



Lodz University
of Technology



LODZ UNIVERSITY OF TECHNOLOGY
RACE TO ZERO REPORT FOR THE YEAR 2024

INTRODUCTION

Lodz University of Technology (TUL), continuing its commitment to addressing climate change, is intensifying its Race to Zero activities. The overarching goal of this global campaign is to achieve climate neutrality by 2050. As a leader in innovation and education, TUL focuses on implementing targeted measures aimed at reducing greenhouse gas emissions and improving energy efficiency.

2024 was a year marked by further challenges arising from the global energy crisis and the urgent need to accelerate the green transformation. TUL concentrated its activities on modernizing its infrastructure, implementing innovative technologies, and developing initiatives geared towards sustainable development.

In the reporting period, we paid special attention to cooperation with national and international partners, which facilitated the exchange of experiences and introduction of best practices in climate action.

This is the third time we have reported on our activities since TUL joined the Race to Zero. In this report, we provide detailed data on greenhouse gas emissions in 2024, describe the effects of the measures we implemented, and outline our plans for the future. We also highlight the importance of educational and research initiatives that empower the academic community to achieve the Race to Zero goals and build a sustainable future.

SUSTAINABLE DEVELOPMENT PANEL

The TUL Sustainable Development Panel is actively engaged in activities to support the university's transformation towards sustainable development. The panel's task is to coordinate sustainable development initiatives and carry out projects contributing to the achievement of climate goals on TUL campuses. The panel, led by the Vice-Rector for Development, includes experts across many fields of science and representatives of the university's organizational units. This composition is optimal for projects addressing a wide range of topics.

In 2024, the Sustainable Development Panel continued to cooperate with international partners, actively participating in the Baltic University Programme (BUP) projects and the European School of Sustainability Science and Research. The collaborations allowed Lodz University of Technology to bolster its position as a hub of sustainability innovation and education. Emphasis was also given to the cooperation with the University of Florence and CIHEAM Bari, which resulted in the exchange of knowledge and experience concerning innovative climate projects.

By cooperating with international organizations and taking an interdisciplinary approach, the members of the Sustainable Development Panel effectively contribute towards Race to Zero goals and to building a future based on sustainability principles.

KEEPING TRACK OF OUR CARBON FOOTPRINT

Reducing an organization's carbon footprint begins with measuring it accurately. At Lodz University of Technology, this task is particularly complex due to the university's large campus and diverse range of activities.

To measure the carbon footprint, product-specific data on individual products, processes, and transportation modes throughout the entire supply chain are utilized. Alternatively, Life Cycle Assessment (LCA) indicator databases, such as ecoinvent, along with licensed software tools like SimaPro, Umberto, or GaBi, can be used to assess the impact.

