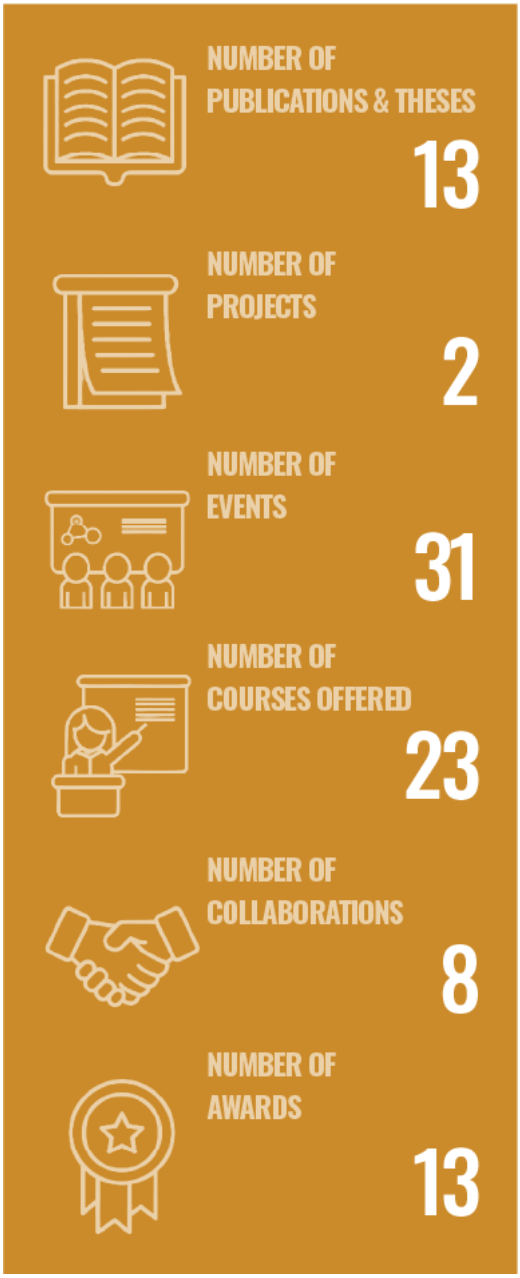

SDG 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

Targets and Indicators

12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production

12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

Courses, Theses, Publications

Courses

Architectural Tectonics (Arch 445): This advanced design-research course aligns strongly with SDG 12, particularly Targets 12.2 and 12.5, which emphasize sustainable management of natural resources and the reduction of waste generation. Through its focus on "practical modes of research through making and construction" and "architectural tectonics," the course cultivates a critical and hands-on understanding of material behavior, construction techniques, and holistic detailing. Students are encouraged to experiment with resource-efficient material choices, explore low-impact construction strategies, and design with durability, adaptability, and circularity in mind. By integrating theory with practice, the course challenges future architects to rethink production processes in ways that minimize environmental footprint and waste. This pedagogical approach not only strengthens technical competence but also instills a deep sense of responsibility toward sustainable resource use in the built environment.

Contemporary Issues in Engineering (ENGR 490): This course equips students with the awareness and analytical skills needed to address the ethical, environmental, and social dimensions of engineering practice. By examining global sustainability challenges, technological risks, and policy implications, students learn to evaluate engineering decisions through the lens of responsible consumption and production. The course educates future engineers to make informed choices that balance innovation with sustainability, resource efficiency, and long-term societal well-being.

This course builds critical awareness and ethical sensitivity among engineering students through seminars on *sustainable development*, the *impacts of engineering practices on health, environment, and safety*, and *professional ethics*. By engaging with these interdisciplinary themes, students gain a deeper understanding of how engineering decisions influence both ecological systems and human well-being. This foundational knowledge equips future engineers to act responsibly, ensuring that sustainability and ethical considerations inform every technical choice they make in their careers.

Senior Project I (CMPE 491-O): As a capstone design experience, this course enables students to apply engineering theory to complex, real-world problems while prioritizing sustainability, ethical practice, and social responsibility. Projects are developed with attention to resource optimization, waste reduction, and sustainable product lifecycles, ensuring that technical solutions also reflect environmental and societal considerations.

