourage participants to implement projects in a sustainable way. Acceptable means of travel to or from a host institution located more than 100 km away are train, bus, bicycle or a shared car. In order to receive the contribution, both journeys, i.e. the trips to the destination and back to the Czech Republic, need to be made by eligible means of transport. Further, participants need to keep evidence of the trip (tickets) to present for inspection upon return. In the case of car-sharing, it must be a real carpool, not a situation where the person is just driven to the mobility destination. It is necessary to present an affidavit with all the necessary details and evidence of the shared trip.

Internal affairs



The Gender Equality Plan of Mendel University in Brno for the period from 2022 to 2024 is a tool for promoting and systematic support for equal opportunities for men and women at the University. In 2023, the following measures were implemented:

- the publication of a handbook for gender-sensitive communication, which contains a set of recommendations and examples of verbal and non-verbal communication aimed at eliminating cultural stereotypes and discrimination;
- organising a webinar on *Gender Dimension in Science and Research* for academics and researchers;
- creation of the Safe MENDELU platform for ensuring social safety at work and study at the University. These are activities to prevent and address incidents of inappropriate behaviour. On the information website, orz.mendelu.cz/bezpecnamendelu, employees and students can learn what bullying and sexual or gender-based harassment are, what their consequences are, how to behave in such situations and where to find help to deal with the situation and where to find psychological help. For prevention purposes, the website provides guidelines and tips on how to behave and not to behave in all the roles and relationships that exist at the university: staff and students among each other, students towards staff and vice versa.

Activities to raise awareness of gender equality and unconscious prejudice, and support for women in science:

- organising a discussion forum on *How to communicate with Generation Z*;
- the award of the honorary degree of doctor honoris causa to Professor Emmanuelle Charpentier, winner of the Nobel Prize in Chemistry (for the development of a method for genome adaptation);
- dedicating an issue of the university magazine *Mendel Green* to the topic of gender equality;
- preparation of the exhibition *Gender Stereotypes* (opening in February 2024 on the occasion of the International Day of Women and Girls in Science).

Within the need to provide conditions for gender equality, MENDELU uses the support for employee-parents, in the following ways:

- part-time jobs;
- flexible working hours;
- 6/8 weeks holiday entitlement (depending on the type of job);
- days off without salary, for an employee who requests in writing after the end of parental leave, up to a maximum of 4 years of the child's age;
- days off without salary, due to care of children up to the age of 15 during school holidays (in the case of a single employee, also outside school holidays);
- University Nursery School Hrášek;
- summer suburban camp for employees' children;
- return to work grant for scientists returning to work after a long break, especially after parental leave (in 2023, two female scientists gained funding for childcare services and they were assigned their own talent manager to mentor them);
- work-family harmonisation coordinator, who specifically addresses employees on maternity and parental leave and provides consultations (not only for them) on the topic of combining career and parenthood in the university environment;
- guides on maternity and parental leave, both for male/female employees and their managers.

#bezpecnamendelu

The Faculty of Horticulture cooperates with the regional charity institution – in 2023, the Faculty employees participated in the organization of Christmas for Ukrainian children (6 January 2023), Easter with Ukrainians (23 April 2023) and a Children’s Day for children of the Faculty employees and children of Ukrainians staying in the halls of residence in Lednice.

Student societies participate in various ways in the running of the university and organise various events:

- *FRRMS Academic Union (AU FRRMS)* is a free association of students and academic staff of the Faculty of Regional Development and International Studies, formed based on a voluntary initiative;
- *Student Union of the MENDELU Faculty of Business and Economics*;
- *KLAS AF* is an association of alumni, students and friends of the Faculty of AgriSciences of Mendel University in Brno; *Student Union of the Faculty of AgriSciences (USAF)* has existed since 2019;
- *Student Association of the Faculty of Forestry and Wood Technology* was founded in 1989; nowadays, it works as a student association whose aim is to continue to promote students’ interests, organise activities and provide advice and assistance in their studies;
- Students of the Faculty of Horticulture are associated in the *LED Student Association*.



Operation and administration of the university



Biodiversity

Maintenance of greenery in the university campuses is partly provided by internal staff; tree pruning in heights above 1.5 m is performed by an external company. The material is used for composting or chipping. The limited space for further investment development, if some takes place, will unfortunately always be at the expense of the green spaces.

