SZÉCHENYI EGYETEM
UNIVERSITY OF GYŐR

REPORT ON THE SUSTAINABLE DEVELOPMENT GOALS

Progress against SDG 1–17 · Reporting year 2025





Széchenyi István University, Győr · 2026

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Executive summary

This report sets out the progress of Széchenyi István University (SZE) towards Sustainable Development Goals in calendar year 2025. It is designed as a companion to the University's Sustainability Report 2025, which is attached as the Annex. The Sustainability Report presents the University's strategy, governance, environmental performance and targets as a whole; this report re-reads the same commitments goal by goal and adds three further layers of 2025 evidence: research output mapped to each SDG, teaching linked to each SDG, and the programmes, services and events through which SZE contributed to each goal.

Key results of 2025:

- SZE was ranked in the 401–600 band of the THE Impact Rankings 2025, in the top 200 for SDG 11 and the top 300 for SDG 16 and SDG 17. It placed 889th in the QS Sustainability Rankings.
- Research: 1,211 Scopus publications in 2025 (+20% on 2024), of which 665 (55%) are mapped to at least one SDG. The strongest goals by volume were SDG 9 (227), SDG 8 (182), SDG 12 (170) and SDG 7 (152).
- Teaching: every SDG is addressed in the curriculum.
- Operations: drinking water use fell by 14.4%, municipal waste by 9.2%, and solar generation rose by 17.3% to cover 9.2% of electricity use. Greenhouse gas emissions rose by 2.2% to 4,602.9 t CO_2 as the building stock grew.
- Inclusion: the Equal Opportunities Plan and the Gender Equality Plan were renewed for 2025–2027, and students with special needs are supported by equal-opportunity coordinators at every faculty.
- Outreach: free public programmes, among them the weekly UNI Győr Örömfutás, the Senior University, Researchers' Night and more than 30 free arts events, plus partnerships such as DALIA, SWIM, MONSTUR and Green Connections on Danube-region water and biodiversity.

About this report

How this report and the Sustainability Report fit together

The two documents are designed to be read together. The Sustainability Report 2025 (Annex) is the University's institutional ESG report. It explains why and how SZE pursues sustainability (strategy, values, stakeholders, governance), reports its environmental performance (energy, water, waste, greenhouse gases, green space) and sets out its 2035 and 2050 targets for seven material topics. This SDG report applies the THE Impact Rankings perspective to the same commitments: each chapter shows what SZE did in 2025 for one goal, drawing on the Annex for strategy, targets and operational data and adding evidence the ESG report does not cover.

Element	Sustainability Report 2025 (Annex)	SDG chapters (this report)
Strategy and governance	Sustainability Strategy, Climate Action Plan, Sustainability Competence Centre (Annex 5)	Linked to each goal through the targets table and the governance items under SDG 16
Targets	Seven material topics with 2035/2050 targets (Annex 9)	Targets relevant to each goal, with monitoring
Operations	Energy, water, waste, emissions, green space (Annex 8)	Operational data in SDG 6, 7, 11, 12, 13, 15
Teaching	Curriculum mapping by SDG (Annex 7)	Course and programme counts per goal; dedicated programmes
Research	SDG-tagged projects (Annex 6), competence centres (Annex 7)	Per-goal publication analysis (SciVal 2025), selected papers, projects
Outreach and inclusion	Values and community programmes (Annex 3, Annex 4)	2025 programmes, services and events per goal

Research contribution of Széchenyi István University

SZE's Scopus-indexed output has grown more than sixfold since 2019, reaching 1,211 publications in 2025 (1,008 in 2024). The share of publications that Elsevier maps to at least one SDG rose from 26% in 2019 to 55% in 2025 (665 publications).

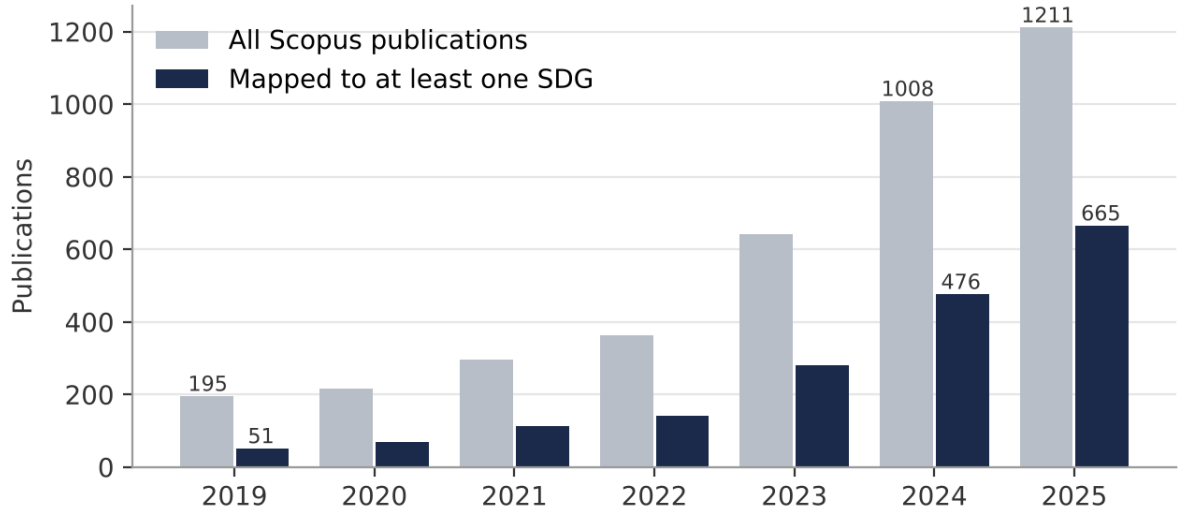


Figure 1. Scopus publications of Széchenyi István University and those mapped to at least one SDG, 2019–2025 (SciVal).

Research activity is concentrated in SDG 9 (industry, innovation and infrastructure), SDG 8 (decent work and economic growth), SDG 12 (responsible consumption and production) and SDG 7 (affordable and clean energy), reflecting the University's engineering, economics and agri-food profile. Output in every one of the 16 goals was higher in 2025 than in 2024.

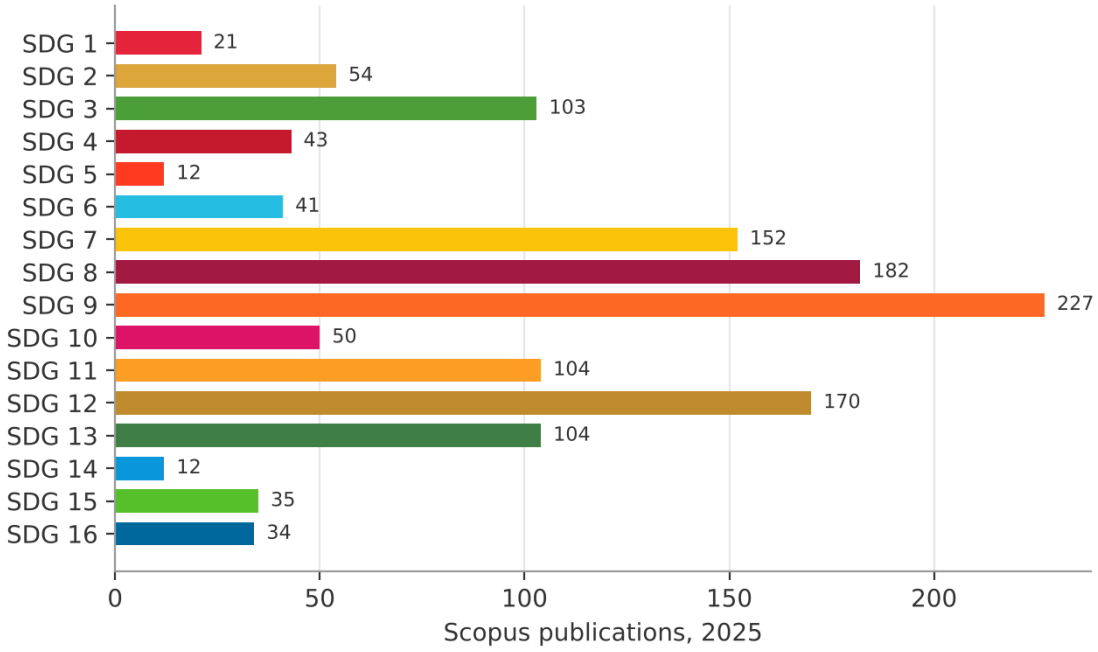


Figure 2. 2025 Scopus publications by SDG (SciVal; one publication may count towards several SDGs).

Research is supported by institutional programmes. These include the Publication Support Programme for article processing charges in quality journals, Read & Publish agreements that allow SZE authors to publish open access at no cost, and research and innovation scholarships. The University's National Laboratory projects (Autonomous Systems, Artificial Intelligence, Cooperative Technologies, Renewable Energy, and Water Science and Water Security) and its competence centres provide the infrastructure for SDG-related research.



SDG 1 – No Poverty

Progress report 2025 · Széchenyi István University

SZE contributes to SDG 1 mainly through education, through equal-opportunity measures for students and through its open, community-serving role in Győr and the region. Openness and inclusion are among the University's core values: SZE recognises the value created by students and staff from different cultural, religious and social backgrounds, and runs programmes and events that strengthen knowledge sharing, community building and social cohesion.

Research contribution to SDG 1

21	71%	76%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 21 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 1. This is 1.7% of the University's 1,211 Scopus publications that year, up from 15 in 2024.

Selected 2025 publications

- Financial technology and environmental, social and governance in sustainable finance: a bibliometric and thematic content analysis – *Discover Sustainability (2025)*. doi:10.1007/s43621-025-00934-2
- Evaluating the effectiveness of public finance used for social protection of internally displaced persons – *Public and Municipal Finance (2025)*. doi:10.21511/pmf.14(1).2025.03
- Assessing food insecurity strategies across twelve countries from different income levels: a sustainability and food systems perspective – *Discover Sustainability (2025)*. doi:10.1007/s43621-025-01525-x

Teaching and learning

The University's 2025 curriculum mapping found 79 courses, taught in 90 degree programmes, that address SDG 1 topics, including poverty, social inclusion, social protection, vulnerable groups, housing, basic services.

Campus, outreach and programmes in 2025

- Student financial support: regular social scholarships, housing support and special grants for students facing social disadvantage, administered with the Student Union.
- Széchenyi ODA (SODA) scholarship: covers tuition and provides free dormitory accommodation for the official study period and free basic healthcare in the campus medical services.
- Scholarships for students from developing countries: SZE takes part in the Stipendium Hungaricum programme and the Scholarship Programme for Christian Young People.
- Teach for Hungary (Tanítsunk Magyarországért) 2025: SZE student mentors supported pupils from smaller settlements in further-education guidance.
- Equal Opportunities Plan 2025–2027 (reviewed April 2025), prohibiting discrimination, including on grounds of social and financial status.

Targets and monitoring

Material topic	Target 2035	Target 2050
Equal opportunities	Launch equal-opportunity programmes (at least 3 per year); further strengthen equal opportunities for students through targeted programmes.	—
Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

See the Annex (Sustainability Report 2025): Annex 3; Annex 7; Annex 9.



SDG 2 – Zero Hunger

Progress report 2025 · Széchenyi István University

Agriculture and food are a major field of SZE's teaching and research, centred on the Mosonmagyaróvár campus. The Mosonmagyaróvár Innovation Park is a key hub for food-economy and agri-technology development, providing infrastructure for R&D, industrial cooperation and innovation projects in food-industry and agricultural technologies.

Research contribution to SDG 2

54	61%	76%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 54 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 2. This is 4.5% of the University's 1,211 Scopus publications that year, up from 32 in 2024.

Selected 2025 publications

- Towards Climate-Smart Agriculture: Strategies for Sustainable Agricultural Production, Food Security, and Greenhouse Gas Reduction – *Agronomy (2025)*. doi:10.3390/agronomy15030565
- Utilizing Different Crop Rotation Systems for Agricultural and Environmental Sustainability: A Review – *Agronomy (2025)*. doi:10.3390/agronomy15081966
- The role of industry 4.0 in global food security: A promising pathway to ending hunger – *Smart Agricultural Technology (2025)*. doi:10.1016/j.atech.2025.100974

SDG-related projects running in 2025

- Bábolna-Multicolor (BMC) broiler hybrid for premium poultry meat with low environmental impact
- Research and development of innovative green technologies for carbon neutrality
- Microgranulated starter fertiliser with arbuscular mycorrhizal fungi (AMF) inoculum to promote sustainable nutrient supply
- TechCoach: Connecting Operational Groups across borders to enhance farmers' ability to assess, adopt and integrate Smart Crop Farming technologies
- LiveNet (Advisors Livestock Network)

A further 5 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 133 courses, taught in 112 degree programmes, that address SDG 2 topics, including food security, nutrition, sustainable agriculture, agri-innovation, food systems, animal welfare.

Campus, outreach and programmes in 2025

- SmartFarm – Mosonmagyaróvár Innovation Park: more than 500 hectares of experimental and farm land, 46,000 m^2 of R&D infrastructure and more than 40 company partners, organised into four centres (integrated crop production, animal science, agri-digitalisation engineering and food-industry digitalisation).

- In 2025 the SmartFarm was further developed with research infrastructure for pig and poultry husbandry that takes full account of animal welfare. The equipment fleet for precision crop production demonstrations was also expanded.
- The Digital Agricultural Academy Plus programme ended in 2025 after reaching several thousand farmers with agri-digitalisation training. The Agri-Food European Digital Innovation Hub (AEDIH) supported digital-maturity assessment of businesses.
- Expansion of the dairy demonstration plant (completed 2025) with a herb garden, orchard, seedling nursery and smart garden, and full digital traceability of products.
- Microbial Solutions for Climate-Resilient Agriculture: a field-trial project on biofertilisers and biopesticides led by Evologic Technologies, with SZE responsible for measurements. SZE also runs an Organic Farming Specialist postgraduate programme.
- Sustainability-focused teaching in agriculture: e.g. Sustainable Crop Production, Sustainable Technologies in Animal Product Production (MSc) and doctoral courses on the economics of sustainable crop, animal and food production (Wittmann Antal Doctoral School).

Targets and monitoring

Material topic	Target 2035	Target 2050
Research and education	Increase the number of sustainability-related programmes and courses; launch a sustainability-focused degree programme (ESG expert); increase the number of sustainability-related student workshops; at least 5 sustainability awareness-raising actions per year.	SZE becomes a green university.

See the Annex (Sustainability Report 2025): Annex 6; Annex 7; Annex 8.



SDG 3 – Good Health and Well-being

Progress report 2025 · Széchenyi István University

SZE supports health and well-being through teaching, health-related research and its open sports and community facilities. The University Sports Hall is open to the residents of Győr and the region, and the Széchenyi Race and other community events promote an active lifestyle among students, staff and local people.

Research contribution to SDG 3

103	56%	90%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 103 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 3. This is 8.5% of the University's 1,211 Scopus publications that year, up from 57 in 2024.

Selected 2025 publications

- Genetics of diabetes and its complications: a comprehensive review – *Diabetology and Metabolic Syndrome (2025)*. doi:10.1186/S13098-025-01748-Y
- Advances in invasive and non-invasive glucose monitoring: A review of microwave-based sensors – *Sensors and Actuators Reports (2025)*. doi:10.1016/j.snr.2025.100332
- Effect of gardening activities on domains of health: a systematic review and meta-analysis – *BMC Public Health (2025)*. doi:10.1186/s12889-025-22263-9

SDG-related projects running in 2025

- Prebiotic and synbiotic health-protecting product family based on the biotechnological conversion of meat-industry by-products
- Preparation and pilot of an urban autonomous, electric, demand-responsive transport service (lower CO_2 emissions and environmental load, traffic optimisation, green mobility and road safety)
- Cultivation of nutrient-enriched cereal (wheat) as a raw material for functional food

Teaching and learning

The University's 2025 curriculum mapping found 186 courses, taught in 121 degree programmes, that address SDG 3 topics, including public health, prevention, well-being, mental health, patient safety, health care, epidemiology.

