SOPRONI EGYETEM

SUSTAINABILITY REPORT

2025

Dr. habil. András Polgár | Associate Professor (EMK-KTI)

Veronika dr. Elekné Fodor | Assistant Professor (EMK-KTI)

Norbert Zsidákovits | Head of Technical Department (GFI - Technical and Asset Management Department)

Dóra Németh | Environmental Engineer (EMK-KTI)

Márton Tóth | Environmental Engineer (EMK-KTI)

András Náhlik | Research Assistant (EMK-KTI)

Prof. Dr. Ferenc Lakatos | Vice Rector for Research and Foreign Affairs, Full Professor

Prof. Dr. Attila Gábor Fábián | Rector, Full Professor

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FOREWORD

Dear Reader,

The University of Sopron - which rightfully bears the title of “Green University” in Sopron, Hungary’s “Most Loyal City” - placed sustainability at the center of its operations following the model change. Owing to our institution’s traditions and spirit, however, this approach had long been a defining principle for us. The practical implementation of the “Green University” concept is a complex, institution-wide task that requires a comprehensive approach.

Our University aims to shape the natural, social, and human environment in order to preserve and improve quality of life. The operations and activities of our faculties are permeated by an environmentally conscious approach. We pay particular attention to nurturing moral and human values, while considering it our mission to support the intellectual development of the region and the country. According to our mission statement: “A continuously renewing, value-setting university knowledge center in Central Europe.”

“It is of paramount importance that the University of Sopron fulfills its role in conveying the principles of sustainability through student education and research activities, as well as in developing related solutions. The successful realization of these efforts brings significant benefits not only to the university, but also to the city of Sopron, the region, and the entire country.” **Prof. Dr. Attila Fábián, Rector of the University of Sopron**

In this Sustainability Report, we provide insight into our institution’s measurable achievements. In the interest of continuous improvement, we regularly review our operations and, as a result, introduce measures that contribute to improving our environmental performance. In these efforts, we also take into account the recommendations of ISO 14001 and UI GreenMetric.

Get to know the comprehensive and conscious steps taken by the University of Sopron for sustainability. We wish you pleasant reading!

HIGHLIGHTED EVENTS

The University of Sopron was again named a Bicycle-Friendly Workplace in 2025

In 2025, the institution once again earned the title of “Bicycle-Friendly Workplace,” and at its highest level, thereby reinforcing its position among the leading environmentally conscious higher education institutions. Behind this success lies a conscious strategy, a continuously expanding vehicle fleet, and a community effort that attracted nationwide attention.

In 2025, the Ministry of Construction and Transport announced the Bicycle-Friendly Municipality and Bicycle-Friendly Workplace call for applications for the 17th time. The “Bicycle-Friendly Workplace” grade may be awarded to large companies, SMEs, and public institutions that have taken significant steps to make their environment safer and greener and that serve as a positive example for others. The application process is managed by the Hungarian Institute for Transport Sciences and Logistics. The award was presented to the University of Sopron in Budapest by Kornél Kovács, Head of Department at the Ministry of Construction and Transport.

The Bicycle-Friendly Workplace title is subject to strict criteria. The University of Sopron's qualification indicates that the institution has gone beyond merely meeting the basic requirements. It not only provides secure, covered bicycle storage for staff and students, but also offers additional services that make two-wheeled transport a genuine everyday alternative.

As part of the Green University program, the institution has been systematically building its sustainable mobility management for years. The goal is twofold: reducing the carbon footprint while also supporting the physical and mental well-being of university citizens. The milestones of 2025 clearly demonstrate how infrastructure development and community building are intertwined.

New momentum in 2025: 40 new bicycles added to the university fleet

One of the most spectacular events in the university's bicycle-friendly infrastructure was the ceremonial handover held on July 2, 2025, in the picturesque Botanical Garden. This event was already the third wave of the large-scale fleet expansion program, implemented within the framework of the RRF-SOE-DTO (RRF-2.1.2-21-2022-00011) project and with the support of the Recovery and Resilience Plan (RRP), co-financed by the Hungarian state.

At the handover ceremony, 40 new, high-quality trekking bicycles were assigned to staff members. This type was chosen deliberately: trekking bicycles are ideal for Sopron's topography and mixed terrain. Employees could receive the bicycles in their own name, complete with a full safety package (high-visibility vest and ergonomic helmet).

"I am proud that we can create opportunities for our employees that serve environmental protection, health, and community building at the same time," emphasized Rector Prof. Dr. Attila Fábián at the event, pointing out that the

University of Sopron is setting an example in Hungarian higher education in the practical implementation of sustainability.

From Banská Štiavnica to Buenos Aires - Virtual records

Alongside infrastructure, awareness-raising and community building also received particular emphasis in 2025. The peak event was the month-long national cycling mileage challenge called “Cycle with Us to Selmec!”, which paid tribute to the university’s historical roots and heritage in Banská Štiavnica.

In one month, participants cycled more than 11,600 kilometers. Interestingly, this distance is equivalent, as the crow flies, to cycling from Sopron all the way to the Argentine capital, Buenos Aires. They also covered the historic Sopron-Selmec distance nearly fifty times over. The program grew beyond the city limits, with several universities across the country actively joining the initiative.

https://www.uni-sopron.hu/2025-ben-is-kerekparosbarat-munkahely-a-soproni-egyetem?ckw=a2Vyw6lrcMOhcm9zYmFyw6F0

The University of Sopron’s memorial forest was enriched with 1,538 new trees

The joint tree-planting program of the University of Sopron and Tanulmányi Erdőgazdaság Zrt. was launched in 2021, on the centenary of the Sopron referendum. The aim of the initiative is to plant as many saplings each year in the University of Sopron’s Loyalty Forest in the Sopron Hills as the number of new students beginning their studies at the university.

This autumn brought another record. A total of 1,538 first-year students chose the University of Sopron’s programs, meaning the same number of young trees could be planted in the Loyalty Forest.

At the event held on November 11, students from the Faculty of Forestry Engineering and the Faculty of Wood Engineering and Creative Industries took up shovels in the morning, followed later by students from the Faculty of Economics and the Faculty of Pedagogy, to plant their own trees.

Participants were welcomed by Prof. Dr. Ferenc Lakatos, Vice Rector for Research and Foreign Affairs. He said that the idea of the memorial forest was born on the centenary of the referendum: “At that time, we decided to create a forest in memory of the events of 1921, where every enrolled student plants a tree, thereby expressing confidence in the future.”

He added: “This is already the fifth occasion on which students from the faculties have planted their trees together. In a few years, a large, continuous memorial park will emerge, to which every student will have a personal connection. Years from

now, returning with their families, they will be able to see how large what they started together has grown."

Ferenc Lakatos concluded his speech by quoting István Széchenyi: "Whoever trusts in the future plants a tree."

The professional implementation of the program is provided by Tanulmányi Erdőgazdaság Zrt. István Ábrahám, Deputy CEO for Production at the company, said: "We provide the saplings and the professional assistance, as the students plant the trees under the guidance of our staff. This year, alongside pedunculate oak, black walnut, rowan, and a few linden trees were also included, as these species adapt extremely well to local conditions and will hopefully enrich the canopy of the Loyalty Forest for decades," he said.

Tree planting is also a lasting experience for students. Zagyva Zalán Rókus, a forestry engineering student who participated in the event for the second time, put it this way: “This is a great opportunity to become part of the tradition. As a first-year student, I planted my own tree, and now I passed the shovel on to the new students. It feels good to know that I can return here at any time and see how much the tree I once planted has grown.”

After the greetings, the senior students symbolically handed the shovel over to the newcomers, and the joint planting began, which this year too took place in the spirit of community, belonging, and faith in the future.

1 INTRODUCTION

Through their educational and research activities, universities play a decisive role in transmitting environmental, social, and economic knowledge related to sustainability and in shaping attitudes. At the same time, as institutions they are also expected to be committed in their operations to energy efficiency, the use of clean energy, saving water and materials, preventing waste generation, and promoting recycling.

The University of Sopron has long been committed to sustainable and environmentally friendly operation. This approach is reflected in the university's four faculties - the Benedek Elek Faculty of Pedagogy, the Faculty of Forestry, the Faculty of Wood Engineering and Creative Industries, and the Lámfalussy Sándor Faculty of Economics - as well as in the activities of the Forestry Research Institute. Sustainability has a strong presence in education and research and is increasingly permeating everyday operations as well. Accordingly, the study programs - beginning already with early childhood education - and the research and service portfolio give prominent emphasis to areas such as climate research, climate adaptation, energy efficiency, alternative energies, sustainable and renewable materials, waste management, the circular economy, as well as awareness raising and education.

The university has special natural endowments: its main campus and many of its educational buildings are located within the University Botanical Garden, which not only serves educational purposes, but also functions as a living plant collection, a site for nature protection and conservation biology, and a recreational space. The Forestry Research Institute, operating as part of the institution and primarily carrying out research tasks, is closely linked to the university through its five experimental stations (Sopron, Sárvár, Budapest, Mátrafüred, Püspökladány) and three arboretums (Sárvár, Kámon, Püspökladány).