Project of long-term development of the Černá Pole campus of Mendel University in Brno for the period 2022-2030 was approved in 2022. However, the persistent problem is the high financial intensity of the activities due to the limited budget and financial coverage of the investments. In this respect, involvement of grants is certainly desirable.

The University boasts its own apiary; Building V, which serves as a facility for the research department of the Faculty of AgriSciences for bee keeping, has a green roof. The approved project envisages the implementation of the green roof also on building C during the summer months of 2024. Building Q has had a rope line to the green wall since the beginning, with the assumption of a future new planting. The greenery in atrium of Building Q was partially revitalised in 2023. Currently, Building D (Department of Chemistry and Biochemistry) is being expanded, and a new green roof will be constructed there. Green roofs can also be found on Building E (Institute of Lifelong Learning), Pavilion M (Mendel Biotechnology Pavilion) and Building Q (Faculty of Business and Economics), and their revitalisation is planned.

Parking in the Černá Pole campus is provided in the free areas and in the underground garages of Building Q; due to the limited capacity of the campus and the surrounding parking areas, emphasis is placed on optimising the number of cars; other limitations arise due to the requirements for the entry of guests and participants of organised events.

The University Forest Enterprise Masaryk Forest in Křtiny has forest land with an area of 10 228 ha, which forms a continuous complex immediately adjacent to the northern outskirts of Brno and extending to the town of Blansko. One third of this area belongs to the Moravian Karst Protected Landscape Area. In these forests, the enterprise provides forest management and gamekeeping, as well as educational programmes for MENDELU students (university teacher training) and for the public – forest teacher training takes place in Doubravka premises. Arboretum Křtiny and Arboretum Řícmanice offer tours. The enterprise also manages *Forestry Pantheon* – maintaining springs and wells, meadows and monuments, as well as trails for hikers, cyclists and horse riders. Forest saplings are grown in forest tree nurseries on an area of 2.6 ha, mainly for the enterprise's own needs for the restoration of MENDELU forests. The enterprise is implementing the *Adaptation Strategy on Forest Land of Mendel University in Brno with Regard to Climate Change*, which is approved by the Ministry of Environment. In 2023, the University Forest Enterprise Masaryk Forest in Křtiny signed a memorandum of cooperation with the Forests of the Czech Republic, under which, among others, it organises two-day training events where it presents new models for climate change.

The University Agriculture Enterprise in Žabčice provides special-purpose activities for the University, similarly to the University Forest Enterprise Masaryk Forest in Křtiny. The activities are mainly performed in cooperation with the Faculty of AgriSciences and the Faculty of Horticulture. They include practical teaching and student practice, provision of scientific research activities of students when preparing their theses, as well as research, development, demonstration and consulting activities of the University's academic staff. The demonstration areas of the Field Experimental Station and the operational areas of the enterprise – the *MendelFarm* – are used for these activities. Another important activity of the University Agricultural Enterprise in Žabčice is its complementary activity, i.e. classical agricultural production: cattle breeding and milk production, growing wheat, barley, corn, grapes (wine production) and cherries. For example, in the framework of the project "*Look into the Field*", the enterprise presented to the public what completely untreated arable land looks like. The activities also focus on educating youngest

children to know what farming entails. Nursery schools, schools, participants of the MENDELU Intergenerational University and children groups visit.

The Botanical Garden and Arboretum with an area of 11 ha in Brno-Černá Pole has been used as a teaching and special-purpose facility of the University since 1938. The Botanical Garden and Arboretum has been a member of the Union of Botanical Gardens of the Czech Republic since 2005; it is also a member of the Association of Nurserymen of the Czech Republic and the Central European Iris Society. The collection of orchids, but also other taxa, is very valuable.

On 1 October 2016, the Faculty of Horticulture based in Lednice opened the demonstration set of gardens, *Theme Gardens - Labyrinth of Nature and Paradise of Gardens*, to students and all horticultural professionals. The theme gardens are part of the university campus in Lednice and present the results of experimental, research and artistic activities of the Faculty departments to the general public.



Energy management

As regards renewable energy, tender documentation for a public contract to build a photovoltaic power station was prepared and a tender for a contractor was launched in 2023 with implementation in 2024. Solar panels bring both environmental and financial savings reflected in energy consumption. The proposed locations of solar panels on the roofs of selected buildings on the Černá Pole campus are shown in the figure below.

