



SOPRONI EGYETEM |

Sustainability Report

Fenntarthatósági jelentés

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Dr. habil. András Polgár
Associate Professor

Dr. Veronika Fodor Elekné
Assistant Professor

Norbert Zsidákovits
Head of Technical Department

Dóra Németh
Environmental Engineer

Márton Tóth
Environmental Engineer

András Náhlik
Research Assistant

Prof. dr. Ferenc Lakatos
Vice-Rector for Research and International Affairs, Professor

Prof. dr. Attila Fábián
Rector, Professor

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Introduction

Dear Reader!

The University of Sopron, a "Green University" located in Hungary's "Most Loyal City," Sopron, has placed sustainability at the heart of its activities following its change of operating model. However, due to its historical background, the University of Sopron has always embraced the "Green University" concept in its ethos, the implementation of which is a complex task at the institutional level. Our university strives to shape the natural, social, and human environment to preserve and improve the quality of life. Its faculties and activities are characterized by an environmentally conscious mindset. It cherishes ethical and human values, and its objectives and operations serve the intellectual upliftment of the region and the entire country. Its mission is: "A continuously renewing, standard-setting (and measurable), university knowledge center in Central Europe."



"It is essential for the University of Sopron to fulfill the role incumbent upon it through the students trained here and through its research in terms of disseminating the principles of sustainability and developing solutions applied for the sake of sustainability. This is of particular significance because the benefits derived from the successful implementation of this task serve the good of not only the University of Sopron but also the city, the region, and the entire country."

Prof. Dr. Attila Fábián, Rector of the University of Sopron

In the University of Sopron's present Sustainability Report, you can learn about the measurable results of our institution through our environmental policy, objectives, and projections. We present the development of our environmental performance based on essential criteria within the dimensions of "Location, Infrastructure, and Biodiversity," "Material and Energy Consumption," "Waste Management," "Water Management," "Emissions and Climate Change," "Transportation," and "Education and Research." For continuous improvement, we regularly review our activities, which allows us to propose effective measures for improving our environmental performance indicators (following the recommendations of ISO 14001, EMAS, and UI GreenMetric).

Get to know the University of Sopron's complex efforts for the sake of sustainability! We wish you a pleasant read!

Highlights

THE UNIVERSITY OF SOPRON HAS ONCE AGAIN BEEN AWARDED THE TITLE OF CYCLIST-FRIENDLY WORKPLACE



The announcement that the **University of Sopron** had once again won the title of **Cyclist-Friendly Workplace** in **2024** was made on **March 19, 2025**, at a ceremony held at the Hungarian Institute for Transport Sciences and Logistics.

With this award, the Ministry of Construction and Transport acknowledges employer measures that serve to promote cycling and improve the conditions for it. At the award ceremony, Loránd Bói, Deputy State Secretary responsible for transport strategy at the Ministry of Construction and Transport (ÉKM), highlighted the importance of workplace initiatives that encourage and popularize cycling for commuting.

For the 2024 tender, 26 municipalities and 33 workplaces from across the country applied. The University of Sopron is among the winning public institutions. The higher education institution promotes cycling by providing bike service points, bicycles purchased for employees, changing rooms, covered storage, and by organizing cycling programs within the university. The title of Cyclist-Friendly Workplace proves that the higher education institution is successfully working on promoting cycling, improving the health of its employees, and reducing the institution's ecological footprint.





BIZTONSÁGOS KERÉKPÁROZÁS



Miért fontos a biztonság?

A biztonsági felszerelés létfontosságú.
A megfelelő felszereléssel elkerülhetőek a balesetek és csökkenthető a kár.





SISAK

Védi a fejet balesetek esetén és segít megelőzni a fejsérülést és az agyrázkódást



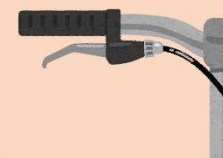
LÁMPÁK

A kerékpár kivilágítása nem csak biztonságossá teszi a közlekedést, de törvényi kötelesség is



LÁTHATÓSÁGI MELLÉNY

A megfelelő felszerelés elengedhetetlen a rossz látási viszonyoknál történő közlekedéshez



FÉKEK

A karbantartott fék fontos a megfelelő és biztonságos közlekedés szempontjából

HOL SZABAD?

Kerékpárúton, ha az út mellett van kerékpárút, akkor csak itt szabad kerékpározni, kivéve, ha az úttesten kerékpáros nyom (piktogram) van felfestve

Tilos kerékpározni autópályán és az „autóút” táblával jelölt autóúton, továbbá ott, ahol ezt tábla tiltja.

Kerékpárral behajtani tilos táblával megjelölt úton valamint a járdákon sem szabad közlekedni. A zebrán pedig csak akkor szabályos az átkelés, ha leszállunk a kerékpárról és áttoljuk.



EGÉSZSÉGÜGYI HATÁSAI



Csökkenti a szív és érrendszeri megbetegedések kockázatát



Növeli a tüdőkapacitást, segíti az oxigénfelvételt



Átmozgat és erősíti az izomzatot



Serkenti az agyműködést, segíti a gondolkodást

URL: <https://www.uni-sopron.hu/kerekparosbarat-munkahely-cim-et-kapott-a-soproni-egyetem>

SOUND OF EARTH EDUCATIONAL TRAIL INFORMATION BOARD WELCOMES VISITORS TO THE BOTANICAL GARDEN OF THE UNIVERSITY OF SOPRON!



As spring arrives, nature puts on a new dress—and this is no different in the 100-year-old Botanical Garden of the University of Sopron.

In addition to the beautiful plants, the splendour of the garden is now enhanced by brand new, modern, and colourful information boards. These new elements invite every visitor not just to look, but to pay attention, ask questions, and explore. The large map placed at the entrance immediately shows how many wonders are hidden in the garden—from special tree species and hidden paths to stations showcasing green initiatives. Anyone who steps inside has the opportunity for a truly knowledge-based walk, where nature and university values are present simultaneously.



A board summarizing the rules for visiting the garden helps ensure that we all look after this special living heritage, while a **spectacular, green-themed board next to the gate presents the milestones by which the University of Sopron earned the title of Hungary's Green University**. And this is not just a title: the buzzing of the GreenBee bees, the educational trail, or the SDG testing point located in the main hall of Building B all prove that sustainability is a living reality here. Through the colourful, rotating boards, visitors can playfully learn about the UN Sustainable Development Goals—thus, a garden visit subtly transforms into an awareness-raising experience.



It is worth seeking out the plants that are currently blooming, which adorn the spring botanical garden with a special splendour. These include the Lobed bird's-nest orchid (*Cardos madársisak* is likely a mistranslation or local name for *Neottia nidus-avis* - I've used a close English term for context), Columbine (*Harangláb*), Sweet Mock Orange (*Illatos jezsámen*), various Iris species, the Meadow Buttercup (*Réti boglárka*), Ornamental Onion (*Díszhagyma*), Yellow Honeysuckle (*Sárga lonc*), and Evening Primrose (*Hölgystike*). The crystal-clear air, the peaceful green environment, and the joy of discovery are guaranteed. This spring, treat yourself to a walk that simultaneously rejuvenates, educates, and connects you with nature.



URL: <https://greenuniversity.uni-sopron.hu/labels-sustainability>

1 Introduction

Through their educational and research activities, universities play an outstanding role in the transmission of professional knowledge related to the environmental, social, and economic aspects of sustainability, and in shaping public awareness. In addition to this, as institutions, they must also be committed in terms of their processes to energy efficiency, clean energy, economical water and material use, waste prevention, and recycling.

The University of Sopron has long been committed to sustainable, environmentally friendly operation, an approach that is heavily emphasized in the taught subjects and research at the University's four faculties (Benedek Elek Faculty of Pedagogy, Faculty of Forestry, Faculty of Wood Engineering and Creative Industries, Sándor Lámfalussy Faculty of Economics), as well as its scientific institute (Forest Research Institute), and is increasingly woven into the daily operations. Accordingly, environmental awareness appears in both the training programs (starting from early childhood education) and the portfolio of research and services, covering the fields of climate research, climate adaptation, energy efficiency, alternative energies, sustainable and renewable materials and products, waste management, circular economy, awareness-raising, and education.

Our Soul-Lifting Green Environmental Assets: The main campus and most of the educational buildings of the University of Sopron are located in the wonderful University Botanical Garden, which serves educational, living plant collection, nature conservation, biology, and recreational purposes. The fifth main organizational unit, which is part of the university, carries out educational tasks but primarily focuses on research: the Forest Research Institute of the University of Sopron (SOE). This Institute is organically linked to the university through its 5 Experimental Stations (Sopron, Sárvár, Budapest, Mátrafüred, Püspökladány) and 3 Arboreta (Sárvár, Kámon, and Püspökladány). According to the professional vision of the University, a perspective that prioritizes sustainability is the guarantee of innovative operation and education.

Our university's institutional "green operation" is characterized by meeting the highest requirements:

- We possess an Environmental Management System (EMS) certified according to the MSZ EN ISO 14001:2015 international standard, and we continuously develop and optimize our processes for environmentally friendly and energy-efficient operation.
- Our university strives to use renewable energy sources and operate energy-efficient equipment and devices.
- Our institution is featured in the UI GreenMetric World University Rankings, an international list that unites the greenest universities, and our main initiatives are realized along the lines of the UI GreenMetric guidelines. The University of Sopron is a member of the UI GreenMetric World University Rankings Network.
- We confirm our institutional efforts towards the UN Sustainable Development Goals (SDGs) by participating in the THE Impact Rankings international world ranking.
- We regularly prepare and publish our institutional Sustainability Report, as well as our annual organizational carbon footprint calculation.
- The University of Sopron won the International Green Gown Award in the "2030 – Climate Action" category and achieved this as the only Hungarian finalist university in the entire competition.

- The University of Sopron became a founding member of the "Nature Positive Universities Alliance." This global network of universities was launched by the United Nations Environment Programme (UNEP) in collaboration with the University of Oxford to support the prioritization of nature restoration in the higher education sector.
- The University of Sopron is a member of the Hungarian Universities' Sustainability Platform (MEFP).
- Our university strives for the practical implementation of the Green Office concept.
- Loyalty Forest Project (Hűségerdő project): We maintain a unique university afforestation program: every year, the University of Sopron plants a new sapling in Sopron and its surroundings for every first-year student admitted to the autumn semester. Thus, not only will society be richer in well-trained professionals in a few years, but the size of forested areas in our country will also increase. Expanding forest areas is of paramount importance in the fight against climate change, as afforestation is the world's most effective human-led carbon sequestration activity.
- Within the framework of our Green University Programs, we implement numerous initiatives that play a significant role in raising the sustainability awareness of all university citizens and shaping the appropriate mindset.
- We support our student organizations dealing with sustainability to carry out their activities as effectively as possible.