According to the university's professional approach, placing sustainability at the center is a basic precondition for innovative operation and education. Our institution's "green operation" is characterized by compliance with high-level requirements:

- We operate a certified environmental management system in accordance with the MSZ EN ISO 14001:2015 standard, within the framework of which we continuously develop and optimize our operation in pursuit of environmentally friendly and energy-efficient solutions.
- We strive to use renewable energy sources and energy-efficient devices and equipment.
- We practice selective waste collection.

- Our university is listed in the UI GreenMetric World University Rankings international ranking and is a member of its network; most of our initiatives are implemented in line with these guidelines.
- We also substantiate our activities related to the United Nations Sustainable Development Goals through participation in the THE Sustainability Impact Ratings (formerly THE Impact Rankings).
- We regularly prepare and publish our Sustainability Report and our annual carbon footprint calculation.
- Our institution won the International Green Gown Award in the "2030 - Climate Action" category, moreover as the only Hungarian finalist university in the entire field.
- We are founding members of the "Nature Positive Universities Alliance," established by the United Nations Environment Programme in cooperation with the University of Oxford.
- We are members of the Hungarian Universities Sustainability Platform.
- We strive for the practical application of the Green Office concept.
- Under the Loyalty Forest program, we plant one sapling for every first-year student in and around Sopron, thereby contributing to the expansion of forest areas and the fight against climate change.
- Through our Green University Programs, we implement numerous initiatives to strengthen sustainability awareness.
- We support the work of student organizations dealing with sustainability.

As Hungary's "Green University," the University is fully committed, in line with the above approach, to every initiative that serves economic, social, or environmental sustainability. This attitude is also conveyed by the University's motto, "Naturally with You!", which places the individual and nature at its center.

Sustainable development in higher education

The idea of sustainable development became one of the most significant international and domestic concepts as environmental protection came to the forefront. Its principles were first formulated in the 1987 report "Our Common Future" issued by the UN Commission on Environment and Development, where it still appeared as "harmonious development." The concept became widely known from the 1990s onward.

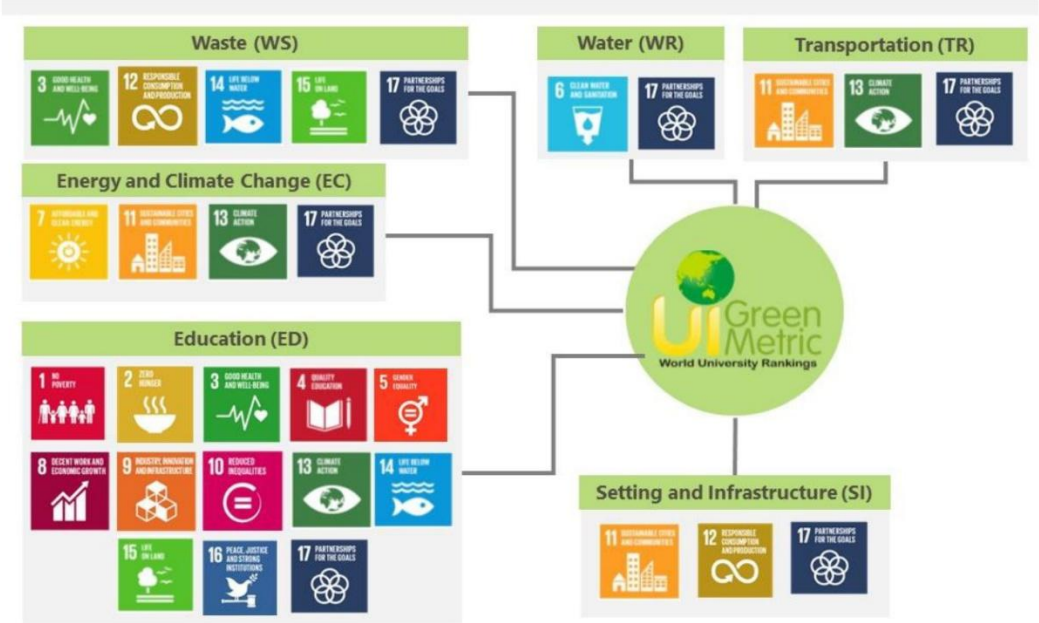
The essence of sustainable development is that meeting the needs of the present must not jeopardize the opportunities of future generations. The scale of global change makes such a comprehensive shift in mindset necessary that it requires

conscious responsibility, systems-level thinking, and individual as well as collective action.

In this process, higher education has a particularly important role, especially in educating young intellectual generations, as well as through institutional example-setting and the values conveyed.

Accordingly, the University of Sopron's role will remain decisive in the future as well: within the framework of the "Green University" concept, it regards not only sustainability-oriented education as a core task, but also implements strategic steps that serve the practical enforcement of environmental protection.

The UI GreenMetric indicator system places particular emphasis on universities' responsibility in the implementation of the UN Agenda 2030 Sustainable Development Goals and in addressing global challenges - including the effects of the Covid-19 pandemic. Within the system, the "Education and Research" area is connected to the largest number of sustainability goals, thirteen in total.



1. *Figure. Main UI GreenMetric indicator groups and their relationship to the Sustainable Development Goals (UI GreenMetric Guideline, 2020).*

2 THE UNIVERSITY OF SOPRON'S ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM

The institutional "green operation" of the University of Sopron is characterized by compliance with the highest environmental requirements, based on the certified environmental management system (EMS) in accordance with the MSZ EN ISO 14001:2015 standard. The university continuously develops and optimizes its processes in order to make its operation as environmentally friendly and energy efficient as possible. In operating the EMS, the institution seeks to ensure that its educational, research, and service activities place the smallest possible burden on the workplace, urban, and natural environment, while environmental considerations occupy a central place in the organizational system of objectives.

The aim of the system is to spread and develop environmentally conscious management methods in higher education, and its application brings numerous benefits: through it, the university demonstrates its environmental commitment, systematizes its environmental activities, ensures compliance with legal requirements, supports innovation, results in cost savings, reduces waste management costs and environmental risks, and promotes effective cooperation with stakeholders - authorities and the public alike.

The University of Sopron introduced the system according to ISO 14001:2004 in 2011, when it was also certified in the same year, and in 2015 it also obtained certification according to ISO 14001:2015. The current certificate is valid from January 22, 2021 to July 3, 2026. The EMS covers the university's entire operation: it regulates and supervises processes, monitors emissions through regular measurements and inspections, enables the prevention and reduction of environmental burdens, and ensures continuous improvement.

IWS

TANÚSÍTVÁNY | CERTIFICATE

N° C7232337603

Az IWS Solutions Kft. (IWS Tanúsítás) tanúsítja, hogy a
IWS Solutions Ltd. (IWS Certification) certifies that

Soproni Egyetem

által működtetett irányítási rendszer az alábbi címen
implemented a management system on the following location

9400 Sopron, Bajcsy-Zsilinszky u. 4.

a következő tevékenység tekintetében
for the following activities

Felsőfokú oktatás, kutatás
Tertiary education, research

megfelel az
which has been assessed to meet the

ISO 14001 : 2015

szabvány követelményeinek.
standard's requirements.

Először tanúsítva / Initial certification date:
2011.07.04.
A tanúsítvány érvényességének kezdete / This certificate is valid from:
2023.07.04.
A tanúsítvány érvényességének lejárata / This certificate is valid until:
2026.07.03.

Seres Diána
Az IWS Solutions Kft. operatív igazgatója
Operative Director of IWS Solutions Ltd.

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

NAH-4-0152/2022
MANAGEMENT SYSTEM
CERTIFICATION BODY

007-FORM-15_v04

The identification and assessment of environmental impacts are carried out on the basis of a scoring system that takes into account the severity of impacts, the probability of occurrence, and detectability. The assessments cover educational and research activities as well as emergencies, and are repeated regularly, especially when new technologies or methods are introduced. The most significant environmental impacts include the heating and air conditioning of buildings, municipal wastewater discharge, cleaning, and the use of laboratory chemicals.

The university's environmental management goals and targets are aimed at medium-term tasks that serve to reduce significant environmental impacts and for whose implementation the necessary resources are ensured. Key objectives include teaching environmentally conscious attitudes, the continuous handling of hazardous waste generated in laboratories, and reducing energy use.

THE UNIVERSITY OF SOPRON'S ENVIRONMENTAL POLICY

SOPRONI EGYETEM
KÖRNYEZETI POLITIKA

Soproni Egyetem működése során a környezeti teljesítényének folyamatos fejlesztésére törekszik, amely a hallgatók-munkatársak környezettudatos gondolkodásra és viselkedésére nevelésében, az ökológiai és gazdálkodási szempontból fenntartható folyamatok kutatásában, továbbá az infrastruktúra környezetkímelő működtetésében nyilvánul meg.
A fenntartható fejlődés elveinek érvényesítése érdekében közvetíti az ökológiai eltartóképesség növelésének, a természet megőrzésének és átalakításának, az emberi élet kibontakozásának ökológiai, gazdaságilag és társadalmilag egyaránt elfogadható formáit.
A környezeti tényezőket, hatásokat mérlegeli, az ajánlások figyelembevételével a környezetközpontú irányítási rendszerét a megelőzés elve szerint, folyamatosan fejleszti.

