



University: University of Pécs (UP)

Country: Hungary

13.3 Environmental education measures

13.3.3. Co-operative planning for climate change disasters

Participate in co-operative planning for climate change disasters, that may include the displacement of people both within a country and across borders, working with government

The University of Pécs (UP) is actively involved in the fight against climate change, paying particular attention to sustainable energy management and the development of the Climate City Contract.

Climate protection and carbon neutrality: cooperation between the University of Pécs and the city of Pécs

All 27 EU member states have committed to achieving climate neutrality across the continent by 2050, the first in the world to do so. To this end, member states have committed to reducing emissions by at least 55% by 2030 compared to 1990 levels. The municipality of Pécs submitted its application to participate in the European Union's "100 Climate Neutral Cities Mission" program, part of the European Green Deal and to be implemented under Horizon Europe.

With the involvement of experts from the University of Pécs, a professional cooperation between the City of Pécs and the University of Pécs, has resulted in the creation of the Climate City Contract (CCC), which the city of Pécs has submitted to the European Commission.



On behalf of the University of Pécs, experts from the Faculty of Engineering and Information Technology, the Faculty of Natural Sciences, the Faculty of Law and Political Sciences, and the Faculty of Economics are participated in the work, coordinated by the University of Pécs Science and Innovation Park. The experts from PTE were particularly pleased that the city also involved representatives from the civil and corporate sectors in the professional consultations.

The deputy mayor emphasized that the document, developed in collaboration with experts from Pécs, Hungary, and abroad, as well as numerous city companies, service providers, civil society organizations, and the University of Pécs, clearly demonstrates that this project extends far beyond the local government and the entire city. *"We are counting on everyone in Pécs, from civil society organizations to the university and businesses, to help us achieve this goal. We are particularly pleased that, as we hope, the more than thousand-year-old Diocese of Pécs will also join the program"* he said.

In 2023, Pécs has been selected by the European Commission as one of 100 European cities that will be able to achieve their climate neutrality goals by 2030 within the framework of the Horizon Europe Urban Mission, with the professional support of the NetZeroCities platform. As part of this mission, the Municipality of Pécs and the University of Pécs signed a cooperation agreement on climate protection and carbon neutrality.





The goal is ambitious and can only be achieved through extensive, systematic work involving all stakeholders in a spirit of partnership and cooperation. The city administration is in constant consultation with the other two Hungarian cities participating in the project, Budapest and Miskolc.

From now on, the University of Pécs will also be such a cooperative partner, which is not surprising, given that the above endeavour fits in perfectly with the UP Green University Program's aims. In 2024 the UP ranked 25th out of 1,477 universities in the world's "green university" rankings, earning the title of "greenest domestic university" in the country for the fifth time in a row.

In recent years, the University of Pécs has designated research, innovation, and training programs and activities related to both clean technologies (cleantech) and the use of renewable energies as its priority areas of research, training, and third mission. These scientific and thematic areas are currently of key importance in several successful project developments and form one of the potential foundations of the University's long-term development strategy.

→ *"The Greenest University for the Greenest City!"* As a university town, the identity of the city of Pécs and the University of Pécs has somewhat merged over the decades, and in some cases the two can't really be examined separately.

The University of Pécs (along with several other organizations) cooperated with the Municipality of Pécs to develop its Sustainable Energy and Climate Action Plan (SECAP, 2021).

The SECAP is a comprehensive strategic document that outlines the city's climate protection and energy efficiency goals for 2030. The plan is in line with Hungary's and the European Union's carbon neutrality efforts and is linked to the Covenant of Mayors' commitment to reduce CO₂ emissions by 40%. Pécs joined the Covenant in 2013 and made a further commitment in 2021 to meet the 2030 targets.

The city's goals are to reduce its dependence on energy imports, increase the share of renewable energy sources, and enhance local resilience to the effects of climate change. Compared to the 2011 baseline, Pécs has already reduced its energy consumption by 29.4% and its CO₂ emissions by 27.5% by 2020, which means 193,000 fewer tons of carbon dioxide per year. This was made possible primarily by **the development of a biomass-based district heating system, municipal and residential energy efficiency investments, and the modernization of transport infrastructure**. The city's energy supply to a fairly large extent is provided by the **Thermal Power Plant** of Pécs, which has switched entirely to renewable (biomass) fuel.

Pécs has set a target of reducing CO₂ emissions by at least 40%, but up to 50%, by 2030, which could mean an additional saving of 100,000 tons per year. The greatest potential lies in the electrification of transport, the modernization of building energy systems, and the optimization of residential energy consumption.