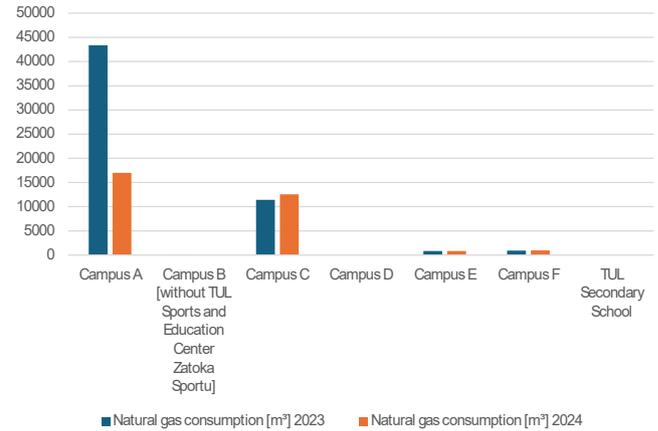
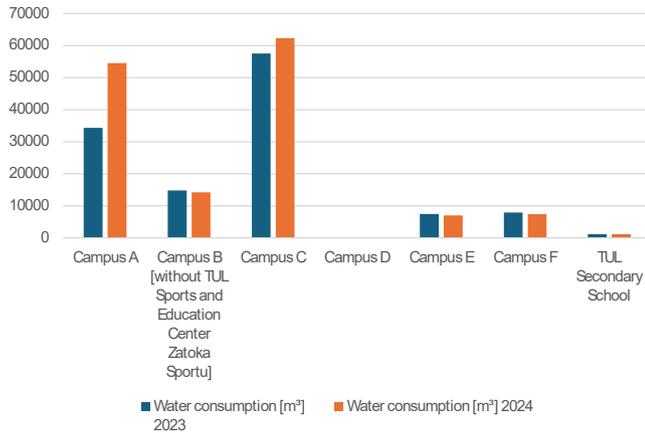
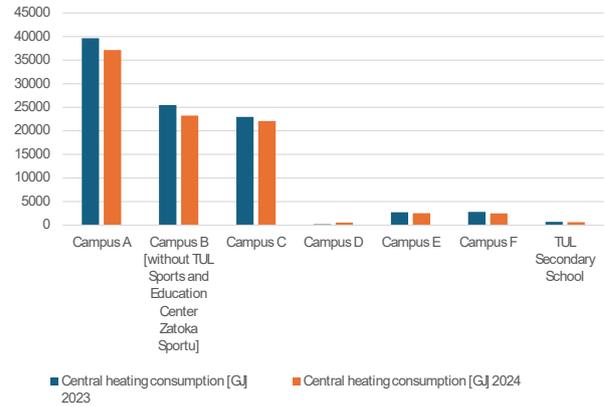
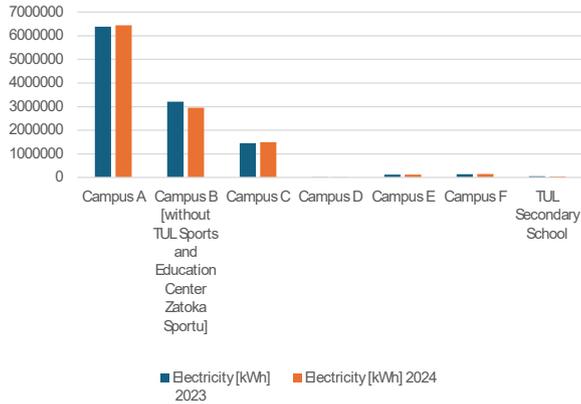
For the carbon footprint calculation in 2024, the SimaPro 9601 software and the updated ecoinvent 3.10 database were employed. The analysis was based on detailed data regarding utility consumption in campus buildings and dormitories managed by the university.

The results of these calculations are presented in this report, highlighting the input data used and offering insights into the university's greenhouse gas emissions. The detailed summaries and values provide a clearer understanding of the environmental impact and pinpoint areas for potential improvement.

Table 1. Utility consumption in 2024 in Lodz University of Technology buildings

2024	Electricity [kWh]	Electricity from PV sources [kWh]	Central heating consumption [GJ]	Thermal energy from RES installations [GJ]	Water consumption [m ³]	Natural gas consumption [m ³]
Campus A	6 440 607	1 041 648	39 655	1 309	54 548	16 997
Campus B [without TUL Sports and Education Center Zatoka Sportu]	2 956 572	90 640	25 475		14 192	
Campus C	1 495 640		22 973		62 361	12 575
Campus D	12 653		173		84	
Campus E	122 587		2710		6 972	842
Campus F	144 639		2797		7 394	950
TUL Secondary School	44 866		719		1 173	
Total	13 174 527	1 132 288	101 079	1 309,41	197 297	31 364

Figures 1-4 show the annual utility consumption by campus.



In 2024, the carbon footprint of Lodz University of Technology was 53.47 kg CO₂/m², representing a significant decrease compared to 2023 (93.57 kg CO₂/m²). This result was calculated using data on utility consumption and building area from SimaPro software.

The data reveals some notable changes in the university's carbon footprint between 2023 and 2024. In 2023, there was an increase in global water consumption compared to 2022, particularly on Campus C. The return of students to dormitories and the higher number of on-site classes contributed to this rise in resource consumption.

However, in 2024, despite continued increased activity on campus, the carbon footprint showed improvements in several areas. Thanks to the intensified efforts under the Race to Zero initiative, emissions per kilogram of CO₂ (kg CO₂-eq) were reduced, and the share of gas heating in the overall carbon footprint decreased. This was due to the decommissioning of gas boiler rooms in two buildings on Campus A, as well as more efficient utility management and increased environmental awareness among students and staff.

The carbon footprint analysis covered the entire Lodz University of Technology, including the campus and the TUL Secondary School, taking into account the measures taken to minimize the negative impact on the environment. As in 2023, the calculations excluded the Sports Bay on Campus B, as this facility is largely used by individuals from outside the Lodz University of Technology community.