A környezetközpontú irányítási alapelvek alapján vállalja, hogy

- a tevékenységéhez köthető környezeti tényezőket folyamatosan felméri, értékeli és elemzi a lehetséges kihatásokat és megfelelő intézkedésekkel csökkenti a környezeti kockázatokat;
- az oktatási, kutatási, s valamennyi azt támogató tevékenységet a környezetvédelemi szempontok figyelembevételével végzi. A környezettudatos gondolkodást és a fenntartható fejlődés elveit a képzési rendszer minden szintjén beépíti, a munkatársak szemléletformálását célzott képzésekkel valósítja meg;
- tevékenysége során vizsgálja es optimalizálja a hulladék keletkezését és gazdálkodását, különös figyelmet fordít a vízbázis védelmére, a szelektív hulladék gyűjtésére és újrahasznosíthatóságára, a veszélyes hulladék megfelelő kezelésére. Törekszik a fajlagos energiafelhasználás csökkentésére, támogatja a környezetkímélő termékek beszerzését, alkalmazását;
- egészséges es biztonságos környezetet alakít ki, mérsékeli a karos környezeti hatásokat, csökkenti a környezeti terhelést, a munkahelyek kialakításánál betartja az ergonómiai szempontokat;
- a környezetközpontú irányítási rendszerét következetesen aktualizálja a környezetvédelmi törvény és jogszabályok alapján, a hazai és nemzetközi gyakorlatban alkalmazott módszerekkel és eljárásokkal folyamatosan fejleszti.

A Soproni Egyetem a környezeti politikáját széles körben nyilvánossá teszi, a környezetközpontú irányítási rendszerének működésével példát mutat a hallgatók, munkatársak és partnerei számára, és elvárja annak támogatását, bevonja őket céljai teljesülésébe.

Sopron, 2021. december 1.

Prof. dr. Fábián Attila Gábor
rektor

3 THE UNIVERSITY OF SOPRON IN THE UI GREENMETRIC WORLD UNIVERSITY RANKINGS

Evaluating the university's efforts toward sustainable development, as well as its internal and external perception, is crucial for formulating further development and strategic concepts and for the objective measurement of environmental performance. The environmental performance assessment and qualification of the realization of the University of Sopron's "Green University" ideology can be carried out along two lines:

- one option is the monitoring of the organization's environmental indicators over time, which serves internal assessment and the continuous tracking of institutional development,
- the other option is comparison with other universities at national and international level, which can be carried out according to rankings based on standardized indicators developed for higher education institutions.

Both solutions lay the foundation for the organization's continuous short-, medium-, and long-term development. One outstanding tool of this external comparison is the "UI GreenMetric World University Rankings" method developed by Universitas Indonesia, which specifically serves to measure the sustainability performance of universities.

The University of Sopron first joined the UI GreenMetric ranking system in 2020. This prestigious world ranking was launched in 2010 to measure efforts made for the sustainability of university campuses; while the initiative started with 95 universities from 35 countries, by 2020 it already included 912 institutions from 84 countries. Participation in the system has since contributed to making the university's sustainability performance objectively interpretable in an international comparison.

Through the UI GreenMetric indicators, "green performance" becomes objectively measurable, providing an excellent basis for targeted sustainability-related developments and for evaluating year-to-year progress. Among other things, the assessment examines the institution's green areas, built and open spaces, energy-saving devices, building stock, renewable energy sources, energy use, greenhouse gas emissions, measures taken to reduce the carbon footprint, waste management and recycling principles, selective waste collection, water protection program, characteristics related to zero-emission vehicles, sustainability-related courses, student organizations, and scientific publications.

In 2025, the University of Sopron was ranked as the 3rd greenest university in Hungary, 34th in Europe, and 99th in the world in the authoritative UI GreenMetric environmental and sustainability world ranking, improving last year's result by a further 11 places. With the achieved score of 8,605 points, it entered the global TOP 100 and the top 5.7% of the international ranking comprising 1,745 institutions from 105 countries, thereby reinforcing its Gold cluster classification (Gold cluster: 7,501-10,000 points). Roughly the top fifth of the field could enter the Gold cluster, which clearly shows the intensifying competition among the leading institutions.

The University of Sopron's outstanding rankings in the UI GreenMetric world ranking were also supported by the unique body of knowledge through which the University is able to transfer expertise on the knowledge-intensive management and sustainable use of the forest ecosystem and the wood material originating from it, which is the basis of the sustainable forest-based economy. In addition to natural science, climate adaptation, and technical research, it also approaches the complex issues of sustainability from the perspectives of the creative industries, environmental education, pedagogy, as well as economics and the social sciences.

The focus of the 2025 UI GreenMetric assessment was on universities' efforts made along the lines of the UN Sustainable Development Goals, based on which the implementation of sustainability programs and policies was examined. In the competition under the stricter 2025 conditions, evidence related to sustainability activities had to be shared for the reporting data points in support of ranking, already at full institutional level and often supported by maps and detailed statistical data. In the survey covering 111 data points, the nature of the criteria system forming the assessment, its substantiation requirements, and its categorization became stricter than in previous years; the level of ICT application, the implementation of the SDGs, the presentation of the sustainability organization, "green jobs," and the numerical

and mapped presentation of waste streams received stronger emphasis in the assessment.

Among the 13 participating Hungarian universities, the University of Sopron achieved 3rd place overall. Regarding the key areas, it ranked 1st nationally in the "Water" assessment dimension, 2nd nationally in "Education and Research," 3rd nationally in "Energy and Climate Change" and in "Setting and Infrastructure," and 4th nationally in the sustainability-related "Transportation" and "Waste" dimensions. In 2025, the University of Sopron also further improved within the European TOP 50 list: among Europe's 360 participating universities, it finished in 34th place.

The GreenMetric World University Ranking developed by Universitas Indonesia (UI) was launched in 2010 to measure efforts made for the sustainability of university campuses. By now it has become recognized on every continent; global participation expanded by 18% by 2025, reaching 1,745 participating institutions from 105 countries. This year's world leader in the ranking was Wageningen University & Research of the Netherlands, followed by University College Cork of Ireland in second place and Nottingham Trent University of the United Kingdom in third.

Placement in the world ranking depends greatly on the current number and performance of participants, so in order to determine development, it is worth reviewing the scores over time and examining the scores of the individual sub-areas separately. Compared to the 2020 base year, the University of Sopron showed the following results in the six main performance dimensions by the 2025 cycle:

- Its best performance was achieved in the "Water" sub-area, where with 937.5 points, 93.75% performance, and a +58.75 percentage-point improvement, it reached 1st place nationally.
- This was followed by "Education and Research," where the achieved 1,662.5 points represent 92.36% performance and a +29.86 percentage-point improvement; with this it achieved 2nd place nationally.
- In the "Transportation" dimension, with 1,650 points, 91.67% performance, and a +47.23 percentage-point improvement, it ranked 4th nationally.
- The 1,500 points earned in the "Waste" sub-area represent 83.33% performance and a +37.50 percentage-point improvement, which also resulted in 4th place nationally.
- In the "Energy and Climate Change" dimension, with 1,700 points, 80.95% performance, and a +46.43 percentage-point improvement, it achieved 3rd place nationally.
- In the "Setting and Infrastructure" area, with 1,155 points, 77.00% performance, and a +27.00 percentage-point improvement, it also finished in 3rd place nationally.

As the university ranked 99th worldwide, the University of Sopron improved by a further 11 places this year and reinforced its 3rd place on the Hungarian list among the 13 domestic entrants. Among Hungarian universities in the world ranking, the University of Pécs is 29th, the University of Szeged 41st, Eötvös Loránd University 400th, Corvinus University of Budapest 408th, Semmelweis University 462nd, the University of Pannonia 541st, the University of Debrecen 558th, Eszterházy Károly Catholic University 708th, Budapest University of Economics and Business 1457th, Budapest Metropolitan University 1540th, the University of Miskolc 1552nd, and the University of Nyíregyháza 1587th.

The final result of 8,605 points achieved in the 2025 survey means 86.05% performance in the full assessment system for the University of Sopron. Compared to the 2020 base year, this represents a 40.30 percentage-point improvement, which corresponds to a 491-place advance compared to its 590th place in 2020.

Prof. Dr. Attila Fábián, Rector of the University of Sopron, said: “Through its sustainability-related activities and performance, our university is building itself and the future. Our goal is to create a university operating culture that treats sustainability as a priority; this good practice can spread not only in higher education, but also across other sectors and wider society. As Hungary’s first carbon-positive ‘Green University,’ our institution is fully committed, in line with this approach, to every initiative that serves economic, social, or natural sustainability. This attitude is also conveyed by the University’s motto, ‘Naturally with You!,’ which places the individual and nature at its center.”