These are Buildings R, X, M, N, Q, P, K and Building D of JAK Halls of Residence. In the Černá Pole campus, the power station will consist of a total of 663 solar panels with an output of 400 Wp, forming one unit. The total capacity of the photovoltaic system installed will be 265.2 kWp.

The heating of the buildings at the Brno-Černá Pole campus is supported by ten heat pumps located in Building M, each with a heating capacity of 40.9 kW. The cooling source in Building X is ten water/water heat pumps, each with a cooling capacity of 43.5 kW.

The replacement of classical lighting with more efficient LED lighting in the corridors at the Černá Pole campus was largely completed in 2022, while the staircase and corridor areas were fitted with motion sensors with timers.

At the Faculty of Horticulture in Lednice, the replacement of lighting with energy-saving LED lighting was gradually completed. Motion sensor lights are installed in the corridors so that they only work when necessary. In the last two years, energy-intensive appliances have been replaced with more efficient ones (washing machines, dishwashers, dryers, refrigerators, etc.) Students' appliances are also inspected. Students need to report them, and the inspection is done by a maintenance worker. If the appliance fails the inspection, it is not approved for use. This measure also applies to Brno student halls of residence.

Due to the energy market situation, guidelines for staff and students for the heating season were issued at the end of 2022. At the same time, the temperature in the classrooms/offices was lowered and the water temperature in the heating system was reduced.

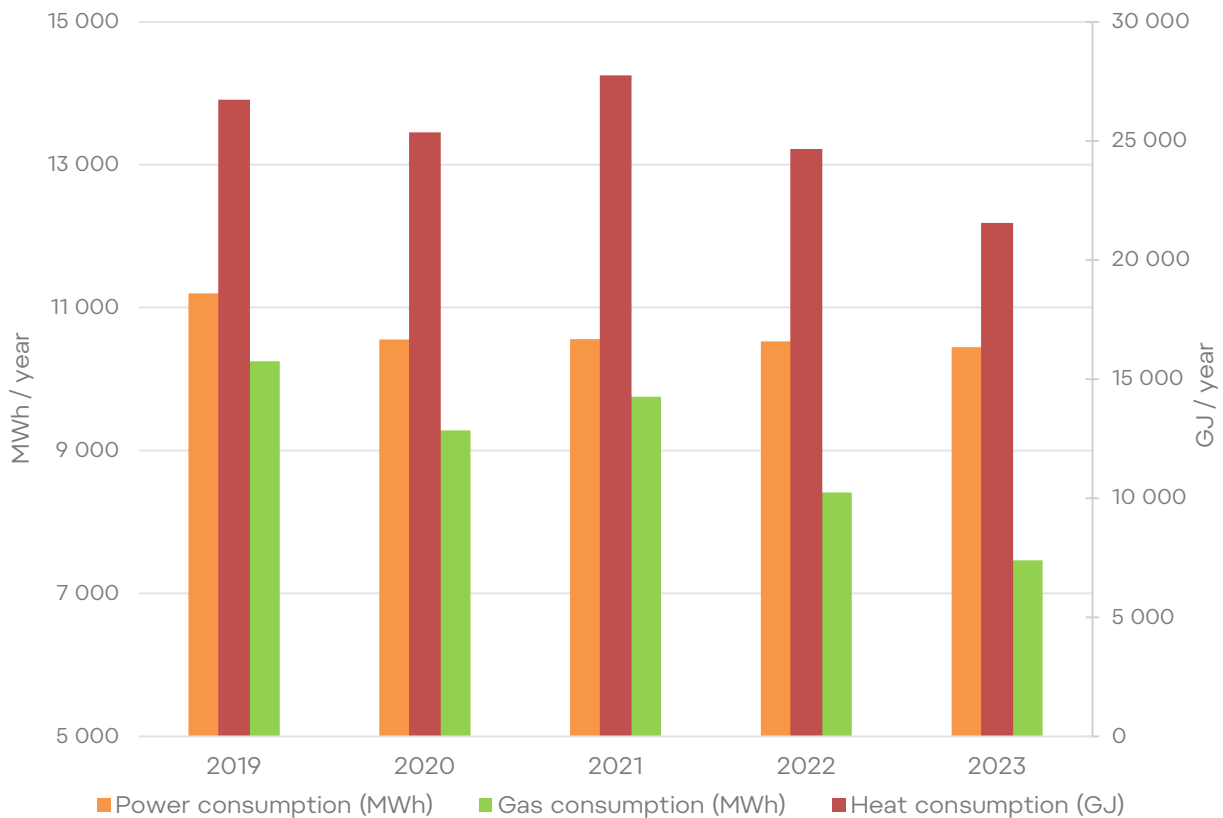
Energy management is being gradually introduced with the aim of controlling energy consumption in all MENDELU buildings centrally (heating in winter, cooling in summer). Using the energy flow monitoring software, monitoring in individual buildings/rooms was started in 2022, and the EBI (BMS - Building Management System) was upgraded in 2023.