DEVELOPMENT OF LOCAL ENERGY SOURCES

Local energy sources are essential for ensuring the energy security of any institution. Owning energy production systems not only reduces dependence on external suppliers but also lowers energy transmission costs, thereby helping to reduce greenhouse gas emissions. Lodz University of Technology is continuously expanding its energy resources by investing in photovoltaic systems, ground and air heat pumps, and solar collectors to generate thermal energy.

Table 2. Local energy sources at Lodz University of Technology for 2023 and 2024.

	Unit of measurement	2023	2024
Electricity output from RES installations	MWh	143	117087
Heat output from RES installations	GJ	1320	1250



Photo of the installation on building A33 (Source: Flexipower Group)

IMPROVEMENT OF BUILDING ENERGY EFFICIENCY

Buildings are significant sources of emissions and high energy consumption. Therefore, enhancing their energy efficiency is essential to reducing greenhouse gas emissions and carbon footprint. Lodz University of Technology is undertaking activities aimed at thermal modernization of existing facilities and the construction of new, energy-efficient buildings, within the limits of available financial resources.

Energy audits form the foundation of each modernization project. A further 19 TUL buildings were recently audited and the impact of these efforts is already evident: most buildings now feature thermal insulation, whereas some are equipped with intelligent energy management systems. Additionally, a greater area of buildings underwent upgrades to their heating and ventilation systems, resulting in another 630 m² of building space being thermally insulated in 2024.

Table 6. Improvement in the energy efficiency of buildings at Lodz University of Technology at the end of 2023 and 2024.

		end of 2023	2024
Total number of energy-audited buildings	building	39	19
Total area of thermally insulated buildings	m ²	163 190.44	630
Total area of buildings where the heating and ventilation systems were upgraded	m ²	47 014.62	13491

REPLACEMENT OF CONVENTIONAL LIGHT FIXTURES WITH ENERGY-EFFICIENT ALTERNATIVES

In 2022, the university began inventorying outdated, energy-inefficient light points, primarily located outside buildings. This effort continued in 2023 with the signing of a contract with the Voivodeship Fund for Environmental Protection and Water Management to implement the project Replacement of Internal Lighting in Buildings of Lodz University of Technology with Energy-Saving LED Technology. The project continued into 2024.

As part of this investment, lighting systems in the university's research, teaching, and administrative facilities were modernized. While some buildings still rely on energy-intensive light sources such as traditional incandescent bulbs, fluorescent tubes, and mercury lamps, these are being gradually replaced with more energy-efficient options. As a result, the number of energy-saving light sources is steadily increasing. However, due to ongoing renovations and the construction of new facilities, accurately calculating the total number of light points for 2024 was not possible.

Additionally, the university is taking further steps to implement programmable lighting control systems, aiming to enhance energy efficiency to still greater extent.

CONTINUAL MONITORING OF ENERGY CONSUMPTION

The responsible use of energy is essential for reducing the carbon footprint. Installing separate metering systems in multiple buildings allows for precise identification of areas with the highest energy consumption, facilitating the implementation of measures to address inefficiencies. Modern meters enable real-time monitoring of energy use and data transmission.

EFFICIENT WATER MANAGEMENT

One example of water conservation measures at Lodz University of Technology is the installation of rainwater tanks at the TUL Language Center building. Surrounding these tanks is a small garden designed to align with the principles of sustainable water management. Previously, flowering plants, shrubs, and small trees in the area were watered using municipal water.

Another important initiative to reduce water consumption is the installation of taps equipped with flow-limiting systems, such as aerators. Currently, over 3,700 taps with flow limitation or aerators have been installed, and the process of replacing older taps with more efficient models is ongoing.

Aerators, which are special attachments for tap spouts, mix air with the water stream, reducing water consumption without compromising usability. This can reduce flow by up to several dozen percent, resulting in significant savings in both water use and water supply costs.

Furthermore, the installation of taps with flow restrictors helps to decrease energy consumption for water heating, supporting the university's sustainable development goals. These solutions are used not only in bathrooms but also in kitchenettes and laboratories, demonstrating their versatility and effectiveness.

Through the consistent implementation of modern water-saving technologies, Lodz University of Technology promotes a responsible approach to managing natural resources, contributing to global efforts to protect the environment.