Complementing the theoretical foundation learned in other courses, **Senior Project I** provides students with a **hands-on opportunity to translate sustainable and ethical awareness into practical engineering applications**. The course guides students through all stages of project development from *requirement analysis* to *design* and *proposal writing* while embedding principles of **resource efficiency, waste reduction, and environmental responsibility**.

Examplary Student Projects under Senior Project I (CMPE 491-O): Two examplary student projects emerging from the engineering curriculum exemplify the practical integration of sustainable resource use, efficiency, and responsible innovation.

The Computer Science project, titled *"Test Description Generation from Software Requirements and Performance Analysis"* by Bilge Yazıcı, applies advanced natural language processing (NLP) models to automate and standardize software testing processes. By improving test accuracy and reducing manual workload, the project encourages companies to adopt sustainable practices. The research enhances software quality and operational efficiency, minimizing long-term maintenance costs and reducing the energy consumption associated with poorly optimized systems. This approach demonstrates how technological innovation can drive sustainability in digital infrastructure through smarter resource management.

The Mechanical Engineering project, *"Forming Metal Sheets in Pure Shear"* by Hüseyin Mert Dedebeyoğlu, addresses the sustainable management of natural resources and reduction of industrial waste. The study introduces a low tool-dependency metal forming process capable of achieving precise sheet shaping without altering material thickness. This method reduces material loss, improves manufacturing precision, and promotes sustainable production systems by optimizing the use of raw materials. Through innovation in metal forming, the project showcases how engineering research can minimize waste generation and maximize efficiency, embodying the principles of sustainable manufacturing.

Together, these student-led projects illustrate TED University's commitment to embedding sustainability principles into engineering education, ensuring that the next generation of professionals is equipped to balance technological advancement with environmental stewardship.

Publications

The university contributes to **SDG 12** through high-impact research that advances sustainability science, resource efficiency, and responsible innovation. The following three academic works by TED University members exemplify this commitment and represent significant scholarly contributions to sustainable development.

1. The study *"The Effect of Environmental Degradation on Self-Reported Health: The Role of Renewable Energy Consumption"* by **Yıldırım, Alparslan, and Karakaş**, published in *Environmental Science*, explores the complex relationship between environmental quality, public health, and renewable energy use. The research emphasizes how cleaner energy transitions contribute not only to reduced environmental degradation but also to societal well-being, thereby reinforcing public awareness and behavioral change toward **sustainable lifestyles and consumption patterns**, directly supporting the objectives of **SDG Target 12.8**.

Evidence: Yildirim, J., Alpaslan, B., Karakas-Aydinbakar, A., & Hibiki, A. (2024). The effect of environmental degradation on self-reported health: the role of renewable energy consumption. *Environmental Science and Pollution Research*, *31*(1), 343-356.

2. The article *"Material Efficiency at the Component Level: How Much Metal Can We Do Without?"* by **Allwood and Music**, published in *Philosophical Transactions*, investigates strategies for achieving **material efficiency and circular economy integration** at the design and production stages. By analyzing the potential for metal reduction across various components, the study provides practical insights into **minimizing raw material demand** and **enhancing the efficient use of natural resources**, aligning closely with **SDG Targets 12.2**

and 12.5 on resource management and waste minimization.

Evidence: Allwood, J. M., & Music, O. (2024). Material efficiency at the component level: how much metal can we do without?. *Philosophical Transactions A*, *382*(2284), 20230245.

3. The conference paper *"A Future Demand Prediction Based Approach for the Design of Pelton Turbines on Irrigation Channels"* explores a pioneering method for optimizing hydro-turbine design in agricultural irrigation systems based on forecasted demand. By combining predictive modelling with engineering design, the research delivers a framework that supports the sustainable management and efficient use of natural resources. The study's emphasis on minimizing resource waste, improving system efficiency, and extending service life of infrastructure highlights the importance of reducing waste generation through prevention, reduction, recycling and reuse..

Citation (APA 7): Ejder, A. B., Ulucak, O., Ayli, E., Celebioglu, K., & Aradag, S. (2024). A FUTURE DEMAND PREDICTION BASED APPROACH FOR THE DESIGNOF PELTON TURBINES ON IRRIGATION CHANNELS. In *ICHMT DIGITAL LIBRARY ONLINE*. Begel House Inc..