As a result of the above-mentioned approach, Hungary's "Green University" is maximally committed to all initiatives that serve economic, social, or environmental sustainability. This attitude is also conveyed by the University's motto, "Naturally with You!" (Természetesen Veled!), which places the individual and nature at the center.

Sustainable Development in Higher Education

The increasing importance of our livable environment is evidenced by the concept of "sustainable development," which has become one of the most frequently used ideas in both international and domestic professional literature concerning environmental protection. Its principles were first laid down in the comprehensive program titled "Our Common Future," prepared by the UN Commission on Environment and Development in 1987 (where it was initially referred to as "harmonious development"). Subsequently, the concept of sustainable development became known first among environmental professionals and then among the wider public in the 1990s (Sustainable Development Strategy 2019).

"Sustainable development, in short, means development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (*Our Common Future* 1987). The scale of global changes necessitates a complete paradigm shift. Solving this global and civilizational challenge requires conscious responsibility, systems-thinking, and appropriate forms of individual and communal action.

In this shift of perspective and attitude, higher education plays a major role, primarily due to the education and nurturing of young intellectual generations, and secondly, through institutional role modeling and the values it conveys.

Consequently, the University of Sopron has (and will continue to have) a prominent role. Under its "Green University" ideology, it names and adopts a principle that not only mandates sustainability and environmental education but also lays the groundwork for all the strategic steps that move beyond theory and put the conscious and voluntary protection of the environment into practice (Sustainable Development Strategy 2019).

The UI GreenMetric indicator system places great emphasis on the question of university responsibility about the UN Agenda 2030 – Sustainable Development Goals (SDGs) and global complex challenges, particularly the fight against the COVID-19 pandemic. Among its metrics, the “Education and Research (ED)” area is connected to the highest number of SDGs (13 SDGs). (UI GreenMetric Guideline, 2020)



Figure 1.: The relationship between the UI GreenMetric main indicator groups and the Sustainable Development Goals (UI GreenMetric Guideline, 2020).

2 The Environmental Management System of the University of Sopron according to ISO 14001

Our institutional “green operation” is characterized by compliance with the highest requirements. To this end, we possess an Environmental Management System (EMS) certified according to the MSZ EN ISO 14001:2015 international standard, and we continuously develop and optimize our processes for environmentally friendly and energy-efficient operation. Below you can view the university’s certificate according to the MSZ EN ISO 14001:2015 standard.



Commitment and Motivation towards the EMS

The University of Sopron's environmental management is carried out in a way that ensures that operations, education, and services burden the workplace, local, and natural environment as little as possible, which includes the continuous effort to improve environmental performance in these areas. This management method assumes that environmental priorities are central to the University's organizational objectives.

The Goal of the EMS

To disseminate and further develop practical methods of environmentally conscious management in the higher education, university, and research sectors.

Benefits of Applying the EMS

- By applying EMS, the University demonstrates its commitment to environmental protection,
- Systematization of environmental protection at the university,
- Ensuring compliance with environmental regulations and requirements,
- Innovative services,
- Cost savings and making environmental costs more transparent,
- Reducing waste management costs by making the entire operation more environmentally friendly,
- Reducing environmental risks: avoiding unexpected incidents, emergencies, and potential fines,
- Easier dialogue with environmental authorities, the local community, and other interested parties.

History of Our EMS Certifications

The Environmental Management System according to the ISO 14001:2004 standard was established in 2011. In the same year, the EMS operated at the University was first certified according to the ISO 14001:2004 standard, and then in 2015, according to the ISO 14001:2015 standard. The start date of the validity of the University of Sopron's current EMS certificate is 22.01.2021, and the expiration date of the certificate is 03.07.2026.

Scope of Application of the EMS

At the University of Sopron, we operate an Environmental Management System that:

- Comply with the requirements of the MSZ EN ISO 14001:2015 standard,
- Extends to the regulation and supervision of processes,
- Monitors pollutant emissions and indicates compliance or non-compliance of operations through regular measurement, checking, and technical calculation based on factual data,
- Ensures effective intervention to prevent or reduce environmental impact,
- Ensures further development planned, taking possibilities into account.

By operating and further developing this system, and by adhering to the requirements of the relevant legislation and standards, we ensure the environmentally friendly execution of our education, research, training, and expert consulting processes, and the services associated with them.

Significant Environmental Impacts

In the EMS procedure, we define the procedures, methods, and responsibilities related to the identification and evaluation of environmental aspects and impacts within the environmental impact matrix. To determine the significant environmental impacts, we developed a point system where the evaluation criteria were defined according to the severity of the impact, the probability of occurrence, and the detectability of the impact.

The examination of environmental aspects and impacts was extended to cover educational and research activities, as well as emergencies. We have committed ourselves to regularly perform

these examinations for technologies, educational methods, or activities currently being carried out, as well as any that may be changed or introduced in the future.

Our significant environmental impacts are:

- Heating of buildings,
- Air conditioning of buildings,
- Discharge of municipal wastewater,
- Cleaning of buildings,
- Chemical use in laboratories during education and research.

Main University Environmental Management Objectives and Targets

By setting environmental objectives and targets, our aim is to define medium-term tasks that:

- Consider the significant environmental impacts identified and are directed towards their improvement and reduction,
- Ensure the provision of personnel, material, and financial resources for their implementation.

Our main objectives are:

- Education of environmentally conscious mindset/attitude.
- Continuous removal/disposal of hazardous waste generated in laboratories.
- Reduction of energy consumption.

3 The Environmental Policy of the University of Sopron



SOPRONI EGYETEM KÖRNYEZETI POLITIKA

Soproni Egyetem működése során a környezeti teljesítményének folyamatos fejlesztésére törekszik, amely a hallgatók-munkatársak környezettudatos gondolkodásra és viselkedésre nevelésében, az ökológiai és gazdálkodási szempontból fenntartható folyamatok kutatásában, továbbá az infrastruktúra környezetkímélő 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 környezetvédelmi 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 és 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 és biztonságos környezetet alakít ki, mérsékeli a káros 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

4 The University of Sopron's Participation in the UI GreenMetric World University Rankings

The evaluation of the University's efforts toward sustainable development, and its internal and external perception, is key to formulating further development and strategic concepts, as well as to the objective measurement of environmental performance.

The environmental performance evaluation and qualification of the University of Sopron's "Green University" ideology can be realized along two lines:

- One possibility is the tracking of the organization's time-series environmental indicators (related to the EMS) (internal evaluation),
- The other possibility is comparison with other universities at the national and international level, which can be carried out, for example, according to a ranking based on standardized indicators developed for higher education institutions (external evaluation).

Both solutions (internal and external evaluation) lay the foundation for the organization's continuous short-, medium-, and long-term development.

One of the excellent tools for national and, simultaneously, international measurement, ranking, and comparison is the "UI GreenMetric World University Rankings" method, which is based on indicators developed by the University of Indonesia (Universitas Indonesia). During the preparation for this globally applied procedure, which was specifically developed for the sustainability ranking of universities, the university can further develop and expand the indicators formulated for measuring its environmental performance within its EMS according to MSZ EN ISO 14001.

After thorough preparation for participation in the system (establishing data collection procedures and collecting data related to the "UI GreenMetric World University Rankings" indicators), the University of Sopron first measured itself in 2020 and became involved in the international ranking system.

This prestigious world ranking was established in 2010 to measure the efforts made for the sustainability of university campuses. The initiative, which started with 95 universities from 35 countries around the world at the time, included 780 institutions by 2019, while by 2021, it encompassed 956 of the greenest universities from 80 countries.

"This shows that UI GreenMetric is internationally recognized as the world's first and only university ranking on sustainability." (UI GreenMetric Guideline, 2019)

The UI GreenMetric indicators make "green performance" objectively measurable, which provides an excellent basis for targeted sustainability-related developments and the evaluation of progress year over year. We had to perform analyses concerning the institution's green areas, built and open spaces, energy-efficient equipment, building stock, renewable energy sources, energy consumption, greenhouse gas emissions, measures taken to reduce them, waste management and recycling principles, selective waste collection, water protection program, specific features related to zero-emission vehicles, sustainability-related courses, self-governing student organizations, and scientific publications.

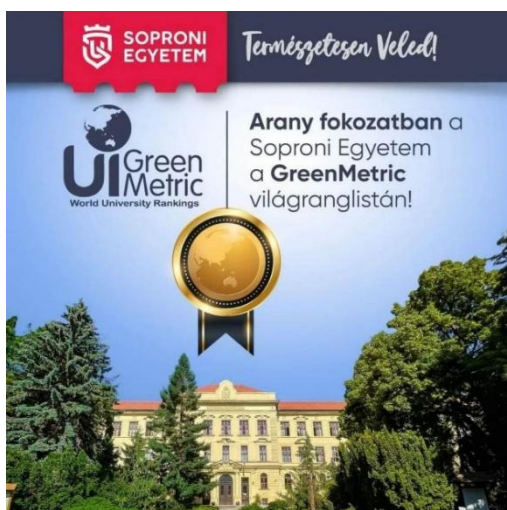
The assessment highlighted the strengths and the areas to be further developed that continue to lead the university toward environmental excellence. In 2021, our institution, with its long

history, achieved an outstanding score in the sustainability-related evaluation areas of "Education and Research," "Water Management," and "Setting and Infrastructure." This success is thanks to our large number of courses and scientific research related to sustainability, our programs for biodiversity, water protection, and gene conservation, and the university's magnificent green environmental assets. Our focal areas for development include the modernization of the old building stock according to green guidelines and making waste management even more efficient.

The key UI GreenMetric sustainability indicators for measuring educational activities and scientific work are the following:

- Percentage of sustainability courses out of the total number of courses
- Percentage of research funding for sustainability compared to total research funding
- Number of scientific publications related to sustainability
- Number of events related to sustainability
- Number of student organizations related to sustainability
- The university's annual budget is allocated for sustainability goals as a percentage of the total university budget

The University of Sopron was ranked as the 3rd greenest university in Hungary and the 110th greenest in the world in the authoritative UI GreenMetric global ranking of environmental and sustainability efforts in 2024, improving its previous year's result among the best by another 20 places!



With the **8,430 points** achieved, it reached the **global TOP 10%** in the international ranking, which now includes more than 1,477 institutions from over 95 countries, confirming its **Gold Cluster** classification (Gold cluster: 7,501–10,000 points). Only **21%** of the world's universities were placed in this highest category.