The UI GreenMetric survey reflects the unified and joint efforts of the University of Sopron’s four faculties, scientific institute, and entire organization along the “Green University” concept, which we also present in website form: https://greenuniversity.uni-sopron.hu/kezdolap

UI GreenMetric website: http://greenmetric.ui.ac.id/

UI GreenMetric 2025 world ranking available at: https://greenmetric.ui.ac.id/rankings/overall-rankings-2025

4 “SOUND OF EARTH” SUSTAINABILITY IMPLEMENTATION PROGRAM

In 2025, the University of Sopron announced its trademark-protected “Sound of Earth University of Sopron” Sustainability Implementation Program. The coherent, systems-based planning, introduction, maintenance, and operation of the work packages, activity areas, and system elements collected in it provide a guarantee for the continuous improvement of sustainability-related performance. This is our “sustainability codex.”

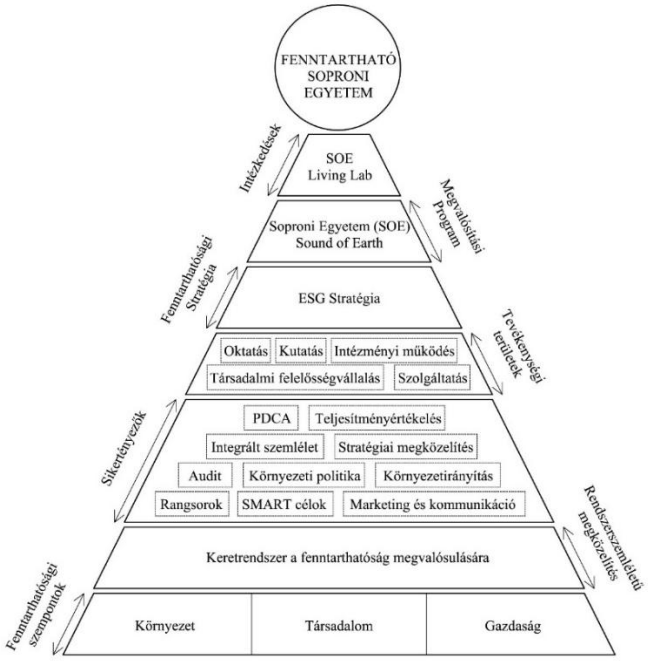
We all work together on the elements of the “Sound of Earth” program. This is what we do when, as citizens of the University of Sopron, we live, organize, research, travel, and teach while taking the principles of sustainability into account...

Get to know the details of this program as well!

“Sound of Earth” is also a philosophy: the voice of the Earth finds understanding ears through the efforts of the University of Sopron. The work, research, and measures taking place at the institution come together into an organic whole in order to implement and develop sustainability in practice. The goal is to develop green infrastructure and shape social attitudes. Its milestones are net-zero climate neutrality, climate and nature positivity, and the communication of the message of environmental awareness.

Using a systems-based approach grounded in sustainability criteria and based on its best practices, the University of Sopron has created the University of Sopron Sustainable University Model (SOE-FEM). In its Institutional Sustainability Strategy, it defines its vision and SMART goals, to which it assigns an Implementation Program. Through university measures and work packages (WP), the model supports the realization, operation, and continuous development of the Sustainable University.

The SOE-FEM takes the form of a pyramid model aimed at creating a university operating culture that treats sustainability as a priority and that can spread to other sectors and to wider society as well.



The University of Sopron Sustainable University Model (SOE-FEM). Pyramid model.

Based on the Sustainability Strategy, the University of Sopron announced the trademark-protected "Sound of Earth University of Sopron" Implementation Program (SOE-MP). The implementation program, presenting the measures (thematic work packages), is aligned with the United Nations Sustainable Development Goals (SDGs) and provides a framework for putting the institution's sustainability culture into complex practice and for its continuous improvement.

An essential element of the SOE-MP is the "University as a Living Lab (Living Lab Concept)" approach, which contains the work packages and measures as its framework. The Living Lab concept includes the multifunctional use of the green and built university environment in the service of sustainability ambitions; students, teachers, mentors, researchers, and employees can develop their ideas in a real environment and examine implementation through feedback loops. During the measures, the balance between theory and practical implementation is primary. The individual SOE-MP work packages are the following: Partnership, Planet, People, Well-being, Peace.

Downloadable publication:

- Fábián A., Lakatos F., Elekné F. V., Őrsi Á., Náhlik A. and Polgár A. (2024): The applied sustainability model of the University of Sopron. Erdészettudományi Közlemények, 14(1): 5-6. DOI: 10.17164/EK.2024.03
- URL: http://www.erdtudkoz.hu/cikk.php?doi=2024.03&ln=hu

5 AWARENESS-RAISING PROGRAMS

The University of Sopron regularly organizes and operates environmental awareness-raising campaigns that have been institutionally integrated into its sustainability strategy. It implements institution-level measures to reduce single-use plastics, decrease paper consumption, and promote dematerialization.

Reducing plastic use and packaging

The university treats the use of biodegradable products as a priority (degradable packaging materials, compostable cutlery, environmentally friendly cleaning products). An institution-wide plastic minimization policy adopted at rector level and aligned with SDG 12 regulates institutional practice.

Implemented programs: “Say No to Plastic Bags!” program; “Use Your Own Water Bottle!” program; encouraging the use of reusable mugs and tumblers; use of metal lunch containers in the Nyugat restaurant; preference for large-size, plastic-free packaging; support for packaging-free storage solutions; provision of drinking water refill points to replace PET bottles.

Reducing paper use and digitalization

The university pursues a conscious dematerialization policy: financial and administrative approvals in an online system; use of the unified NEPTUN study system; CourseGarden with fully online course materials and tests; duplex printing (58 duplex printers); server-based document storage; electronic leave records; internal intranet and digital noticeboard; online cafeteria menu instead of printed flyers; digital classrooms and an online booking system.

Sustainable event organization

As part of the trademark-protected Green Event practice, meaning carbon-neutral and ZeroWaste event organization: priority for digital communication; reusable tableware; preference for local suppliers; provision of waste-sorting points; organization of sustainability workshops.

Green Office Program

At institutional level, the Green Office Program supports minimizing paper use, energy-efficient office operation, prioritizing digital communication, and raising employees’ sustainability awareness.

Educational integration

An interdisciplinary Sustainable Development Goals (SDG) course that deals in detail with the topic of the circular economy.

Online and hybrid educational solutions that indirectly reduce the ecological footprint. Home office and online education options reduce commuting and printing needs, thereby indirectly reducing greenhouse gas emissions as well.

“Cycle with Us to Selmec!” and “Walk with Us to Selmec!”

The initiatives connected to the University of Sopron’s Green University program promote sustainable mobility and a health-conscious lifestyle. Participants collect kilometers or steps by cycling or walking, symbolically “arriving” at the Alma Mater in Selmec, thereby nurturing university traditions and strengthening community cohesion. The programs are also linked to several Sustainable Development Goals (SDGs): they support the objectives of SDG 3 (Health and Well-being) by encouraging an active lifestyle, SDG 11 (Sustainable Cities and Communities) by promoting environmentally friendly modes of transport, and SDG 12 (Responsible Consumption and Production) by reinforcing conscious mobility decisions. Their awareness-raising role lies in showing through a community experience that sustainability is realized at the level of everyday decisions.

Sound of Earth - SOE - Sustainability Nature Trail in the Botanical Garden

Through the 30-station sustainability nature trail established in the Botanical Garden, the University of Sopron implements a complex environmental awareness-raising program as part of the “Sound of Earth” initiative. The theme presents nature-positive operation, energy efficiency, renewable energy, waste management, water conservation, and sustainable transport. The stations are linked to digital content through QR codes, ensuring interactive, paper-free learning.

The program presents the university’s biomass and solar systems, rainwater collection, selective waste collection, and the encouragement of bicycle transport. Biodiversity protection also receives a prominent role (bird-friendly and hedgehog-friendly campus, insect and fungal life). The nature trail connects infrastructure, education, and research and is open both to the university community and to the city’s residents.

The initiative is a permanent, system-level awareness-raising tool that presents sustainable university operation as a living example.

The University of Sopron’s awareness-raising campaigns are regular, thematically structured, and extend from waste management through plastic reduction to educational integration. The institution supports the realization of the sustainable campus model not only with infrastructural tools, but also with behavior-shaping instruments. The University of Sopron operates a complex, regulated, program-based package of measures for minimizing plastic use, spreading packaging-free solutions, and digitalizing administrative and educational processes. These

measures are not ad hoc in nature, but are strategically integrated into the institution's operation, supporting the realization of the sustainable campus model.

6 AGENDA 2030

The role of universities in implementing the UN Agenda 2030

Universities play a key role in advancing the UN 2030 Agenda for Sustainable Development by integrating the Sustainable Development Goals (SDGs) into their core activities: education, research, innovation, and social engagement.

Through sustainability-based curricula, interdisciplinary research, responsible institutional operation, and social partnerships, universities become living laboratories for sustainable solutions. Within this framework, higher education institutions not only transmit knowledge, but also set an example in sustainable operation, develop critical thinking, and prepare future generations to actively contribute to the achievement of global sustainability goals.

Sustainability and environmental awareness lie at the heart of the University of Sopron's mission, and therefore its activities are closely aligned with the UN 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). In its educational, research, and community tasks alike, the university strives to promote the realization of the principles of environmental, social, and economic sustainability, thereby becoming an active participant in domestic and international sustainability processes.