Events - Activities

Participation in ÇEVREFEST 2024: The University participated in ÇEVREFEST, an environmental festival organized by the Ministry of Environment, Urbanization, and Climate Change, held at Başkent Millet Bahçesi from June 6-9, 2024 (See Image 1. TED University at ÇEVREFEST 2024).

Image 1. TED University at ÇEVREFEST 2024

Under the theme "We All Have One World," the event gathered 39 municipalities, 13 private sector firms, 5 associations, 9 universities, and various ministries. TED University showcased its sustainability efforts at its booth. The university's involvement, which aligns with promoting public awareness for sustainable development (Target 12.8), also featured the AFETTEK Platform. This platform, co-founded by TED University and responsible for its general coordination, aims to contribute directly to the public's strategic planning processes for all types of disaster and emergency situations in Türkiye, fostering cooperation between the university, private sector, and NGOs. During the event, information about the university's and AFETTEK Platform's work was presented to Ms. Fatma Varank, Deputy Minister of Environment, Urbanization, and Climate Change.

Evidence: https://afettek.com/haberler-lf/afettek-platformu-c-evrefest-etkinlig-inde

Hackathon Event: The university hosted a Hackathon event on July 19-20, 2024, as part of the SMART Ankara Project's "Sustainable Urban Mobility Plan (SUMP)". This initiative, which directly promotes sustainable lifestyles and consumption patterns (Target 12.8), is financed under the "Transport Sectoral Operational Programme (TSOP)" and executed by the Ankara Metropolitan Municipality EGO General Directorate (See Image 2. Hackathon Event).

Image 2. Hackathon Event

The event involved 42 students from TED University and other universities, who worked to generate ideas for developing and popularizing bicycle use in shared public spaces and for implementing SUMP principles. Students, divided into eight groups, developed and presented their creative project ideas over two days. The top three groups were recognized with awards following a jury evaluation.

Evidence:
https://www.smartankara.org/makale/hackathon-5

TEDU 102 Service Learning Projects Related to SDG 12: The TEDU 102 Service Learning course actively promotes SDG 12 by cultivating student awareness and practical engagement regarding the Sustainable Development Goals. By engaging students in community-engaged projects and NGO collaborations, the course directly supports Target 12.8. The course culminates in student groups planning a project, preparing a poster, and presenting it at the "End of Semester TEDU102 Fest". Each year, students exhibit their projects in this campus-wide event.

Recent group projects exemplify this practical application:

- I.M. Hemidov, L. Neşşar, R. Sökücü, and S.E. Türk developed a "Clothing Drive," directly promoting reuse and waste reduction (Target 12.5);

- G.N. Çebi, C. Toktaş, B. Bal, and E.N. Salmanlı created "A Theatrical + Journey Through Growing Up a Silent Narrative," which addresses awareness and education for sustainable lifestyles (Target 12.8);

- N.N. Aydın, S.N. Topçu, E.B. Kulluk, C. İlhan, F. Kardan, D. Topatan, B.K. Özmen, and M.B. Özmen executed the "Hit the Target" project, contributing to community awareness of sustainable consumption.

Reducing Food Waste: On November 22, 2024, a comprehensive seminar on “Reducing Food Waste” was held at TED University by the Department of Political Science and International Relations (See Image 3. Reducing Food Waste). During the seminar, students and academics were informed about the importance of sustainable consumption habits, strategies for reducing food waste, and its environmental impacts.

Image 3. Reducing Food Waste

Earth Soil Brick Workshop: The *Earth Soil Brick Workshop* was organized to explore the aesthetic potential of soil and reinterpret it beyond being just a construction material (See Image 4. Earth Soil Brick Workshop).