As far as energy purchases are concerned, they are traded in such a way that the resulting price puts an acceptable burden on the University's budget. However, fluctuations in prices make the situation difficult to predict.

For example, the roof and attic of Building B at the Černá Pole campus were renovated in 2022 to reduce heat loss. However, the oldest buildings cannot have their envelopes insulated due to conservation reasons. Similar difficulties are related to the campus of the Faculty of Horticulture, whose operation is restricted by monument protection due to the location of the buildings in the Lednice-Valtice area - part of the UNESCO World and Cultural Heritage. The large spaces of greenhouses are energy-intensive to heat.

Building A has been under reconstruction since 2023: corridors (in two stages) and the main distribution systems will be reconstructed, the Faculty of AgriSciences exhibition area (zoological collections) will be structurally modified, air conditioning system will be installed and the substation will be reconstructed. At the same time, a complete reconstruction of Building D is underway, including the removal of the existing 3rd floor and a construction of new 3rd, 4th and 5th floors, including a lift (to provide barrier-free access). These major investments will improve the wellbeing of staff and students and increase safety at work.





Development of electricity, gas and heat consumption for the period 2019-2023 at Mendel University in Brno

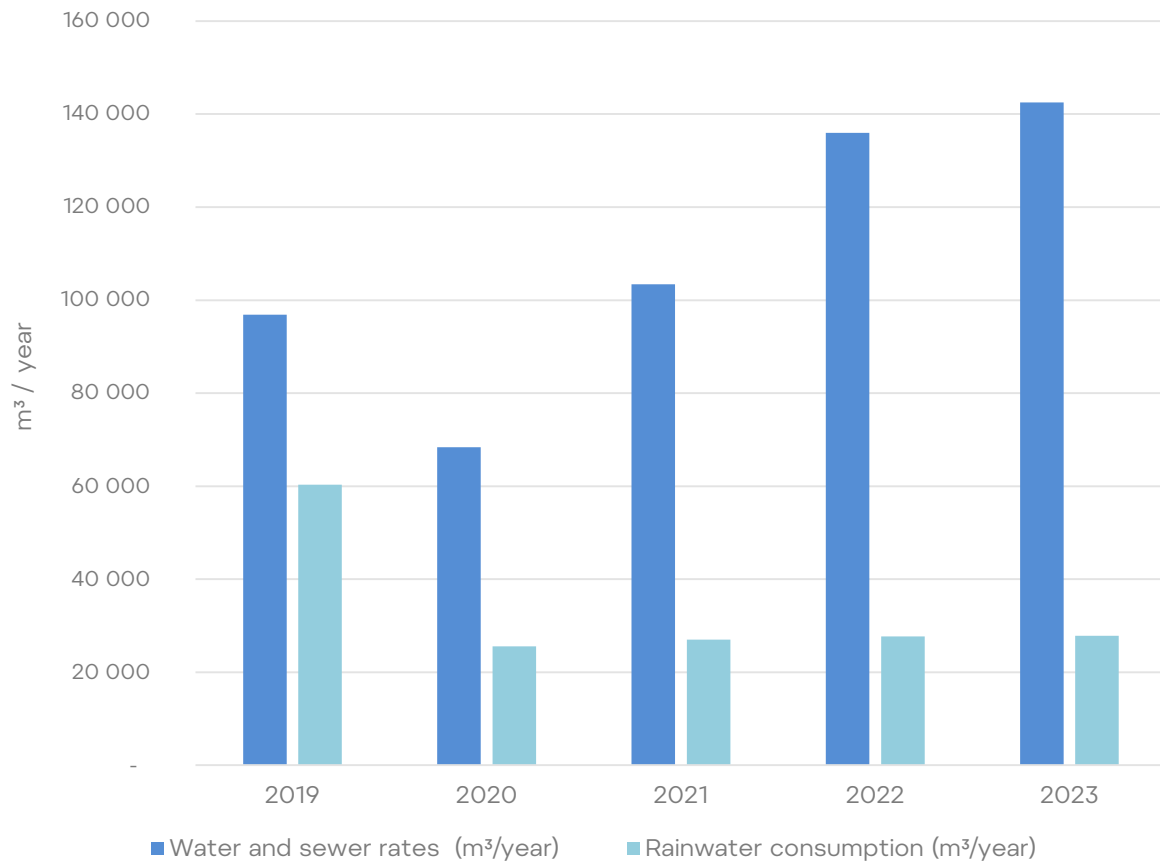
Water management

The water management is included in the plan of construction and use of investment funds at the campuses in Brno-Černá Pole and Lednice. It is an important condition in public contracts for any reconstruction. Rainwater is used in the Botanical Garden and Arboretum, but the capacity is far from covering the real consumption. Therefore, a water borehole project is prepared so that groundwater can be used, but no suitable subsidy scheme has yet been found to fund the project. Rainwater management is included in the investment projects in the neighbouring campus, and the project documentation has been prepared.

New partial water meters installed at the university campus allow monitoring of the flow rates in individual sections, monitoring the consumption and possible leaks from the water supply line. Another advantage is the remote monitoring of the current water consumption on the premises, which enables a quick response to possible accidents even on non-working days. Water savers are installed on the taps.

In Building B (Faculty of Forestry and Wood Technology), the reconstruction of sanitary facilities began in 2023, which will result in savings in water consumption and the installation of non-contact hand dryers.

In terms of "grey" water, the University has no facilities for its further use, all wastewater goes to the municipal sewerage system and then to the Brno-Modřice wastewater treatment plant.



Development of water consumption at Mendel University in Brno for the period 2019–2023