SUSTAINABLE LOW-EMISSION TRANSPORT

Lodz University of Technology is actively engaged in efforts to reduce carbon footprint by promoting sustainable, low-carbon transport. On Campus A and B, there are charging stations that support the simultaneous charging of bicycles, scooters, and electric cars. This infrastructure is highly popular among both the academic community and campus visitors, such as those attending events at Zatoka Sportu [Sports Bay].



Source: TUL



The university is also taking steps to support environmentally friendly transport and promote the use of public transport. In 2024, employees of Lodz University of Technology continued to benefit from discount cards for the Łódzka Kolej Aglomeracyjna [Łódź Metropolitan Railway]. Starting in 2023, part of the Łódzkie Bliżej Ciebie [Łódzkie Closer to You] special offer, passengers enjoyed a 55% discount on single tickets and monthly personalized tickets for selected routes..



Using trains as a low-emission mode of transport to work is an effective way to reduce one's carbon footprint and support a sustainable lifestyle. Electric trains are among the most environmentally friendly forms of transport, emitting significantly less CO₂ compared to combustion-engine vehicles. Electrically powered trains help cut greenhouse gas emissions, reduce the number of cars on the road, ease traffic congestion, and improve traffic flow. Optimizing travel times and schedules is another key aspect of efficient, sustainable transport.

In 2024, Lodz University of Technology won the Odkręcamy korki – rowerem do pracy [Goodbye traffic jams – commuting by bike] campaign, organized by Gazeta Wyborcza, which aimed to promote ecological transport by encouraging Łódź residents to use the city bike. Employees of companies and institutions competed by logging kilometers cycled for their organizations.

The campaign concluded in July 2024 at Off Piotrkowska, where TUL's Vice-Rector, Prof. Witold Pawłowski, received the award for the best team. He emphasized the importance of cycling to reduce CO₂ emissions, alleviate urban traffic congestion, and promote active lifestyles. Participants were able to use city bikes for free, thanks to vouchers distributed during the campaign.

The event also saw participation from Accenture Poland, BSH, Veolia, WSB University Merito, and the University of Humanities and Economics. The campaign was held under the patronage of the Mayor of Łódź and the Chairman of the City Council, with Nextbike serving as the main partner.



Source: TUL



The university is consistently implementing measures to reduce CO₂ emissions and promote sustainable mobility. In this regard, it is actively encouraging the use of public transport and bicycles. These initiatives play a significant role in reducing the carbon footprint of Lodz University of Technology.

In 2024, for the first time since data collection for the report began, the total number of kilometers traveled by employees on business trips was recorded, amounting to just over 390,000 kilometers.

WASTE SEGREGATION AND RECYCLING

The university places significant emphasis on effective waste management, ensuring that waste is properly segregated by type and that the amount of waste sent to disposal is minimized. The importance of this issue is further highlighted by projects implemented in collaboration with social partners, such as the Polska Stolica Recyklingu [Polish Capital of Recycling] program, which ran in 2023 and continued until the first quarter of 2024 in partnership with the foundation Odzyskaj Środowisko [Recover the Environment]. This initiative aims to raise environmental awareness and promote proper separate waste collection practices, including the disposal of waste electrical and electronic equipment, batteries, and accumulators.

As part of the campaign, the university earned points for items collected through the InPost EKOzwooty service. Although these items are no longer needed or wanted, they are given a second life through recycling. The collection includes electronics, clothing and textiles, footwear, books, children's items, and toys.



Source: <https://www.polskastolicarecyklingu.pl/>

Initiatives that support the circular economy and resource reuse play a key role in reducing negative environmental impact. One important example of a creative approach to waste reduction, in addition to collecting items as part of the „InPost EKOzwroty” service, is the Green Beauty project conducted by Karina Skura, a biotechnology student and participant in the E²TOP program (Excellence in Engineering Talents in Research with Opportunities Program). The project focuses on transforming plant waste into natural cosmetics.



The student uses ingredients such as chestnut fruit and brewing waste to produce scrubs, creams, shampoos, and serums. The manufacturing process is based on yeast and lactic acid fermentation, which yields bioactive ingredients for skincare. Another innovative element of the project rests on biodegradable packaging, which contains flower and herb seeds that can be planted after the product has been used. The project combines ecology with personal care, promoting sustainable development.

inż. Karina Skura at the laboratory. Source: TUL

Lodz University of Technology places great importance on sustainable development and rational resource management. Therefore, it aims to reduce the purchase of printer paper to minimize waste and follows recycling principles and the Race to Zero strategy. In 2024, the university purchased just under 4,800 reams. The priority is to use recycled paper and promote digital documentation, which helps reduce the university's carbon footprint and supports the idea of sustainability.