Campus, outreach and programmes in 2025

- UNI Győr Örömfutás: a free weekly 5 km/10 km run or 5 km walk open to everyone; its 100th event was held on 24 May 2025.
- Free health services for students: gynaecology consultations and screening (from 1 January 2025), psychological and lifestyle counselling, a clinical psychologist, crisis support, bibliotherapy groups (new in 2025) and relaxation/autogenic training each semester.
- Staff health: a free health-screening package through the University-owned Uni-Medicampus, the Mental Health Day for Staff, free counselling, and autogenic and relaxation courses.
- Health partnerships in 2025 through the Health Technology Campus with Semmelweis University, Petz Aladár University Teaching Hospital and GE Healthcare Hungary: a Da Vinci surgical robot cooperation,

telemedicine and rehabilitation work with St. Andrew Hospital (Hévíz), and AI-supported rehabilitation technologies with Shanghai Jiao Tong University.

- Sport: physical education and organised sport programmes every semester, and the Széchenyi University Days sports day in eight sports. Outdoor sports facilities are free for everyone, and SZE has a smoke-free campus policy.
- A new Care Policy Studies master's programme was launched with the Slachta Margit National Institute, and a NIRSport2 brain-imaging system was purchased for health and sport research.
- Healthy ageing and inclusion: the Senior University 2025 included free lectures on physical activity in older age and on healthy life expectancy, and SZE students support Cycling Without Age, which takes older adults in residential care on rickshaw rides.

Targets and monitoring

Material topic	Target 2035	Target 2050
Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

See the Annex (Sustainability Report 2025): Annex 3; Annex 6; Annex 8.



SDG 4 – Quality Education

Progress report 2025 · Széchenyi István University

Sustainability-related knowledge, skills and competences are part of SZE's teaching at every level, from bachelor's (BSc) and master's (MSc) programmes to postgraduate specialist programmes and short-cycle continuing education. Sustainability appears both in dedicated courses and specialised programmes and integrated into the subjects of many disciplines, supported by project-based assignments, case studies, student research projects, guest lecturers and industry experts. Course leaders regularly review and update course content so that students meet the latest scientific results and professional practice.

Research contribution to SDG 4

43	58%	84%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 43 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 4. This is 3.6% of the University's 1,211 Scopus publications that year, up from 37 in 2024.

Selected 2025 publications

- Quality at the Core: A Multifaceted Analysis of Higher Education's Impact on the Knowledge Economy – *Journal of the Knowledge Economy (2025).* doi:10.1007/s13132-024-02517-4
- Driving Social Entrepreneurship Among Students: Investigating Through PLS-SEM and fsQCA Approaches in Emerging Economies – *Emerging Science Journal (2025).* doi:10.28991/ESJ-2025-09-03-023
- The Efficacy of the Sensorimotor Training Program on Sensorimotor Development, Auditory and Visual Skills of Schoolchildren Aged 5–8 Years – *Child and Youth Care Forum (2025).* doi:10.1007/s10566-024-09818-4

SDG-related projects running in 2025

- Participation of the SZE Design Campus Competence Centre in the 2025 activities of BEDA (Bureau of European Design Associations)
- SZE Veres Péter Agricultural and Food Industry Technical School, Vocational School and Dormitory
- Sustainability attitudes of French and Hungarian university students and their cultural embeddedness
- Development of the SZE dairy processing demonstration plant

Teaching and learning

The University's 2025 curriculum mapping found 681 courses, taught in 197 degree programmes, that address SDG 4 topics, including inclusive education, lifelong learning, digital skills, pedagogy, learning outcomes, access, teacher training.

Campus, outreach and programmes in 2025

The University developed the programme of the ESG – Environmental, Social and Governance Specialist master's programme in 2023, and its accreditation was successfully completed in 2024. The programme builds on a multidisciplinary approach to sustainability and integrates topics related to the UN Sustainable Development Goals. This fulfils one of the 2035 targets of the University's Sustainability Strategy (launching a sustainability-focused programme).

Indicator	2024	2025
Degree programmes offering dual training	16 (12 BSc, 4 MSc)	17 (13 BSc, 4 MSc)
Company partners in dual training (2025)	–	38

- Teaching innovation: project-based modules are now built into 15 degree programmes. The Szakmentor peer-mentoring course became compulsory in every full-time bachelor's programme from 2025, and a Skills Development I course started in 15 programmes.
- Lifelong learning: micro-credential courses, free public lectures at the Senior University in Győr and Mosonmagyaróvár, and a public special library open to all registered readers.
- Outreach to schools: presentations in secondary schools, the Open Gates open day, Researchers' Night, a Skills Development Programme with two vocational schools, Bosch–Mobilis robotics workshops and the RESZETT circular-economy programme.
- Dedicated sustainability programmes in 2025: Environmental Engineering BSc; Agricultural Water Management and Environmental Technology Engineering BSc; ESG Expert MSc; Environmental Management Agricultural Engineering MSc; Regional and Environmental Economic Studies MSc; Agricultural Water Management Engineering MSc. More than 40 sustainability-specific courses run from BSc to PhD level, including Education for Sustainability for future teachers.

Targets and monitoring

Material topic	Target 2035	Target 2050
Research and education	Increase the number of sustainability-related programmes and courses; launch a sustainability-focused degree programme (ESG expert); increase the number of sustainability-related student workshops; at least 5 sustainability awareness-raising actions per year.	SZE becomes a green university.
Equal opportunities	Launch equal-opportunity programmes (at least 3 per year); further strengthen equal opportunities for students through targeted programmes.	—

See the Annex (Sustainability Report 2025): Annex 4; Annex 7; Annex 9.



SDG 5 – Gender Equality

Progress report 2025 · Széchenyi István University

Diversity and gender equality is one of the seven material topics that SZE's leadership selected – starting from the 33 material topics of the Global Reporting Initiative (GRI) – as the areas where the University has the greatest impact and where performance can best be measured. Building on the Gender Equality Plan and the Equal Opportunities Plan for 2022–2024, both plans were renewed for 2025–2027 in 2025.

Research contribution to SDG 5

12	67%	100%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 12 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 5. This is 1.0% of the University's 1,211 Scopus publications that year, up from 7 in 2024.

Selected 2025 publications

- A systematic review of female entrepreneurship using co-word and main path analyses – *Quality and Quantity (2025).* doi:10.1007/s11135-025-02281-w
- Geospatial patterns in women's tourism management: analysis of managerial trends and gender impact in Hungarian tourism sectors – *Geojournal of Tourism and Geosites (2025).* doi:10.30892/gtg.59209-1441
- Obstacles to Finding the Ideal Workplace: A Gender-Based Analysis Across the V4 Countries – *Emerging Science Journal (2025).* doi:10.28991/ESJ-2025-09-04-029

Teaching and learning

The University's 2025 curriculum mapping found 210 courses, taught in 158 degree programmes, that address SDG 5 topics, including gender equality, the situation of women, empowerment, equal opportunities, discrimination, diversity, inclusion.

Campus, outreach and programmes in 2025

- Gender Equality Plan 2025–2027, adopted by the Governing Board. It covers gender balance in leadership and recruitment, prevention of harassment, victim support, awareness-raising and training.
- Family-friendly workplace: SZE holds the 'Family-Friendly Workplace' title. Benefits include working-time allowances, summer camps and the Apáczai Children's University (2025 theme: environmental protection and sustainability).
- Girls' Day (Lányok Napja) with the Association of Hungarian Women in Science (NaTE), introducing schoolgirls to STEM careers.

Targets and monitoring

Material topic	Target 2035	Target 2050
Diversity and gender equality	Keep the proportion of women in leadership positions high; launch diversity and equality programmes (at least 3 per year).	—

Material topic	Target 2035	Target 2050
Equal opportunities	Launch equal-opportunity programmes (at least 3 per year); further strengthen equal opportunities for students through targeted programmes.	—

See the Annex (Sustainability Report 2025): Annex 3; Annex 9.



SDG 6 – Clean Water and Sanitation

Progress report 2025 · Széchenyi István University

Protecting the quantity and quality of water is a priority for SZE. Several times a year the University carries out self-monitoring of the quality parameters of its wastewater, and the water quality of the Vár-tó lake in Mosonmagyaróvár, a surface water body managed by the University, is tested every year.

Research contribution to SDG 6

41	59%	63%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 41 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 6. This is 3.4% of the University's 1,211 Scopus publications that year, up from 20 in 2024.

Selected 2025 publications

- A hybrid CRITIC-MAIRCA framework for optimal phase change material selection in solar distillation systems – *International Journal of Thermofluids (2025).* doi:10.1016/j.ijft.2025.101167
- Spatiotemporal prediction of soil moisture content at various depths in three soil types using machine learning algorithms – *Frontiers in Soil Science (2025).* doi:10.3389/fsoil.2025.1612908
- Examining the Environmental Ramifications of Asbestos Fiber Movement Through the Water–Soil Continuum: A Review – *International Journal of Environmental Research and Public Health (2025).* doi:10.3390/ijerph22040505

SDG-related projects running in 2025

- Sustainable water management and integrated management of fish migration and habitats in the Danube basin and the north-western Black Sea
- MONSTUR in the DANUBE project
- DALIA – Danube Region Water Lighthouse Action
- trans4num – Transformation for sustainable nutrient supply and management

A further 2 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 150 courses, taught in 70 degree programmes, that address SDG 6 topics, including water quality, drinking water, sanitation, wastewater, hygiene, water management, groundwater.

Campus, outreach and programmes in 2025

In 2025 the University's drinking water use fell from 130,678 m^3 (revised 2024) to 111,836 m^3, a reduction of 18,842 m^3 or 14.4%, even though the number of consumption points rose from 72 to 75. The volume of wastewater followed the same trend. The decrease reflects more conscious organisation of resource use, stronger operational discipline and more efficient operation of technical systems. SZE continues to monitor water use, apply water-saving solutions and enforce water-protection requirements. The new smart garden at the dairy demonstration plant includes a controlled irrigation system and rainwater collection.

Indicator	2024	2025
Drinking water use (m^3)	130,678	111,836 (−14.4%)
Water consumption points	72	75

2024 values are revised figures. Wastewater volume follows drinking water use. Earlier years: 85,735 m^3 (2021), 125,690 m^3 (2022), 114,458 m^3 (2023).

- SWIM (Horizon Europe, awarded 2025): sustainable water management and fish habitats in the Danube basin and the north-western Black Sea, coordinated by SZE (Dr Katalin Bene).
- TRANSFER Danube (awarded 2025): drought and water-resource tools and a transnational e-platform for Danube-region agriculture.
- Audi Development Camp (July 2025): an international micro-credential programme in which students from partner universities analysed the water management of the Audi Hungaria plant in Győr against ESG criteria.
- The SmartFarm crop-production centre supports sustainable water management with IoT, drone-based monitoring and decision-support systems.
- World Water Day 2025: a programme of public lectures, school outreach and awareness events with the North Transdanubian Water Directorate, Pannon-Víz Ltd., the Municipality of Győr, schools and kindergartens.
- 'The Water We Wanted' conference (4th edition, 2025, theme 'On New Waves'), organised with the Győr-Moson-Sopron County Chamber of Commerce and Industry on the development of Győr's water assets.
- DALIA (Horizon Europe): SZE contributes monitoring and analysis to the Szigetköz demonstration site, where a water-replenishment system restores more natural water levels across a 40 km-long system of active and historical side branches.
- Dedicated water programmes: Agricultural Water Management and Environmental Technology Engineering BSc and Agricultural Water Management Engineering MSc.

Targets and monitoring

Material topic	Target 2035	Target 2050
Wastewater and waste	Increase the selective waste collection rate to 80%; implement at least 2 circular university projects; implement circular, low-waste solutions together with partners.	Reach a 100% recycling rate; increase the share of waste fed back into circular flows to 80%.

See the Annex (Sustainability Report 2025): Annex 6; Annex 8 (water use).



SDG 7 – Affordable and Clean Energy

Progress report 2025 · Széchenyi István University

Energy efficiency and renewable energy are central to SZE's Sustainability Strategy 2022–2030 and its Climate Action Plan 2022–2035, which prioritise improving campus energy efficiency and expanding renewable energy. Between 2023 and 2025 several university buildings were renovated and modernised; in 2025, among others, the thermal-insulating plaster, window replacement and other envelope improvements of the former Malom restaurant (E-Club) progressed.

Research contribution to SDG 7

In 2025, SZE researchers co-authored 152 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 7. This is 12.6% of the University's 1,211 Scopus publications that year, up from 117 in 2024.

Selected 2025 publications

- Quantitative analysis and optimization of energy efficiency in electric multiple units – *Facta Universitatis, Series: Mechanical Engineering (2025).* doi:10.22190/FUME241103001F
- Investigation of Convective and Radiative Heat Transfer of 21700 Lithium-Ion Battery Cells – *Batteries (2025).* doi:10.3390/batteries11070246
- Exploring the nexus among green finance, renewable energy and environmental sustainability: Evidence from OECD economies – *Renewable Energy (2025).* doi:10.1016/j.renene.2025.122589

SDG-related projects running in 2025

- Measuring equipment and software using remaining-useful-life prediction for the reuse of used vehicle batteries
- REx-CLi-RES: Regional exergy-driven, climate-resilient renewable energy system
- Battery Test Competence Centre – HR competence development, equipment procurement and related R&D
- Novel operating models and development opportunities also based on renewable energy sources
- Sustainable railways – energy efficiency of electric rail vehicles and their infrastructure

A further 5 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 22 courses, taught in 46 degree programmes (72 course–programme assignments), that address SDG 7 topics, including renewable energy, energy efficiency, decarbonisation, energy storage, smart grid, clean fuels, energy transition.

Campus, outreach and programmes in 2025

In 2025 electricity use rose by 4.1% to 10,111.2 MWh, mainly because the building stock grew (consumption points increased from 104 to 106). Natural gas use was essentially stable (+0.4%, 6,426.9 MWh; 609,187 m^3) with the gas-heated floor area unchanged at 63,491.55 m^2. District heating use rose by 17.5% to 11,733.3 MWh, with the heated floor area unchanged, reflecting higher actual heat demand of individual buildings. District heating in Győr is based mainly on geothermal energy, so its emission factor is considered zero.

Renewable generation grew faster than consumption. Installed solar PV capacity was 1,348.5 kW/kVA, and annual PV generation increased by 17.3%, from 794.3 MWh to 931.7 MWh, so the share of electricity covered by the University's own solar panels rose from 8.2% to 9.2%. The largest PV system is on the

central campus (Egyetem tér 1), and solar thermal collectors on two central-campus buildings support hot-water production. Solar panels are installed as a rule during building renovations, and the University is examining further technologies such as heat pumps.