Significant improvements have been made in the area of drinking, as most events held on university campuses have stopped using bottled water in favour of tap water served in jugs or carafes. However, there is still a wide range of bottled water available in canteens and vending machines, so it is up to individuals to decide. The situation in the consumption of bottled water has been greatly improved by the installation of filtered water dispensers from LOKNI, which have been in operation since 2022 in the JAK and Taufer Dormitories, with two more dispensers installed at the Faculty of Regional Development and International Studies (Academy Hall) and Faculty of Business and Economics (Building Q) during 2023. Thanks to LOKNI, 2 915 kilograms of plastic were saved at MENDELU in 2023, that is 116 489 plastic bottles (with a volume of 0,5 liters) and 6 698 kg of CO₂ were saved from production and transport.

The MENDELU Halls and Canteens Administration has published educational videos for students, who thus learn about the need to save drinking water in the halls of residence.

MENDELU also participates in the *Intersucho* project and contributes to the development of portal [Intersucho.cz](https://intersucho.cz) in cooperation with CzechGlobe – Global Change Research Institute of the Czech Academy of Sciences.

The water body in the Arboretum Křtiny is an important element, as it serves to capture rainwater and retain water in the landscape, thus creating an important biotope.

The association *Centre of Vocational Excellence – Water in Landscape* has been operating at MENDELU since 2023. The aim of this association is to promote innovative approaches in water education.

Waste management

The University uses waste sorting by means of recycling bins. Paper, plastic, glass and general municipal waste are sorted. E-waste is also placed in designated containers and bins – fluorescent lamps, light bulbs, batteries, mobile phones, monitors, computers, keyboards, mice, printers, etc. Since September 2023, a new contract for waste management services has been in force, emphasising environmental aspects, both in terms of a guaranteed percentage of material recovery (80%) and energy recovery (20%) of the total volume of municipal waste collected, and in terms of cooperation in the evaluation and development of a long-term sustainable waste management strategy, providing remote consultation on sustainable waste management and participating in internal waste management assessments to evaluate the current waste management set-up, recommend changes and discuss how to optimise the waste management set-up for the next period.



The Faculty of Horticulture in Lednice is preparing a system of internal waste flow records and an optimisation plan. Based on the waste records, the expansion of the sorted waste bins, including compost, will be optimised. Signs encouraging people to sort their waste are placed throughout the campus. Students have been informed about the facts concerning waste sorting by e-mail.

The discarding of assets at individual faculties/departments is conducted according to a systematic plan. First, the unneeded assets are offered to other departments, then to public institutions, and then a sale is possible at an estimated price.