Through its "Sound of Earth" sustainability implementation program, the institution sets an example of how the idea of sustainability can be conveyed not only in scientific, but also in cultural and artistic forms. The program and related initiatives - such as the composition competition organized jointly with the Liszt Ferenc Academy of Music - bring the message of sustainability to a broader audience by connecting environmental awareness and creative activity.

Furthermore, the University of Sopron integrates sustainability principles into its educational programs and research activities, supporting goals such as quality education (SDG 4), clean energy (SDG 7), responsible consumption and production (SDG 12), and climate action (SDG 13). The institution's forestry, environmental science, technical, economic, pedagogical, and arts programs all contribute to ensuring that students become conscious professionals responsible for a sustainable future.

Below, discover the activities through which the University of Sopron contributes to the UN 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs).

SDG 1

More than 10% of the world's population is unable to meet the most basic needs, such as access to water, food, health care, education, and sanitation. The University

helps provide a balanced background for its students through scholarship opportunities.

The University of Sopron signed a cooperation agreement with the Foundation for Africa and the University of Miskolc

The leaders of the institutions and the foundation agreed to work together on an exemplary cooperation model that can serve as a good practice not only in Hungary, but also in Africa and the European Union. The Foundation for Africa has been working in the field of international development and humanitarian assistance for more than twenty-two years. Education has a prominent role in the organization's activities. The two universities can therefore cooperate with the foundation in student recruitment, international applications, professional events, and training.

More information: **https://greenuniversity.uni-sopron.hu/1**

SDG 2

Sustainable agriculture, forestry, and fisheries can provide sufficient and nutritious food for everyone. Through its educational activities, the University of Sopron supports sustainable agricultural efforts, and it also helps those in need by placing wall-mounted food donation boxes.

More information: **https://greenuniversity.uni-sopron.hu/2**

SDG 3

Ensuring health at all ages is essential for sustainable development. Through its programs and organizations, the University helps prevent physical and mental health problems.

A day for physical and mental well-being - International Wellbeing Day at the University of Sopron

On May 8, the University of Sopron's international students took part in International Wellbeing Day. At the event, the organizers - Ágnes Stummerné Nagy, professional head of the Student Support Service, and Erzsébet Szaniszló, the international coordinator responsible for student well-being in the International Affairs group - welcomed the guests. During the meaningful program, Mag. Dr. Lena Cataldo-Schwarzl, a staff member of the Vienna Institute of Education, gave an inspiring speech on resilience, one of the key pillars of mental health. This was followed by an interactive workshop moderated by the speaker from Vienna, where participants, in small groups, discussed the challenges they face as international students and how they can develop their psychological resilience.

At the University of Sopron, the strongest men on the continent lifted stone balls and carried weights

The Europe's Strongest Men Cup held in mid-November and hosted by the University of Sopron attracted huge interest. At the international sporting event, 20 competitors from 10 countries measured their knowledge and strength in 6 different disciplines. József Horváth, president of the athletic club of the University of Sopron, which assumed the role of host, said that it was a great honor for the association to organize the Europe Cup. He added that SMAFC now unites 30 sections, and the Krasznai Ferenc Sports Hall proved suitable for hosting international-level strength competitions. "Our key goal is to show the audience the traditional values of the sport. As always, this time too we paid attention to supporting Hungarian and cross-

border young athletes, and to ensuring that the audience received a high-quality program both professionally and experientially."

More information: **https://greenuniversity.uni-sopron.hu/3**

SDG 4

Quality education provides the conditions for innovative solutions to the world's problems. The University of Sopron offers its students competitive knowledge in the spirit of sustainability and nature positivity.

A new chapter in the University of Sopron's ESG commitment - successful opening conference launching the programs

The Opening Conference Launching the Programs was held at the University of Sopron with great interest regarding the university's two prominent ESG-related programs: the MSc program in ESG and Applied Sustainability Specialist and the accredited partial training program for ESG consultants. The higher education institution is a key player in the fields of sustainability and ESG in Hungary. The MSc program and the consultant partial training reinforce each other in ensuring that students enter professional life with up-to-date, practical knowledge and marketable qualifications. As an active cooperating educational partner in the programs, representing the consulting sector, Gyula Székács, managing director and founder of Greenpact Kft., gave an introductory presentation, emphasizing: "ESG can truly create value when companies transform the expectations arising from regulation into real business and social benefits."

The conference's keynote presentation was delivered by Dániel Erdélyi, Head of the ESG Technology and Liaison Department of the Supervisory Authority for Regulated Activities, under the title "ESG 2.0 - The hunt for illusions is over, now common sense remains in play." The conference was moderated by Dr. András Polgár, program lead and Associate Professor, and Dr. Veronika Fodor Elekné, Assistant Professor.

Teacher training restarts at the University of Sopron - a historic moment at the Benedek Elek Faculty of Pedagogy

In September 2026, a new chapter opened in the life of the University of Sopron's Benedek Elek Faculty of Pedagogy. After more than 60 years, the bachelor's program in primary education teacher training was relaunched. The decision was made possible by the unanimous support of the Hungarian Accreditation Committee, so students can once again prepare in Sopron to educate and teach children in the lower grades of primary school. The program was launched in several forms. On the one hand, young people with a secondary school diploma can participate in the traditional four-year teacher training program in full-time or correspondence form. On the other hand, a shortened four-semester program is also offered to those who already hold a kindergarten teacher degree.

More information: https://greenuniversity.uni-sopron.hu/4

SDG 5

Achieving gender equality and strengthening women's social participation are important. The University of Sopron ensures women equal access to education, and all services are fully available to them on equal terms. They are not subject to discrimination in filling positions either.

Learning with heart, giving with heart - University of Sopron student shines at the Stipendium Hungaricum gala

Adriana Cristina Gazabon Rosado, a master's student at the University of Sopron, recently received the Stipendium Hungaricum Excellence Award in Budapest. The first Stipendium Hungaricum Excellence Award Gala was organized in the historic Festetics Palace with the support of Tempus Public Foundation and the Ministry of Foreign Affairs and Trade. At the prestigious event, the outstanding academic and community achievements of international scholarship students studying in Hungary were celebrated.

More information: https://greenuniversity.uni-sopron.hu/5

SDG 6

Water supports agriculture and aquaculture. Clean water is also vital from supply and hygiene perspectives. The University of Sopron ensures access to water and hygienically adequate drinking water, while also providing knowledge for conscious water management and using its water resources responsibly.

More information: https://greenuniversity.uni-sopron.hu/6

SDG 7

Energy is one of the key factors of human life and it must be accessible, affordable, and clean for everyone. As Hungary's first carbon-positive university, the University of Sopron supports the production of clean energy through its education and research activities. By operating solar power plants and biomass boilers, it makes its energy consumption more sustainable.

More information: https://greenuniversity.uni-sopron.hu/7

SDG 8

Decent work carried out under safe conditions is essential for sustainable economic growth. The University of Sopron creates opportunities for its students to carry out professional activities at a contracted company throughout the entire duration of their studies within the framework of dual education, with the aim of gaining practical experience and receiving fair remuneration.

More information: https://greenuniversity.uni-sopron.hu/8

SDG 9

Innovative infrastructure investments are key to achieving sustainability. Through its ties to industry, the University of Sopron also supports innovation. In the case of infrastructure, it strives for close-to-nature, sustainable solutions; its methodological campaign related to e-waste management became world-leading.

Forests of the future with smart robots - new research and development cooperation with the University of Sopron

The University of Sopron and SatiNav Robotics signed an agreement to develop forestry robots. The goal of the newly launched cooperation is to develop autonomous forestry robots capable of independent work, contributing to the automation and modernization of forestry work processes. The new technologies are intended to reduce the burden of traditional manual labor and to support the creation of sustainable and modern forest management.

The University of Sopron, Hungary's Green University, is always one step ahead in sustainability

The University of Sopron achieved another outstanding professional success: the Environmental Information Validation and Verification Body (KIVVT) received accredited status following the decision of the National Accreditation Authority. As a result, the University of Sopron became the first higher education institution in the country to have its own accredited validation and verification body. The accreditation certifies that the University's conformity assessment activity complies with the strictest international standards. Among other things, KIVVT is authorized to validate greenhouse gas statements, environmental reports, life cycle assessments, environmental labels and declarations, as well as water footprint calculations.

More information: https://greenuniversity.uni-sopron.hu/9

SDG 10

Inequalities between and within countries must be reduced. The University of Sopron addresses this at the highest possible standard, offering domestic and international students the opportunity to study at the university through its programs. It also promotes the wide dissemination of knowledge through free public event series.

The University of Sopron also joined the Let's Teach for Hungary Program

The University of Sopron officially joined the national mentoring program "Let's Teach for Hungary," which aims to mentor primary school children living in small settlements that are remote from further education opportunities. These are children for whom fitting into a new community and traveling regularly may be such a challenge that, without appropriate experiences, they fail to obtain a vocation at secondary level and become early school leavers. Within the framework of the Let's Teach for Hungary Program, these children are supported by well-prepared university student "big brothers and sisters," mentors, so that while still in primary school they can get to know the experiences of the world beyond their settlement, as well as work, educational, and leisure opportunities, and then make the transition to secondary school with ease.