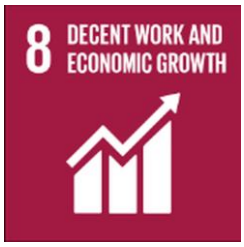
Indicator	2024	2025
Electricity consumption (MWh)	9,715.2	10,111.2 (+4.1%)
Natural gas consumption (MWh)	6,399.0	6,426.9 (+0.4%)
District heating consumption (MWh)	9,988.1	11,733.3 (+17.5%)
Installed solar PV capacity (kW/kVA)	1,348.5	1,348.5
Solar PV generation (MWh)	794.3	931.7 (+17.3%)
Share of electricity covered by solar PV	8.2%	9.2%

- Conference on Sustainability (COS 2025, 10–12 November 2025): over 100 experts from 12 countries on five continents presented 102 papers in nine sections, including sustainable energy and climate resilience; the international scientific committee included the U.S. Environmental Protection Agency.
- Battery research: an environmental test chamber suitable for lithium battery testing was put into use, and an R&D project develops measuring equipment for the reuse of used vehicle batteries.
- Partnership with Green Energy Investhor on industry lectures, internships and renewable-energy research. Uni Inno Zrt. invested in EV.analytica, a start-up of former students that consolidates EV charging services.
- Public education: Senior University lecture 'Renewable Energy: A Response to Sustainability Challenges?' (10 March 2025); dedicated courses include Energy Management and Sustainability and Sustainability Analysis of the Hydrogen Ecosystem.

Targets and monitoring

Material topic	Target 2035	Target 2050
Energy use	Reduce SZE's total energy consumption by 15% (base year: 2018); increase the share of renewable-based generation in SZE's energy use to 10%.	SZE becomes energy self-sufficient, based entirely on renewable energy.
Greenhouse gas emissions	Reduce SZE's total carbon footprint by 30% (base year: 2018); obtain an international green certification for at least one university building; achieve carbon neutrality.	Reduce SZE's total carbon footprint by 100% (base year: 2018); positive-energy buildings reach 50% of the building stock.

See the Annex (Sustainability Report 2025): Annex 5; Annex 8 (energy, renewable energy); Annex 9.



SDG 8 – Decent Work and Economic Growth

Progress report 2025 · Széchenyi István University

SZE's development has always been shaped by deliberate responses to local, regional and national economic needs. The University's long-term aim is to be a driving force of social innovation and economic development and to strengthen the competitiveness of the region and of Hungary. Its 'knowledge pentagon' model builds on cooperation with industrial, governmental, civil, church and media partners. The Institutional Development Plan emphasises training graduates with competitive, labour-market-relevant knowledge and strengthening innovation and entrepreneurial competences.

Research contribution to SDG 8

182	63%	71%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 182 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 8. This is 15.0% of the University's 1,211 Scopus publications that year, up from 113 in 2024.

Selected 2025 publications

- A holistic approach to Sustainable Development Goal 8: Integrating economic growth, employment, and sustainability – *Equilibrium. Quarterly Journal of Economics and Economic Policy (2025).* doi:10.24136/eq.3342
- Determinants of SMEs' strategic entrepreneurial innovative digitalization: examining the mediation role of human capital – *European Journal of Innovation Management (2025).* doi:10.1108/EJIM-02-2024-0176
- The Role of Regulatory Sandboxes in FinTech Innovation: A Comparative Case Study of the UK, Singapore, and Hungary – *FinTech (2025).* doi:10.3390/fintech4020026

SDG-related projects running in 2025

- GreenTech Plus – Digitalisation and innovative technologies in the green sector: cross-border development and knowledge sharing
- Battery Test Competence Centre – HR competence development, equipment procurement and related R&D
- Spin-off Ecosystem Development Programme
- Social and environmental perspectives: consumer economics, marketing, and modelling and simulation of complex processes
- Artificial Intelligence EDIH Hungary

A further 1 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 244 courses, taught in 155 degree programmes, that address SDG 8 topics, including decent work, employment, labour market, enterprise development, productivity, occupational safety, SMEs, inclusive growth.

Campus, outreach and programmes in 2025

Indicator	2024	2025
Company partners in dual training	–	38

- Staff benefits: performance-based remuneration, a SZÉP-card cafeteria benefit agreed with the trade union, and a free health-screening package for staff.
- HR Manual (in force from 1 January 2025): fair pay, at least the statutory minimum wage for all employees, and an annual salary and pay-equity analysis. A Collective Agreement with the FDSZ trade union covers all employees.
- Equal Opportunities Plan 2025–2027 (reviewed April 2025), covering recruitment, pay, promotion and dismissal, with a written complaint procedure.
- Employability: dual training in 17 programmes with company partners, plus the SZE-DUO internship programme and student volunteering at university events.
- Strategic partnership with Waberer's International (3 September 2025) on sustainability and innovation.
- Lifelong employability: the Centre for Adult Education and Competence Development offers continuing and vocational training for individuals and companies; the Kautz Conference on Business and Economics (October 2025) connected researchers, industry and policymakers.

Targets and monitoring

Material topic	Target 2035	Target 2050
Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

See the Annex (Sustainability Report 2025): Annex 2; Annex 4.



SDG 9 – Industry, Innovation and Infrastructure

Progress report 2025 · Széchenyi István University

Innovation is a defining element of SZE's operation. The University's innovation parks and research centres play a key role in turning teaching and research results into economic and social value and in strengthening knowledge transfer between higher education and industry. The Budapest Innovation and Training Centre (since 2020) hosts research and training units of national and international importance; the Zalaegerszeg campus and the SZE Zalaegerszeg Innovation Park are part of the ZalaZONE ecosystem next to the automotive proving ground; since 2023 the Science Park (Design Campus) has provided more than 4,000 m^2 for research, incubation and teaching; and the Mosonmagyaróvár Innovation Park is a hub for food-economy and agri-technology development.

Research contribution to SDG 9

227	54%	71%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 227 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 9. This is 18.7% of the University's 1,211 Scopus publications that year, up from 144 in 2024.

Selected 2025 publications

- When Industry 5.0 Meets the Circular Economy: A Systematic Literature Review – *Circular Economy and Sustainability (2025).* doi:10.1007/s43615-025-00570-y
- Expert Twin: A Digital Twin with an Integrated Fuzzy-Based Decision-Making Module – *Decision Making: Applications in Management and Engineering (2025).* doi:10.31181/dmame8120251181
- Experimental study on the effect of filament-extrusion rate on the structural, mechanical and thermal properties of material extrusion 3D-printed polylactic acid (PLA) products – *Progress in Additive Manufacturing (2025).* doi:10.1007/s40964-024-00646-5

SDG-related projects running in 2025

- Participation of the SZE Design Campus Competence Centre in the 2025 activities of BEDA (Bureau of European Design Associations)
- GreenTech Plus – Digitalisation and innovative technologies in the green sector: cross-border development and knowledge sharing
- Bábolna-Multicolor (BMC) broiler hybrid for premium poultry meat with low environmental impact
- Restoring motorway slope stability with a self-healing ecological technology under disaster-risk conditions
- Measuring equipment and software using remaining-useful-life prediction for the reuse of used vehicle batteries

A further 24 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 597 courses, taught in 164 degree programmes, that address SDG 9 topics, including innovation, infrastructure, industrial development, R&D, technology transfer, manufacturing, digitalisation, logistics.

Campus, outreach and programmes in 2025

- Innovation parks: Győr, Zalaegerszeg (next to the ZalaZONE proving ground) and Mosonmagyaróvár (SmartFarm). In 2025 the Foundation donated the 'Pyramid' building in the Zalaegerszeg Innovation Park to the University.
- National Laboratories: Autonomous Systems (e.g. an Autoware-compatible traffic-light detection package and a high-performance walking-robot prototype), Artificial Intelligence and Cooperative Technologies.
- The Self-Driving Technologies Centre was set up in 2025 with the City of Kaposvár to build national expertise on autonomous buses. A new Artificial Intelligence MSc was launched.
- SZE's twin satellite reached orbit aboard the Hungarian small satellite Hunity (December 2025) to test experimental panels developed at the University.
- Intellectual property: innovation scholarships for inventors of IP rights held (partly) by SZE, and the Spin-off Ecosystem Development Programme and HSUP student start-up course ran in 2025.
- 'Mobility and Environment – Future-Shaping Automotive Research' conference (October 2025) at the Győr Innovation Park with the Hungarian Academy of Sciences and the Hungarian Chamber of Commerce and Industry; a new Hungaroring External Department of Motorsport supports joint R&D with industry.
- Second phase of the Science and Innovation Park in Győr on a former biscuit-factory brownfield site (start planned 2025, completion 2028); Interstellar Connections Day (July 2025) with a live ISS link to astronaut Tibor Kapu.

Targets and monitoring

Material topic	Target 2035	Target 2050
Research and education	Increase the number of sustainability-related programmes and courses; launch a sustainability-focused degree programme (ESG expert); increase the number of sustainability-related student workshops; at least 5 sustainability awareness-raising actions per year.	SZE becomes a green university.

See the Annex (Sustainability Report 2025): Annex 2; Annex 6; Annex 7.



SDG 10 – Reduced Inequalities

Progress report 2025 · Széchenyi István University

Equal opportunities and diversity are two of the seven material topics of SZE's sustainability strategy, supported by the Equal Opportunities Plan and the Gender Equality Plan, both renewed for 2025–2027 in 2025. Openness and inclusion are core values of the University, which recognises the value created by students and staff of different cultural, religious and social backgrounds. As a member of the UN Academic Impact (UNAI) network, SZE gives particular attention to promoting social equality.

Research contribution to SDG 10

50	64%	80%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 50 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 10. This is 4.1% of the University's 1,211 Scopus publications that year, up from 28 in 2024.

Selected 2025 publications

- The other side of war or migration and labor market imbalances: Evidence from Eastern Europe for the period 2014–2025 – *Journal of International Studies (2025).* doi:10.14254/2071-8330.2025/18-4/3
- Military Migration and Demographic Transformations in Ukraine: Military Consequences for Territorial Communities – *Ukrainian Geographical Journal (2025).* doi:10.15407/ugz2025.03.075
- Building organizational resilience in emerging economies: Strategic insights from Bangladesh – *Sustainable Futures (2025).* doi:10.1016/j.sftr.2025.101327

SDG-related projects running in 2025

- SZE Veres Péter Agricultural and Food Industry Technical School, Vocational School and Dormitory
- Sustainability attitudes of French and Hungarian university students and their cultural embeddedness

Teaching and learning

The University's 2025 curriculum mapping found 271 courses, taught in 142 degree programmes, that address SDG 10 topics, including social inequality, inclusion, accessibility, disability, migration, minorities, equal opportunities.

Campus, outreach and programmes in 2025

- Equal Opportunities Plan 2025–2027 and Gender Equality Plan 2025–2027, covering persons with disabilities and all university units.
- Students with special needs: support is coordinated by the Equal Opportunities Committee, the University Equal Opportunities Coordinator and coordinators at every faculty. Accommodations include extra time, exam adjustments and language-exam exemptions where justified.
- Accessibility services: accessible dormitory rooms, portable induction-loop amplifiers on loan, sign-language interpretation on request, guide strips for blind and partially sighted users, text-reading devices and barrier-free main buildings.
- International community: SZE welcomes international students to its English-taught programmes and supports outgoing and incoming mobility through the Pannónia Scholarship Programme.

- Social mobility: social scholarships, the SODA scholarship, the Szakmentor peer-mentoring programme and Teach for Hungary mentoring of pupils from smaller settlements.
- 'Me and My Country' programme: international students deliver educational sessions for residents of a local children's home and the university community.

Targets and monitoring

Material topic	Target 2035	Target 2050
Equal opportunities	Launch equal-opportunity programmes (at least 3 per year); further strengthen equal opportunities for students through targeted programmes.	—
Diversity and gender equality	Keep the proportion of women in leadership positions high; launch diversity and equality programmes (at least 3 per year).	—

See the Annex (Sustainability Report 2025): Annex 3; Annex 9.



SDG 11 – Sustainable Cities and Communities

Progress report 2025 · Széchenyi István University

Close, long-term cooperation with the Municipality of Győr and the economic and social actors of the region is a defining element of SZE's operation. The University's development is closely linked to the economic, social and cultural life of the city, and its activities contribute to the development of the region and to enriching community and cultural life. In the Times Higher Education Impact Rankings 2025, SZE was among the top 200 universities in the world for SDG 11.

Research contribution to SDG 11

104	39%	78%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 104 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 11. This is 8.6% of the University's 1,211 Scopus publications that year, up from 83 in 2024.

Selected 2025 publications

- Urban Sustainability Through Pavement Technologies: Reducing Urban Heat Islands with Cool Pavements – *Buildings (2025)*. doi:10.3390/buildings15030504
- A structured framework for HBIM standardization: Integrating scan-to-BIM methodologies and heritage conservation standards – *Digital Applications in Archaeology and Cultural Heritage (2025)*. doi:10.1016/j.daach.2025.e00420
- Blockchain and Smart Cities: Co-Word Analysis and BERTopic Modeling – *Smart Cities (2025)*. doi:10.3390/smartcities8040111

SDG-related projects running in 2025

- Restoring motorway slope stability with a self-healing ecological technology under disaster-risk conditions
- REx-CLi-RES: Regional exergy-driven, climate-resilient renewable energy system
- Sustainable Mobility and Transport Symposium 2025
- Sustainable railways – energy efficiency of electric rail vehicles and their infrastructure
- Preparation and pilot of an urban autonomous, electric, demand-responsive transport service (lower CO_2 emissions and environmental load, traffic optimisation, green mobility and road safety)

A further 2 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 134 courses, taught in 157 degree programmes (421 course–programme assignments), that address SDG 11 topics, including urban development, smart city, mobility, public transport, housing, cultural heritage, resilience, land use.

Campus, outreach and programmes in 2025

Indicator	2024	2025
Green roofs on new university buildings (m^2)	–	4,137
THE Impact Rankings 2025 – SDG 11	–	Top 200

- More than 30 free arts events in 2025, including Classical Music Evenings at the Synagogue, the 'Bach for Everyone' festival, the Győr County Autumn Exhibition (opened 3 October) and the typography festival 'The Celebration of Letters' at the Design Campus.
- Public heritage: permanent exhibitions in the University Library (István Széchenyi Memorial, University History and Dr Ernő Barsi exhibitions) and the exhibition space of Óvár Castle. The Barsi Ernő College for Advanced Studies documents regional folk traditions.
- KULTKredit (Csontváry Cultural Credit) programme from February 2025: students earn credits for attending cultural events.
- Housing: in 2025 the Hotel Famulus property began conversion into apartments for teaching staff and athletes. SZE provides dormitory places in Győr and Mosonmagyaróvár. In 2025 SZE also bought the Post Palace in Mosonmagyaróvár for university and community use.
- Expert support to Győr: Design Campus experts helped prepare and evaluate the city's public competition for a new city identity. SZE also hosted the 15th International Transport Science Conference and a traffic-safety conference on e-scooters.
- Sustainable mobility and design teaching: courses such as Sustainable and Climate-Friendly Urban Development, Sustainable Settlements and Transport and Sustainable Architecture; registered bicycle parking for students.

Targets and monitoring

Material topic	Target 2035	Target 2050
Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

See the Annex (Sustainability Report 2025): Annex 3; Annex 4; Annex 8 (green space).



SDG 12 – Responsible Consumption and Production

Progress report 2025 · Széchenyi István University

SZE's primary aim is to generate as little waste as possible and to recover as much as possible of what is generated, in full compliance with legal and regulatory requirements. Most of the waste is collected as municipal waste by public service providers. In 2025 the volume of municipal waste fell by 9.2% compared with 2024 (from 6,093.2 to 5,529.7 thousand litres), showing that waste prevention, selective collection and awareness-raising have become more effective.

Research contribution to SDG 12

170	57%	79%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 170 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 12. This is 14.0% of the University's 1,211 Scopus publications that year, up from 106 in 2024.

