

Technical University in Zvolen
STRATEGY OF CLIMATE-RESPONSIBLE GREEN UNIVERSITY
2021–2026

SOURCES

Today, universities as centers of education and innovation face the challenge of actively contributing to carbon neutrality not only through teaching and research, but also through daily operations and the gradual implementation of mitigation and adaptation measures in individual areas. TUZVO with the focus of its four faculties (Faculty of Forestry, Faculty of Wood Science and Technology, Faculty of Ecology and Environmental Sciences, Faculty of Technology) has a unique position within the framework of environmental and ecological research and teaching in Slovakia, has a tradition of student initiatives and has so far implemented various pro-environmental measures (e.g. water retention measures) The need to develop a Strategy was also supported by the results of an informal online survey on the TUZVO social network as part of the promotion of the Race-to-zero project, where 93% of respondents supported the opinion that the university should reduce its carbon footprint.

TUZVO's strategy as a climate-responsible green university is based on TUZVO's Long-Term Plan for 2017-2023, in which the vision until 2030 states (p. 4): "In 2030, the Technical University in Zvolen will provide modern education as a systematic transfer of knowledge and common cultural and democratic values in an intergenerational process, but also strengthening the ideas of humanism, tolerance, cooperation and responsibility for life. In 2030, the Technical University in Zvolen will fulfill the concept of a "green university", providing state-of-the-art scientific knowledge for consistent adherence to the principles of sustainable living."

Since the Long-Term Plan is an open document, the fulfillment of strategic goals is evaluated annually on the basis of defined indicators, measures are updated if necessary in accordance with changes in internal and external conditions for its implementation. The strategy further follows on from: - Plan for ensuring the fulfillment of the Long-Term Plan of TUZVO 2017–2023 for the year 2021 - Current information on the fulfillment of the Long-Term Plan of TUZVO for the years 2017-2023 for the year 2020 - European Green Deal.

The strategy of the climate-responsible Green University is based on four interconnected pillars:

I Research, teaching, dissemination,

II Technical measures,

III Organizational measures,

IV Regional cooperation.

Considering the decisive areas in reducing CO₂ emissions (EUROSTAT 2018), we took them into account in the individual pillars when setting the goals.

During the preparation of the plan to transform TUZVO into a climate-responsible/green university, **the principles of participatory planning** were applied to support democratic processes on campus, **to support the adoption** of subsequent implemented measures by the widest possible community of TUZVO, and for **the sustainability** of the set changes.

The strategy applies to all TUZVO buildings, its campus as well as all organizational components. The measures will be regularly evaluated and updated so that they contribute as effectively as possible to achieving the individual goals of the Strategy.

Strategy, objectives, measures and indicators

For systematic changes in the day-to-day running of the university and the connection of research, teaching and the implementation of measures, the procedure will be carried out in individual areas according to the scheme:

Audit in a specific area - **evaluation** of results - establishment of measurable **goals and indicators** - **proposal** of measures - **implementation** of measures - **monitoring** of implementation and research of the consequences of measures – **controlling** of implementation - continuous **connection with teaching and information** within the framework of TUZVO - **sharing** examples of good practice with professional organizations and the public - media coverage

The mentioned steps will continuously be closely connected with teaching at the faculties according to the relevant study programs. Research on the consequences of individual measures will be carried out.

Pillar I RESEARCH, TEACHING, DISSEMINATION¹

Objective I-01: Increasing the professional growth of teachers and the acquisition of practical experience by students

- *Foreign trips and professional internships at universities and organizations with established environmental measures, reducing the carbon footprint, with social responsibility, etc. with the obligation to inform the management about inspirations and discuss the possibilities of implementation at TUZVO.*

¹ LONG-TERM PLAN OF TUZVO:

7 Main and cross-sectional areas of TUZVO development

Area 1 Educational activity

Strategic goal: Quality education comparable to the international level, taking into account the needs of the labor market

Area 2 Scientific research, creative and artistic activity

2.7 Popularize and make visible the results of scientific research and other creative activities of the university in the professional public

Area 3 Public relations, national and international cooperation

Strategic goal Building a positive image of the university, strengthening national and international cooperation.

Measures 3.1 To popularize the results of scientific research, teaching and other activities of the university in the general public.