Helping their peers learn - Tutor Program launched at the University of Sopron

Those university students who will work as tutors at the University of Sopron undertake to support student communities and assist academic progress. Fourteen young people participated in the Tutor Training Program within the framework of adult education.

More information: https://greenuniversity.uni-sopron.hu/10

SDG 11

Cities and settlements must be made sustainable. The University of Sopron and the City of Sopron signed a cooperation agreement under the title “Green City - Green University.” Through its services, educational, research, third-mission, and cultural activities, the university helps raise social awareness and supports the realization of sustainability through innovative solutions.

Sustainability on two wheels - new bicycles for the employees of the University of Sopron

The University of Sopron’s bicycle fleet was expanded with forty new bicycles. Within the framework of the large-scale RRF-SOE-DTO project running at the institution, university employees received two-wheelers for the third time already. Hungary’s “Green University” works for the well-being of the community through infrastructural developments, awareness-raising programs, and community events.

The sustainable future was discussed at the University of Sopron's Lámfalussy Faculty

The prestigious international conference organized this year for the twenty-third time by the Lámfalussy Sándor Faculty of Economics of the University of Sopron can best be described as a celebration of science and professional cooperation, under the title "Development Paths and New Fault Lines in the Period of Sustainability Transition." Connected to the Hungarian Science Festival series of events, the conference placed the most current economic questions, research directions, and sustainability challenges at the center. The event is one of the faculty's most important scientific programs, offering researchers, lecturers, and students every year the opportunity to present their latest research results and exchange views on current issues in economics. More than 160 participants attended the event, where 90 presentations were delivered in seven in-person, three online, and one poster section.

More information: **https://greenuniversity.uni-sopron.hu/11**

SDG 12

Sustainable consumption habits and production methods must be ensured, avoiding overconsumption and excessive waste generation. The University of Sopron strives for the efficient use of resources, the prevention and minimization of waste generation, and the effective implementation of selective waste collection.

Wood, fungal mycelium, coffee grounds: the revolution of natural materials discussed at the University of Sopron

At the University of Sopron, students also learn about materials that reinterpret the sustainable world of the future - bio-based materials made from coffee grounds or reimagined wood materials. The professional conference presenting the latest research results not only brought together representatives of the scientific community, but also offered a glimpse into the creative and innovative environment awaiting students. The hybrid professional conference titled “Current Issues in Research on Wood and Other Natural Polymers” was held in the University of Sopron’s brand-new, digitally equipped classroom. In addition to speakers from Sopron, experts from Óbuda University and BME also reported important new results.

More information: **https://greenuniversity.uni-sopron.hu/12**

SDG 13

Urgent action must be taken against climate change and its impacts. As Hungary's first carbon-positive university, the University of Sopron is at the forefront of reducing the impacts of climate change. Numerous university research projects focus on resilience and adaptation related to climate change, and several forestry and wood industry projects have joined international initiatives of this kind.

A new international project launched at the University of Sopron for the future of agriculture

A four-year international research project called ClimaPannonia has been launched at the University of Sopron, aiming to help agriculture adapt to the impacts of climate change.

Within the nearly EUR 7 million funded program, the University of Sopron is working with 25 other European partner institutions, including Hungarian universities such as MATE and the University of Pannonia. The special feature of the project is that nature-based, innovative solutions - such as water management, agroforestry, or organic cultivation - are tested in real environments, with the aim of providing real help to local farmers and communities. As an active participant, the University of Sopron contributes to making agriculture more sustainable, more resilient, and more livable for future generations.

More information: https://greenuniversity.uni-sopron.hu/13

SDG 14

The oceans, together with their related rivers and catchments, make up the largest part of our ecosystem, so their preservation and sustainable use are important. The University of Sopron protects and strengthens its aquatic ecosystems (lakes, streams, wetlands, rivers). It maintains wetlands in its Botanical Garden and arboretums.

More information: https://greenuniversity.uni-sopron.hu/14

SDG 15

Life on land is a valuable resource - we must ensure that we pass it on to future generations. The University of Sopron plays a key role in the sustainable management of forests (owing to its unique environmental and technical programs), in combating desertification, in halting and reversing land degradation, and in preserving biodiversity. In connection with this, it implemented the Loyalty Forest project.

Tracking roe deer fawns - the University of Sopron protects wildlife with drone technology

During agricultural work and mowing, countless roe deer fawns fall victim to machinery every year. Experts from the Faculty of Forestry Engineering of the University of Sopron have been dealing with this problem for years: instead of traditional search methods, they now use thermal imaging drones, which are able to detect fawns hidden in vegetation efficiently, making it possible to rescue them before work begins. Technological development over recent decades has radically

transformed the tools of nature conservation and wildlife management. Increasingly efficient and accessible unmanned aerial vehicles - especially drones equipped with thermal cameras - have opened up new horizons in wildlife biology research, wildlife monitoring, and last but not least, wildlife rescue.

The University of Sopron's memorial forest was enriched with 1,538 new trees

The joint tree-planting program of the University of Sopron and Tanulmányi Erdőgazdaság Zrt. was launched in 2021, on the centenary of the Sopron referendum. The initiative aims to plant as many saplings each year in the University of Sopron's Loyalty Forest in the Sopron Hills as the number of new students beginning their studies at the university. In the autumn of 2025, another record was set. A total of 1,538 first-year students chose the University of Sopron's programs, so the same number of young trees could be planted in the Loyalty Forest. The professional implementation of the program was provided by Tanulmányi Erdőgazdaság Zrt.

More information: **https://greenuniversity.uni-sopron.hu/15**

SDG 16

Peace and justice are vital for equality among people and countries. Strong institutions are needed that serve sustainable development. The University of Sopron creates a peaceful and inclusive work environment, taking equality before the law into account. It operates at all levels as an effective, accountable, and inclusive institution.

More information: https://greenuniversity.uni-sopron.hu/16

SDG 17

Sustainability cannot be achieved without the connections between the individual goals, nor without global partnership. For the sake of sustainability goals, the University of Sopron cooperates with domestic and foreign universities, neighboring governmental bodies and municipalities, companies, and social organizations as well.

The University of Sopron and the Vietnam National University of Forestry renewed their cooperation

In the summer of 2025, the University of Sopron and the Vietnam National University of Forestry (VNUF) further strengthened their long-standing relationship and reinforced their cooperation. This is a win-win situation for both institutions: the cooperation provides significant progress for the parties in the fields of education and research. During the two-day visit, the leaders of the Vietnamese university - Prof. Dr. Pham Van Dien, President of the university, and Prof. Dr. Hoang Van Sam, Director responsible for international relations - took part in numerous professional consultations at the University of Sopron. One of the main topics of the meeting was the development of joint professional programs, especially in the fields of natural resource management and the wood processing industry. The two institutions agreed that these programs can contribute to the development of sustainable resource management methods and to the training of young professionals.

The University of Sopron opened new horizons in international design cooperation

In mid-October, the University of Sopron ceremonially announced its Czech Autumn program series, which is being realized with the cooperation of one of Czech higher education's outstanding institutions, Mendel University in Brno. The initiative aims to strengthen professional, educational, and cultural relations between the universities of the two countries, with a particular emphasis on sustainable design and innovative materials science research. During the opening week, furniture designers from the Czech partner institution visited the campus of the University of Sopron. The researchers and lecturers - led by institute director Dr. Milan Gaff - held three lectures and workshops in English for the students of the Faculty of Wood Engineering. During the program, participants became acquainted with the directions of Czech materials science research, developments in eco-design, and the current challenges of environmentally conscious manufacturing technology.

More information: **https://greenuniversity.uni-sopron.hu/17**

7 THE DEVELOPMENT OF ENVIRONMENTAL PERFORMANCE AT THE UNIVERSITY OF SOPRON IN THE LIGHT OF THE GREEN UNIVERSITY CONCEPT

Below, you can learn about the University of Sopron's measurable results through our environmental policy, objectives, and targets. The development of our environmental performance is presented, on the basis of the respective survey years, along the essential criteria of the dimensions "Setting, Infrastructure and Biodiversity," "Materials and Energy Use," "Waste," "Water," "Emissions and Climate Change," "Transportation," and "Education and Research."

7.1 Setting, infrastructure and biodiversity

Information related to the university's area and infrastructure provides a general picture of the university's green environment. This group of indicators also measures the extent to which the university meets the "Green University" title. The goal is to ensure as much space as possible for biologically active surfaces and for woody and planted vegetation, to maintain a high ratio of open spaces compared to built-up areas, and for our specific indicators to also verify the existence of a livable environment (UI GreenMetric Guideline, 2019).

Summary assessment:

The University of Sopron (SOE) is located in Hungary, in Western Transdanubia, in Győr-Moson-Sopron County, in the inner area of the dynamically developing county-level city of Sopron, rich in historical heritage. The city of Sopron is located near Hungary's western border, at the foot of the Alps, 80 km from Vienna (Austria) and 220 km from Budapest (Hungary). The city's residents are also known for their hospitality and loyalty to their place of residence. Its population is approximately 60,000.