Selected 2025 publications

- Unveiling latent topics in the interplay of Circular Economy and Energy Transition: A Topic Modelling approach – *Resources, Conservation and Recycling (2025).* doi:10.1016/j.resconrec.2025.108318
- Green supply chain management and SMEs sustainable performance in developing country: role of green knowledge sharing, green innovation and big data-driven supply chain – *Discover Sustainability (2025).* doi:10.1007/s43621-025-01055-6
- Normal wiggly probabilistic hesitant fuzzy-based TODIM approach for optimal solid waste disposal method selection – *Heliyon (2025).* doi:10.1016/j.heliyon.2025.e41908

SDG-related projects running in 2025

- Participation of the SZE Design Campus Competence Centre in the 2025 activities of BEDA (Bureau of European Design Associations)
- GreenTech Plus – Digitalisation and innovative technologies in the green sector: cross-border development and knowledge sharing
- SZE Veres Péter Agricultural and Food Industry Technical School, Vocational School and Dormitory
- Bábolna-Multicolor (BMC) broiler hybrid for premium poultry meat with low environmental impact
- Measuring equipment and software using remaining-useful-life prediction for the reuse of used vehicle batteries

A further 15 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 164 courses, taught in 105 degree programmes, that address SDG 12 topics, including circular economy, waste reduction, recycling, life cycle, sustainable procurement, resource efficiency, supply chains.

Campus, outreach and programmes in 2025

Selective collection of municipal, paper and PET waste is available at several sites in Győr – the Liszt Ferenc utca complex, Régi Veszprémi út and the central campus (Egyetem tér 1) – and the collected waste goes to a licensed company for treatment and recovery. A central hazardous waste collection

point is being built on campus for the safe storage of laboratory hazardous waste. The new smart garden at the dairy demonstration plant includes composting units, and the plant's upgraded technology gives full digital traceability of raw materials and products.

Indicator	2024	2025
Municipal waste (thousand litres)	6,093.2	5,529.7 (−9.2%)
Drinking water use (m^3)	130,678	111,836 (−14.4%)

- RESZETT programme (spring 2025): circular-economy and sustainability education for primary schools using LEGO Education, including the 4th Sövény Eco-Olympics.
- Audi Development Camp (July 2025) on ESG and corporate responsibility, and circular-economy sessions at COS 2025 (November 2025).
- Digital transformation of administration: a Teams-based budget-planning platform and a digital inventory system cut paper-based administration. The FinData Centre applies robotic process automation and AI to save resources.
- Dedicated courses: Sustainable Food Processing, Sustainability Indicators, Fundamentals of Sustainability Finance and Accounting, Sustainable Vehicle Manufacturing and Sustainability in Additive Manufacturing.

Targets and monitoring

Material topic	Target 2035	Target 2050
Wastewater and waste	Increase the selective waste collection rate to 80%; implement at least 2 circular university projects; implement circular, low-waste solutions together with partners.	Reach a 100% recycling rate; increase the share of waste fed back into circular flows to 80%.

See the Annex (Sustainability Report 2025): Annex 8 (waste management); Annex 9.



SDG 13 – Climate Action

Progress report 2025 · Széchenyi István University

SZE's Sustainability Strategy 2022–2030 was developed in response to global and regional environmental challenges, including climate change and rising greenhouse gas emissions. Carbon neutrality is one of its four priority areas. The Climate Action Plan 2022–2035 (with an outlook to 2050) sets out measures on campus energy efficiency, renewable energy, sustainable mobility, waste and water management, biodiversity and green infrastructure.

Research contribution to SDG 13

104	53%	60%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 104 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 13. This is 8.6% of the University's 1,211 Scopus publications that year, up from 76 in 2024.

Selected 2025 publications

- Managing soil health for climate resilience and crop productivity in a changing environment – *Science of the Total Environment (2025).* doi:10.1016/j.scitotenv.2025.180460
- Metakaolin-Enhanced Laterite Rock Aggregate Concrete: Strength Optimization and Sustainable Cement Replacement – *Buildings (2025).* doi:10.3390/buildings15244553
- A review of hydrogen energy in renewable energy supply chain finance – *Discover Sustainability (2025).* doi:10.1007/s43621-025-01007-0

SDG-related projects running in 2025

- GreenTech Plus – Digitalisation and innovative technologies in the green sector: cross-border development and knowledge sharing
- Bábolna-Multicolor (BMC) broiler hybrid for premium poultry meat with low environmental impact
- Restoring motorway slope stability with a self-healing ecological technology under disaster-risk conditions
- Measuring equipment and software using remaining-useful-life prediction for the reuse of used vehicle batteries
- Research and development of innovative green technologies for carbon neutrality

A further 18 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 54 courses, taught in 68 degree programmes, that address SDG 13 topics, including climate change, mitigation, adaptation, emission reduction, carbon neutrality, climate risk, resilience.

Campus, outreach and programmes in 2025

The University's greenhouse gas emissions are determined mainly by its energy use: natural gas is a direct and purchased electricity an indirect emission source, while district heating in Győr – mostly geothermal – has an emission factor of zero. Emissions were 4,504.1 t CO_2 in 2024 and 4,602.9 t CO_2 in 2025, a rise of 98.7 t (2.2%). Electricity consumption rose, but solar generation grew significantly, so grid purchases rose only moderately, and natural gas use remained stable. Further decarbonisation

depends on expanding own renewable generation, optimising electricity use and further reducing gas use.

Indicator	2024	2025
Greenhouse gas emissions (t CO_2)	4,504.1	4,602.9 (+2.2%)
Solar PV generation (MWh)	794.3	931.7 (+17.3%)
Share of electricity covered by solar PV	8.2%	9.2%

GHG emissions in earlier years: 4,831.7 t (2021), 3,909.2 t (2022), 4,170.2 t (2023). 2024 values are revised.

- TRANSFER Danube on climate extremes such as drought and floods in Danube-region agriculture.
- ClimateSmartExperiments: a European network of research stations developing climate-smart farming, led in Hungary by Dr István Kulmány.
- Climate-Adapted Heat-Resilient Cities: a Győr–Graz project reducing the health risks of heatwaves. SZE holds Europe's first higher-education Light UAS Operator Certificate, which supports environmental monitoring by drone.
- Climate education for children: the 2025 Apáczai Children's University camps had environmental protection and sustainability as their main theme.
- Climate education: Sustainable Architecture 1: Climate (MSc) and Sustainable and Climate-Friendly Urban Development (postgraduate); Senior University lecture 'Pale Blue Dot' (7 April 2025).

Targets and monitoring

Material topic	Target 2035	Target 2050
Greenhouse gas emissions	Reduce SZE's total carbon footprint by 30% (base year: 2018); obtain an international green certification for at least one university building; achieve carbon neutrality.	Reduce SZE's total carbon footprint by 100% (base year: 2018); positive-energy buildings reach 50% of the building stock.
Energy use	Reduce SZE's total energy consumption by 15% (base year: 2018); increase the share of renewable-based generation in SZE's energy use to 10%.	SZE becomes energy self-sufficient, based entirely on renewable energy.

See the Annex (Sustainability Report 2025): Annex 5; Annex 8 (greenhouse gas emissions); Annex 9.



SDG 14 – Life Below Water

Progress report 2025 · Széchenyi István University

Although Hungary is a landlocked country, SZE contributes to SDG 14 through research on freshwater ecosystems connected to the sea – above all the Danube and its catchment, which drains into the Black Sea – and through measures that protect water quality.

Research contribution to SDG 14

12	67%	33%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 12 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 14. This is 1.0% of the University's 1,211 Scopus publications that year, up from 4 in 2024.

Selected 2025 publications

- Optimisation of island integrated energy system based on marine renewable energy – *Fundamental Research (2025)*. doi:10.1016/j.fmre.2024.11.022
- The nexus of IoT and aquaculture: A bibliometric analysis – *Applied Food Research (2025)*. doi:10.1016/j.afres.2025.100838
- Robotics, drones, and other autonomous systems in the seafood sector – *Seafood 4.0 (book chapter) (2025)*. doi:10.1016/B978-0-443-33750-5.00017-2

SDG-related projects running in 2025

- Sustainable water management and integrated management of fish migration and habitats in the Danube basin and the north-western Black Sea
- MONSTUR in the DANUBE (DRP0301251)
- NENUPHAR – New governance models to enhance nutrient pollution handling and nutrients recycling

Teaching and learning

The University's 2025 curriculum mapping found 15 courses, taught in 17 degree programmes, that address SDG 14 topics, including marine ecosystems, fisheries, aquaculture, coastal systems, marine pollution, blue economy, ocean protection.

Campus, outreach and programmes in 2025

The Agricultural and Food Industry Research Centre studies the habitat use and migration of river fish and carries out research on sustainable freshwater fisheries. In 2025 the University started a project on sustainable water management and the integrated management of fish migration and habitats in the Danube basin and the north-western Black Sea (2025–2029), and it participates in MONSTUR in the DANUBE and in NENUPHAR on reducing nutrient pollution and recycling nutrients.

- MONSTUR in the Danube (Interreg Danube, 1 April 2025 – 31 March 2028): cross-border monitoring of sturgeon and protection of migratory fish.
- SWIM (Horizon Europe, awarded 2025): fish migration and habitats in the Danube basin and the north-western Black Sea, coordinated by SZE.

- Water-quality protection on SZE sites: wastewater self-monitoring several times a year and annual testing of the Vár-tó lake in Mosonmagyaróvár.

Targets and monitoring

Material topic	Target 2035	Target 2050
Wastewater and waste	Increase the selective waste collection rate to 80%; implement at least 2 circular university projects; implement circular, low-waste solutions together with partners.	Reach a 100% recycling rate; increase the share of waste fed back into circular flows to 80%.

See the Annex (Sustainability Report 2025): Annex 6; Annex 7; Annex 8 (water use).



SDG 15 – Life on Land

Progress report 2025 · Széchenyi István University

Halting biodiversity loss is one of the global challenges addressed by SZE's Sustainability Strategy 2022–2030, and the Climate Action Plan 2022–2035 gives biodiversity conservation and green infrastructure an important role in campus operation.

Research contribution to SDG 15

35	71%	77%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 35 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 15. This is 2.9% of the University's 1,211 Scopus publications that year, up from 20 in 2024.

Selected 2025 publications

- Global trade of medicinal and aromatic plants. A review – *Journal of Agriculture and Food Research (2025).* doi:10.1016/j.jafr.2025.101910
- Evaluation of early warning signals for soil erosion using remote sensing indices in northeastern Iran – *Scientific Reports (2025).* doi:10.1038/s41598-025-94926-x
- The role of geoparks in sustainable tourism development: a case study approach – *Geojournal of Tourism and Geosites (2025).* doi:10.30892/gtg.59206-1438

SDG-related projects running in 2025

- Sustainable water management and integrated management of fish migration and habitats in the Danube basin and the north-western Black Sea
- Restoring motorway slope stability with a self-healing ecological technology under disaster-risk conditions
- MONSTUR in the DANUBE (DRP0301251)
- Research and development of innovative green technologies for carbon neutrality
- Microgranulated starter fertiliser with arbuscular mycorrhizal fungi (AMF) inoculum to promote sustainable nutrient supply

A further 4 related projects are listed in Annex 6.

Teaching and learning

The University's 2025 curriculum mapping found 127 courses, taught in 126 degree programmes, that address SDG 15 topics, including biodiversity, ecosystems, forestry, soil protection, nature conservation, restoration, land use.

Campus, outreach and programmes in 2025

The University's green spaces are maintained continuously. In green-space development SZE consistently prefers native plant species and species compositions suited to the landscape, regularly replaces plants, and controls invasive species to help native species spread and increase ecological diversity. After construction projects, landscaping was carried out where needed, and a total of 4,137 m^2 of green roofs has been created on new buildings, strengthening ecosystem services. The campus green spaces are freely accessible to everyone. In 2025 a medicinal and herb garden and an orchard were also established at the dairy demonstration plant.

Indicator	2024	2025
Green roofs on new university buildings (m^2)	–	4,137

- Green Connections: SZE leads this Austrian–Hungarian project with the Wienerwald Biosphere Reserve Management, Esterházy Betriebe and the Pisztráng Kör nature-conservation association; biodiversity is assessed on 80 farms (organic vs conventional), with a bilingual farmer guide and wildflower demonstration areas.
- Cooperation agreement with Xantus János Zoo, Győr, on biodiversity conservation, environmental education and sustainable tourism.
- DALIA Szigetköz demonstration site: ecosystem restoration of Danube side branches; dedicated programme: Environmental Management Agricultural Engineering MSc.

Targets and monitoring

Material topic	Target 2035	Target 2050
Greenhouse gas emissions	Reduce SZE's total carbon footprint by 30% (base year: 2018); obtain an international green certification for at least one university building; achieve carbon neutrality.	Reduce SZE's total carbon footprint by 100% (base year: 2018); positive-energy buildings reach 50% of the building stock.

See the Annex (Sustainability Report 2025): Annex 6; Annex 8 (green space).



SDG 16 – Peace, Justice and Strong Institutions

Progress report 2025 · Széchenyi István University

Since 1 August 2020 SZE has been maintained by a public-interest trust foundation performing a public function (KEKVA), established by the Foundation for Széchenyi István University. The organisational structure has been redesigned to provide more flexible, efficient operation that is better adapted to 21st-century challenges, including sustainability expectations. The University's governance framework includes the Code of Conduct, the Data Security and Data Protection Regulation and the Quality Assurance Regulation, which are reviewed and updated regularly.

Research contribution to SDG 16

34	53%	82%
Scopus publications 2025	with international co-authors	open access

In 2025, SZE researchers co-authored 34 Scopus-indexed publications that Elsevier's SDG classification maps to SDG 16. This is 2.8% of the University's 1,211 Scopus publications that year, up from 26 in 2024.

Selected 2025 publications

- The politics of digital sovereignty and the European Union's legislation: navigating crises – *Frontiers in Political Science (2025).* doi:10.3389/fpos.2025.1548562
- Tracing knowledge diffusion trajectories in the research field of cyberbullying – *Heliyon (2025).* doi:10.1016/j.heliyon.2024.e41141
- Climate resilience through finance: The divergent roles of institutions and markets – *Finance Research Letters (2025).* doi:10.1016/j.frl.2025.108008

Teaching and learning

The University's 2025 curriculum mapping found 80 courses, taught in 82 degree programmes, that address SDG 16 topics, including rule of law, good governance, transparency, anti-corruption, human rights, access to justice, institutional quality.

Campus, outreach and programmes in 2025

Indicator	2024	2025
THE Impact Rankings 2025 – SDG 16	–	Top 300

- Governance: the Senate includes elected representatives of academic and non-academic staff and delegates of the Student and Doctoral Student Self-Governments. The Code of Conduct sets out SZE's stance against corruption and bribery, its conflict-of-interest rules and its guarantee of academic freedom. Annual financial reports are published.
- Internal control: in 2025 the Compliance Department documented 43 complete or partial processes, and the University control matrix now contains 270 control points.
- Advisory boards: professional advisory boards with external partners were formally appointed for six degree programmes in 2025, and faculty-level boards were set up for Vehicle and Mechanical Engineering.

- Policy support: an expert study with the HÉTFA Institute supporting the designation of Szigetköz as a priority development region; a victim-assistance cooperation agreement with the Ministry of Justice; and a Winter Seminar on digital child protection (February 2025).
- Neutral platform: SZE hosted Southeast Asian ambassadors and the TESIC 2025 conference (about 160 researchers from 14 countries), and held a sustainability-in-higher-education programme with the Hungarian UN Association and the Hungarian National Commission for UNESCO.
- Public awareness: Senior University lecture on current issues of online fraud (8 December 2025); Kautz Conference on Business and Economics (October 2025) as a forum for researchers, industry and policymakers.