The excellent rankings achieved by the University of Sopron in the UI GreenMetric global ranking were also contributed to by the unique knowledge base with which the university can transfer knowledge on the knowledge-intensive management and sustained use of the forest ecosystem and the timber produced within it, which is the foundation of a sustainable forest-

based economy. Besides natural science, climate adaptation, and technical research, the university also approaches the complex issues of sustainability from the perspectives of creative industries, environmental education, pedagogy, as well as economic and social sciences.

The **2024 UI GreenMetric assessment** focused on the university's efforts aligned with the **UN Sustainable Development Goals (SDGs)**, based on which the implementation of sustainability programs and policies was examined.

Among the **13 participating Hungarian universities**, the University of Sopron achieved the **3rd place** in the overall ranking. In terms of key areas, it was ranked **1st in Hungary** in the assessment dimensions of “**Transportation**” and “**Water Management**”, **2nd in Hungary** in the field of “**Energy and Climate Change**”, and **4th in Hungary** in the key area of “**Education and Research**” related to sustainability, as well as in the “**Waste Management**” and “**Setting and Infrastructure**” dimensions.

The University of Sopron continued to improve in the **European TOP 50 list** as well, ranking **36th in Europe** among 340 participating European universities in 2024.

The GreenMetric World University Ranking developed by *Universitas Indonesia (UI)* was launched in 2010 to measure the efforts of university campuses towards sustainability. It is now recognized on every continent; last year's global participation increased by 20% by 2024, now involving 1,477 participants from more than 95 countries. The world number one in this year's ranking is the Dutch “*Wageningen University & Research*,” the second-place winner is the British “*Nottingham Trent University*,” and the third is the Dutch “*University of Groningen*.”

In this year's survey, which covers 89 data points, the categorization of the evaluation criteria system became much stricter compared to previous years. The assessment dimensions had to cover the level of Information and Communication Technology (ICT) application. The presentation of the universities' sustainability organization and the number of people with 'green qualifications' ('green jobs') were also included. The development of waste streams had to be quantified. We had to conduct analyses regarding the institution's green spaces, built and open areas, energy-saving devices, building stock, renewable energy sources, energy consumption, greenhouse gas emissions, measures taken to reduce its carbon footprint, waste management and recycling principles, selective waste collection, water protection program, specifics regarding zero-emission vehicles, sustainability-related courses, proactive student organizations, and scientific publications.

The University of Sopron achieved its outstanding bonus points in the sub-areas of “*Energy and Climate Change*” and “*Setting and Infrastructure*,” thanks to targeted developments.

The **University of Sopron, as the 110th placed university globally**, improved by a further **20 places** this year and reinforced its **3rd position on the Hungarian list** out of 13 domestic entrants. Among Hungarian universities in the world ranking are the University of Pécs (25th), the University of Szeged (75th), Semmelweis University (357th), the University of Debrecen (394th), Eötvös Loránd University (425th), the University of Pannonia (451st), Corvinus University of Budapest (475th), Eszterházy Károly Catholic University (805th), Budapest

Business School (929th), Budapest Metropolitan University (1278th), the University of Miskolc (1366th), and the University of Nyíregyháza (1443rd).

The ranking in the world list greatly depends on the current number and performance of the participants; therefore, it is worthwhile to review the time series evaluation of the total scores and examine the scores of the individual sub-areas separately to determine progress. **The University of Sopron—compared to the 2020 base year—managed to demonstrate further development in all 6 main performance dimensions for the 2024 cycle in the UI GreenMetric survey, despite the tightening of the category system:**

- We achieved the best results in the *"Transportation"* sub-area, where we made significant improvement (1700 points, performance: 94.44%, improvement: +50.00%), securing the 1st place in Hungary.
- This is followed by *"Water Management"* (900 points, performance: 90.00%, improvement: +55.00%), where we are ranked 1st among domestic universities.
- *"Education and Research"* is also among our best performance dimensions (performance: 88.89%, improvement: +26.39%), where we achieved the 4th place at the national level in terms of the score achieved (1600 points).
- We also achieved significant improvement in the *"Energy and Climate Change"* sub-area (1700 points, performance: 80.95%, improvement: +46.43%), ranking 2nd among domestic universities.
- The 1425 points scored in the *"Waste Management"* assessment sub-area (performance: 79.17%, improvement: +33.34%) translate to the 4th place in Hungary for us.
- The Botanical Garden and Arboreta of the University of Sopron continue to provide a consistently high score in the *"Setting and Infrastructure"* dimension (1105 points, 4th place in Hungary, performance: 73.67%, improvement: +23.67%).

The result of **8430 points** in the 2024 survey represents an achieved performance of **84.3%** across the entire evaluation system for the **University of Sopron**. Compared to the 2020 base year, this constitutes an **improvement of 38.55%**, which means an advancement of **480 places** from the 2020 ranking.

Prof. Dr. Attila Fábián, Rector of the University of Sopron, stated: *"With its activities and performance related to sustainability, our university is building itself and the future. Our goal is to establish a university operating culture that prioritizes sustainability, and this good practice can spread to other sectors and wider society, not just higher education. As Hungary's First Carbon-Positive 'Green University,' stemming from this approach, we are fully committed to all initiatives that serve economic, social, or environmental sustainability. This attitude is also conveyed by the university's motto, 'Naturally with You!' (Természetesen Veled!), which focuses on the individual and nature."*

The **UI GreenMetric** survey reflects the unified and joint efforts of the four faculties, scientific institutes, and the entire organization of the **University of Sopron** along the **"Green University"** concept, which is also presented on its website: <https://greenuniversity.uni-sopron.hu/kezdolap>

The UI GreenMetric website: <http://greenmetric.ui.ac.id/>

5 The Applied Sustainability Model of the University of Sopron

The University of Sopron announced its trademark-protected "Sound of Earth University of Sopron" Sustainability Implementation Program in 2024. The coherent, system-oriented planning, introduction, maintenance, and operation of the work packages, activity areas, and system elements collected within this program guarantee the continuous development of performance related to sustainability. This is our "Sustainability Code."

We all work together on the elements of the "Sound of Earth" program. We do this when, as citizens of the University of Sopron, we live, organize, research, commute, and teach, while considering the principles of sustainability...

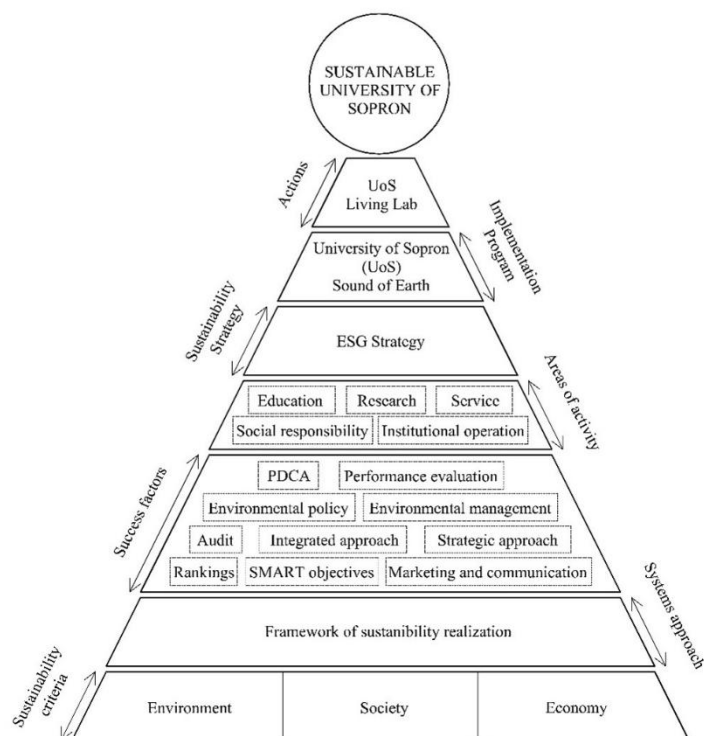


Get to know the details of this program too!

The "Sound of Earth" is also a philosophy: The Sound of Earth finds understanding ears through the efforts of the University of Sopron. The work, research, and measures taking place at the institution form an organic whole for the practical implementation and development of sustainability. The goals are the development of green infrastructure and the shaping of social attitudes. Its milestones include net-zero climate neutrality, climate- and nature-positivity, and the communication of the message of environmental awareness.

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

The SOE–SUM takes shape in a pyramid model, with the aim of creating a university operating culture that prioritizes sustainability, which can spread to other sectors and wider society.



The Sustainable University Model of the University of Sopron (SUM-UoS). Pyramid model.

Based on the Sustainability Strategy, the University of Sopron announced its trademark-protected “Sound of Earth University of Sopron” Implementation Program (SOE–IP). The implementation program, which features a series of measures (thematic work packages), is aligned with the UN Sustainable Development Goals (SDGs) and provides a framework for the complex practical application and continuous development of the institutional sustainability culture.

A key element of the SOE-IP is the “University as a Living Lab Concept” approach, which serves as a framework containing the work packages and measures. The Living Lab concept includes: the multifunctional use of the green and built university environment in the service of sustainability efforts; students, instructors, mentors, researchers, and employees can develop their ideas in a real-world environment and examine the implementation through feedback loops. The balance between theories and practical implementation is primary during the Measures. The individual SOE–IP work packages are Partnership, Planet, People, Prosperity, Peace.

Downloadable publication:

- Fábíán A., Lakatos F., Elekné F. V., Őrsi Á., Náhlik A. és Polgár A. (2024): A Soproni Egyetem alkalmazott fenntarthatósági modellje. *Erdészettudományi Közlemények*, 14(1): 5-6. DOI: [10.17164/EK.2024.03](https://doi.org/10.17164/EK.2024.03)
- URL: <http://www.erdtudkoz.hu/cikk.php?doi=2024.03&ln=hu>

6 Agenda 2030

The Role of Universities in Implementing the UN 2030 Agenda

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-focused curricula, interdisciplinary research, responsible institutional operations, and social partnerships, universities become living laboratories for sustainable solutions. Within this framework, higher education institutions do not merely transmit knowledge but set an example in sustainable operations, develop critical thinking, and prepare future generations to actively contribute to achieving global sustainability goals.

Sustainability and environmental awareness are at the core of the mission of the University of Sopron; thus 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, the university strives to promote the realization of the principles of environmental, social, and economic sustainability, thereby becoming an active participant in both domestic and international sustainability processes.

Through the “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 composer competition organized jointly with the Ferenc Liszt Academy of Music—link environmental awareness and creation, delivering the message of sustainability to a wider audience.