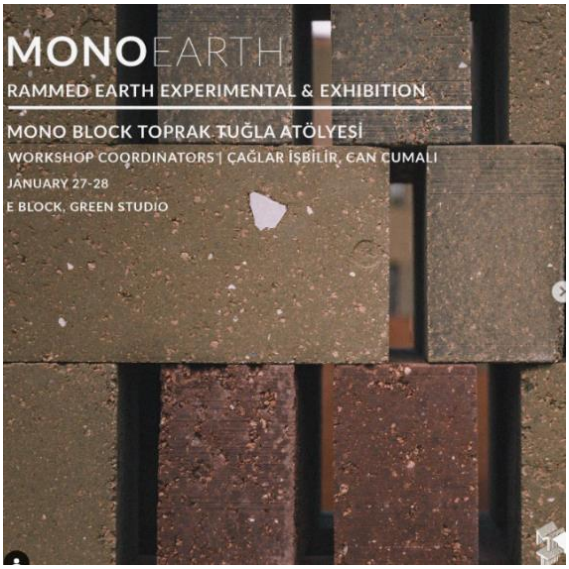

Image 4. Earth Soil Brick Workshop

Throughout the workshop, compressed earth brick techniques were taught and practically applied by the participants. The design and production process of earth blocks was collectively carried out and later exhibited to reflect the experience at different scales. Participation was managed through an online pre-registration form.

Collaboration, Projects, Awards

Collaborations

TED University faculty members continue to make substantial contributions to society not only through research publications but also through strategic collaborations with organizations that prioritize sustainability, efficiency, and responsible innovation. These partnerships reflect the university's active role in advancing SDG 12: Responsible Consumption and Production, particularly Target 12.6, which encourages companies to adopt sustainable practices and integrate sustainability reporting into their operations.

Faculty members from the Faculty of Economics and Administrative Sciences, Prof. Dr. Nazire Nergiz Dinçer and Prof. Dr. Ayça Tekin Koru, are engaged in a three-year collaboration with S4A (Sustainability for All), a company operating within the Erciyes Technology Development Zone. Through this partnership, the professors contribute to S4A's research and innovation processes, facilitating the transformation of academic findings into practical, socially and economically beneficial outcomes. Their work directly supports the integration of sustainability principles into business models, helping to strengthen corporate responsibility and long-term resilience.

Additionally, Assoc. Prof. Dr. Yıldırım Akbal from the Graduate School of Applied Data Science provides consultancy services to Agrimetre Software and Consultancy Ltd. (Agrimetre Yazılım ve Danışmanlık Limited Şirketi). This collaboration focuses on the application of machine learning and data analytics to agricultural data, advancing innovation in precision agriculture. By optimizing resource use and improving agricultural efficiency, this partnership contributes directly to Target 12.2, which aims to ensure the sustainable management and efficient use of natural resources within the food production sector.

Together, these collaborations demonstrate TED University's commitment to bridging academia and industry through research-driven partnerships that generate measurable environmental, social, and economic impact.

Social Entrepreneurship Network Association: TED University's commitment to sustainability and social innovation was further strengthened through its role as a founding member of the Social Entrepreneurship Network Association, a newly established platform dedicated to advancing responsible business practices and sustainable entrepreneurship. This initiative directly supports SDG 12: Responsible Consumption and Production, particularly Target 12.6, which encourages organizations to adopt sustainable practices and integrate sustainability information into their operations and reporting cycles.

Through this membership, the university aims to foster collaboration between academia, industry, and civil society in developing innovative and socially responsible entrepreneurial models. The partnership demonstrates TED University's active

engagement in shaping a sustainability-oriented entrepreneurial ecosystem both locally and nationally.

Dr. Sinem Güravşar Gökçe has been appointed as the university's principal representative, while Elif Muratoğlu and Aslı Ayğüneş will serve as alternate representatives for a three-year term. The collaboration was formally approved by University Executive Board Decision No. ÜYK 2024-39, dated 28 November 2024.

This engagement reinforces TED University's leadership in integrating sustainability, innovation, and social responsibility into institutional strategy and community partnerships.

SDG Student Hub Society:

The SDG Student Hub Society at TED University has played a vital role in advancing awareness of sustainable consumption and production, directly contributing to SDG 12: Responsible Consumption and Production, with a particular focus on Target 12.8, which emphasizes the need for education and awareness to promote sustainable lifestyles.

In 2024, the student-led group organized two major campus events, the first of which was the Sustainability Conference held on May 15, 2024, at the Ahmet Ersan Conference Hall. Centered around the theme *"Responsible Consumption and Production,"* the conference aimed to inspire the university community to adopt more sustainable habits and integrate environmentally responsible practices into daily life (See Image 5).