Targets and monitoring

Material topic	Target 2035	Target 2050
Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

See the Annex (Sustainability Report 2025): Annex 2; Annex 4; Annex 5; Annex 9.



SDG 17 – Partnerships for the Goals

Progress report 2025 · Széchenyi István University

Partnership is one of the four priority areas of SZE's Sustainability Strategy 2022–2030, and the University's activities build on the 'knowledge pentagon' of industrial, governmental, civil, church and media partners. In 2025 SZE worked in cross-sector partnerships with public authorities, NGOs, companies and universities, contributed evidence to regional SDG policy and embedded sustainability education across its curriculum. In the THE Impact Rankings 2025 the University was among the world's top 300 for SDG 17, and it is a member of the UN Academic Impact (UNAI) network.

Research contribution to SDG 17

596	49.6%	89
publications with international co-authors	of 2025 Scopus publications	partner countries

Elsevier's SDG classification has no query for SDG 17, so research partnership is shown here through international co-authorship. In 2025, 49.6% of SZE's Scopus publications were written with international co-authors (37.4% in 2024), with partners from 89 countries; the most frequent partner countries were China, India, Türkiye, Pakistan, the United Kingdom, Saudi Arabia, the United States and Poland. Papers with more than 100 authors are excluded.

SDG partnership projects running in 2025

- SWIM – sustainable water management and integrated management of fish migration and habitats in the Danube basin and the north-western Black Sea (Horizon Europe)
- DALIA – Danube Region Water Lighthouse Action (Horizon Europe; 22 partner organisations, coordinated by the General Directorate of Water Management)
- MONSTUR in the Danube (Interreg Danube) and TRANSFER Danube
- GreenTech Plus – digitalisation and innovative technologies in the green sector: cross-border development and knowledge sharing
- Artificial Intelligence EDIH Hungary
- CODECS, trans4num, LiveNet and TechCoach – European multi-actor networks for sustainable agriculture
- Sustainability Integration Platform and Spin-off Ecosystem Development Programme

Teaching and learning

The University's 2025 curriculum mapping found 361 courses, taught in 172 degree programmes, that address SDG 17 topics, including partnership, cooperation, stakeholder engagement, knowledge transfer, internationalisation, policy coherence and SDG reporting. Dedicated sustainability programmes include the Environmental Engineering BSc, the ESG Expert MSc, the Environmental Management Agricultural Engineering MSc and the Regional and Environmental Economic Studies MSc, complemented by more than 40 sustainability-specific courses from BSc to PhD level coordinated by the Sustainability Competence Centre and the Department of Applied Sustainability.

Campus, outreach and programmes in 2025

- Regional SDG policy: an expert study with the HÉTFA Institute supporting the designation of Szigetköz as a priority development region, prepared for the process led by the Győr-Moson-Sopron County Government.
- Cross-border partnerships: the Climate-Adapted (Heat-Resilient) Cities project with the Municipality of Graz, and the SZE-led Green Connections project with the Wienerwald Biosphere Reserve Management, Esterházy Betriebe and the Pisztráng Kör nature-conservation association.
- Conference on Sustainability (COS 2025, 10–12 November): over 100 experts from 12 countries on five continents presented 102 papers in nine sections; the international scientific committee included the U.S. Environmental Protection Agency.
- Water dialogue: World Water Day 2025 events with the North Transdanubian Water Directorate, Pannon-Víz Ltd., the Municipality of Győr and local schools, and the fourth 'The Water We Wanted' conference with the Győr-Moson-Sopron County Chamber of Commerce and Industry.
- International dialogue: a sustainability-in-higher-education programme with the Hungarian UN Association and the Hungarian National Commission for UNESCO, and a meeting with Southeast Asian ambassadors on cooperation in higher education and sustainable development.
- Education for the wider community: Researchers' Night, the Senior University lecture series in Győr and Mosonmagyaróvár, the 'Me and My Country' programme and alumni events.
- Social partnerships: Cycling Without Age with the We Are of One Blood Foundation and residential care institutions.

Targets and monitoring

Material topic	Target 2035	Target 2050
Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

See the Annex (Sustainability Report 2025): Annex 1; Annex 4; Annex 6.

Annex – Sustainability Report 2025 (English translation)

This Annex is an English translation of the Sustainability Report 2025 of Széchenyi István University (Fenntarthatósági jelentés 2025, published in Hungarian in April 2026). It provides the institutional strategy, governance, operational data and targets that the SDG chapters of this report refer to. Charts and tables have been redrawn from the original data; photographs and the Hungarian-language organisational chart are not reproduced.

Annex 1. Introduction

Széchenyi István University has long been a leading actor in the sustainability efforts of Hungarian higher education. The institution regards it as a strategic goal that the principles of sustainable development prevail in its operational processes, in its teaching and research and in its social engagement. For the University, sustainability is not merely an institutional objective but a comprehensive approach that shapes the direction of its activities from decision-making processes to day-to-day operation. We are convinced that the knowledge and innovation generated through scientific research, high-quality education and industrial and social partnerships play a key role in addressing environmental, social and economic challenges. The University's activities are based on the knowledge pentagon model, built on cooperation with industrial, governmental, civil, church and media partners. This cross-sector network allows the scientific results and innovations created at the institution to support the achievement of sustainability goals directly and to contribute to solutions that strengthen social and economic adaptability. Through these partnerships the University also plays an active role in promoting regional and national sustainability initiatives. An innovation mindset is a defining element of the University's operation and encourages new initiatives and developments in the field of sustainability as well.

In 2025 our institution is preparing its Sustainability Report for the fifth time. The purpose of the document is to present the University's environmental, social and economic performance and its achievements in sustainability in a comprehensive and systematic way. The report also provides an overview of ongoing programmes, partnerships and initiatives, and sets out the development directions along which the institution intends to strengthen its sustainability commitment in the future. Regular reporting also contributes to transparent operation and ensures credible and reliable information for internal and external stakeholders. The document also seeks to show how sustainability considerations are built into the University's strategic decision-making processes, operational practices and partnerships. The aim of Széchenyi István University is to contribute actively to sustainable development through its teaching, research and social engagement and to set an example in the practical application of sustainability principles. Our institution strives to support the mitigation of the effects of climate change, the reduction of environmental pressures and the reduction of social inequalities.

Annex 2. Széchenyi István University

From the outset, the development of Széchenyi István University has been shaped by deliberate and strategic responses to local, regional and national economic needs. Through the continuous expansion of its programme portfolio and its extensive partnerships with economic and social actors, the institution contributes significantly to the development of the region. The University regards the integration of sustainability considerations into its operation as a priority task, and its long-term goal is to strengthen the competitiveness of the region and of Hungary as a leading driver of social innovation and economic development. The institution aims to create, through its teaching, research and innovation, knowledge capital and solutions that contribute to sustainable social and economic development.

Széchenyi István University was among the first Hungarian higher education institutions to implement the model change: since 1 August 2020 it has been maintained by a public-interest trust foundation performing a public function (KEKVA), established by the Foundation for Széchenyi István University. The institution's organisational structure has been transformed in recent years to provide more flexible

and efficient operation that is better adapted to the challenges of the 21st century, including sustainability expectations. The aim of this organisational and operational renewal is to enable the University to respond more quickly to changes in the economic and social environment and to support innovation and sustainability initiatives more effectively.

As part of the University's strategic renewal, the organisational structure of the engineering education and research areas was also transformed from 1 August 2025, with the aim of more effective cooperation between related engineering fields and even more flexible adaptation to industrial needs. Within this change, the engineering faculties continue in a new structure: the role of the Audi Hungaria Faculty of Automotive Engineering has been strengthened, the Faculty of Informatics and Electrical Engineering continues as an independent faculty, and transport and logistics education is integrated into the Faculty of Architecture, Civil Engineering and Transport Sciences. The aim of the restructuring is for the institution to respond even more effectively to the transformation of industrial structure, technological development and labour-market changes, while strengthening company partnerships and practice-oriented training.

The University's innovation parks and research centres play a key role in the economic and social use of teaching and research results and in strengthening knowledge transfer between higher education and industry. The Budapest Innovation and Training Centre, established in 2020, hosts research and training units of national and international importance linked to the capital's scientific and innovation environment. The Zalaegerszeg campus of Széchenyi István University is located directly next to the automotive proving ground of the ZalaZONE Innovation and Technology Park, as part of the ZalaZONE ecosystem. The SZE Zalaegerszeg Innovation Park on the campus hosts teaching and research in automotive and related focus areas. Since 2023 the Science Park (Design Campus) has provided more than 4,000 m^2 of space for research, incubation and teaching and for the new design programmes. The Mosonmagyaróvár Innovation Park on the Mosonmagyaróvár campus is an important centre for food-economy and agri-technology development. The infrastructure provides opportunities for R&D, industrial cooperation and innovation projects, with particular regard to technologies related to the food industry and agriculture. The development of innovation infrastructure helps the University to become a leading regional centre of R&D and technological innovation.

The institution's dynamic development is supported by successful national and international grants and by wide-ranging company partnerships. The objectives set out in the University's sustainability strategy and related reports serve to promote sustainable development through teaching, research and partnerships with local communities. The University strives to ensure that sustainability considerations prevail in every area of institutional operation, from teaching to infrastructure development. The institution seeks science-based solutions to the most important environmental, social and economic challenges, paying particular attention to supporting a development path that ensures a liveable environment for future generations. In connection with the UN Sustainable Development Goals (SDGs), the University offers a number of courses, programmes and initiatives that focus on sustainability and green innovation.

The institution is a member of the United Nations Academic Impact (UNAI) programme, which supports global cooperation among higher education institutions and research centres. As an active member of this international network, the University pays particular attention to promoting social equality, sustainability and responsible scientific thinking. International partnerships allow the University to play an active role at global level in developing and sharing sustainability solutions.

Annex 3. Our values

A defining element of the operation of Széchenyi István University is its close and long-term cooperation with the Municipality of the City of Győr and with the economic and social actors of the region. The development of the institution is closely linked to the economic, social and cultural processes of the city and the region, which mutually strengthens the relationship between the University and the local community. The University's activities thus go beyond the traditional framework of teaching and

research and actively contribute to the development of the region and to enriching community and cultural life.

The University's operation is defined by core values such as the pursuit of excellence, the capacity for renewal, openness, inclusion, cooperation, a proactive approach and support for the community. These values are reflected both in the objectives set out in the institution's strategic documents and in everyday practice. Value-based institutional operation ensures that the University can adapt in the long term to the challenges of a changing economic, social and technological environment. The University pays particular attention to encouraging scientific and professional dialogue. Important tools for this are regularly organised conferences, scientific events and professional forums, which provide opportunities to present research results and to strengthen interdisciplinary cooperation. Through all this the University operates as one of the leading intellectual and scientific centres of the city and the region. The practical implementation of the principles set out in the Institutional Development Plan ensures the University's continuous development and capacity for renewal. In teaching, research and university services alike, initiatives are implemented that are based on innovation, partnership and social responsibility. The University's facilities – including the University Concert Hall, the University Sports Hall and the University Library – are available not only to the university community but are also open to the residents of the city and the region. The sustainability approach also plays a prominent role in the operation of the University Library: the institution's Green Library initiative supports environmentally conscious operation, the collection of sustainability-related literature and education on sustainable lifestyles.

Openness and inclusion are among the fundamental characteristics of the university community. The institution supports diversity and recognises the value created by students and staff from different cultural, religious and social backgrounds. In this spirit, the University organises numerous programmes and events that serve knowledge sharing, community building and the strengthening of social cohesion. Such initiatives include the University Days, the University of the Third Age, Researchers' Night (including the Young Researchers' Challenge), the Job Fair and the Széchenyi Race. These events help the University to be present in the region not only in scientific life but also as an active participant in community and cultural life. Cooperation is one of the defining principles of the institutional operation of Széchenyi István University. The joint work of students, teachers and staff and the partnerships established with the city and the institutions of the region make it possible to achieve common goals, for example supporting sustainable urban development initiatives or strengthening social innovation. The University also plays an active role in social responsibility and environmental awareness-raising.

Creating a supportive institutional environment and encouraging a proactive approach are also important elements of the University's operation. The institution seeks to provide modern infrastructure, adequate resources and supportive services for its students, teachers and staff so that high-quality teaching, research and community activities can be carried out.

Annex 4. Engaging with our stakeholders

The conscious and systematic management of stakeholder relations plays a prominent role in the operation of Széchenyi István University. The institution starts from the view that sustainable operation and long-term value creation can only be ensured if the perspectives of the internal and external stakeholders influencing the organisation's activities are properly reflected in decision-making processes. To this end, the University strives to maintain a continuous and structured dialogue with its partners and to take stakeholders' feedback and expectations into account in its activities. Strengthening stakeholder cooperation also contributes to achieving the institution's strategic goals and to enforcing sustainability considerations. In managing stakeholder relations, the University strives for transparency, regular information and the incorporation of feedback into institutional decision-making and development processes. Cooperation with stakeholders supports the achievement of the University's sustainability objectives, particularly in knowledge sharing, innovation and social responsibility.

Internal stakeholders are primarily students, teachers, researchers and staff working in the University's various organisational units. Students are the central actors of teaching, while teachers and researchers shape the institution's scientific and innovation performance. Management and functional units play an important coordinating role, ensuring the alignment of institutional processes and the achievement of strategic goals. In designing its organisational structure, the University strives for transparent operation, support for effective decision-making and fast information flow. Communication within the university community is supported by several channels. In addition to the institutional website and internal information systems, the digital platforms of the Communication and Alumni Directorate support broad and modern information sharing. Regularly organised student and staff forums provide opportunities for direct dialogue and strengthen cooperation and trust within the community. The University also supports stakeholder dialogue through professional consultations, partnership meetings, joint research projects and industrial and professional events. The University supports the involvement of students through various forums, the student representation system and community initiatives, giving them the opportunity to take part in shaping institutional processes.

The University's external stakeholders include the maintaining Foundation for Széchenyi István University, state and government organisations, local and regional authorities, professional chambers, economic actors and civil society organisations. The institution builds strategic partnerships with these partners that are important in knowledge sharing, innovation development and social responsibility alike. Within these partnerships the University holds regular consultations with its partners and involves them in programmes and projects that contribute to the sustainable development of the region and the country. Through these partnerships the University plays an active role in developing the regional innovation ecosystem and supporting knowledge-based economic and social development.

The activities of Széchenyi István University have a significant social impact. Its educational programmes reach different age groups, while its R&D projects are implemented in cooperation with numerous national and international partners. Its international network includes universities, research institutes, companies and professional organisations with which the institution carries out joint research and innovation projects. These partnerships contribute to the practical application of scientific results and to addressing social challenges. International partnerships help to strengthen the University's scientific visibility and to develop joint responses to global sustainability challenges.

An important form of industrial cooperation is dual training, which strengthens the close relationship between the University and its company partners. The programme started in 2015 in cooperation with Audi Hungaria Zrt., initially within the automotive engineering bachelor's programme. Since then the range of dual programmes has expanded continuously. In the spring semester of the 2024/2025 academic year this form of training was available in 16 programmes (12 bachelor's and 4 master's), increasing to 17 programmes (13 bachelor's and 4 master's) in the autumn semester of 2025/2026. A total of 38 company partners took part in the programme in 2025. The expansion of the offer is also shown by the launch of dual training in the Architecture BSc from the first semester of 2025/2026.