Furthermore, the University of Sopron integrates sustainability principles into its educational programs and research activities, supporting goals such as Quality Education (SDG 4), Affordable and Clean Energy (SDG 7), Responsible Consumption and Production (SDG 12), and Climate Action (SDG 13). The institution's forestry, environmental science, engineering, economics, pedagogy, and arts training all contribute to students becoming responsible, conscious professionals for a sustainable future.

Learn more below about which activities the University of Sopron contributes to the UN 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs).

SDG 1

Over 10% of the world's population cannot meet basic needs, such as access to water, food, healthcare, education, and sanitation. The University of Sopron supports the provision of a balanced background for our students through scholarship programs.

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

SDG 2

Sustainable agriculture, forestry, and fishing can provide sufficient and nutritious food for everyone. The University of Sopron supports sustainable agricultural efforts through education and helps those in need by placing wall-mounted food boxes.

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

SDG 3

Ensuring health at all ages is essential for sustainable development. The University of Sopron helps prevent physical and mental health problems through its programs and organizations.

Study and Sports at the University of Sopron with the Support of SMAFC

The University of Sopron and SMAFC (Sopron University Athletic and Football Club) closely cooperate in linking education and sports. SMAFC, founded in 1860 and chaired by József Horváth, currently offers competitive sports and recreational opportunities with 26 sections to university citizens, free of charge to student club members. The goal is success in sports, particularly in the MEFOB (Hungarian University and College Sport Federation Championship) competitions. As part of the University of Sopron's sports development strategy, compulsory physical education classes have been introduced. To complete the subject, students must engage in physical training a minimum of 11 times (90 minutes/session) during the study period. The goal is also to support the dual career path, meaning the harmonization of studies and a sports career.



Student Support Service: For the Mental Health of University of Sopron Students

The Student Support Service (HTSZ) of the University of Sopron—with the motto: "If You Speak Up" ("*Ha Te Szólsz*")—plays a key role in supporting students' mental health and social well-being.

The service provides free, individual psychological and mental health counselling year-round to overcome academic, personal, and relationship problems, as well as assistance with stress management. The HTSZ is operated by professionals and trained peer helpers who form a

bridge between students and professional assistance. Services are available in dedicated offices at each faculty, as well as online or over the phone, ensuring every student can access support.



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

SDG 4

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

Meaningful Professional Week at the University of Sopron

The University of Sopron held its annual Professional Week again in 2024, focusing on knowledge sharing outside the classroom, practical experience gathering, and community building. Students of the Benedek Elek Faculty of Pedagogy participated in cultural development and practical programs (such as a monodrama and the creation of a green area). Meanwhile, the Faculty of Wood Engineering and Creative Industries saw intensive professional work, where students attended lectures and went on site visits to major companies (like IKEA Industry Sopron and Herend Porcelain Manufactory). Design students explored manufacturing technologies, while business informatics students practiced their programming and project management skills in a Hackathon competition. The Faculty of Forestry hosted a job fair, in addition to numerous field practices and outdoor training sessions, complemented by topics such as the integration of artificial intelligence into education. The enthusiastic participation of the students confirmed that university life is enriched by diverse programs that extend beyond the classrooms.



Interactive and Student-Centred Education – New Training for University of Sopron Instructors

The University of Sopron has launched the latest course of its "Training the Trainers" program, titled "Interactive and Student-Centred Education: Methods and Technologies," for its instructors and staff. Compiled based on an internal needs assessment, the workshop-style program aims to enrich the educational toolkit and practice, and to transfer immediately applicable knowledge. The two-day training helps students become active, independent learners through methods such as targeted questioning techniques, debate leadership methods, and the design of playful elements. A key topic is the use of artificial intelligence (AI) in education, providing guidance on integrating large language models (e.g., ChatGPT) into pedagogical practice, with the goal of developing skills. The practice-oriented course concludes with an adult education certificate.



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

SDG 5

Achieving gender equality and strengthening the social role of women is vital. The University of Sopron ensures equal access to education for women by making all services fully and equally

available. It does not discriminate against women when they apply for or fill individual positions.

SMAFC and SC Sopron Launch a Women's Football Team Under the Name 'University of Sopron'

SMAFC, the sports club of the University of Sopron, and SC Sopron have signed a strategic cooperation agreement to launch a new women's football team. The team will take to the field this autumn under the name 'University of Sopron' in the NB II league (National Championship II). The parties' goal with this cooperation was successfully preceded by the e-sports section—is to strengthen the career model for athletes, making it possible for young people not to have to choose between competitive sports and further education. According to Rector Dr. Attila Fábián, Sopron has all the necessary prerequisites to develop into a sports tourism centre and to expand its sports science programs in the future (e.g., therapeutic physical education specialisation).



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

SDG 6

Water supports agriculture and aquaculture. Clean water is vital for both supply and hygiene. The University of Sopron ensures access to water and hygienically safe drinking water. It also provides knowledge for conscious water management and responsible water resource management.

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

SDG 7

Energy is crucial to human life. It must be accessible, affordable, and clean for everyone. As the first carbon-positive university in Hungary, the University of Sopron supports clean energy

production through its educational and research activities. It creates sustainable energy consumption by operating small solar power plants and biomass boilers.

CS4Region Project Opening Event

The CS4Region project, part of the Interreg Austria-Hungary programme, held its opening event in November 2024 at the FH Burgenland campus in Pinkafeld. The main goal of the project is to increase the border region's contribution to climate neutrality by investigating the possibilities of utilizing regionally produced biochar. The joint project between Forschung Burgenland GmbH and the University of Sopron (Faculty of Forestry) involves 8 strategic partners, including forestry companies and national parks. During the three-year programme, the participants will comprehensively examine the potential of natural carbon sinks, assess underutilized areas, and, based on these findings, develop modified cultivation methods, plant species, and land use practices. The use of biochar is intended to improve soil stability and the water and nutrient supply of plants. The project will offer strategic recommendations to regional stakeholders regarding climate protection and adaptation to climate change.



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

SDG 8

Decent work performed under safe conditions is essential for sustainable economic growth. The University of Sopron creates opportunities for its students to gain practical experience by engaging in specialized activities with a contracted company throughout their dual education, thus ensuring fair compensation.

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

SDG 9

Innovative infrastructure investments are crucial for achieving sustainability. The University of Sopron supports innovation through its connections with industry. It strives for nature-friendly,

sustainable infrastructure solutions, as demonstrated in its methodological campaign related to e-waste management, which has become a world leader.

Innovation and Cooperation: Wood Industry Forum at the University of Sopron

The Wood Engineering and Creative Industries Faculty of the University of Sopron (the country's unique higher education and research center for the wood industry) organized a Wood Industry Sectoral Consultation Forum on May 21st. The forum's goal was to establish a tradition-creating, professional consultation news channel for all stakeholders in the wood industry (including governmental, professional, educational, and research organizations, vocational training centres, and dual training partners). Prof. Dr. Attila Fábián, Rector, emphasized that the university is committed to transforming innovation into value-creating products. Péter Zambó, State Secretary, announced the launch of a plan to organize a Hungarian forest-based economic cluster to support research and development. The speakers highlighted the need for the industrial utilisation of domestic, overstocked hardwood materials, particularly through construction industry innovations (e.g., short-rod building structures, wood-based insulation materials). The University of Sopron is conducting research related to this area. The key to a successful sector is well-prepared professionals. Therefore, three new accredited professional training programmes were also presented, aimed at vertically harmonizing wood industry education.



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

SDG 10

Reducing inequalities between and among countries is vital. The University of Sopron handles this at the highest possible level. Its courses offer domestic and international students the opportunity to study at the university. It also promotes widespread knowledge dissemination through free public programs.

An Afternoon with our Erasmus and Stipendium Hungaricum Students

In March 2024, the University of Sopron invited its students to an international event, the aim of which was to meet the students participating in the Erasmus and Stipendium Hungaricum

programmes and to increase motivation for a semester abroad or an international internship. At the afternoon event, held at the LIGNEUM Event Hall, participants could test their language skills in an international environment. The programme included, among other things, a welcome address by the Vice-Rector for Research and International Affairs, a presentation on Hungarian Carnival traditions, a communal singing of the folk song starting with "Tavaszi szél..." ("Spring wind..."), as well as presentations on countries such as Kenya, Pakistan, and Rwanda, delivered by the University of Sopron's international students. The Carnival atmosphere was completed by a chocolate reward for those arriving in costume or folk dress, and the afternoon concluded with a group photo, socializing, and a tour of the LIGNEUM's attractions.



Hungarian-African Rectors' Conference with the Participation of the University of Sopron

The 1st Hungarian-African Rectors' Conference was held in Budapest on October 16, 2024, co-organized by the University of Sopron, the University of Miskolc, and the Hungarian Rectors' Conference, as part of the "Hungary - Africa Week" event series. The meeting, attended by nearly 40 Hungarian and African higher education institutions, aimed to develop cooperation and bilateral relations. The main opportunities for connection were identified as joint degree programmes, mobility schemes, and joint research and publications. Prof. Dr. Ferenc Lakatos, Vice-Rector, representing the University of Sopron, emphasized the importance of deepening institutional and personal relations, as well as supporting female researchers, in his closing speech.



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 have signed a cooperation agreement called “Green City - Green University.” Through its services, education, research, third mission, and cultural activities, the university helps raise social awareness and implements innovative sustainability solutions.

More Bicycles Added to the University of Sopron’s Bike Fleet

Following last year's large-scale project, the University of Sopron has further expanded its bicycle fleet with more two-wheelers. The bikes help with daily administration and commuting, thereby strengthening the institution's environmentally conscious mobility. Cycling not only reduces carbon dioxide emissions but also positively affects the health of the staff and provides a boost to starting the workday.



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

SDG 12

Sustainable consumption habits and production methods are vital for avoiding overconsumption and excessive waste generation. The University of Sopron strives to use resources efficiently, deter and minimize waste generation, and implement efficient selective waste collection.

Development of the Selective Waste Collection System

The University of Sopron, as a Green University, significantly developed its selective waste collection system in 2024 to effectively implement the 3R (Reduce, Reuse, Recycle) programme. As part of the development, marked central hallway collection bins (for plastic, paper, communal waste), foot-pedal operated bins were placed in the buildings, bio-waste collectors were placed in the dormitories, and outdoor selective bins were placed in the botanical garden. In addition, new outdoor containers also arrived at the campuses. The collection guide was prepared in consultation with the local public service provider (STKH Kft.), and all citizens of the university are requested to use the system efficiently.