The University of Sopron, with four faculties (the Benedek Elek Faculty of Pedagogy, the Faculty of Forestry, the Faculty of Wood Engineering and Creative Industries, and the Lámfalussy Sándor Faculty of Economics), is a higher education institution of national and regional importance and international significance, and the intellectual, educational, and research center of Western Hungary. Education and research at the university's faculties have centuries-old traditions. The University of Sopron's main campus and most of its educational buildings are located in the beautiful University Botanical Garden, which also serves educational, living plant collection, nature conservation, conservation biology, and recreational purposes.

The fifth main organizational unit forming part of the university, which also performs educational tasks but is primarily engaged in research, is the SOE Forestry Research Institute, whose 5 Experimental Stations (Sopron, Sárvár, Budapest, Mátrafüred, Püspökladány) and 3 Arboretums (Sárvár, Kámon and Püspökladány) are organically connected to the institution.

The ratio of our university's open spaces to the total university area falls into the highest qualification category worldwide (>95%). It follows from this that the area covered by forests and woody vegetation also serving higher education purposes is extremely high, and the size of open spaces per university citizen is also unique. According to the qualification, the University Botanical Garden and the arboretums support nature conservation programs and gene preservation goals that are "fully realized."

The entire area of the Botanical Garden (17 ha) is a nationally protected natural area, meaning that all woody and herbaceous plants, fungi, and animals found within it are therefore under protection. According to the continuously updated database, 134 protected plant species can be found in the garden, representing about one-fifth of the protected species of the Hungarian flora; these specimens serve not only education, outreach, and research, but also have important conservation biological significance. The botanical garden is also a recognized genetic stock plantation, with around 2,800 registered mother plants, which represent a valuable gene reserve for the future.

The first trees of the Sárvár Arboretum were planted in 1802 on a total area of 10 hectares. At the same time, certain parts still contain remnants of the former floodplain gallery forest with 400-500-year-old oak and ash specimens. Its greatest botanical value is the Magnolia collection, consisting of 120-150-year-old specimens of 10 taxa.

The Kámon Arboretum in Szombathely covers 27 hectares, has 3,500 kinds of woody taxa, and also has a significant number and distribution area of spring bulbous plants. The arboretum was founded by Dr. István Sáághy in 1891-92. Its most important collection units are rhododendrons (Rhododendron and Azalea sp.), magnolias (Magnolia), conifers, tree peonies (Paeonia), viburnums (Viburnum), and Hungarian-bred coniferous and deciduous varieties. Gene preservation is carried out not only among the 3,500 kinds of taxa, but also in the Scots pine and Austrian pine plantation and in the GDR plantation.

Today, the Püspökladány Arboretum can basically be divided into three main parts in terms of its plant material and landscape, which are also distinctly separated spatially. Its largest part is the closed forest area created as a result of afforestation experiments on sodic soils, which is now almost one hundred years old. In these areas, experiments were established on different sites, with stands of diverse species composition and cultivation technologies, involving around 35 tree species. The northern third of the arboretum is very mosaic-like because of the differently salinized soil. Mainly groves, tree groups, and forest strips alternate, recalling the characteristic floodplain hardwood gallery forests of the former Nagy-Sárrét.

With diverse tree species composition and the application of different cultivation technologies. The southern area of the arboretum originated from the foundations of a gene reserve plantation begun nearly 100 years ago. At present, we keep records

of more than 800 individuals of around 400 tree and shrub species, varieties, and forms. In recently established experiments, we are examining a further nearly 2,000 tree and shrub species, varieties, and forms. Our fundamental task is to maintain this significant genetic reserve.

The green environmental endowments of the University of Sopron are unique and outstanding even at international level.

7.2 Materials and energy use, efficiency

The following indicators express the extent to which the university pays attention to issues related to energy use. Particular attention is given to the use of energy-saving devices, the implementation and execution of automated buildings/smart buildings, the use of renewable energy, total electricity consumption, energy saving programs, and the application of green building criteria (UI GreenMetric Guideline, 2019).

Summary assessment:

The proportion of energy-saving devices at the University of Sopron has shown improvement in recent years; today energy-efficient devices can already be found in a larger share. No building with smart building certification is currently found in the university's building stock.

The university's total electricity consumption divided by the number of university citizens falls into the medium qualification category.

The University of Sopron uses several renewable energy sources to meet its energy demand. Renewable energy production from biomass and solar energy is significant. Biodiesel and geothermal energy are also used at our institution. The ratio of renewable energy production to annual energy use represents a high share at university level, which falls into the highest international qualification category.

Elements of green building implementation can be found in our building stock, and are also reflected in the university's construction and renovation guidelines. Natural light, natural ventilation, and building systems suitable for natural climate control (e.g. shading by vegetation) play an important role.

7.3 Waste management

Waste treatment and recycling activities are major factors in creating a sustainable environment. The activities of university employees and students at the university generate a great deal of waste, so the university must take into account several recycling and waste management programs, such as recycling, the treatment of organic waste, the treatment of inorganic waste, the recycling of toxic/hazardous

waste, wastewater treatment, and the application of policies aimed at reducing paper and plastic use at the university (UI GreenMetric Guideline, 2019).

Summary assessment:

Over the recent period, the University of Sopron has developed its waste recycling activity by increasing the efficiency of selective waste collection and by using additional selective collection containers (qualification: extensive (>75% of waste is recycled)). The university also maintains reduction programs in the area of paper and plastic use, such as preferring duplex printing, handling documents in electronic form, and avoiding printing wherever possible; moreover, in administrative processes, especially financial approval processes, we also follow dematerialization guidelines and use online systems. Free water refill points are available at the university for all university citizens, giving preference to the use of reusable bottles, glass cups, mugs, etc., instead of single-use plastic and paper cups. Tap drinking water in both Hungary and Sopron is of excellent quality and is available to all university citizens. Electric hand dryers are also available in washrooms to replace the use of paper towels.

The treatment of the university's organic waste is almost entirely solved through local composting in the Botanical Garden and arboretums. If, due to lack of space, the green waste generated cannot be treated on the institution's premises, it is transported to the municipal composting site for professional treatment as well.

Selective waste collection covers paper, plastic, glass, green waste, metal, hazardous waste (special waste from laboratories, batteries, accumulators, toner, paints, lacquers, etc.), and electronic waste fractions. The collection and transfer of hazardous waste to an authorized hazardous waste handler follows legal requirements. Paper-based documents that are spoiled or intended for destruction are shredded and then placed in the university's selective waste collection system. Additional non-hazardous wastes form the mixed municipal waste of the university and account for its quantity, which is regularly removed by our waste-management public service partner. Our university strives to further increase the efficiency of selective waste collection as much as possible.

The value-added treatment of wastewater generated at the university is realized in partnership with the municipal wastewater treatment plant (through the production of biogas, electrical energy, and compost).

7.4 Water

The university's water use is also an important indicator from the point of view of sustainability. The goal is to reduce groundwater use and protect habitats. Water conservation programs, water recycling programs, the use of water-saving devices, and the use of treated water are among the criteria (UI GreenMetric Guideline, 2019).

Summary assessment:

The current status of the university's water conservation program is in the highest quality category (>50% water conservation).

Around most university buildings, stormwater drainage channels have been formed in the paved surfaces. All buildings of the University of Sopron are connected to the sewer network of the city of Sopron, which drains rainwater generated in the area and also ensures the collection of wastewater for conventional treatment at the municipal wastewater treatment plant. In the Botanical Garden there is a drilled well used as a water intake point. Its water feeds various facilities through a gravity open channel or, where appropriate, a closed pressurized pipeline system, such as the circular basin, bird bath, aquatic plant collection, the water reservoir in the upper part of the Botanical Garden, the marsh plant basin, and the water collector next to the area of indicator plants, primarily for irrigation purposes.

Rainwater running off the building of the University of Sopron's Ligneum Visitor Center (Botanical Garden) is collected in a tank. This is used when planting vegetation and for irrigation during dry periods. In continuous summer use, it provides about 60-70 m^3 of pumped irrigation water. Rainwater is much more suitable for watering plants than tap water. As a result, the survival rate of Botanical Garden plantings has also been higher in recent years.

Next to the building of the University of Sopron's Hidegvíz-völgy Research House (Sopron Hills, Hungary), approximately 10 m away in the southeast direction, a 7-by-7 m lined fire-water reservoir pond (approx. 50 m^3) has been created to store rainwater running off the roof.

The Gyöngyös stream runs through the middle of the Sárvár Arboretum, and by impounding it we continuously supply a lake of approximately 1 hectare with water, significantly contributing to proper water supply for the arboretum habitat and to the maintenance of wetlands.

The Kámon Arboretum is bordered by the Gyöngyös Stream, an artificially created canal; with the hydraulic structures (sluices) on the stream, we can regulate the water level of the four lakes found in the arboretum. The surface area of the lakes is about 1-1.5 hectares. Small channels between the lakes ensure water movement. The arboretum also contains two periodically water-covered small ponds, as well as a waterfall and a floodwater drainage ditch.