3.2 Strengthen communications with the media and the public and promotion/marketing of the university.

3.4 Strengthen cooperation with the region and the city of Zvolen.

3.6 Support the mobility of students and employees.

Area 5 Student Support

Strategic goal Effective motivation of students, making spaces for student activities more attractive and ensuring social needs even for students with specific needs.

Indicators: number of teachers, number of students, number of days, number of measures introduced after returning to TUZVO

Objective I-02: Modernization of teaching methods and increasing the connection between teaching and practice

- *Courses in interactive and participatory teaching methods for TUZVO teachers and doctoral students, including vice-deans for pedagogical work*
- *Innovation of subject content and teaching method. Environmental minimum for students of the 1st year of bachelor's studies - entrance excursion around the university, familiarization with individual measures and TUZVO environmental standards*
- *Sharing examples of good practice between TUZVO, primary and secondary schools and the public*

Indicators: number of teachers, number of doctoral students, number of innovative subjects, number of theses, number of students involved in the implementation of measures of the TUZVO Green Strategy, number of participants in excursions

Objective I-03: Increasing the awareness of operational and technical workers and their skills to apply pro-environmental procedures

- *Course for school canteen workers (e.g. composting, environmental cleaning, foods with a low carbon footprint, environmental standards)*
- *Course for cleaning staff on environmental cleaning, environmental standards*
- *Course for maintenance workers (energy efficiency, pollinator-friendly mowing, environmental standards)*

Indicators: number of trained workers, number of implemented measures

Pillar II TECHNICAL MEASURES²

² LONG-TERM PLAN OF TUZVO

Area 7 Technical and investment development

Strategic goal High level of technical and technological infrastructure.

Measures

7.1 Revitalize and modernize the premises of the university for the development of pedagogical and scientific research workplaces at TUZVO, or create spatial conditions for the growth of university performance.

7.2 Improve the energy efficiency of the operation of objects and build an energy source of heating for selected objects.

In the plan: Task 7.2a) Preparation of project documentation for heating ŠD, ul. Student 17, or modernization of equipment in the TUZVO boiler room.

In deduction: In 2020, reconstruction and modernization work was carried out in the TUZVO boiler room in order to reduce the total energy costs for the operation of the university as a whole. Work was also carried out on the modernization of systems for automatic control and regulation of heating processes in university facilities.

7.5 Create a model of gradual reconstruction of TUZVO buildings and an optimal combination of financial resources.

Area II-A ENERGY

Objective II-A-01: reduction of energy efficiency of buildings

- *Insulation of individual TUZVO buildings, replacement of windows, functional thermoregulation in rooms with optimal temperature monitoring*
- *Replacement of lighting in individual buildings and in the TUZVO campus*
- *Replacement of electrical wiring*
- *Gradual replacement of devices (dining room, workshops and laboratories) with the highest energy classes*

Indicators: percentage of energy consumption reduction, percentage of replacement of individual elements

Area II-B TRANSPORTATION

Objective II-B-01: reduction of emission production from means of transport used by employees and students of TUZVO

- *Company cars and buses with a low carbon footprint - gradual replacement*
- *Construction of bicycle stands*
- *Purchase of bicycles and establishment of a sharing system for students and staff*
- *Bonuses for students and employees commuting to TUZVO other than by car and using official bicycles for business trips within the city*

Indicators: share of means of transport with a low carbon footprint, number of stops, number of bicycles, number of users

Area II-C FOOD

Objective II-C-01: treatment of biological waste from the kitchen by composting

Objective II-C-02: reducing the carbon footprint of meals offered in TUZVO catering facilities

- *Local, regional, Slovak products - selection of suppliers and their contracting*
- *Seasonality of the meals offered*
- *Organic foods of Slovak origin*

Indicators: share of meals according to individual criteria

In deduction: In 2020, the premises, especially the buildings of the Faculty of Ecology and Environmental Studies, were gradually modernized, in connection with the redistribution of the workplaces of the Faculty of Forestry and the Faculty of Environmental Ecology. Subsequently, in 2021, the premises of the Slovak Forestry and Timber Library are expected to be modernized following the completion of the "Window replacement in the Slovak Forestry and Timber Library" project, as well as the modernization of the premises in the university's main building.

7.9 Modernize TUZVO means of transport.

7.10 Build purpose-built demonstration facilities to increase the quality of educational processes and research activities of TUZVO workplaces.