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

SDG 13

Urgent action is needed to combat climate change and its impacts. As the first carbon-positive university in Hungary, the University of Sopron leads in reducing climate change impacts. Many university research projects focus on resilience and adaptability related to climate change, and several forestry and wood industry projects are joining this kind of international initiative.

Monitoring Domestic Environmental Changes and Security Challenges with the Development of the University of Sopron

The large-scale "BorderEye" project, developed by experts at the University of Sopron, uses drone technology and proprietary software to monitor environmental changes and security

challenges. Through drones and sensors, the system is capable of continuously and highly sensitively observing border sections affected by illegal migration, disaster-stricken regions, or forested areas burdened by illegal waste dumping. The development (supported by the Thematic Excellence Programme) provides assistance in, among other things, searching for missing persons, assessing windbreak damage and fire damage. The software automatically recognizes critical objects and surface changes, and initiates alerts. With the help of this methodology, representatives of forestry and agriculture can also manage and defend more efficiently. BorderEye represents a new milestone in improving the efficiency of domestic environmental monitoring and border surveillance.



ClimaPannónia: Nature Against Climate Change – Forward-Looking Solutions with the University of Sopron

The University of Sopron – alongside MATE, the University of Pannonia, and the National Innovation Agency Zrt. – is participating in the nearly €7 million ClimaPannónia project, funded by the Horizon Europe programme. The project involves collaboration among 21 institutions from 8 European countries. The initiative aims to increase the climate resilience of the agricultural sector in the Pannon bio-geo region using nature-based innovative solutions. With the University of Sopron playing a leading role, four regional roadmaps will be developed in key areas such as drought-damage reducing water management, agroforestry, and organic farming. The best practices will be tested and validated in the region over three years. Another important element of the project is the development of training materials and the education of local farmers to facilitate the adoption of climate-adaptive technologies, paving the way for a more sustainable agriculture.

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

SDG 14

Oceans, related rivers, and watersheds comprise the bulk of our ecosystem, making their preservation and sustainable use crucial. 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 precious resource – we must pass it on to future generations. The University of Sopron plays a significant role in sustainable forest management (due to its unique environmental and technical training), combating desertification, stopping and reversing soil degradation, and preserving biodiversity. In connection with this, the university implemented the Loyalty Forest project.

Another Community Litter Pickup by University of Sopron Students for Cleaner Forests

Students from two Faculties of the University of Sopron, the Faculty of Forestry and the Benedek Elek Faculty of Pedagogy, collaborated with the team from the Teaching Forest Enterprise to participate in the "Spring Cleaning" initiative. During the action, on April 9, 2024, they cleaned up forests around Iván and Röjtökmuzsaj, setting an example for the importance of environmental awareness and sustainable living. The community activity not only eliminated waste but also contributed to achieving the UN Sustainable Development Goals (SDG 15 – Life on Land, SDG 11 – Sustainable Cities and Communities). The initiative was followed by Volunteer Day on Friday, April 19, to mark Earth Day, where high school students from Sopron were invited to assist with spring gardening tasks at the Botanical Garden.



Record Number of 1,423 Trees Added to the Forest of Loyalty Thanks to University of Sopron Students

The Forest of Loyalty (Hűségerdő), a joint tree-planting programme of the University of Sopron and the Teaching Forest Enterprise (TAEG Zrt.), expanded this year with a record number of 1,423 trees, which exactly matches the number of new students enrolled in September 2024. The initiative's goal is for every student to leave their mark on the university. Students from the Faculty of Forestry, the Faculty of Wood Engineering and Creative Industries, the Benedek Elek Faculty of Pedagogy, and the Sándor Lámfalussy Faculty of Economics participated in the planting, putting down sessile oak, red oak, and ash trees. Prof. Dr. Ferenc Lakatos, Vice-Rector, emphasized that the tree planting contributes to the University of Sopron's ability to

operate as Hungary's first carbon-positive university, as the carbon dioxide sequestered by the trees offsets the emissions from the woodchip-based heating provided in cooperation with TAEG Zrt. According to Dr. Enikő Pásztor, Vice-Rector for Education, the ceremony educates students about respect for nature and loyalty to the university.



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

SDG 16

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

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

SDG 17

Without connections between individual goals and global partnerships, sustainability is unachievable. The University of Sopron collaborates with domestic and foreign universities, surrounding governmental bodies and municipalities, companies, and social organizations to achieve its sustainability goals.

"Green City – Green University" Cooperation Agreement between the City of Sopron and the University of Sopron

The City of Sopron (a city with county rights) and the University of Sopron – reinforcing their decades-long cooperation – have concluded a partnership agreement titled "Green City – Green University", which was forged in the spirit of environmental, economic, and social sustainability and responsibility. The signing of the agreement was made particularly timely by the university's successful performance in the UI GreenMetric World University Rankings for environmental and sustainability performance. The parties aim to achieve common goals along the lines of education, research, and third mission activities, including exploring joint

application opportunities and implementing green developments for climate-conscious management, to make Sopron a safer, more livable city. Through this cooperation, the University of Sopron wishes to transfer its expertise to the city and the younger generations.



Cooperation between the University of Sopron and the National Federation of Private Forest Owners and Managers

The University of Sopron and the National Federation of Private Forest Owners and Managers (MEGOSZ) signed a cooperation agreement during the jubilee celebration held at the Parliament building, with the primary goal of supporting private forest management and developing professional training. Under the agreement, the parties will coordinate their research and development activities, jointly apply for domestic and international grants, and open new avenues for the further training of private forest owners and specialized managers.



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

7 The Evolution of Environmental Performance at the University of Sopron considering the Green University Concept

Below you can learn about the measurable results of the University of Sopron through our environmental policy, objectives, and targets. We present the evolution of our environmental performance based on the respective survey years, across essential criteria within the dimensions of "*Setting, Infrastructure, and Biodiversity*", "*Material and Energy Consumption*", "*Waste Management*", "*Water Management*", "*Emissions and Climate Change*", "*Transportation*" and "*Education and Research*".

7.1 Setting and Infrastructure, Biodiversity

Information related to the university's territory and infrastructure provides a general picture of the university's green environment. This indicator group also measures the extent to which the university meets the title of Green University. The goal is to provide as much space as possible for biologically active surfaces, for wooded and planted vegetation, to have a high proportion of open spaces versus built-up areas, and for our specific indicators to confirm the existence of a livable environment (UI GreenMetric Guideline, 2019).

Summary Evaluation:

The **University of Sopron (SOE)** is in the inner area of the dynamically developing, medium-urban city of Sopron, a county-seat city rich in historical monuments, in Győr-Moson-Sopron County, Western Transdanubia, Hungary. The city of Sopron is located near the western border of Hungary, at the foot of the Alps, 80 km from Vienna (Austria) and 220 km from Budapest (Hungary). The residents of the city are famous for their hospitality and their loyalty to their home. Its population is approximately 60,000.

The University of Sopron is an internationally significant higher education institution with four faculties (Benedek Elek Faculty of Pedagogy, Faculty of Forestry, Faculty of Wood Engineering and Creative Industries, Sándor Lámfalussy Faculty of Economics), playing a national and regional role, and is the intellectual, educational, and research center of the Western Hungarian region. Education and research at the university's faculties look back on centuries of tradition. The main campus and most of the educational buildings of the University of Sopron are in the wonderful University Botanical Garden, which serves educational, living plant collection, nature conservation, conservation biology, and recreational purposes.

The fifth main organizational unit, which is part of the university and primarily deals with research while also performing educational tasks, is the SOE Forest Research Institute. Its 5 Experimental Stations (Sopron, Sárvár, Budapest, Mátrafüred, Püspökladány) and 3 Arboreta (Sárvár, Kámon, and Püspökladány) are organically connected to the institution.

The ratio of our university's open spaces relative to the total university area falls into the highest qualification category globally (> 95%). It follows that the area covered by forest and woody vegetation also serving higher education purposes, as well as the size of open spaces per university citizen, is unique. The University Botanical Garden and the Arboreta support nature conservation programs and gene conservation goals that are rated as "fully realized" according to the qualification.

The entire area of the Botanical Garden (17 ha) is a nationally significant protected natural area, meaning all the woody and herbaceous plants, fungi, and animals found within it enjoy protection. According to the continuously updated database, there are 134 protected plant species in the garden, which constitute about one-fifth of Hungary's protected flora. These individuals serve not only education, outreach, and research but also bear important conservation biology significance. The Botanical Garden is also a recognized genetic *clone orchard*, containing approximately 2,800 registered mother plants, which represents a valuable gene reserve for the future.

The first trees of the Sárvár Arboretum were planted in 1802 over a total of 10 hectares. At the same time, some parts 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, which consists of 120-150-year-old specimens of 10 taxa.

The Kámon Arboretum in Szombathely is spread over 27 hectares, possessing 3,500 woody taxa, and features a significant number and distribution area of spring bulbous plants. The arboretum was founded by Dr. István Saághy in 1891-92. Its most important collection units are Rhododendrons and Azaleas (Rhododendron and Azalea sp.), magnolias (Magnolia), conifers, woody peonies (Paeonia), viburnums (Viburnum), and Hungarian-bred pine and deciduous varieties. Gene conservation is also underway, in addition to the 3,500 taxa, in the Scots pine and Austrian pine plantations and the East German (NDK) plantation.

The Püspökladány Arboretum can be fundamentally divided into three main parts in terms of its plant material and landscape, which are also distinctly separable geographically. The largest part is the enclosed forest area resulting from the salty soil afforestation experiments, which is now nearly one hundred years old. Experiments were established in these areas with the aim of applying different stands of varying tree species composition and cultivation technologies on different sites, involving about 35 tree species. The northern third of the Arboretum is highly mosaic-like due to the varying degrees of salinity in the soil. Mainly groves, tree groups, and forest belts alternate, recalling the characteristic former hard-wooded floodplain gallery forests of the Great Sárrét region, using varied tree species composition and different cultivation technologies. The southern area of the Arboretum started from the foundations of a gene reserve plantation begun nearly 100 years ago. Currently, we register more than 800 individuals of approximately 400 tree and shrub species, varieties, and cultivars. In recently established experiments, we are investigating nearly 2,000 additional tree and shrub species, varieties, and cultivars. Our fundamental task is to maintain this significant gene pool reserve.

Based on the above, the green environmental assets of the University of Sopron are unique and represent an outstanding level internationally.