Partnerships with economic actors are defining elements of the University's strategic operation, providing opportunities to strengthen the practical orientation of programmes and to adapt to labour-market needs. Company partnerships also help sustainable technological solutions and competences related to environmental awareness to appear in educational programmes. Industrial partnerships are further strengthened by the SZE-DUO internship programme, operated jointly by the University's Centre for Higher Education and Industrial Cooperation (FIEK) and Uni Inno Zrt. The aim of the initiative is for students to gain professional experience in a real industrial environment during their studies, while companies gain access to the University's research results and the innovative approach of its students.

The system of stakeholder cooperation provides an institutional framework in which cooperation between internal and external partners mutually strengthens teaching, research and innovation. As a result, Széchenyi István University operates a partnership network that supports the enforcement of sustainability goals and the strengthening of the institution's social and economic role in the long term. To manage stakeholder relations systematically, the University regularly reviews and evaluates its stakeholder groups. The institution's main stakeholder groups include students, teachers and

researchers, university staff, the maintaining organisation, state and municipal institutions, economic and industrial partners, civil society organisations, and local and regional communities. The University maintains continuous contact with these actors through various forms of cooperation. Stakeholder feedback and the experience of cooperation are regularly incorporated into the formulation of the University's strategic and sustainability objectives. By consciously developing stakeholder relations, the University creates a cooperative environment that supports sustainable development and the strengthening of the institution's social value-creating role in the long term.

Annex 5. Sustainability in the strategy and organisation of Széchenyi István University

Sustainability is a strategic area in the operation of Széchenyi István University and plays a defining role both in setting institutional development directions and in everyday operation. In response to global and regional environmental challenges – including climate change, the overuse of resources, rising greenhouse gas emissions and the loss of biodiversity – the University developed its Sustainability Strategy, which sets the institution's main directions and objectives for the period 2022–2030. The aim of the strategy is for sustainability considerations to play a defining role at institutional level and to appear in an integrated way in teaching, research, infrastructure development and institutional operation. The strategic document provides a framework for reducing the University's environmental impact and for the coordinated implementation of measures related to sustainable operation. As part of this, the institution strives to reduce its ecological footprint and environmental impact and to develop institutional practices that support sustainable development. The strategy also emphasises that the university community – students, teachers and staff – should take an active role in achieving sustainability goals, and that the sustainability approach should also be strengthened among local and regional actors through the institution's partnerships.

Sustainability efforts also appear in the institution's overarching strategic documents. Following the model change, the Institutional Development Plan defines the University's mission, vision and development priorities, highlighting the University's social and economic role. The document emphasises supporting the development of the region, training graduates with competitive knowledge that meets labour-market needs, and strengthening innovation and entrepreneurial competences. The achievement of the strategic objectives is supported by a measurement and evaluation system that allows the continuous monitoring and, where necessary, modification of institutional programmes and developments. The achievement of the sustainability objectives is also supported by the Climate Action Plan 2022–2035 (with an outlook to 2050). The action plan sets out the measures and development directions that serve to reduce the University's environmental impact. Within the programme, the institution pays particular attention to improving the energy efficiency of its campuses, expanding the use of renewable energy sources, encouraging sustainable mobility solutions and developing waste and water management practices. The conservation of biodiversity and the development of green infrastructure also play an important role in the operation of the university campuses.

The institutional coordination of sustainability efforts is carried out by the Sustainability Competence Centre. The unit's tasks are to coordinate the University's sustainability programmes, to monitor institutional projects and to facilitate partnerships related to sustainability initiatives. The Centre's work helps the University's organisational units to pursue sustainability goals in a coordinated way, while ensuring the involvement of students, teachers, researchers and external partners. Accordingly, sustainability considerations also appear in the University's governance system. In strategic decision-making the institution strives to take environmental, social and economic impacts equally into account. This approach allows the University to shape its teaching, research and service activities in an integrated way, in line with the principles of sustainable development, and to play an active role in achieving regional and national sustainability goals.

Annex 6. Our sustainability activities: the University and the SDGs

The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 provide a comprehensive international framework for addressing global social, economic and environmental challenges. The framework comprises 17 goals and 169 targets, with 2030 as the deadline for their achievement. The SDGs aim to promote sustainable development, reduce social inequalities and support the responsible and sustainable use of natural resources in the long term. Achieving the SDGs is closely linked to international climate policy efforts, in particular the commitments made in the Paris Agreement. The framework provides guidance not only for nation states but is also an important reference for higher education institutions, research centres, companies and civil society organisations in promoting sustainable development.

According to the strategic approach of Széchenyi István University, the SDGs appear in many areas of institutional operation. The University has grouped the 17 SDGs into four thematic clusters, which allows a clearer integration of sustainability objectives into teaching, research, institutional operation and social engagement. The clusters help the systematic monitoring of sustainability initiatives and support indicator-based evaluation and monitoring processes. This approach also gives members of the university community (students, teachers, researchers and partner institutions) the opportunity to take an active part in achieving the goals. In its long-term sustainability strategy the University has set four overarching strategic goals for the period up to 2050, supported by twenty specific sub-goals. These are set out in detail in the Sustainability Strategy for 2022–2030, which also contains the operational breakdown of the goals and the related performance indicators.



The University's four thematic clusters of the SDGs: quality and ethical education (SDG 1, 2, 4, 5, 10); zero carbon emissions (SDG 7, 12, 13); partnership (SDG 3, 8, 11, 16, 17); environmental innovation (SDG 6, 9, 14, 15).

The achievement of the strategic goals is ensured by the commitment of the University's leadership, organisational structures supporting the sustainability approach, and the active participation of the university community. The achievement of the long-term goals is supported by two important milestones (2035 and 2050), which allow the scheduled implementation of sustainability programmes and the regular evaluation of the goals.

The institutional contribution to the SDGs appears not only in strategic documents but also in the University's everyday activities. The institution's educational programmes, R&D projects, scientific events and publication activity all contribute to achieving the sustainability goals. The University's researchers and teachers conduct research in various areas of sustainability – including energy, transport, environmental protection, social innovation and economic sustainability, and ESG – the

results of which appear in scientific publications and professional partnerships. Sustainability-related scientific activity has strengthened steadily at the University in recent years. In 2025, 434 publications related to sustainability topics, indexed in the Scopus database, were produced with the contribution of researchers of Széchenyi István University. The publications cover a broad spectrum and touch on research areas related to several SDGs. A significant proportion deal with sustainable energy use, environmental sustainability, the sustainability of agricultural and food systems, and resource efficiency. On this basis, the University's research shows particularly strong links with SDG 7 (Affordable and clean energy), SDG 11 (Sustainable cities and communities), SDG 12 (Responsible consumption and production), SDG 13 (Climate action) and SDG 15 (Life on land).

The aim of Széchenyi István University is to contribute actively to achieving the SDGs at regional and national level. In recent years numerous projects and institutional initiatives have been launched to strengthen environmental sustainability, innovation and social responsibility. These programmes help to raise the sustainability awareness of students and staff and to spread sustainable solutions at institutional and social level. The University's commitment to the SDGs reflects a long-term approach. An important principle of the institution's operation is 'think globally, act locally', under which the University implements international sustainability objectives in line with regional and local development processes. To this end, the structure of the SDGs provided the defining framework when the Sustainability Strategy was developed, enabling a transparent link between university initiatives and measures and the global goal system.

The sustainability performance of Széchenyi István University is also confirmed by international rankings. The institution regularly appears in the Times Higher Education Impact Rankings, which specifically assess the extent to which universities contribute to achieving the SDGs. In 2025 the University was ranked in the 401–600 band among the world's universities in the Times Higher Education Impact Rankings. It achieved a particularly good result in SDG 11 (Sustainable cities and communities), where it was among the top 200 institutions. It was also among the world's top 300 universities in SDG 16 (Peace, justice and strong institutions) and SDG 17 (Partnerships for the goals).

The University's international recognition is also reflected in the results of the QS World University Rankings. Published by Quacquarelli Symonds (QS), the ranking is one of the best-known higher education evaluation systems in the world and assesses, among other things, teaching quality, academic reputation, international presence and industrial cooperation. Széchenyi István University was ranked in the 1001–1200 band of the QS World University Rankings 2025. In the sustainability assessment of the ranking, the institution was placed 889th among the world's universities, with a sustainability score of 3.5. The results show that the University is present internationally in rankings assessing sustainability performance and continuously strives to strengthen sustainable operation and social responsibility.

Sustainability-related projects of the University and their SDG links

Project title	Start	End	SDGs
Sustainable Mobility and Transport Symposium 2025	2024.11.01	2025.09.30	9, 11, 13, 17
Production and validation of synthetic fuels in large-company–university cooperation	2022.04.08	2025.12.31	7, 9, 13, 17
Robust design methods for 3D-printed electrical machines also applicable in e-mobility	2024.01.01	2027.12.31	7, 9, 12, 13
Improving the lifetime and mechanical recyclability of biopolymers and their composites	2025.01.01	2028.12.31	9, 12, 13
Cultivation of nutrient-enriched cereal (wheat) as a raw material for functional food	2021.10.01	2025.09.30	2, 3, 9, 12
Measuring equipment and software using remaining-useful-life prediction for the reuse of used vehicle batteries	2025.03.01	2027.02.28	7, 9, 12, 13
Research and development of innovative green technologies for carbon neutrality	2025.03.01	2027.02.28	2, 9, 13, 15

Project title	Start	End	SDGs
Prebiotic and synbiotic health-protecting product family based on the biotechnological conversion of meat-industry by-products	2025.03.01	2027.02.28	3, 9, 12
Microgranulated starter fertiliser with arbuscular mycorrhizal fungi (AMF) inoculum to promote sustainable nutrient supply	2025.03.01	2027.02.28	2, 12, 13, 15
Bábolna-Multicolor (BMC) broiler hybrid for premium poultry meat with low environmental impact	2025.07.01	2027.06.30	2, 9, 12, 13
REx-CLi-RES: Regional exergy-driven, climate-resilient renewable energy system	2025.01.02	2028.01.01	7, 9, 11, 13
Restoring motorway slope stability with a self-healing ecological technology under disaster-risk conditions	2025.06.01	2028.05.31	9, 11, 13, 15
Participation of the SZE Design Campus Competence Centre in the 2025 activities of BEDA (Bureau of European Design Associations)	2025.11.01	2026.10.31	4, 9, 12, 17
Sustainable water management and integrated management of fish migration and habitats in the Danube basin and the north-western Black Sea	2025.09.01	2029.08.31	6, 14, 15, 17
Development of the SZE dairy processing demonstration plant	2024.02.01	2025.09.15	2, 4, 9, 12
GreenTech Plus – Digitalisation and innovative technologies in the green sector: cross-border development and knowledge sharing	2025.11.01	2028.10.31	8, 9, 12, 13, 17
Artificial Intelligence EDIH Hungary	2023.09.01	2026.08.31	8, 9, 13, 17
MONSTUR in the DANUBE (DRP0301251)	2025.04.01	2028.03.31	6, 14, 15, 17
Novel operating models and development opportunities also based on renewable energy sources	2024.12.12	2026.04.30	7, 9, 13
Hydrogen as an energy source and pilot application of carbon dioxide capture	2022.04.01	2026.11.30	7, 9, 13
WREN – Monitoring and prediction methods supporting climate adaptation	2022.04.01	2025.06.30	2, 6, 9, 13
SZE Veres Péter Agricultural and Food Industry Technical School, Vocational School and Dormitory	2025.09.01	2026.03.31	4, 10, 12, 17
Sustainability attitudes of French and Hungarian university students and their cultural embeddedness	2025.01.01	2025.12.31	4, 10, 17
CODECS – Maximising the CO-benefits of agricultural Digitalisation through conducive digital ECoSystems	2022.10.01	2026.09.30	2, 8, 9, 12, 17
NENUPHAR – New governance models to enhance nutrient pollution handling and nutrients recycling	2023.11.01	2027.05.01	6, 9, 12, 14
trans4num – Transformation for sustainable nutrient supply and management	2022.12.01	2026.11.30	2, 6, 12, 15, 17
LiveNet (Advisors Livestock Network)	2025.01.01	2029.12.31	2, 12, 15, 17
TechCoach: Connecting Operational Groups across borders to enhance farmers' ability to assess, adopt and integrate Smart Crop Farming technologies	2025.02.01	2028.01.31	2, 9, 12, 17
HIDALGO2 – HPC and Big Data Technologies for Global Challenges	2023.01.01	2026.12.31	7, 9, 11, 13
DALIA – Danube Region Water Lighthouse Action	2023.01.01	2026.12.31	6, 13, 15, 17
National Laboratory for Water Science and Water Security	2022.06.01	2026.02.28	6, 9, 11, 13, 15
National Laboratory for Renewable Energy	2022.01.01	2026.02.28	7, 9, 12, 13
Sustainability Integration Platform	2024.07.01	2026.12.31	12, 13, 17
Spin-off Ecosystem Development Programme	2024.07.01	2026.12.31	8, 9, 17

Project title	Start	End	SDGs
Social and environmental perspectives: consumer economics, marketing, and modelling and simulation of complex processes	2024.07.01	2026.12.31	8, 9, 12, 13
Sustainable railways – energy efficiency of electric rail vehicles and their infrastructure	2024.07.01	2026.12.31	7, 9, 11, 13
Preparation and pilot of an urban autonomous, electric, demand-responsive transport service (lower CO_2 emissions and environmental load, traffic optimisation, green mobility and road safety)	2023.04.01	2027.12.31	3, 9, 11, 13
Battery Test Competence Centre – HR competence development, equipment procurement and related R&D	2025.01.01	2026.12.31	7, 8, 9, 12

Annex 7. Sustainability in teaching and research

In the University's teaching, knowledge, skills and competences related to the sustainability goals play a prominent role at every level of education, from bachelor's (BSc) programmes through master's (MSc) programmes, postgraduate specialist and specialist engineering programmes to short-cycle continuing education. Our institution aims for its students to acquire up-to-date knowledge that is competitive on the labour market and that, in addition to professional preparedness, strengthens commitment to social responsibility, ethical professional conduct and the sustainability approach. To this end, educational programmes pay particular attention to enabling students to recognise and apply sustainability considerations in their own field and to contribute actively to addressing global and national sustainability challenges. In several fields of study the University builds topics related to sustainable development into the curriculum, including the circular economy, life-cycle analysis, energy efficiency, sustainable mobility, the effects of climate change and social responsibility.

Sustainability considerations appear in the University's programmes in several ways: on the one hand as stand-alone courses and specialised programmes, and on the other integrated into the subjects of various disciplines. Topics related to sustainable development – such as environmental protection, energy efficiency, sustainable economic operation or social responsibility – appear in several fields of study, helping students to develop systems thinking. Engineering and technical programmes put particular emphasis on energy-efficient technologies, sustainable infrastructure and environmentally friendly transport solutions, while economics and social science programmes emphasise responsible corporate governance, sustainable economic models and social innovation. The development of sustainability competences is also served by new or renewed programmes that prepare students for the integrated handling of environmental, social and economic considerations. These include the ESG – Environmental, Social and Governance Specialist master's programme, whose programme the University developed in 2023 and whose accreditation was successfully completed in 2024. The programme builds on a multidisciplinary approach to sustainability topics and integrates issues related to the UN SDGs into the curriculum.