Image 5. SDG Student Hub Sustainability Conference

The event featured two expert panels and six distinguished speakers who shared insights on sustainability in academia, business, and society. Participants described the conference as an opportunity for *"unlimited inspiration"* and meaningful dialogue. The activity was also evaluated within the framework of the TEDU400 program, and attendees received official certificates of participation recognizing their engagement in sustainability-focused learning.

Evidence: https://www.tedu.edu.tr/etkinlikler/surdurulebilirlik-konferansi

By creating a platform for open exchange and collaborative learning, the SDG Student Hub Society effectively promoted sustainability literacy, strengthened student leadership, and fostered collective responsibility toward more sustainable production and consumption patterns on campus.

Ankara's First Vegan Festival: The second major event, organized in collaboration with the Logos Community, was **Ankara's First Vegan Festival**, hosted at TED university on May 21, 2024 (See Image 6).

Image 6. Ankara Vegan Fest

The festival highlighted the environmental, ethical, and health-related benefits of plant-based diets and cruelty-free consumption

patterns, encouraging participants to make informed and sustainable food choices. Through a series of interactive workshops and demonstrations, attendees experienced practical ways to integrate sustainability into daily life.

The event featured a variety of free, hands-on workshops, including *Vegan Muffin, Oat Milk, Microsprouting, and Seed Planting* sessions with Nilgün Engin; a *Drawing Workshop* with Aslı Alpar; *Herbal Milk and Probiotic Yogurt Making* with Duygu Atar; and a *Vegan Cosmetics Workshop* with Çağla Gözel. Each session combined creativity, education, and sustainability, offering tangible examples of responsible consumption in practice.

By transforming the university campus into an interactive learning environment, the festival not only celebrated sustainable food culture but also strengthened community engagement and student leadership in promoting environmentally conscious behaviors. The event served as an inspiring example of how student initiatives can catalyze broader cultural change toward sustainable and responsible consumption.

Evidence: https://avesis.tedu.edu.tr/etkinlik-organizasyonu/d0a6a238-ae22-452a-abe3-cae34f7595a9/vegan-festivali-logos

Projects

Two newly funded research projects by the Scientific and Technological Research Council of Türkiye (TÜBİTAK) demonstrate TED University's expanding contribution to responsible consumption and production in both societal and technological domains.

The first project, titled *"Active Citizen Participation in Science in the New Century of the Republic,"* led by Mehmet Alper Hakyol, is funded under the TÜBİTAK 1001 – Scientific and Technological Research Projects Support Program. The study investigates how science operates in everyday life from both micro and macro perspectives, fostering active citizen engagement with scientific knowledge. By emphasizing science literacy and societal awareness, the project directly supports Target 12.8, which promotes the generation and dissemination of information and education for sustainable development and lifestyles.

The second project, *"Triple Optimization of Network Distribution for Smart Transportation with Autonomous Vehicles,"* by Zeynep Serper, is supported through the TÜBİTAK 2219 – Post-Doctoral Research Fellowship Program Abroad. Focusing on the development of smart and sustainable transportation systems, the research seeks to enhance energy efficiency and reduce resource waste in networked mobility infrastructures. This innovative approach directly contributes to Target 12.2, emphasizing the sustainable management and efficient use of natural resources in future urban transport systems.

Student Projects

PET Bottle Awareness Project: This project aims to raise public awareness of the harmful effects of PET bottle consumption on both human health and the environment (See Image 7).

Image 6. PET Bottle Awareness Project – Promoting Sustainable and Healthy Consumption Practices

Despite persistent challenges in access to clean drinking water, the continued and widespread use of PET bottles represents a major sustainability concern. Research has shown that PET bottles release harmful chemicals and contribute substantially to plastic pollution and waste accumulation. The initiative is directly aligned with SDG 12: Responsible Consumption and Production, particularly supporting Targets 12.5 and 12.8, which focus on reducing waste generation and promoting education and awareness for sustainable lifestyles.

Surveys conducted with 443 participants revealed that most individuals remain unaware of the health and environmental risks associated with PET bottle usage. Expert analyses and literature reviews further underscored the urgent need for educational and behavioral interventions on this issue.

The project included a range of communication and outreach activities, as well as collaborations with non-governmental organizations (NGOs) to disseminate accurate information and practical guidance on sustainable consumption. Findings demonstrated that increased awareness had a measurable positive effect on individuals' consumption patterns—encouraging a shift toward eco-friendly and health-conscious alternatives.