Table 1.: Evolution of the Metrics/Indicators for Setting and Infrastructure, Biodiversity

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Number of University Buildings	Units serving educational purposes	18	33	++	n.r.
2.	Percentage of University Open Space Area Compared to Total University Area (%)	n.r.	87,18%	99,33%	++	[1] ≤ 1% [2] > 1 - 80% [3] > 80 - 90% [4] > 90 - 95% [5] > 95%
3.	Percentage of Total University Area Covered with Forest Compared to Total University Area (%)	Area covered with woody and forested vegetation (natural and/or planted biodiversity), owned by the university.	66,44%	79,85%	+	[1] ≤ 2% [2] > 2 - 9% [3] > 9 - 22% [4] > 22 - 35% [5] > 35%
4.	Percentage of Total University Area Covered with Planted Vegetation Compared to Total University Area (%)	Excluding woody vegetation. Including lawn, garden, green roof, indoor planting (green wall), vertical garden, for the purpose of providing any additional vegetation.	7,54%	17,74%	++	[1] ≤ 10% [2] > 10 - 20% [3] > 20 - 30% [4] > 30 - 40% [5] > 40%
5.	Percentage of Total University Permeable Surface Area, Excluding Forested and Planted Vegetation (%)	Percentage of permeable surfaces (e.g., gravel path, soil, grass, paving stone, synthetic turf, etc.) compared to the total	9,24%	1,23%	-	[1] ≤ 2% [2] > 1 - 10% [3] > 10 - 20% [4] > 20 - 30% [5] > 30%,

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
		area of university buildings.				
6.	Size of Open Spaces Divided by the Number of University Citizens (m ² /person) (active full-time and correspondence students, full-time teaching and administrative staff in the given year)	Size of university open spaces per capita. University citizens: active full-time and correspondence students, full-time teaching and administrative staff in the given year.	70,49 m ² /person	249,01 m ² /person	+	[1] ≤10 m ² /person [2] > 10 – 20 m ² /person [3] > 20 - 40 m ² /person [4] > 40 – 70 m ² /person [5] > 70 m²/person
7.	Percentage of the University's Annual Budget Allocated to Sustainability (here: Maintenance) Goals	Considering the average of the 3 years ending with the reporting period, including: infrastructure costs, equipment costs, related personnel costs.	1,96%	25,2%	+++	[1] ≤ 1% [2] > 1 - 5% [3] > 5 - 10% [4] > 10 - 15% [5] > 15%
8.	Protection, Conservation: Genetic Stock of Plants, Animals, Wildlife, and Agriculture Ensured in Medium- or Long-Term Protection Facilities	Protection, conservation: genetic stock of plants, animals, wildlife, and agriculture ensured in medium- or long-term protection facilities.	[5] (Nature) Protection Program Fully Implemented	[5] (Nature) Protection Program Fully Implemented	+	[1] (Nature) Protection Program Under Preparation [2] (Nature) Protection Program Implemented by 1-25% [3] (Nature) Protection Program Implemented by 25-50% [4] (Nature) Protection Program Implemented by 50-75% [5] (Nature) Protection Program Fully Implemented

7.2 Material and Energy Consumption, Efficiency

The indicators below express the amount of attention the university pays to issues related to energy consumption. Special attention is given to the use of energy-saving appliances, the realization and construction of automated/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 Evaluation:

The proportion of the University of Sopron's energy-saving appliances has shown improvement in recent years, with a larger share of energy-efficient equipment now in use. Currently, there are no buildings in the university's building stock with a smart building certification.

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 needs. The production of renewable energy from biomass and solar energy is significant. The use of biodiesel and geothermal energy can also be found in our institution. The ratio of renewable energy production to annual energy consumption is high at the university level (56.62%), which falls into the highest international qualification category (> 25%).

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

Table 2.: Evolution of the Metrics/Indicators for Material and Energy Consumption, Efficiency

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Use of Energy-Saving Appliances (%)	Including energy-saving appliances/lighting fixtures (e.g., air conditioning with inverter technology, LED bulbs, computer, etc.).	57,25%	88,64%	++	[1] < 1% [2] 1 - 25% [3] > 25 - 50% [4] > 50 - 75% [5] > 75%
2.	Extent of Smart Buildings on Campus (%)	The percentage of the total built-up floor area of smart buildings compared to the area of all university buildings.	0 %	7,43 %	+	[1] < 1% [2] 1 - 25% [3] > 25 - 50% [4] > 50 - 75% [5] > 75%
3.	Number of Renewable Energy Sources on Campus (pcs)	The availability of several renewable energy sources indicates that a university has made greater efforts to provide alternative energy.	1 pc	4 pcs	++	[1] 0 energy sources [2] 1 energy source [3] 2 energy sources [4] 3 energy sources [5] >3 energy sources
4.	Total Electricity Consumption of the University Divided by the Number of University Citizens (kWh/person)	Electricity consumption per capita. University citizens: active full-time and correspondence students, full-time teaching and administrative staff in the given year.	795 kWh/person	487,83 kWh/person	++	[1] ≥ 2424 kWh [2] < 2424 - 1535 kWh [3] < 1535 - 633 kWh [4] < 633 - 279 kWh [5] < 279 kWh

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
5.	Ratio of Renewable Energy Production to Annual Energy Consumption (%)	The ratio of renewable energy generation to total annual energy consumption.	25,53%	74,18 %	+	[1] ≤ 0.5% [2] > 0.5 - 1% [3] > 1 - 2% [4] > 2 - 25% [5] > 25%
6.	Elements of Green Building Implementation Reflected in All Construction and Renovation Guidelines (pcs)	Elements of green building implementation that are reflected in the university's construction and renovation guidelines (e.g., natural ventilation, natural light, building energy efficiency, and the existence of a green building, etc.).	0 pc	4 pcs	++	[1] None [2] 1 element [3] 2 elements [4] 3 elements [5] > 3 elements

7.3 Waste Management

Waste treatment and recycling activities are key factors in creating a sustainable environment. The activities of university employees and students on campus result in a lot of waste, so the university must consider several recycling and waste treatment programs, such as recycling, organic waste treatment, inorganic waste treatment, recycling of toxic/hazardous waste, wastewater treatment, and the application of policies aimed at reducing paper and plastic usage on campus (UI GreenMetric Guideline, 2019).

Summary Evaluation:

The University of Sopron has developed its waste recycling activities in recent times by increasing the efficiency of selective waste collection and applying additional segregated collection bins (qualification: extensive - *more than 75% of waste is recycled*). The university also maintains reduction programs in paper and plastic consumption, such as preferring double-sided printing, handling documents in electronic form, and avoiding printing whenever possible. Furthermore, for administrative processes, especially financial authorization procedures, we follow dematerialization policies and use online systems. Free water dispensing points are available to all university citizens on campus, prioritizing the use of reusable bottles, glass cups, mugs, etc., instead of single-use plastic and paper cups. The quality of tap drinking water is excellent in both Hungary and Sopron and is accessible to all university citizens. Electric hand dryers are also available in restrooms to replace the use of paper towels.

The treatment of the university's organic waste is almost entirely managed through local composting in the Botanical Garden and Arboreta. If the resulting green waste cannot be treated on the institution's premises due to space constraints, it is transported to the city's composting site for professional treatment.

Selective waste collection extends to the fractions of paper, plastic, glass, green waste, metal, hazardous waste (special waste from laboratories, batteries, accumulators, toners, paints, lacquers, etc.), and electronic waste. The collection and handover of hazardous waste to licensed hazardous waste treatment providers follow legal regulations. Paper-based documents that are ruined or designated for destruction are shredded and then placed in the university's selective waste collection bin. Further non-hazardous waste forms the mixed municipal waste of the university and constitutes the volume that is regularly transported by our public utility waste management partner. Our university strives to further increase the efficiency of selective waste collection as much as possible.

The wastewater generated at the university undergoes value-added treatment in partnership with the city's wastewater treatment plant (by creating biogas, electrical energy, and compost).

Table 3.: Evolution of the Metrics/Indicators for Waste Management

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Waste Recycling Program at the University	The current situation of university efforts to encourage employees and students to recycle waste.	[2] Partial (1-25% of waste is recycled)	[5] Extensive (> 75% of waste is recycled)	++	[1] Not Applicable. Please choose this answer if there is no such program at the university. [2] Partial (1-25% of waste is recycled) [3] Partial (> 25 - 50% of waste is recycled) [4] Partial (> 50 - 75% of waste is recycled) [5] Extensive (> 75% of waste is recycled)
2.	Paper and Plastic Consumption Reduction Program	The university's status in developing an official policy aimed at reducing paper and plastic consumption (e.g., double-sided printing, use of hand dryers, use of reusable bags, printing only, when necessary, free water dispensing point, policies on the dematerialization of administrative procedures, etc.)	2 pcs	24 pcs	++	[1] No such program. [2] 1 program [3] 2 programs [4] 3 programs [5] More than 10 programs
3.	Treatment of Organic Waste	The general treatment method for most of the organic waste (e.g., compost or other plant-	[2] Partial (1-25% is treated)	[5] Extensive (> 85% is treated)	++	[1]] Open landfill [2] Partial (1 - 35% is treated) [3] Partial (> 35 - 65% is treated)

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
		derived waste) at the university.				[4] Partial (> 65 -85% is treated) [5] Extensive (> 85% is treated)
4.	Inorganic Waste Treatment	The general treatment method for most of the inorganic waste (e.g., wastepaper, plastic, metal, etc.) at the university.	[3] Partial (> 25 - 50% is treated)	[5] Extensive (> 85% is treated)	++	[1]] Open burning [2] Partial (1 - 35% is treated) [3] Partial (> 35 - 65% is treated) [4] Partial (> 65 -85% is treated) [5] Extensive (> 85% is treated)
5.	Toxic Waste Treatment	The university's status on how it handles toxic/hazardous waste. The treatment process includes whether toxic/hazardous waste is treated separately, for example, by classification and handover to a third party or certified treatment companies.	[5] Extensive (> 75% is treated)	[5] Extensive (> 85% is treated)	0	[1]] Not treated [2] Partial (1 - 35% is treated) [3] Partial (> 35 - 65% is treated) [4] Partial (> 65 -85% is treated) [5] Extensive (> 85% is treated)
6.	Wastewater Disposal	The primary method of wastewater disposal at the university.	[2] Conventionally treated	[5] Technically treated for value enhancement	++	[1] Discharged without treatment [2] Conventionally treated [3] Technically treated for recycling purposes [4] Technically treated for reduced-value recycling opportunity [5] Technically treated for value enhancement

7.4 Water Management

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

Summary Evaluation:

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

A rainwater drainage valley has been established in the paving around most buildings of the University of Sopron. All buildings of the University of Sopron are connected to the city of Sopron's sewage network, which drains the rainwater generated in the area and ensures the collection of wastewaters for conventional treatment at the city's sewage plant. There is a drilled well in the Botanical Garden as a water extraction point. The water from this well feeds various facilities, such as the circular pool, the bird feeder, the aquatic plant collection, the reservoir in the upper part of the Botanical Garden, the marsh plant pool, and the water collector next to the area of habitat-indicator plants, primarily for irrigation purposes, via a gravity-fed open channel or, in some cases, a closed, pressurized pipeline system.