After the amendment of the Public Procurement Act, it is possible to define that the waste generated during reconstruction can be further used; this procedure will be used in upcoming investment actions, e.g. in the form of a building materials bazaar.

Hazardous waste is disposed of by specialised companies, where contracts are negotiated by individual workplaces.

As far as green waste is concerned, there is an experimental composting facility within the Faculty of Horticulture campus for the disposal and management of green waste, intended for the Faculty campus as well as for laboratory and experimental purposes. At the Brno-Černá Pole campus, the green waste is composted in the area of the Botanical Garden and Arboretum, some of it is taken away by workers of the University Forest Enterprise Masaryk Forest in Křtiny for further use.

The aim of future waste collection contracts is qualified supervision optimising the individual categories of items generated, resulting in more efficient sorting and financial savings for the services provided.

The Faculty of AgriSciences offers a Master's study programme on *Waste Management*, in which students will also learn about soil decontamination, radioactive waste treatment and the basics of ecotoxicology. They will learn to develop conceptual designs for management technologies for different types of waste. The Faculty of Horticulture has long educated its students in the field of waste prevention and recycling or in techniques and technologies for processing horticultural waste.

Transport and mobility

Parking of private and company cars is possible inside the campuses in Brno-Černá Pole and Lednice only for employees with an issued entry permit. The number of parking spaces is limited and parking around the university campus is increasingly complicated (insufficient capacity, paid parking zones), so employees should prefer public transport.

A room for staff bicycles is available in Building Q at the Brno campus; the Faculty of Regional Development and International Studies has set up a bicycle shelter for staff and students in front of Building Z as well as showers – these facilitate the use of bicycles for travel to the faculty. The campus in Brno-Černá Pole has excellent accessibility by means of Brno public transport, the Integrated Transport System of the South Moravian Region is used for transport from more distant places. The advantage is also a short walking distance to/from the centre of Brno (about 20 min).

A long-term challenge is the optimisation of parking spaces at the Brno-Černá Pole campus. In addition to optimising the number of cars entering the campus, new parking areas are also planned. One of these is currently planned at the development site – in the green belt behind Building B using grass block pavers. According to the design, it should be a temporary parking lot with maximum respect for the existing vegetation. A total of 32 perpendicular parking spaces for cars and one parking space for the disabled will be located in the parking lot.

The fleet is modernised gradually. In 2023, the first electric vehicle named *Máňa* was purchased to serve the maintenance needs of the campus. The ideal future plan is a shared fleet of vehicles, e.g. in the form of purchasing a service – operational leasing – for all university departments.

There is a framework agreement for the purpose of transporting students and lecturers to planned education in the field. The contractor provides buses based on the order, ensuring the optimum size of the bus according to the number of persons transported.

A certain success story is the *Green Erasmus* programme: many mobility trips are done on land, i.e. without air travel, and these trips are financially promoted. In this respect, the Covid period has contributed to a reduction in physical mobility, with many activities taking place in hybrid form or purely online. Another interesting feature is *Carbon Offsetting* – travels to Nicaragua and other destinations are compensated for by planting trees as a positive tax on air travel.



IT infrastructure and responsible preparation of public procurement

The university central IT department provides the concept and ensures the development of information and communication technologies, and manages the agenda, economic, study and library information systems, etc. Within the framework of delegated powers, individual units have independent IT administrators who are in charge of end-users' computer equipment. Licenses used university-wide are purchased centrally, thus under better financial conditions. In the field of ICT, coordination and cooperation with other universities also takes place with regular meetings of IT department heads of public universities. The IT department heads are involved in the interest associations of legal entities CESNET and EUNIS-CZ. The use of the e-infrastructure of CESNET and the use of IP mobility within the Eduroam programme, of which CESNET is the Czech sponsor, are crucial. CESNET also provides a link to the European roaming structure.

The digitization of part of agendas consists in the ownership of university-wide licenses for specialised software. The advantage is the simplification of administration processes, reduction of unnecessary travel and a significant reduction in the use of consumables – office paper and toner. Integration of individual systems continues, eliminating errors and manual work.

The University uses responsible purchasing of IT equipment and software through a dynamic purchasing system or framework contracts. Above all, the aim is to use the TCO standard in the technical specifications, which takes into account the environmental and human friendliness of the equipment. Last but not least, the EPEAT system is also considered, which includes an eco-friendly rating.