GREEN CAMPUS AND CAMPUS NEIGHBORHOOD

Environmental projects have been successfully implemented through the university's Idea Box participatory budget. In the 2024 edition, 16 out of 51 submitted ideas were related to the environment. One example of a project funded through the Idea Box in 2024 was to provide houses for bees, insects, birds, and hedgehogs. These efforts have been contributing to an increase in ecological installations designed to protect biodiversity.

The academic community once again actively participated in pro-environmental activities by joining the GALANTE SPRZĄTANIE. Wiosenne porządki [GALANTE SPRZĄTANIE – Spring cleaning] campaign. Nearly 30 bags of rubbish were collected during the event. The areas cleaned included the stretch of Stefanowskiego Street (between Radwańska and Skorupki) and the green spaces around the campus, including Wólczańska, Wróblewskiego, and Al. Politechniki. The initiative saw participation from employees across almost all TUL faculties, the University Office for Development, the Project Services Office, and the Library.



Source: TUL



Source: TUL

The engagement of the university leadership in sustainable development is evident in the numerous initiatives undertaken across the campus. One symbolic action was the planting of a new tree on Campus B in November 2024. The tree not only adds to the university's green space but also commemorates an outstanding engineer and first president of the Republic of Poland, Gabriel Narutowicz. The ceremonial planting was carried out by Prof. Krzysztof Józwiak, rector of Lodz University of Technology, and Prof. Jerzy Barglik, president of the Academy of Engineering in Poland. The tree is a tribute to Narutowicz, who was not only Poland's first president but also an exceptional engineer. The seedling, approximately 2 meters high, has been planted in front of the Architecture building.

OUTREACH AND AWARENESS-RAISING ACTIVITY

The University Office for Development and the Centre for International Cooperation (CWM) run a special, sustainable development section on the Lodz University of Technology website where news, action plans, and reports are published. The studies that were prepared concerning TUL's efforts towards sustainable development goals (SDGs) have contributed to improving the university's position in international rankings, including the prestigious THE Times Higher Education..

For the last 30 years, the Voivodeship Fund for Environmental Protection and Water Management in Łódź has been a key partner for local governments and various other entities, including individuals, supporting environmental initiatives in the Łódź region. One of the Fund's initiatives is the "Ekologiczny magister i doktor" [Ecological Master and Doctoral Degree Holder] competition for the best master dissertation and PhD thesis. In 2024, among the winners were Lodz University of Technology's graduates. The goal of the competition is to recognize the best master dissertations and doctoral theses in the field of environmental protection, both based on their scientific and practical value, and to reward their authors.



Source: TUL



Source: TUL

As part of the "Czwartek Jakości" [Quality Thursday] series, organized by the Division of Quality and Technology Transfer at the Faculty of Organization and Management of Lodz University of Technology, a debate was held on managing business continuity in a VUCA world – a world characterized by volatility, uncertainty, complexity, and ambiguity. The presentation covered the impact of climate change on business risks and opportunities, highlighting applications of ISO 14090 and ISO 14091 as tools for effective management of these challenges. Major aspects of business continuity in the context of climate change, both globally and locally, were also discussed.

W oThe National Science Center recently announced the results of its call for proposals with TUL granted funding for three proposals submitted under the OPUS scheme and one proposal under the SONATA scheme.

Prof. Andrzej Górak, Faculty of Process and Environmental Engineering, received funding for Fundamental analysis of carbon dioxide absorption from biogas in rotating packed beds. The project will be carried out through trilateral collaboration between Lodz University of Technology, Brno University of Technology, and the Technical University Berlin.

The project aims to investigate the potential of Rotating Packed Beds (RPBs) – absorbers with a rotating bed – for biogas upgrading. Removing even of a fraction of the carbon dioxide from biogas, typically a mixture of approximately 50% methane and 50% CO₂, would significantly increase the energy efficiency of electricity and heat generators in the future.

Additionally, young researchers from Lodz University of Technology achieved notable success in the MINIATURA 8 Call, securing funding for 13 research projects focused on innovative and ecological solutions. The total funding granted exceeds 500,000 zloty.