The rainwater flowing off the roof of the Lignum Visitor Center building of the University of Sopron (Botanical Garden) is collected in a tank. This is used when planting, and for irrigation during dry periods. With continuous summer use, it provides approximately 60-70 of pumped irrigation water. Rainwater is much more suitable for watering plants than tap water. As a result, a higher percentage of the plant installations in the Botanical Garden have survived recently.

A 7-7-meter foil-lined fire-water storage pond (approx. 50 m³) has been established next to the University of Sopron's Hidegvíz-völgy Research House (Sopron Hills, Hungary), approximately 10 meters in a south-eastern direction, which stores the rainwater running off the roof.

The Gyöngyös Stream runs through the middle of the Sárvár Arboretum. By damming it, we continuously supply water to a lake of about 1 hectare, significantly contributing to the adequate water supply of the Arboretum's habitat and the maintenance of wetlands.

The Kámon Arboretum is bordered by the Gyöngyös Stream, which is an artificially created canal. With the structures (sluices) on the stream, we can regulate the water level of the four lakes in the arboretum. The surface area of the lakes is approximately 1-1.5 hectares. Small channels ensure water movement between the lakes. The arboretum also contains two intermittent pools covered with water, as well as a waterfall and a flood-reduction ditch.

The area of the Farkassziget Püspökladány Arboretum was once crisscrossed by numerous streams. The natural beds of the former streams can still be found today, where precipitation collects and/or flows by gravity through certain parts of the Arboretum and into the lakes in the central area that serve for ecological water replenishment. The lakes ensure the storage of approximately 4000 m³ of water. Water leaves the lakes, which have natural riparian vegetation, by gravity into the Makkodi-főcsatorna, which borders the Arboretum on the eastern side. The

entire area of the Arboretum is protected, so we do not use chemicals during the cultivation of stands or in nursery work.

Several water-saving appliances are available at the University of Sopron, and new ones are continuously being installed (water-saving toilets, automatic taps). The ratio of treated water used relative to the university's total water sources (e.g., rainwater tank, groundwater, surface water, etc.) is high. Development plans include collecting rainwater running off buildings and paved surfaces in rainwater tanks for irrigation purposes (for external and indoor vegetation) and for greywater use, which would significantly reduce the use of mains water. The percentage of handwashing and hygiene facilities on campus is maximal during the pandemic.

Table 4.: Evolution of the Metrics/Indicators for Water Management

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Implementation of Water Protection Program	The status of the university's water conservation program (e.g., water management systems, rainwater collection systems, water tanks, charging well, etc.).	[3] Implementation in early stages, 1–25% application (e.g., measuring potential surface runoff)	[5] > 50% water conserved	+	[1] None. Please choose this if such a program is needed, but no steps have been taken yet. [2] Program in progress. (e.g., feasibility study and promotion) [3] Implementation in early stages, 1–25% application (e.g., measuring potential surface runoff) [4] > 25 - 50% water conserved [5] > 50% water conserved
2.	Implementation of Water Recycling Program	The university's status regarding the development of policies for water recycling programs (e.g., using recycled water for toilet flushing, car washing, irrigation systems, etc.).	[1] None	[5] > 50% of water is recycled	++	[1] None. Please choose this if such a program is needed, but no steps have been taken yet. [2] Program in progress. (e.g., feasibility study and promotion) [3] Implementation in early stages, 1–25% application (e.g., assessing wastewater quantity). [4] > 25 - 50% of water is recycled [5] > 50% of water is recycled
3.	Use of Water-Saving Appliances	Use of water-saving appliances (e.g., automatic hand-washing taps, ultra-low-flush toilets, etc.).	[1] None.	[5] > 50% use of water-saving appliances	+++	[1] None. Please choose this if water-saving appliances are needed, but no steps have been taken yet. [2] Program in progress. (e.g., feasibility study and promotion).

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
						[3] 1 - 25% use of water-saving appliances [4] > 25 - 50% use of water-saving appliances [5] > 50% use of water-saving appliances
4.	Treated Water Consumed (%)	The ratio of treated water used compared to all the university's water sources (e.g., rainwater tank, groundwater, surface water, etc.).	98,33%	98,36%	0	[1] None. [2] 1 - 25% treated water consumption [3] > 25 - 50% treated water consumption [4] > 50 - 75% treated water consumption [5] > 75% treated water consumption

7.5 Transportation

Transportation methods play an important role in terms of universities' carbon dioxide emissions and pollutant emissions. The goal of the transportation policy is to support the use of university buses and bicycles through the reduction of other motor vehicle traffic to achieve a more livable and healthier environment. Policies regarding pedestrians encourage students and university employees to travel between university buildings on foot and refrain from using their own motor vehicles. The use of environmentally friendly public transport reduces the university's carbon footprint (UI GreenMetric Guideline, 2019).

Summary Evaluation:

The total number of motor vehicles divided by the number of university citizens at the University of Sopron shows a low value (0.11), which is very favorable from an environmental perspective. The relatively short distance between university campuses allows for walking and cycling, and public transport is also available. The university aids (public) transport for employees by providing bicycles free of charge and subsidizing transit passes, which reduces the use of private cars for commuting. Zero-emission vehicles are provided by the university for employees in certain cases and are free to use.

The use of bicycles by students and employees has a long tradition at our institution, which is well indicated by the favorable number of zero-emission vehicles per capita on campus.

Motor vehicle access to the University of Sopron area is only permitted with authorization. Entry permits are checked by security staff at the main campus entrance. These permits are issued in a limited number based on central evaluation. A license plate recognition system enables parking for employees and students, which has significantly reduced the number of cars parking on university premises.

The paving of roads suitable for motor vehicle traffic and the sidewalks between buildings are sometimes different at the University of Sopron, with this paving separating pedestrian traffic from motor vehicle traffic. The Botanical Garden roads on the main campus are only usable by pedestrians and, with restrictions, by cyclists, like our Arboreta. For pedestrian sidewalks on the main campus, a tactile paving strip for the visually impaired has been installed or a white-striped paint has been applied for those with low vision. Barrier-free solutions have also been implemented at the Main Building, Dormitory, Ligneum Visitor Center, and most buildings to facilitate the movement of people with disabilities. Public lighting is provided for the main pedestrian routes and sidewalks.

Table 5.: Evolution of the Metrics/Indicators for Transportation

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Total Number of Motor Vehicles Divided by the Number of University Citizens	Number of motor vehicles (cars and motorcycles) per university citizen on campus.	0,026	0,038	+	[1] ≥ 1 [2] < 1 - 0.5 [3] < 0.5 - 0.125 [4] < 0.125 - 0.045 [5] < 0.045
2.	Shuttle Services	The current conditions of the shuttle service provided for on-campus travel, whether the travel is free or fee-based, and whether it is operated by the university or an external organization.	[2] Shuttle service provided (by the university or an external party), which is regular but not free of charge.	[5] The university provides a shuttle service that is regular and operates with zero-emission technology. Or, the shuttle service is not feasible (not applicable).	++	[1] Shuttle service is provided, but not by the university. [2] Shuttle service provided (by the university or an external party), which is regular but not free of charge [3] Shuttle service provided (by the university or an external party) and the university covers a portion of the costs. [4] Shuttle service provided by the university, which is regular and free of charge. [5] The university provides a shuttle service that is regular and operates with zero-emission technology. Or, the shuttle service is not feasible (not applicable).
3.	Zero-Emission Vehicle (ZEV) Policy at the University	Support for the use of Zero-Emission Vehicles	[3] Zero-emission vehicles are	[5] Zero-emission vehicles are provided	++	[1] Such vehicles are not available

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
		(e.g., bicycles, scooters, electric cars, etc.) for transportation on campus.	available but not provided by the university	by the university and are free of charge		[2] Use of zero-emission vehicles is not feasible or practical [3] Zero-emission vehicles are available but not provided by the university [4] Zero-emission vehicles are provided by the university but are subject to a fee <u>[5] Zero-emission vehicles are provided by the university and are free of charge</u>
4.	Number of Zero-Emission Vehicles (ZEV) used at the University Divided by the Number of University Citizens	Number of zero-emission vehicles per university citizen on campus.	0,009	0,041	+	[1] ≤ 0.002 [2] $> 0.002 \leq 0.004$ [3] $> 0.004 \leq 0.008$ [4] $> 0.008 \leq 0.02$ <u>[5] > 0.02</u>
5.	Ratio of University Parking Area to Total University Area (%)		1,25%	0,21%	+	[1] $> 11\%$ [2] $< 11 - 7\%$ [3] $< 7 - 4\%$ [4] $< 4 - 1\%$ <u>[5] $< 1\%$</u>

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
6.	Transportation Program to Restrict or Reduce University Parking area in the last 3 years	The status of the university's transportation program over the average of the 3 years ending with the reporting period, which aims to restrict or reduce university parking space.	[1] Such a program is not applicable	[5] The program resulted in a decrease in parking areas higher than 30% or parking regulations have been tightened.	++	[1] Such a program is not applicable. [2] Program is in progress (e.g., feasibility study and promotion). [3] The program resulted in a decrease in parking areas lower than 10%. [4] The program resulted in a decrease in parking areas lower than 10-30%. [5] The program resulted in a decrease in parking areas higher than 30% or parking regulations have been tightened.
7.	Number of Traffic Restriction and Transportation Initiatives to Reduce Private Motor Vehicle use on Campus	The university's current traffic restriction initiatives to limit or reduce the number of private motor vehicles on campus (e.g., carpooling, high parking fees, metro/tram/bus service, bike sharing, fair-fare subscription, etc.).	1 pc	> 3 initiatives	++	[1] No such initiative [2] 1 initiative [3] 2 initiatives [4] 3 initiatives [5] > 3 initiatives

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
8.	Pedestrian Sidewalk Policy at the University	Support for the use of pedestrian sidewalks on campus.	[2] There are pedestrian sidewalks	[5] There are pedestrian sidewalks, which are rated as safe and user-friendly, and are also barrier-free in some locations	++	[1] No pedestrian sidewalks [2] There are pedestrian sidewalks [3] There are pedestrian sidewalks, and they are rated as safe [4] There are pedestrian sidewalks, rated as safe and user-friendly <u>[5] There are pedestrian sidewalks, which are rated as safe and user-friendly, and are also barrier-free in some locations</u>

7.6 Emissions and Climate Changes

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

Summary Evaluation:

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 to reduce greenhouse gas emissions in 3 relevant areas:

- Scope 1: Instead of fossil-based energy production, it partly favors biomass firing, and it reduces the emissions from the internal combustion engines of university vehicles by using bicycles and providing an e-car alternative.
- Scope 2: It offsets the indirect greenhouse gas emissions resulting from the production of electricity purchased and used by the institution by relying on renewable energy sources.
- Scope 3: It enables the reduction of indirect greenhouse gas emissions from the regular commuting of students and employees to and from the institutions by supporting public transportation for employees and promoting the use of zero-emission vehicles for everyone. Cycling for students and employees has a long tradition at our university.