The continuous development of educational content is of great importance to the University. Course leaders regularly review and update course content so that students encounter the latest scientific results and professional practices. The processing of sustainability topics is also supported by project-based assignments, case studies and research projects in which students can work on solving real economic and social problems. The practical orientation of the programmes is strengthened by the involvement of guest lecturers, industry experts and external partners, which helps students to become familiar with the practical application of sustainability issues. Through industrial partnerships and dual training programmes students can also gain direct experience of how sustainability considerations are applied in corporate practice. Through its teaching, Széchenyi István University contributes to training professionals who can take sustainability considerations into account in their own field and take an active part in the sustainable transformation of economic and social systems.

The table below gives an overview of how the courses linked to individual programmes relate to the UN Sustainable Development Goals. The list – without claiming to be complete – illustrates that

sustainability topics appear in many areas of university teaching and contribute in an integrated way, at different levels of the programmes, to shaping students' attitudes and developing their professional competences. The richness of teaching content is significantly influenced by the research activity, professional experience and scientific interests of the teachers.

Courses and degree programmes linked to each SDG (2025 curriculum mapping)

SDG	Keywords	Courses	Programmes	Course–programme links
SDG 1	poverty, social inclusion, social protection, vulnerable groups, housing, basic services	79	90	239
SDG 2	food security, nutrition, sustainable agriculture, agri-innovation, food systems, animal welfare	133	112	284
SDG 3	public health, prevention, well-being, mental health, patient safety, health care, epidemiology	186	121	414
SDG 4	inclusive education, lifelong learning, digital skills, pedagogy, learning outcomes, access, teacher training	681	197	3,133
SDG 5	gender equality, the situation of women, empowerment, equal opportunities, discrimination, diversity, inclusion	210	158	721
SDG 6	water quality, drinking water, sanitation, wastewater, hygiene, water management, groundwater	150	70	339
SDG 7	renewable energy, energy efficiency, decarbonisation, energy storage, smart grid, clean fuels, energy transition	22	46	72
SDG 8	decent work, employment, labour market, enterprise development, productivity, occupational safety, SMEs, inclusive growth	244	155	728
SDG 9	innovation, infrastructure, industrial development, R&D, technology transfer, manufacturing, digitalisation, logistics	597	164	1,406
SDG 10	social inequality, inclusion, accessibility, disability, migration, minorities, equal opportunities	271	142	775
SDG 11	urban development, smart city, mobility, public transport, housing, cultural heritage, resilience, land use	134	157	421
SDG 12	circular economy, waste reduction, recycling, life cycle, sustainable procurement, resource efficiency, supply chains	164	105	353
SDG 13	climate change, mitigation, adaptation, emission reduction, carbon neutrality, climate risk, resilience	54	68	101
SDG 14	marine ecosystems, fisheries, aquaculture, coastal systems, marine pollution, blue economy, ocean protection	15	17	19
SDG 15	biodiversity, ecosystems, forestry, soil protection, nature conservation, restoration, land use	127	126	315
SDG 16	rule of law, good governance, transparency, anti-corruption, human rights, access to justice, institutional quality	80	82	154
SDG 17	partnership, cooperation, stakeholder engagement, knowledge transfer, internationalisation, policy coherence, SDG reporting	361	172	880

The University gives particular support to research directions that deal with the environmental, social and economic dimensions of sustainability. Sustainability-related research is present in several of the institution's scientific fields – including engineering, economics, agricultural and social sciences – promoting interdisciplinary cooperation and the development of innovative solutions. At our institution,

research and teaching on sustainability topics build on long-standing traditions that have been steadily present across the research community over the past decades.

Building on this tradition, the great majority of the University's competence centres are closely linked to issues of sustainable development. These centres create a multidisciplinary knowledge base, promote interdisciplinary cooperation and help the University to be a significant actor in developing scientific and practical responses to sustainability challenges.

Sustainability Competence Centre

- Coordination of sustainability research.
- Internationalisation in the field of sustainability.

Agricultural and Food Industry Research Centre

- Precision, sustainable crop production, animal husbandry and feeding.
- Study of low-carbon sustainable crop production practices.
- Study of the benefits of organic farming.
- Food-safety issues of new supply chains (e.g. the Digital Producers' Market).
- Study of habitat use and migration of river fish.
- Research related to sustainable freshwater fisheries management.

Digital Development Centre

- Precision farming and the 5G SMART Farm.
- Digital economy – sharing economy.

Vehicle Industry Research Centre

- Systems and control theory research.
- Cooperative control of autonomous vehicles in intelligent transport systems.
- Application opportunities of artificial intelligence.
- Research on Big Data systems.
- Economic issues of the spread of autonomous vehicles.
- Precision crop production.

Management Campus Competence Centre

- Study of user and open innovation.
- Business-cycle and economic research, study of cooperation networks.
- Research on family businesses and generational change.
- The role of artificial intelligence in restructuring work.

Sustainability considerations play a defining role in planning research activities and setting research directions at the University. Sustainability is a priority area in the institution's research, development and innovation strategy, appearing not only as a stand-alone research topic but also in an interdisciplinary approach linked to various scientific fields. Thanks to this approach, in recent years the University has developed significant research capacities and infrastructure that enable the broad scientific study of sustainability issues.

Research activities range from individual research work through thematic research groups and collaborations in research projects to the work of institutional research units dealing with sustainability. These organisational and scientific frameworks help numerous studies to be carried out at the University that examine the environmental, social and economic dimensions of sustainability alike. The research results produced at our institution appear ever more widely in the national and international scientific arena. This confirms the institution's scientific performance and its commitment to sustainability topics, and strengthens the University's role in the scientific discourse on global sustainability challenges. The University carries out numerous sustainability-related RDI activities, focusing among others on the following areas:

Automation, Industry 4.0

- Research and development of decarbonisation and intelligent transport systems
- Industrial robot simulation and programming
- Mobile robot development

Architecture and construction

- Development of measurement solutions, monitoring and laboratory testing tools
- Geotechnical numerical modelling of new renewable technologies, structures and processes

Humanities and social sciences

- Research methodology support

Information technology and telecommunications

- 5G health impact assessment
- Digital economy – sharing economy
- Precision farming and the 5G SMART Farm

Vehicle systems development

- Battery management
- Development of autonomous robot and vehicle control

Agricultural technology and environment

- Food and feed microbiology testing
- Agricultural sensor network development
- Precision farming and the 5G SMART Farm
- Basic and extended soil testing
- Feed and food analytics

Environmental protection and sustainability

- Environmental analytics and environmental modelling
- Life-cycle assessment
- Sustainable energy systems, integration of renewable energy sources
- Environmental impacts of the H2 value chain
- Study of the environmental spread of microplastics
- Sustainable corporate governance systems

Our research and innovation activity in sustainability is also supported by numerous successful grants, national and European Union funding, and commissions from the economic and government sectors.

Annex 8. Sustainability in university operations

In the University's operation, sustainability appears not only in teaching, research and social and industrial cooperation but as a principle that defines institutional operation as a whole. Our institution's strategic goal is to cause the least possible environmental burden through its activities and to organise its operation in a way that contributes to the responsible use of natural resources in the long term. To this end, environmental and sustainability considerations receive particular attention in decision-making. In various areas of university operation (such as waste management, water use or air-quality protection) the institution consistently gives preference to solutions that reduce environmental impacts.

Sustainability principles also play a defining role in planning developments and investments, in addition to institutional facility management. In its infrastructure developments the University strives to apply energy efficiency, modern technological solutions and the requirements of long-term sustainable

operation. Such investments help to reduce the institution's environmental impact while strengthening the University's exemplary role in sustainable institutional operation.

The continuous monitoring of environmental performance also plays an important role in the institution's operation. To this end, the University operates a monitoring system that allows the regular measurement and evaluation of indicators related to environmental impact. The monitoring system supports tracking the achievement of sustainability objectives and makes it possible to take appropriate measures where necessary. The system also plays an awareness-raising role within the university community, helping to strengthen the environmental awareness of students and staff.

In the following sections we present in detail the trend of the environmental impact related to the operation of Széchenyi István University, the most important environmental indicators, and the developments and results achieved in the recent period, for the 2025 base year. It should be noted, however, that the institution's environmental performance may also be influenced by certain external factors. In recent years such effects included global economic and energy-market changes and international political and economic processes, which may have indirectly affected institutional operation. In its infrastructure developments the University has consistently sought to apply energy-efficiency considerations. Between 2023 and 2025 several university buildings were renovated and modernised, contributing to lower energy use and more sustainable operation.

In 2025, sustainable operation, modern facility management and the strengthening of digital solutions and resource efficiency were key considerations in the University's infrastructure developments and modernisations. The investments and renovations carried out served not only to develop the infrastructure for teaching, research and practical training but also helped to create the conditions for more efficient, more conscious and environmentally more responsible operation in the long term. A particularly significant development was the expansion of the dairy processing demonstration plant, carried out as a complex development integrating sustainability and awareness-raising considerations. As part of the investment, a medicinal and herb garden, an orchard, a herb dryer, a seedling nursery and a smart garden system were established. The system was complemented by remote digital monitoring, a weather-monitoring station, a controlled irrigation system, a rainwater collection system and composting units, thus supporting sustainable raw-material production, practice-oriented teaching and the application of modern operating solutions at the same time. As part of the project, the processing technology was also further developed, enabling full digital traceability of raw materials, semi-finished and finished products and strengthening quality assurance and transparent operation.

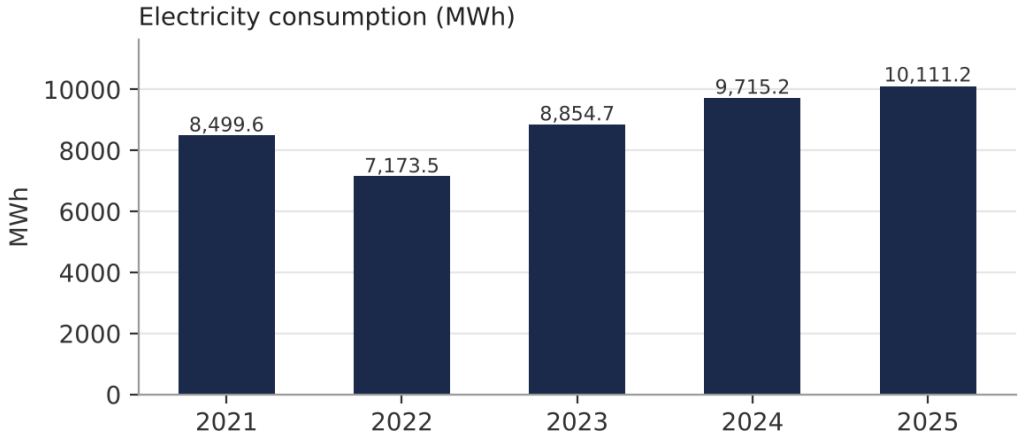
In 2025 the mechanical, electrical and interior renovation of the bakery and confectionery workshop of the Veres Péter school was also completed, supporting vocational training in a modern environment. The modernisation and accessibility upgrade of further buildings of the MedTech Campus on Zrínyi utca also began, improving the usability, accessibility and technical standard of the university infrastructure. The conservation renovation of the former Malom restaurant (E-Club) also progressed, including thermal-insulating plaster, window replacement and other structural improvements. These interventions contribute at the same time to preserving the building stock, increasing comfort and improving the conditions for more sustainable operation. As a further important development, the complex renovation of the teaching, research and laboratory rooms of the Laboratory Building began, strengthening the infrastructure for high-quality teaching and research. During the year significant IT and technical equipment purchases were also made, contributing to the modernisation of teaching, research and operational processes, to strengthening digital capacities and to increasing the efficiency of institutional operation.

A favourable trend was observed in energy-efficiency results in 2025. Gas consumption of university properties fell by 14% compared with 2024 consumption, reflecting more conscious management of energy use and the favourable effects of earlier developments. Electricity use rose by 4%, primarily due to the expansion of the property portfolio, while the increase in district heating consumption was linked to the connection of new consumers. The University will continue to strive to improve energy efficiency, to apply modern operating solutions more widely and to examine and introduce alternative technologies such as heat-pump systems.

In evaluating energy-efficiency results it is important to note that the data for 2024 were revised during the 2025 data collection, so the comparisons below are based on the revised 2024 base year. According to the data, energy use showed a mixed picture in 2025. Electricity use rose from 9,715.2 MWh in 2024 to 10,111.2 MWh, an increase of 4.1%. Natural gas use, by contrast, was essentially stable: it rose from the revised 6,399.0 MWh to 6,426.9 MWh, an increase of only 0.4%. District heating use, however, rose more significantly, by 17.5%, from 9,988.1 MWh to 11,733.3 MWh. In parallel, drinking water use changed favourably: it fell from 130,678 m^3 in 2024 to 111,836 m^3, a reduction of 14.4%. The University will continue to strive to improve energy and resource efficiency, to apply modern operating solutions more widely and to further strengthen the role of renewable energy sources.

Electricity consumption

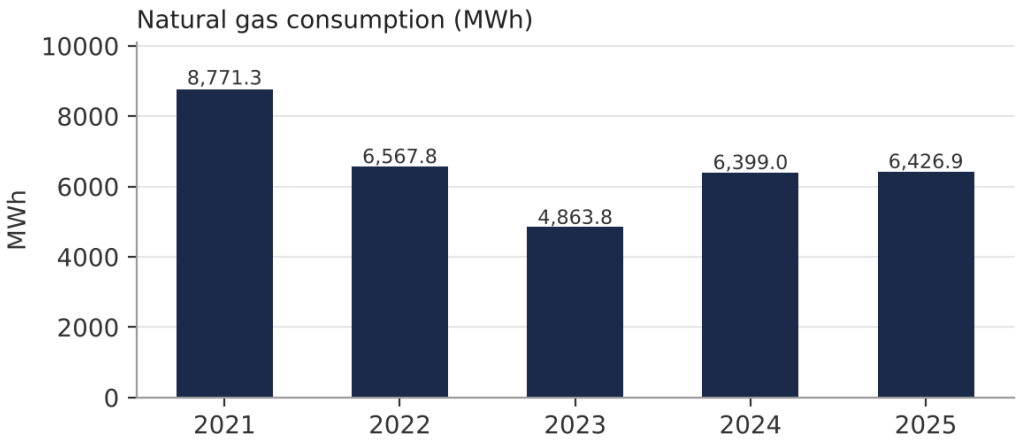
Based on the trend of the electricity consumption of Széchenyi István University, total consumption in 2025 was 10,111.2 MWh, compared with the revised 2024 value of 9,715.2 MWh. This is an increase of 396.0 MWh, or 4.1%. The number of consumption points using electricity rose from 104 to 106 in the same period, which partly explains the increase. Electricity demand continues to be affected by the expansion of the university infrastructure and by the intensity of teaching, research and operational activities. The rate of increase can nevertheless be considered moderate, indicating that the energy-efficiency developments of recent years and the more conscious organisation of operational processes continue to have an effect. Among the institution's buildings, the central campus complex at Egyetem tér 1 remains the largest consumer. However, this site also hosts the University's most significant solar PV system, which supports covering part of the electricity demand from renewable sources.



Natural gas consumption

Unlike in previous practice, natural gas consumption data are published in MWh, in line with the renewed data collection and processing process. In 2025 the University's total natural gas consumption was 6,426.9 MWh, slightly exceeding the revised 2024 value of 6,399.0 MWh. This represents an increase of 27.9 MWh, or 0.4%. Expressed in cubic metres, the quantity of natural gas used rose from 606,537 m^3 to 609,187 m^3, also a change of 0.4%. The number of gas consumption points rose from 36 to 37, while the gas-heated floor area remained unchanged at 63,491.55 m^2. The modernisation of heating systems remains a priority area of the energy developments of recent years.