Among the awarded projects, several stand out for their potential impact on environmental protection and sustainable development. At the Faculty of Process and Environmental Engineering, dr inż. Katarzyna Pieklarz will work on developing innovative chitosan hydrogels for applications in biotechnology and healthcare.



Source: TUL

The AldesignTEX project was launched at the Faculty of Material Technologies and Textile Design at Lodz University of Technology. Its goal is to support the circular economy in the textile industry. This initiative, carried out in collaboration with universities from Norway, Belgium, and Spain, focuses on leveraging artificial intelligence and machine learning for sustainable textile design.

The project aims to optimize production processes by minimizing the use of raw materials, incorporating environmentally friendly materials, extending product life

At the Faculty of Chemistry, dr inż. Krzysztof Jerczyński is conducting research on biodegradable carriers of active substances, which have the potential to reduce harmful chemical waste. Meanwhile, dr inż. Filip Stuchala from the Faculty of Electrical, Electronic, Computer and Control Engineering is investigating the ecological properties of GTL fluids compared to conventional oils.

These projects contribute to global efforts aimed at environmental protection, the development of sustainable technologies, and the pursuit of innovative research methods that positively impact human health and the environment.



Source: TUL

cycles, and developing innovative solutions for effective recycling of textiles. These activities are of significant importance in the context of EU requirements for separate collection of textile waste from 2025.

The innovative research and solutions produced within AldesignTEX support the development of more sustainable production methods and respond to global environmental challenges related to textile recycling and resource efficiency.

Lodz University of Technology, as a member of NEBA Alliance, a consortium of 14 European partners, received a grant from the HORIZON Europe program for a project which supports the advancement of sustainable construction and the circular economy by promoting green transformation in the construction sector – one of the largest emitters of greenhouse gases.

The NEB Academy, which is part of the European Year of Skills, will focus on improving qualifications and implementing innovative green solutions by creating model competence centers and providing training courses online and in-person throughout Europe. The project aims to support emission reduction and promote high standards in construction, in line with the requirements of the European Union.



Source: TUL

Representatives of Lodz University of Technology participated in the „Let’s Go Green” event which marked the launch of the Strefa Rozwoju 3.0 [Your Development Zone 3.0] and Strefa Transformacji [Transformation Zone] programs co-funded by the European Union. The event, organized by the Lodz Special Economic Zone, aimed to improve qualifications in green technologies, e.g., hydrogen technologies and wind energy, with a particular focus on hard skills related to the green transformation. Lodz University of Technology has a wide-ranging offering of training courses in this field, available through PARP’s Database of Development Services.

During the event, dr Aleksandra Ziemińska-Stolarska delivered an inspiring presentation “Ślad węglowy a przewaga konkurencyjna” [Carbon footprint and competitive advantage], in which she discussed methods for calculating the carbon footprint and presented the university’s initiatives supporting sustainable development.

The Transformation Zone program is intended to support entrepreneurs in minimizing the impact of decarbonization within the Transformation Area – 35 municipalities in the vicinity of Bełchatów. The conference also provided an opportunity to showcase Lodz University of Technology's (TUL) initiatives for the green transformation and its participation in the Race to Zero initiative.



Source: TUL

The Korea-Poland Energy Efficiency Technology Cooperation Forum, organized by the Korea Institute of Energy Technology Evaluation and Planning (KETEP) and the National Centre for Research and Development (NCBR), took place in Seoul from April 23–25, 2024. The Polish delegation included dr inż. Mariusz Jabłoński from Lodz University of Technology, who delivered a presentation on building energy efficiency and the use of renewable energy sources.

For many years, Lodz University of Technology has been actively engaged in energy efficiency research, particularly in the field of intelligent buildings. During the forum, dr inż. Jabłoński and other Polish researchers participated in a seminar on energy efficiency, where they discussed research findings and opportunities for collaboration with South Korea. During the visit, the delegation also toured the KRAAC agency and the LG factory, where they learned about modern refrigeration and air conditioning technologies. The cooperation between Poland and Korea is expected to continue, with a second joint call for research and development proposals on energy efficiency to be announced.