Table 6.: Evolution of the Metrics/Indicators for Emissions and Climate Change

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Total Carbon Footprint Divided by the Number of University Citizens (t/person)	The amount of carbon footprint per capita on campus.	0,94 t/person	0,15 t/person	+	[1] ≥ 2.05 t [2] < 2.05 - 1.11 t [3] < 1.11 - 0.42 t [4] < 0.42 - 0.10 t [5] < 0.10 t
2.	Greenhouse Gas Emission Reduction Program	The university's status in providing programs aimed at reducing greenhouse gas emissions (in any regard).	[1] No such program	[5] Reduction programs found in all three areas out of 3 areas (Scope 1, 2, and 3)	++	[1] No such program, or such a reduction program is needed but no steps have been taken yet. [2] Program is in progress. (e.g., feasibility study and promotion) [3] Reduction program found in 1 area out of the 3 areas in the table (Scope 1 or 2 or 3) [4] Reduction program found in 2 areas out of the 3 areas in the table (Scope 1 and 2, or 1 and 3, or 2 and 3) [5] Reduction programs found in all three areas out of the 3 areas in the table (Scope 1, 2, and 3)

7.7 Education and Research

Our institution has long been committed to sustainable, environmentally friendly operation, an approach that is highly emphasized in the research and taught subjects at the University's four faculties and is increasingly interwoven into daily operations. Accordingly, environmental awareness appears in both the training programs (starting from early childhood education) and the portfolio of research and services, covering the fields of climate research, climate adaptation, energy efficiency, alternative energies, sustainable and renewable materials and products, waste management, circular economy, awareness-raising, and education. According to the professional vision of the University, an approach that prioritizes sustainability is the guarantee of innovative operation and education.

Summary Evaluation:

The percentage of the University of Sopron's sustainability-related courses out of all courses shows a maximal qualification value, which means a measure of over 60%. We can state that, based on the sustainability orientation of the university's programs, we are in the international forefront.

In addition to the strong sustainability focus in education, the similar nature of our research is well indicated by the fact that the percentage of university sustainability research funding compared to all research funding is around 90%, which also allows for placement in the highest qualification category in an international context. The number of scientific publications related to sustainability is one of the most favorably judged.

The number of our sustainability-related events places us in the highest category, similar to our cultural events.

The number of student organizations related to sustainability is six. The activity of these student organizations is outstanding, and in addition to numerous community programs, they also pursue 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, shaping attitudes, knowledge dissemination, organizing study trips, participation in national initiatives, and even the initialization of national initiatives, etc.).

In this performance dimension, we mention 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 to comply with the highest requirements.

Finally, it must be mentioned that the University of Sopron maintains numerous programs to promote the effectiveness of teaching and learning (e.g., handling distance learning issues, providing a digital background, providing online course materials, distance learning tools, applications, implementing curriculum reform, supporting digital transition, student mentor program, etc.).

Table 7.: Evolution of the Metrics/Indicators for Education and Research

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
1.	Sustainability-Related Courses Divided by the Total Number of Courses (%)		54,17%	72,1%	+	[1] ≤1% [2] > 1 - 5% [3] > 5 - 10% [4] > 10 - 20% [5] > 20%
2.	Ratio of Sustainability Research Funding to Total Research Funding (%)	The ratio of sustainability research funding to the university's total research fund, averaged over the last 3 years.	91,77%	93,43%	+	[1] ≤ 1% [2] > 1 - 8% [3] > 8 - 20% [4] > 20 - 40% [5] > 40%
3.	Annual Average Number of Scientific Publications Related to Sustainability (pcs/year)	The number of scientific publications (Google Scholar) related to the environment and sustainability published in the last 3 years. Search keywords: e.g., green, environment, sustainability, renewable energy, climate change.	113,67 pcs/year	>3	+	<0,5 0,5-1 1-2 2-3 >3

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
4.	Annual Average Number of Sustainability-Related Events (pcs/year)	The annual number of events related to environmental and sustainability issues (e.g., conferences, workshops, awareness-raising, practical training, etc.) organized or served by the university during the 3 years ending with the reporting period.	18,67 pcs/year	128 pcs/year	++	[1] 0 [2] 1 – 4 [3] 5 – 17 [4] 18 – 47 <u>[5] > 47</u>
5.	Number of Student Organizations Related to Sustainability (pcs)	The number of student organizations at the faculty and university level. (An existing college/university student community that is related to sustainability qualifies as an organization.)	2 pcs	15 pcs	++	[1] 0 [2] 1 – 2 [3] 3 – 4 [4] 5 – 10 <u>[5] > 10</u>
6.	The University's Sustainability-Related Website	The number of student organizations at the faculty and university level. (An existing college/university student community that is related to sustainability qualifies as an organization.)	[1] No such website at the university	[5] There is such a website at the university, it is accessible and regularly updated	++	[1] No such website at the university [2] The website is in progress or under development [3] There is such a website at the university, and it is accessible [4] There is such a website at the university, it is accessible and occasionally updated <u>[5] There is such a website at the university, it is accessible and regularly updated</u>

No.	Indicator	Interpretation of the Indicator	Indicator Result (Baseline Year: 2020)	Indicator Result (Most Recent Reporting Year)	Change Compared to Baseline Year (2020) in Most Recent Reporting Year + / - / 0	Qualification of Most Recent Reporting Year's Result (According to UI GreenMetric Category)
			2020	2024		
7.	Sustainability Report	The existence and updating of the university's sustainability report.	[1] None	[5] There is a report and it is updated annually	++	[1] None [2] Report is in progress [3] There is a report and it is accessible [4] There is a report and it is occasionally updated [5] There is a report and it is updated annually
8.	Number of Cultural Activities on Campus	The fact that "green" facilities at the university are accessible to the public, for example, during cultural activities, indicates the wider impact of the existence of the green campus on its environment.	[5] More than 3 events annually	[5] More than 3 events annually	+	[1] None [2] 1 event annually [3] 2 events annually [4] 3 events annually [5] More than 3 events annually

8 Future Plans

Below, we briefly define the proposals which, if implemented, would significantly increase the University of Sopron's environmental/sustainability performance and lead to a significant improvement in its UI GreenMetric scores.

8.1 Short-Term Plans

Setting and Infrastructure, Biodiversity

- We maintain a university afforestation program: every year, the University of Sopron plants a new sapling in Sopron and its surroundings for every first-year student admitted to the autumn semester. Thus, not only will society be richer in well-trained professionals in a few years, but the size of forested areas in our country will also increase. Expanding forest areas is of paramount importance in the fight against climate change, as afforestation is the world's most effective human-led carbon sequestration activity.
- Continuous development of the University Botanical Garden and the Arboreta of the Forest Research Institute (ensuring their nature conservation role and gene reservation function).

Material and Energy Consumption, Efficiency

- Further increase the proportion of energy-saving appliances: this includes the use of energy-efficient devices/lighting fixtures (e.g., air conditioning with inverter technology, LED bulbs, computer power management, etc.). Proven preference for energy-saving devices during faculty procurements.
- Further development of green building implementation elements at the faculty level, reflecting all construction and renovation guidelines.
- Further increase renewable energy generation efficiency.
- Increase the number of renewable energy sources (potentially serving only higher education purposes).
- Decoupling from carbon-dependent sectors.

Waste Management

- Further increase the efficiency of selective waste collection.
- Ensuring even stronger active faculty-level participation in the use and efficiency improvement of the university's selective waste collection system, holding internal training sessions on waste collection, monitoring employee practice, and strictly enforcing regulations.
- Further development of the faculty paper and plastic consumption reduction program (e.g., increasing double-sided printing (e.g., for theses and dissertations), increasing the use of hand dryers, using reusable bags, printing only when necessary, maintaining free water dispensing points, and enforcing policies on the dematerialization of administrative procedures).
- Furthermore, improve the efficiency of green waste composting.

Water Management

- Further development of the water protection area: development of water management systems, rainwater collection systems, water tanks, and charging wells.

- Further development of water recycling: developing a water recycling program. Assessing the possibilities for greywater utilization and creating technical conditions for irrigated areas, and for our planned, old, and new buildings (e.g., using recycled water for toilet flushing, car washing, irrigation systems, etc.).
- Increasing the proportion of water-saving appliances: e.g., additional automatic hand-washing taps, ultra-low-flush toilets, etc..

Transportation

- Maintaining and extending travel/pass subsidies for employees/students.
- Faculty participation in and use of the “UNI-SOPRON BIKE” public bike-sharing system for employees/students for commuting between campuses and frequent city points.
- Restricting and reducing parking areas within the faculty/campus, encouraging public transport, walking, and cycling.
- Maintaining traffic restriction initiatives within the faculty/campus: barriers, speed limits, and exclusive pedestrian traffic.
- Pedestrian sidewalk development program within the faculty/campus: further development of barrier-free sidewalks.

Emissions and Climate Change

- Saving indirect GHG emissions from the treatment of deposited waste by increasing the efficiency of selective waste collection.
- Reducing the indirect GHG emissions of the main water system by substituting rainwater for irrigation purposes.
- Faculty participation in the creation/use of the “UNI-SOPRON BIKE” public bike-sharing system for students/employees for commuting between campuses; paying a carbon reduction contribution when purchasing tickets for institutional paid air travel.

Awareness Raising (Education, Research, Publicity)

- Continuous review of the number of sustainability-related courses: continuous, updated data provision, ensuring that the topic of sustainability is integrated into as many curriculum programs as possible.
- Further support for sustainability-related events (conferences, workshops, awareness-raising, practical training).
- Support for existing and new student organizations related to sustainability.
- Continuous development of the University's sustainability website.
- Continuous preparation and content development of the University's Sustainability Report.

8.2 Medium-Term Plans

- Increase the proportion of smart buildings at the university in the case of campus development and construction investments.
- Emphasize the elements of green building implementation in all construction and renovation guidelines.

Sopron, October 23, 2023.



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