The SECAP also emphasizes the circular economy, the development of green infrastructure, and climate adaptation. The city intends to continue implementing integrated, multi-sector development programs in the future to achieve carbon neutrality. Overall, the document sets out the strategic framework for Pécs to become a climate-neutral, sustainable, and liveable city.



SpongeCity

UP Chancellery experts are now working with the Urban-development Commission of the Municipality of Pécs and plan to involve the public to address these problems. Rain gardens are areas under which the soil structure has sufficient water retention capacity.

"The aim of the Sponge City is to ensure that large amounts of rainfall can be successfully stored and used for irrigation/ and as firewater" -said Balázs Borkovits. The project is based on the scientific works of Dr. Ervin Pirkhoffer and Dr. Szabolcs Czigány, who research flash floods at the Faculty of Sciences, University of Pécs.

The project is led by UP, involving thirteen partners in twelve countries. "We have participating cities with different geographical characteristics, so we have the opportunity to test our models in cities with large populations, small populations, on mountains, hilly or flat areas" said Balázs Borkovits.

Rain gardens will be built in 4 cities, and their impact will be tested. In Pécs, the project will be implemented in the Botanical Garden, on the grassy area at northeast side of the swimming pool. This is a 10x3 m area where 5 plastic tanks will be placed below ground level, filled with different soil mixtures and topped with native perennial plants. Underground sensors will be used to measure the soil moisture, which will be recorded by a weather station of the Faculty of Sciences. The plan for the rain garden model of Pécs is to be the first to be completed, so its early data and experiences can be used in other cities as well.

V4 Green Universities cooperation - Climate Protection Campaign

The University of Pécs has an ongoing cooperation with its four foreign partner universities within the V4 Green Universities project. The aim is to enable university citizens to participate in the climate protection programmes of universities with their own ideas.

Our partnership:

Our partners are engaged member universities of the worldwide network of UI GreenMetric World University Rankings, which calls the attention of university leaders and stakeholders on global climate change, the importance of energy and water conservation, waste recycling, and green transportation. Together with University of Pécs, consortium leader of V4GU, the following partners take part in the implementation:

- Czech University of Life Sciences Prague, Czech Republic
- The Slovak University of Agriculture in Nitra, Slovakia
- University of Kragujevac, Serbia
- Ukrainian National Forestry University, Ukraine

Our activities:

The project is building the awareness raising campaign and helps knowledge exchange on the following activities:

1. 'V4 Green University conferences': A virtual conference to introduce:

- a) The climate protection program of the institutions.
- b) The toolset of the involved universities for mobilizing students, lecturers and employees to change their behaviour and integrate eco-conscious routines into their everyday practices. We focus in identifying what tools touch the students.
- c) Results of the activities so far, success factors.
- d) Involving all other universities of the V4 countries to the cooperation, motivating them to set up climate protection plans and share knowledge.



2. Local (national) workshops

All partners will organise workshops to discuss the possibilities of joint green university programmes inside the country and identify the cooperation possibilities with the institutions of the other countries. We will focus on involving experts of energy efficiency, renewables, water consumption, waste treatment, etc. to ensure that realistic actions will be traced out.

3. Video campaigns for students

Students', our direct target group's attention can be grabbed only by tailor-made, exciting tools such as online videos with infographics and cartoons. TED videos served as a basis for this work. Our aim is to explain the students how their everyday habits influence the climate and how their behaviour could be transformed to an eco-conscious attitude.

4. Organising social competitions

People always compare their behaviour to others, and they want to be the best, that's why social competitions work. The social pressure encourages people to reduce their energy consumption and change some other everyday habits like food consumption, travel or use of water. Partners will organise social competitions – one in each country – to activate their students and incite them for changing their behaviour.

V4 Green Universities – International conference

Liveable Cities

Modern architectural solutions and technologies, as well as human-centered design solutions, were the focus of the 9th **International Academic Conference on “Places and Technologies”** organized by the Faculty of Engineering and Information Technology of the University of Pécs and the Faculty of Architecture of the Technical University of Belgrade, on 8-9 July, 2024.

The aim of the scientific conference, held this year in Pécs, was to discuss methodologies and urban, architectural, or structural design ideas that can help enhance the liveability of the built environment, and encourage forward thinking, adaptable, resilient, and sustainable architectural approaches via cooperation.

Green University Program of the University of Pécs

The University of Pécs launched its **Green University Program** in 2016. The mission of the program is the encouragement of all innovations, good practices, initiatives and local policies regarding environmental sustainability; and furthermore, to shape and strengthen ecological awareness by the means of science and education. The university aspires to mitigate its carbon footprint and **supports technologies, services and consumer habits that reduce the use of natural resources, realizing decarbonisation goals.**