Source: TUL

Lodz University of Technology runs a blog that covers a broad range of topics, including environmental protection. One of the problems pondered on the blog was the question whether to take the cap off or not to take the cap off? Disposable PET (polyethylene terephthalate) bottles – thermoplastic polymers from the polyester group – have been in use since 1973. However, their caps are made of HDPE – high-density polyethylene meaning high-density plastic. Since the beginning, this difference in materials has required separation during recycling. Despite numerous efforts to encourage separating caps from bottles, caps frequently ended up as environmental waste. This issue played a role in the introduction of the SUP (Single-Use Plastics) Directive, which, starting from July 1, 2024, mandates that caps must be an integral part of bottles. At the same time, research is ongoing to develop bottles made entirely of PET, which could eliminate the need for plastic separation altogether.



Source: TUL

Konrad Stefaniak, a chemical engineering student and participant in the E²TOP program, is conducting research on biodegradable composites based on polylactic acid (PLA), enriched with plant-based substances. His goal is to develop eco-friendly materials suitable for food, pharmaceutical, and biomedical packaging. The project involves investigating how different composite production methods affect the properties of the materials and aims to optimize production parameters. As the research progresses, there are plans to pursue a patent, establish collaborations with other research centers, and explore the potential for industrial production of the developed composites.



Konrad Stefaniak at the laboratory / Source: TUL



Dawid Bernatowicz at the chemical laboratory / Source: TUL

Dawid Bernatowicz, another E²TOP participant, is conducting research on hydrogels for environmental purification in his Caught in the Net research project. It involves the synthesis of hydrogels by photopolymerization, analysis of their stability, and testing of their absorption capacity for oil. The developed materials can be applied in the removal of oil pollution from water, supporting the protection of ecosystems and reducing the impact of industry on the environment. These hydrogels can become an ecological and effective tool for water purification, contributing to the preservation of clean rivers and seas.

Prof. Magdalena Grębosz-Krawczyk from Lodz University of Technology participated in an international study commissioned by the European Commission on energy labels for photovoltaic (PV) modules. The study aimed to identify the factors which influence consumer choices, evaluate the clarity of labels, and analyze reactions to new labeling designs.

The research involved both qualitative and quantitative methods, focus groups and surveys, conducted in six EU countries. The results are expected to provide valuable insights for manufacturers and regulators, supporting the development of new guidelines for PV labels.



Source: TUL

PODSUMOWANIE

Lodz University of Technology is steadfastly pursuing climate neutrality as part of the Race to Zero sustainability initiative. In 2024, the university continued to implement innovative technological solutions and modernize its infrastructure to reduce greenhouse gas emissions and improve energy efficiency.

Key areas of action included monitoring the carbon footprint, developing local energy sources, increasing the energy efficiency of buildings, and promoting sustainable transport. The carbon footprint calculation for 2024 demonstrated progress in reducing CO₂ emissions, particularly by decreasing the use of gas heating in favor of renewable energy sources. The use of SimaPro 9601 software and the ecoinvent 3.10 database enabled a precise analysis of energy and resource consumption on campus.

A significant milestone in the energy transition was the ongoing investment in renewable energy sources, including photovoltaic installations, which helped reduce dependence on traditional energy. Additionally, thermal modernization of buildings, energy audits, and upgrades to heating and ventilation systems further lowered thermal and electrical energy consumption. Lodz University of Technology actively pursued pro-environmental initiatives in water conserva-

tion and waste management. The installation of rainwater collection systems and aerators in fittings helped reduce water consumption. The university also continued its efforts in waste segregation and recycling while participating in pro-ecological programs such as the Polish Capital of Recycling.

In 2024, the university made further strides in promoting sustainable mobility by expanding infrastructure for electric vehicles and encouraging environmentally friendly modes of transportation. The university actively supported initiatives to popularize city bikes and public transport among the academic community.

Educational and research activities remained an integral part of the university's sustainable development strategy. International cooperation within research projects fostered the development of innovative solutions supporting the green transformation. The university also maintained its commitment to outreach programs and awareness-raising initiatives, aimed at enhancing environmental consciousness within the academic community.

The measures taken in 2024 demonstrate that Lodz University of Technology is actively working towards achieving the Race to Zero goals, with measurable progress in reducing CO₂ emissions and improving energy efficiency. By continuing to pursue innovative projects, involving the academic community, and collaborating with national and international partners, the university is strengthening its leading position in sustainable development.



Lodz University
of Technology

116 Zeromskiego Street
90-924 Lodz, Poland
NIP: 727 002 18 95

LODZ UNIVERSITY OF TECHNOLOGY
RACE TO ZERO REPORT FOR THE YEAR 2024