The area of the Farkassziget Püspökladány Arboretum was once traversed by numerous channels. The natural beds of these former channels can still be found today, where precipitation accumulates and partly flows by gravity through parts of the arboretum and into the lakes located in the central area that serve ecological water replenishment. The lakes ensure the storage of about 4,000 m^3 of water. From the lakes with natural riparian vegetation, the water leaves by gravity to the Makkodi Main Canal, which borders the arboretum on the eastern side. The entire area of the

arboretum is protected, so we do not use chemicals in stand tending or nursery work.

Several water-saving devices can be found at the University of Sopron, and we continuously install new ones as well (water-saving toilets, automatic taps). The ratio of treated water used in relation to all of the university's water sources (e.g. rainwater tanks, groundwater, surface water, etc.) is high. Among the development plans is the collection of rainwater running off buildings and paved surfaces in rainwater tanks for irrigation purposes (outdoor and indoor vegetation), as well as for greywater use, whereby the use of tap water could be greatly reduced. During the pandemic, the percentage ratio of handwashing and hygiene opportunities on campus was at the maximum.

7.5 Transportation

Modes of transportation play an important role in terms of universities' carbon dioxide and pollutant emissions. The goal of transportation policy is to support the use of university buses and bicycles, through reducing other motor vehicle traffic, in order to achieve a more livable and healthier environment. Policies regarding pedestrians encourage students and university employees to walk the distance between university buildings and avoid the use of private motor vehicles. The use of environmentally friendly public transport reduces the university's carbon footprint (UI GreenMetric Guideline, 2019).

Summary assessment:

At the University of Sopron, the total number of motor vehicles divided by the number of university citizens shows a low value (0.049), which is very favorable from an environmental point of view. The relatively short distance between university campuses makes walking and cycling possible, and the use of urban public transport is also available. The university supports (public) transport for its employees by providing bicycles free of charge and travel pass subsidies, thereby reducing private car use in commuting to work. Zero-emission vehicles are available to employees in certain cases, provided by the university and free of charge.

The use of bicycles by students and staff has a long tradition at our institution, which is also shown by the favorable ratio of zero-emission vehicles per capita at the university.

Entry to the University of Sopron's premises by motor vehicle is only possible with a permit. The entry permit is checked by the gate staff at the main entrance to the campus. These permits are issued in limited numbers on the basis of a central assessment. Parking by employees and students is made possible by a license plate recognition system, which has significantly reduced the number of cars parked on university grounds.

At the University of Sopron, the road surfaces suitable for motor vehicle traffic and the pavements between the buildings differ in some places, and this paving separates pedestrian traffic from motor vehicle traffic. On the University of Sopron's main campus, the Botanical Garden paths may be used only by pedestrians and, to a limited extent, by cyclists, similarly to the paths in the arboretums. In the case of pedestrian sidewalks, guiding tactile paving strips have been installed on the main campus, or white strip markings have been applied for the visually impaired. In the case of the Main Building, the Dormitory, the Ligneum Visitor Center, and most buildings, accessible solutions have also been applied to facilitate movement for people with reduced mobility. Public lighting is provided along the main pedestrian routes and sidewalks.

7.6 Emissions and climate change

The following indicators show how much emphasis the university places on issues related to climate change. Programs that support adaptation to climate change and mitigation, policies aimed at reducing greenhouse gas emissions, and the development of the carbon footprint all play an important role (UI GreenMetric Guideline, 2019).

Summary assessment:

The total calculated carbon footprint of the University of Sopron divided by the number of university citizens (t/person) falls almost into the most favorable qualification category (<0.42-0.10 t).

Our university maintains programs in three relevant areas to reduce greenhouse gas emissions:

- scope 1: instead of fossil-based energy production, it partly prefers biomass combustion, and reduces emissions from the internal combustion engines of university transport devices through the use of bicycles and e-car alternatives;
- scope 2: it offsets the indirect greenhouse gas emissions arising from the production of purchased and used electricity by relying on renewable energy sources;
- scope 3: it addresses indirect greenhouse gas emissions resulting from the regular commuting of students and employees from and to the institutions by supporting employees' public transportation and by facilitating the use of zero-emission vehicles for everyone. At our university, cycling by students and staff has a long tradition.

7.7 Education and research

Our institution has long been committed to sustainable, environmentally friendly operation, and this approach is strongly reflected in research and in the subjects taught at the university's four faculties, while increasingly permeating everyday operation as well. Accordingly, environmental awareness appears both in education (beginning from early childhood education) and in the portfolio of research and services: climate research, climate adaptation, energy efficiency, alternative energies, sustainable and renewable materials and products, waste management, the circular economy, awareness raising, and education. According to the university's professional concept, an approach that prioritizes sustainability is the guarantee of innovative operation and education.

Summary assessment:

The University of Sopron's sustainability-related courses show the maximum qualification value in relation to all courses, which means a share of more than 60%. We can say that, based on the sustainability orientation of its programs, the university belongs to the international forefront.

In addition to the strong sustainability orientation of education, the similar nature of our research is also shown by the fact that the ratio of university sustainability research sources to all research funding is around 90%, which also makes it possible to be placed in the highest qualification category internationally. The number of scientific publications related to sustainability is among those with the most favorable assessment.

The number of our sustainability-related events places us in the highest category. The same is true of our cultural events.

The number of student organizations related to sustainability is six. The activity of the student organizations is outstanding; in addition to numerous community programs, they also carry out scientific student circle activities. During their operation, they complement university education and make efforts for issues important to students (e.g. cleaning up our environment, awareness raising, outreach, organizing study trips, participation in nationwide initiatives, and even initiating nationwide initiatives, etc.).

In this performance dimension, we note that the University of Sopron has created its continuously updated thematic website related to sustainability: https://greenuniversity.uni-sopron.hu/kezdolap

The University of Sopron regularly prepares its annual Sustainability Report and continuously develops its content aspects in order to meet the highest requirements.

Finally, it must definitely be mentioned that the University of Sopron maintains numerous programs to promote the efficiency of education and learning (e.g. handling distance education issues, providing digital background, online study

materials, distance education tools and applications, implementing curricular reform, supporting the digital transition, student mentor program, etc.).

8 FUTURE PLANS

Below we briefly define the proposals whose implementation would significantly increase the University of Sopron's environmental/sustainability performance and would also lead to substantial improvement in its UI GreenMetric scores.

8.1 Short-term plans

Setting and infrastructure, biodiversity

- We maintain a university afforestation program: every year, after each first-year student admitted for the autumn semester, the University of Sopron plants a new sapling in and around Sopron, so in a few years not only will society be richer in well-trained professionals, but the extent of forest-covered areas in our country will also increase. Expanding forest areas is particularly important in the fight against climate change, as afforestation is the most effective carbon dioxide sequestration activity in the world that humans can carry out.
- Development of the University Botanical Garden and the arboretums of the Forestry Research Institute with smart monitoring systems (e.g. biodiversity and soil status monitoring) to strengthen nature conservation and gene preservation functions.

Materials and energy use, efficiency

- Expansion of the energy-efficient equipment stock and introduction of "smart" energy management systems (e.g. automated lighting, sensor control, building management systems).
- Consistent application of green building principles in every investment and renovation (e.g. low energy demand, sustainable use of materials).
- Increasing the efficiency of renewable energy production and installing new capacities (e.g. solar panels, heat pumps).
- Strategic support for the gradual phasing out of fossil energy carriers.

Waste management

- Digitized tracking of the selective waste collection system and improvement of its efficiency.
- Strengthening active participation at faculty level through training, internal campaigns, and regular inspections.
- Reducing paper and plastic use with digital solutions (e.g. e-documentation, online administration, paperless administration).
- Development and expansion of composting systems for local utilization of green waste.

Water

- Development of intelligent water management systems (e.g. rainwater harvesting, sensor-based irrigation).
- Developing and introducing greywater utilization solutions (e.g. irrigation, toilet flushing).
- Increasing the share of water-saving equipment with modern technologies (e.g. automatic taps, low water-consumption systems).

Transportation

- Expansion of sustainable mobility solutions (e.g. travel pass support, encouraging public transport).
- Development of the "UNI-SOPRON BIKE" public bicycle system and its integration into urban transport.
- Reducing car traffic within the campus and encouraging green mobility alternatives (walking, cycling).
- Development of accessible, safe, and intelligent pedestrian infrastructure.

Emissions and climate change

- Reducing greenhouse gas emissions by optimizing waste management and water use.
- Increasing the use of rainwater to replace tap water.
- Supporting sustainable transport systems (e.g. public bicycles) and applying carbon compensation solutions in the case of institutional travel.

Awareness raising (education, research, publicity)

- Integrating sustainability topics into as many educational programs as possible through continuous curricular development.
- Expanding sustainability events (conferences, workshops, training) and providing digital access to them.
- Supporting student initiatives and organizations, encouraging new communities.
- Strengthening sustainability communication on online platforms (website, digital reports).
- Regular publication and data-driven development of sustainability reports.

8.2 Medium-term plans

- Increasing the proportion of intelligent, low-energy ("smart") buildings during campus developments.

- Full integration of green construction and renovation principles into university investments through the use of innovative and sustainable technologies.

Sopron, March 31, 2026.

SOPRONI EGYETEM

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