Discarding morally obsolete equipment is only possible for non-functioning/unnecessary equipment. The following uses of discarded assets may occur:

- discarding of unusable equipment (eco-friendly solution, tendered company);
- offer for purchase to other organizational units of the University;
- offer for purchase to other public institutions – website of the Office for Government Representation in Property Affairs (<https://www.uzsvm.cz/nabidka-majetku>);
- public offer – the price is determined based on an expert's opinion; it can be reduced by a maximum of 50% in case of lack of interest.

Additionally, the purchase of short-term used server HW at a discounted price for the education sector is used. This technology has already made it possible to implement some student projects or build scalable data storage.

From the perspective of responsible (social and environmental) public procurement, the University has incorporated procurement procedures in its regulations (*Rector's Guidelines on Public Procurement*) and in its strategic plan, in line with its responsibility for the impact of its public procurement on society and the environment. The staff of the relevant department is systematically trained, and at the same time, colleagues at the university are trained. Preliminary market consultations are used, especially in cases where the market situation changes dynamically or when a tender or procurement procedure is unsuccessful.

Specific examples of the use of responsible procurement at MENDELU include the requirement for certificates for promotional items, waste management for construction work – the proportion of secondary raw materials used, limiting landfill for waste collection contracts, verifying the ecological footprint and health safety for laundry contracts (halls of residence), and binding procurement conditions for certificates for IT equipment supply contracts. The limiting factors here may be the lack of support from some professional workplaces, the time required to deal with new procedures, to look for new, innovative, alternative solutions, or, for example, a lack of confidence in the meaningfulness and reality of positive impacts of new procedures.

Catering and accommodation

Mendel University in Brno has not yet anchored the issue of catering sustainability in its strategy, nor is it part of other official documents. This issue should be included in future strategic documents.

There are several research projects on catering sustainability currently being carried out at various faculties of the University. The project *Development of competencies in the field of sustainable development leading to a reduction of food waste* was running until 2023. The project *Food Waste Collection System in Urban Settlements* has been supported by the Gregor Johann Mendel Grant Agency.

Individual members of the University cooperate in this area with the Brno food bank, the *MENDELU Centre for Social Responsibility and Sustainability* cooperates with the "Truly Healthy School" programme; last but not least, there is cooperation with SAKO Brno, a.s., the Brno major waste disposal company.

Accommodation for students and hotel guests and catering are provided by the University's special-purpose facility – the MENDELU Halls and Canteens Administration.

Since 2023, reusable lunch containers, called "REboxes" (REkrabičky), have been introduced in MENDELU canteens. They have proven to be very popular among diners and are still in great demand. Since their introduction, a total of 650 units have been purchased and 3,285 meals have been dispensed. It is now no longer possible to purchase meals in disposable containers.

The MENDELU Halls and Canteens Administration is actively trying to take steps in the field of sustainability on its own initiative, but it is facing some obstacles. As far as food purchase is concerned, all purchases of raw materials are made centrally on the basis of tenders. Most vegetables and fruit are already pre-processed (cleaned, frozen or sterilised) and are bought from wholesalers. Fresh vegetables are only used for lunch salads, so these are preferably bought directly from growers. Unfortunately, when buying, there is often a problem of quantity – small farmers are not able to deliver the required quantity in one term. The seasonality of raw materials is valued in terms of price, but also in terms of freshness, especially for vegetables and fruit.

Fish is bought in large quantities, so certification of origin is not monitored, mainly because of price, and this also applies to poultry, eggs, dairy products, durables, etc. Fair Trade certification is only available for packaged confectionery and coffee. For some raw materials (e.g. pork, beef and chicken), the farms from which the animals are sourced are monitored and the aim is to buy meat from Czech farms. The venison is always taken directly from the University Forest Enterprise Masaryk Forest in Křtiny.

Every day, there is at least one gluten-free meal and one vegetarian or vegan meal, the MENDELU Halls and Canteens Administration does not make special diets. Both traditional and modern recipes are used; thanks to modern technology, gentle cooking methods at low temperatures and slow cooking (overnight) are used, and fried food is prepared in a convection oven with a minimum amount of fat, saving also energy.

The effort is made to increase the proportion of meat-free meals taken, which is about 15% of the total portions served in the long term. In 2023, a cooperation with ProVeg was established, which should result in several trainings for chefs in 2024, the expansion of vegan and vegetarian recipes and the subsequent introduction of these new recipes in the reopened, newly reconstructed canteen in Pavilion X. The reconstruction emphasizes the minimization of energy consumption (low-energy equipment, including a new ecological and semi-automatic dishwasher) and minimization of green waste (food will be served in the form of self-service, the guests will only take as much as they want, with the price dependent on the weight).