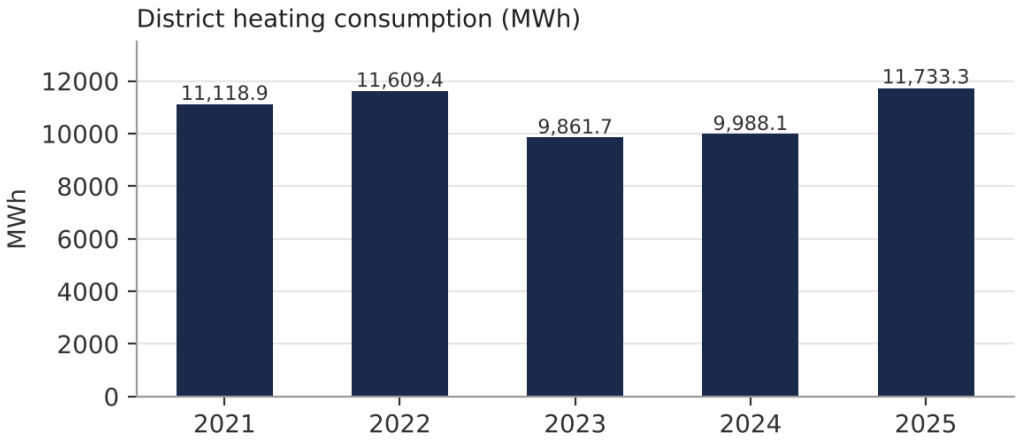
Based on the 2025 data, natural gas use remained stable overall: despite the appearance of a new consumption point and the intensity of institutional operation, no significant increase occurred. This indicates that the effect of earlier modernisations continues, but further technical and operational interventions are needed for further savings. Specific natural gas use per floor area was at almost the same level in 2024 and 2025, confirming that stabilisation rather than substantive change can be observed in this area. Among the buildings, based on consumption per floor area, the Mosonmagyaróvár dormitories remain among the largest gas users, so it is justified to prepare and implement energy developments in this area in the future.



District heating consumption

District heating data are relevant only for buildings at the Győr site. These include the central campus complex, the Faculty of Law, the city-centre buildings and the Synagogue. In 2025 the University's total district heating consumption was 11,733.3 MWh, while the revised 2024 value was 9,988.1 MWh. This is an increase of 1,745.2 MWh, or 17.5%. The number of consumption points supplied with district heating fell from 30 to 29, while the heated floor area remained unchanged at 117,427.47 m^2. This shows that the increase in district heating use did not result from an expansion of heated floor area but may primarily be linked to an increase in the actual heat demand of individual buildings.

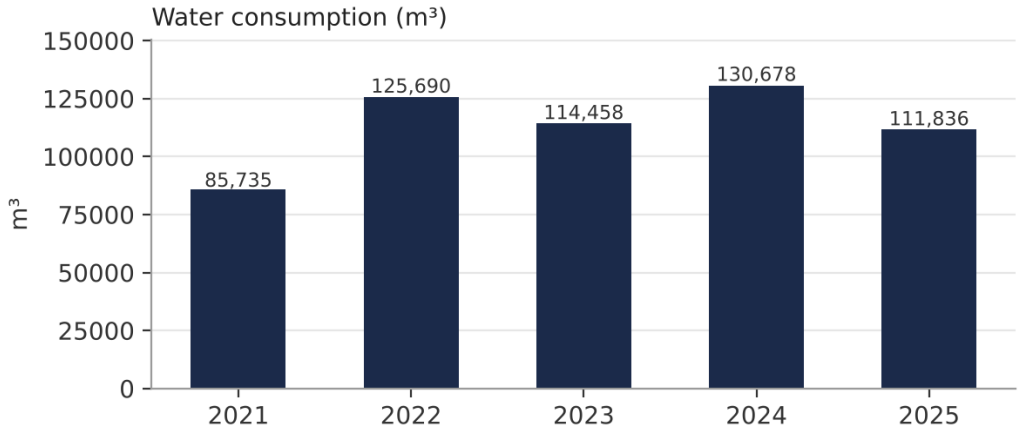
Heating university buildings with district heating results partly from local conditions and partly from a deliberate institutional decision. Compared with individual heating and hot-water systems, the advantage of district heating is that continuously changing consumer demand is met by centralised heat-generation plants. As a result, emissions from heat generation do not occur in the immediate vicinity of consumers but further away, under controlled conditions. However, the 2025 data also show that district heating use can be significantly influenced by weather conditions, the intensity of building use and the functional load of individual facilities.



Water use

The quantitative and qualitative protection of water is of particular importance to our institution. To this end, we carry out self-monitoring several times a year to determine the quality parameters of the wastewater generated, and the water quality of the surface water body managed by the University, the Vár-tó lake in Mosonmagyaróvár, is also tested every year. Based on the 2025 data, the University's drinking water use changed favourably. Total water use fell from the revised 2024 value of 130,678 m^3 to 111,836 m^3, a reduction of 18,842 m^3, or 14.4%. This is particularly favourable given that the number of water consumption points rose from 72 to 75. The volume of wastewater followed the same values, in line with drinking water use.

The reduction in water use indicates that more conscious organisation of resource use, stronger operational discipline and more efficient operation of technical systems have produced tangible results in this area. To maintain the favourable trend, it remains an important goal to monitor water use continuously, to apply water-saving solutions and to enforce water-protection considerations consistently in institutional operation.

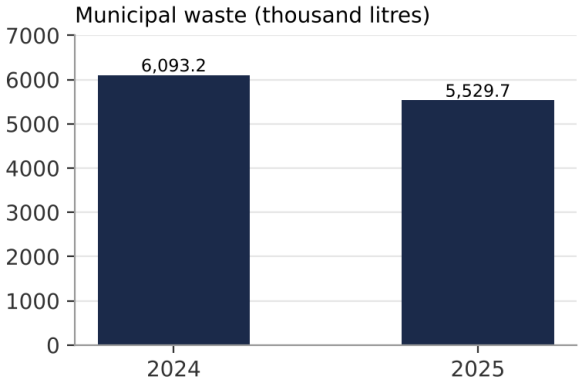


Waste management

Our institution's primary goal remains to generate as little waste as possible in its operation and to have as large a share as possible of the waste generated recovered. Compliance with the applicable laws and regulatory requirements is also fundamental in this area, and we comply with them in full. A significant part of the waste generated at the University continues to be collected as municipal waste by public service providers. According to the available data, the volume of municipal waste fell by 9.2% in 2025 compared with 2024. This is a favourable change, indicating that waste prevention and selective collection practices, as well as institutional awareness-raising, have become more effective in this area.

Selective waste collection continues to be provided at several sites in Győr, including the Liszt Ferenc utca complex, Régi Veszprémi út and the central campus at Egyetem tér 1. The conditions for separate collection are available for municipal, paper and PET waste, and the collected waste is passed to a licensed company for further treatment and recovery. Developing the waste management system will remain an important task in the future, in particular to increase the share of selectively collected fractions and to further reduce the total amount of waste generated.

A central hazardous waste collection point is being set up on the University's premises, which will primarily allow the safe storage of hazardous waste from laboratories and its preparation for transport.



Use of renewable energy

A priority goal of Széchenyi István University is to continuously increase the share of renewable energy sources in its energy supply while minimising energy use. During building renovations and façade reconstructions, renewable-based energy generation is generally implemented as far as possible,

primarily through the installation of solar panels. According to the available data, the University's installed solar PV capacity was 1,348.5 kW/kVA in 2025, the same as in 2024.

Annual generation from the solar PV systems, however, increased significantly: from 794.3 MWh in 2024 to 931.7 MWh in 2025, an increase of 137.4 MWh, or 17.3%. As a result, the share of electricity covered by solar panels also improved: from the revised 8.2% in 2024 to 9.2% in 2025. This shows that although total electricity consumption also rose, renewable-based generation expanded at a faster rate, so the University was able to cover an increasing share of its electricity demand from its own renewable sources.

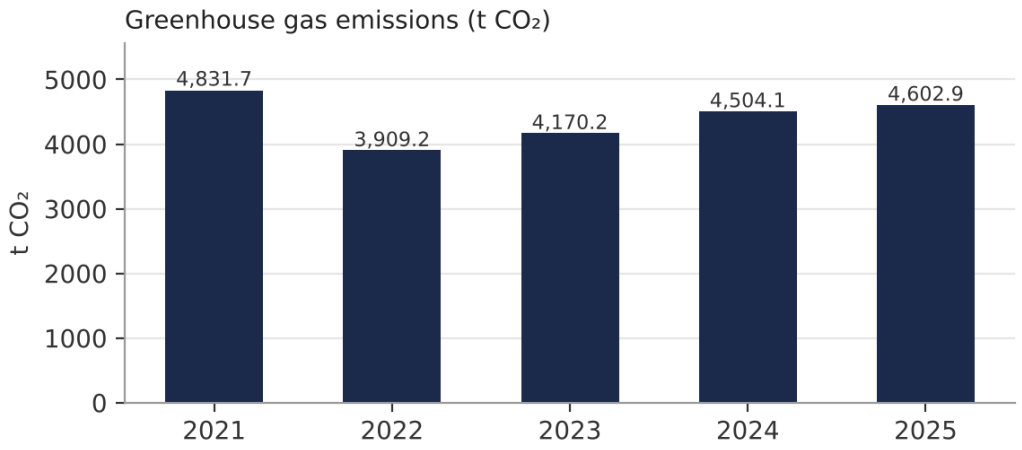
In two buildings of the central campus, solar thermal collectors also support hot-water production, so renewable energy is used in the institutional energy supply through a combination of several technologies. Based on the 2025 data, the institutional role of renewable energy strengthened further, contributing favourably to the University's energy-efficiency and decarbonisation efforts.

Green space management

The green spaces on the University's premises are maintained continuously and regularly. In green-space developments the institution consistently gives preference to native plant species and to planting and preserving species compositions suited to the landscape, thereby also contributing to strengthening biodiversity. Following institutional development investments, landscaping was carried out where necessary, and its maintenance and care are continuous. The plant stock is replaced regularly, and by controlling invasive species we promote the spread of native species, thereby supporting the expansion of ecological diversity. According to construction data, a total of 4,137 m^2 of green roofs has been created on the roofs of newly built buildings, which also contributes to strengthening ecosystem services. The campus green spaces and open areas are freely accessible to everyone.

Greenhouse gas emissions

The greenhouse gas emissions of Széchenyi István University are determined primarily by institutional energy use. In terms of the emission profile, natural gas use appears as a direct emission and purchased electricity as an indirect emission in the University's operation. A specific feature of district heating in Győr, however, is that its emission factor can be considered zero, since the service is based predominantly on a geothermal source. Accordingly, changes in district heating use are significant for the structure of energy consumption but do not increase the University's emissions in the greenhouse gas calculation. In evaluating the data it is important to note that the 2024 energy consumption data were revised during the 2025 data collection, so the comparisons are based on the revised 2024 base year. Based on the emission factors applied, the University's greenhouse gas emissions were 4,504.1 tonnes of CO_2 in 2024 and 4,602.9 tonnes of CO_2 in 2025. This represents an increase of 98.7 tonnes, or 2.2%. The 2025 emission level was shaped by opposing effects. Electricity consumption rose overall, but generation from the solar PV systems also increased significantly, so the growth in electricity purchased from the grid remained more moderate. Natural gas use, in parallel, remained essentially stable, rising only slightly. As a result, the growth in greenhouse gas emissions remained restrained. The data show that expanding own renewable generation, optimising electricity use and further reducing natural gas use remain decisive for the University's decarbonisation efforts.



Annex 9. Our focus areas and future goals

For Széchenyi István University, sustainability is a comprehensive approach that appears not only in teaching and research but in every area of the institution's operation. The University aims for sustainability principles to prevail in organisational decision-making, in partnerships and in everyday operation, and for institutional developments and programmes to be shaped along these principles. The sustainability objectives appear in several institution-level strategic documents that provide a framework for the University's long-term development. These include:

- Sustainability Strategy 2022–2030,
- Climate Action Plan 2022–2035,
- Equal Opportunities Plan 2022–2024,
- Code of Conduct,
- Data Security and Data Protection Regulation,
- Quality Assurance Regulation,
- Gender Equality Plan 2022–2024.

The regular review and updating of these documents ensures that the University's sustainability goals continuously adapt to changing environmental and social challenges. The institution's sustainability vision and strategic directions are summarised in the Sustainability Strategy, which, in addition to long- and medium-term goals, also defines the programmes and measures serving their achievement. The strategy is organised around four priority areas:

- Quality and ethical education,
- Carbon neutrality,
- Partnership for sustainability,
- Sustainability innovations.

The achievement of the strategic goals is supported by a total of twenty specific measures, defined in relation to the individual priority areas. To schedule long-term developments, the University has set two important time horizons: 2035 as a medium-term milestone and 2050 as the long-term target date. This approach allows the gradual achievement of the goals and the regular monitoring of implementation and results. The strategic focus areas were defined through a structured professional process. In defining the topics, the University's leadership took as its starting point the 33 material topics identified by the Global Reporting Initiative (GRI). From these, the areas were selected in which the University's operation has the greatest impact and in which sustainability performance can best be measured. The seven material topics chosen by the University's leadership are the following:

- Energy use,
- Greenhouse gas emissions,
- Wastewater and waste,

- Research and education,
- Diversity and gender equality,
- Equal opportunities,
- Local communities.

For each topic, specific and, where possible, measurable objectives have been defined, which the institution plans to achieve in line with the 2035 and 2050 time horizons. The commitments and related target values are summarised in the table below.

Material topics and targets for 2035 and 2050

No.	Material topic	Target 2035	Target 2050
1	Energy use	Reduce SZE's total energy consumption by 15% (base year: 2018); increase the share of renewable-based generation in SZE's energy use to 10%.	SZE becomes energy self-sufficient, based entirely on renewable energy.
2	Greenhouse gas emissions	Reduce SZE's total carbon footprint by 30% (base year: 2018); obtain an international green certification for at least one university building; achieve carbon neutrality.	Reduce SZE's total carbon footprint by 100% (base year: 2018); positive-energy buildings reach 50% of the building stock.
3	Wastewater and waste	Increase the selective waste collection rate to 80%; implement at least 2 circular university projects; implement circular, low-waste solutions together with partners.	Reach a 100% recycling rate; increase the share of waste fed back into circular flows to 80%.
4	Research and education	Increase the number of sustainability-related programmes and courses; launch a sustainability-focused degree programme (ESG expert); increase the number of sustainability-related student workshops; at least 5 sustainability awareness-raising actions per year.	SZE becomes a green university.
5	Diversity and gender equality	Keep the proportion of women in leadership positions high; launch diversity and equality programmes (at least 3 per year).	—
6	Equal opportunities	Launch equal-opportunity programmes (at least 3 per year); further strengthen equal opportunities for students through targeted programmes.	—
7	Local communities	Regular and formalised dialogue with representatives of the local community (at least 1 event per year); support for the local community through targeted programmes (at least 3 programmes per year).	—

The University continuously monitors the achievement of its sustainability goals. The institution's senior management receives information on results and the trend of related indicators in regular reports (at least annually). The regularly published Sustainability Reports provide a comprehensive picture of the evaluation of target achievement.

In implementing the sustainability strategy, the University pays particular attention to involving stakeholders. The institution strives for the feedback of students, staff, economic partners and local communities to be reflected in shaping sustainability initiatives. This partnership approach helps ensure that, through the University's activities, the city of Győr and the region can also take an active part in achieving local and national sustainability goals.