Area II-D WASTE

Objective II-D-01: increasing the proportion of sorted waste

- *Ensuring a sufficient number of containers for sorting waste in all buildings (paper, plastics, glass, metal, multi-layer packaging, biowaste, electronics)*
- *Implementation of the most modern technologies for collection, sorting and utilization of waste*

Indicators: percentage reduction of unsorted municipal waste

Objective II-D-02: reduction of waste production

- *Overall reduction of waste production during the operation of the university (during meetings, during the organization of conferences, during renovations, etc. in accordance with the created environmental standards)*

Indicators: percentage reduction of the total amount of waste

Area II-E GREEN INFRASTRUCTURE

Objective II-E-01: building a functionally green infrastructure

- *Green roofs with access for the purpose of teaching and excursions*
- *Green walls*
- *Implementation of a favorable mowing regime for pollinators*
- *Nectar-yielding plantings and sowing*
- *Replenishment of plantings in the TUZVO area*
- *Completion of a community garden serving as a teaching demonstration object*

Indicators: area and ratio of green roofs and green walls, planting area, number of planted trees and canopy, number of elements in the community garden and number of teaching hours/subjects

Area II-F BIODIVERSITY

Objective II-F-01: support for the preservation of old apple and pear varieties and their processing into local products

- *Planting of a gene pool set of old apple and pear varieties*
- *Use of orchard produce in the school canteen and school cafeteria*
- *Establishment of a cider house and a fruit dryer for the processing of local products - for the consumption of local products and original university presents*

Indicators: number of planted trees, number of planted varieties, amount of processed products

Goal IIF-02: sequestration (binding) of carbon in forests for off-setting CO2 emissions

- *Creation of a system for recording carbon sequestration in forest biomass in the forests of the University Forestry Enterprise for the purpose of off-setting CO2 emissions linked to the university's activities*

Indicator: the amount of carbon sequestered in forest stands, the share of wood harvesting and its growth less than or equal to one

Objective II-F-03: support of close to nature forest management

- *Applying the principle of close to nature forest management (CNFM) in the forests of the University Forestry Enterprise*

Indicator: share of the area of school forests in the CNFM regime

Pillar III ORGANIZATIONAL MEASURES

Area III-A OPERATION OF THE UNIVERSITY

Objective III-A-01: participatory processing of the university's environmental standards

- *Environmental standards taking into account the specifics of individual workplaces, their employees and students with their club activities*

Indicators: number of participating university staff and students, adopted and published directive

Objective III-A-02: to introduce the principles of green administration and green public procurement

- *Adherence to environmentally friendly administration such as double-sided printing, refillable toners, recycled or unbleached paper, refreshments at meetings, etc.*
- *Do not make copies of original documents that are unusable for legislative acts, inspections, etc. (e.g. economic agenda of FA, liquidation letters, orders, agreements on work execution, etc.)*
- *Introduction of elements in UIS that will allow applicants and students to limit or exclusion of printing of documents related to study and admission to study (exclude printing of electronic application form, possibility to electronically insert results from previous studies, printing of study certificates)*

Pillar IV REGIONAL COOPERATION³

Area IV-A TRANSPORT

Objective IV-A-01: support of bicycle transport

- *Construction of a functional cycle path system with a connection to the university and its individual components within the city of Zvolen*

Indicator: number of km of cycle paths, number of students involved in the design process

Area IV-B GREEN INFRASTRUCTURE

Objective IV-B-01: functional green infrastructure

- *Completing the functional connection of the green infrastructure of the TUZVO area and its organizational components with the green infrastructure of the city of Zvolen*

Indicator: number of implemented activities and projects

Area IV-C REGIONAL ENVIRONMENTAL ACTIVITIES

Objective IV-B-01: coordination of environmental activities

- *Cooperation with local self-government, regional self-government and non-governmental organizations in the implementation of environmental activities in the region*

Indicator: number of implemented activities and projects

Approved by TUZVO management, 9 August 2021.

³ LONG-TERM PLAN OF TUZVO

Area 3 Public relations, national and international cooperation

Strategic goal Building a positive image of the university, strengthening national and international cooperation.

Measure

3.4 Strengthen cooperation with the region and the city of Zvolen.