The drinking regime aspect has already been mentioned in the Water Management chapter; however, there is still room for improvement. Currently, the canteens offer free tap water in glasses, disposable cups are only used for hot drinks if the boarder requests a drink to take away. Water dispensers from LOKNI are installed in the halls of residence. The hot drink machines also allow the users to use their own cups.

In terms of minimising green waste, diners' wishes are respected and mainly side dishes are issued in the quantities requested by diners. Leftover unsold portions are minimised by responsible planning and continuous evaluation of the sales of produced meals during the dispensing period. Unfortunately, the remaining cooked food cannot be

distributed to charitable organizations due to the hygiene, temperature, freshness and transport requirements of these institutions, so it is disposed of as green waste, which is processed by a designated company.

The purchase of non-packaged raw materials is not an option due to compliance with hygiene rules; large packages of 5-10 kg are used if possible, larger ones cannot be purchased due to respect to occupational health and safety.

In the field of cleaning products, there are limiting standards for hygiene in large-scale canteens; most of the products are purchased from companies that specialise in large-scale facilities and try to produce ecological products within the limits of their capabilities.

In the accommodation facilities, the emphasis is on waste sorting for students and guests, with bins for plastic and metal, glass, paper and municipal waste available in sufficient quantities within the grounds of each hall of residence. Students have the opportunity to purchase reusable waste bags for a small price at the hall receptions and sort waste directly in their rooms. In addition, batteries and small electrical equipment are sorted at all halls of residence. For items that are functional and no longer needed by the owner, there is a room where they can be put for reuse. These are mainly kitchen equipment, but also clothes, shoes, etc.

Unfortunately, there is still a lot to do in terms of sorting, mainly educating students from abroad who do not trust the quality of our drinking water and still buy bottled water. The situation has changed for the better after the installation of drinking fountains, but bottled water still comes first. The students also have problems sorting green waste - the composter had to be removed because there were foils and glass among the food remains. Short films have been produced for educational purposes and are available at <https://skm.mendelu.cz/green-office/31249-film-zelena-univerzita-zeleny-zivot>.

In terms of energy savings, project documentation for the installation of solar panels has been prepared and they are expected to be successfully installed and started in 2024. Light sources in all halls of residence are gradually being replaced with energy-saving LED lighting. Water saving pressure shower valves are installed in the common restrooms, and water savers are installed on most taps.

In the area of cleaning, the halls of residence are subject to strict hygiene standards just like the catering facilities, it is necessary to change the types of disinfectants, the common areas must be cleaned daily. We strive to purchase environmentally friendly products from specialist companies.



Recommendations and conclusion

Mendel University in Brno strives to be proactive in seeking and implementing sustainable practices in its own management and in the everyday behaviour of its students and employees. The topic of sustainability is now emphasised at all three levels of the University activities and there is an increasing emphasis on sustainable behaviour. Sustainability is also often a requirement in many project or grant applications, and is a focus of international university rankings worldwide. In 2023, MENDELU was ranked 361st out of 1,183 universities worldwide in the UI GreenMetric World University Rankings, assessing sustainability, and 3rd among participating Czech universities. Compared to the previous year, the university improved by 74 places. In 2023, it also actively participated in another sustainable ranking – THE Impact Ranking (results not yet published). Participation in the QS Sustainability Rankings is also planned for the following year. To remain competitive at both national and international levels, MENDELU must be prepared to implement a number of "green" solutions and measures in its activities. Participation and advancement in these international evaluations are one of the motivations for implementing "green" changes at the university.

The following are examples of improvement parameters that will be further elaborated within the framework of the forthcoming sustainable development strategy of Mendel University in Brno.

Simple measures that do not require significant investments:

- developing a plan/programme to reduce paper and plastic consumption;
- preparing a water recycling plan/programme;
- emphasising sustainability in academic publishing;
- popularization of the sustainable development goals in the internal environment of the University.

Medium sized measures:

- reducing energy consumption from non-renewable sources;
- the use of elements of smart buildings.

Major measures related to the need for investment:

- improving wastewater management at the MENDELU campus;
- increasing the heating efficiency in buildings;
- fleet renewal – electromobility, shared fleet.



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