Overall, this initiative contributes significantly to SDG 12 by fostering informed consumer choices, sustainable behavior change, and community engagement in addressing plastic waste and environmental health.

Know Your Recyclables: This project was developed to increase awareness about materials that cannot be processed through conventional recycling systems and to prevent contamination within recycling streams. By fostering greater understanding of responsible waste management, the initiative directly supports SDG 12: Responsible Consumption and Production, particularly Target 12.5, which focuses on substantially reducing waste generation through prevention, reduction, recycling, and reuse (See Image 8).

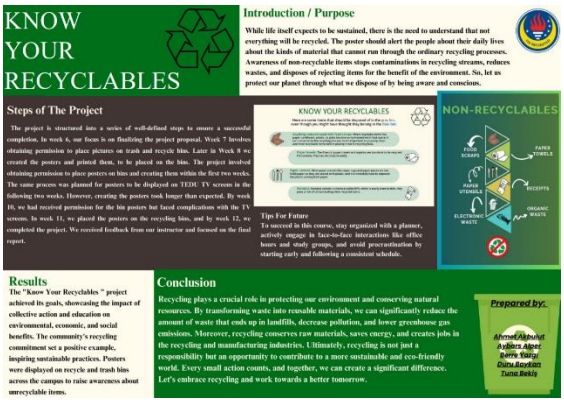

Image 8. Recycling Awareness Project – Promoting Responsible Waste Management and Consumer Habits

As part of the project, informative posters were designed and placed on trash and recycling bins across the TED University campus. These visuals clearly identified non-recyclable materials and explained their impact on recycling processes and environmental health. Necessary permissions were secured from campus management, and the materials were implemented strategically to maximize visibility and engagement.

Throughout the project, continuous feedback was collected from students and staff to assess clarity and effectiveness. This feedback informed design refinements and guided the completion of the final project report. Findings revealed that visual reminders significantly improve environmental awareness and encourage more responsible waste disposal behaviors.

Effective recycling practices contribute to natural resource conservation, reduced landfill dependency, and lower pollution and greenhouse gas emissions. By promoting informed, everyday decision-making, this project illustrates how simple educational interventions can meaningfully support sustainable consumption habits and strengthen community-wide participation in environmental stewardship.

Voluntary Aid Project to Schools in Need: As part of a community engagement initiative, TED University students organized the Voluntary Aid Project to Schools in Need, which aimed to raise awareness about cooperation, sharing, and responsible consumption among primary school students.

The project team visited Çiğiltepe Primary School, where they delivered an interactive presentation emphasizing the importance of collaboration, sustainability, and conscious consumption. Following the session, donation boxes were placed in each classroom, encouraging students to collect school supplies and toys they no longer used (See Image 9).

Image 9. Voluntary Aid Project

One week later, the boxes, which were decorated by the students themselves, were collected and carefully transported to Hatay, where they were distributed to children at Hatay Antakya Karlısu Hürriyet Primary School. This process was supported by the Blue Butterflies Children's Rights Group, ensuring that the collected materials reached students in need safely and effectively.

By promoting the reuse of educational materials and cultivating environmental and social awareness among young learners, the project fostered both empathy and sustainability literacy. It demonstrated how small-scale, community-based actions nurture a new generation that values resource efficiency and shared responsibility.

Campus Recycling Improvement Project: Recognizing the need for more effective recycling practices on campus, TED University students launched the Campus Recycling Improvement Initiative to foster responsible waste management and promote sustainable behavior (See Image 10).

Image 10. Campus Recycling Improvement

Initial observations revealed that many students placed recyclable materials into regular waste bins and occasionally disposed of non-recyclable items in recycling bins, largely due to limited awareness of proper waste separation. To address this issue, the project team designed and distributed informative posters explaining which materials can and cannot be recycled, and held short peer engagement sessions to reinforce the message through direct communication.

Following the initiative, several students reported becoming more attentive to waste sorting after encountering the educational posters and participating in awareness conversations. While further progress is needed to achieve consistent recycling practices campus-wide, the project successfully raised awareness, improved individual recycling habits, and contributed to building a more sustainable and environmentally conscious campus culture.

Green Nourish-Vegan Food Awareness Project: This project was designed to encourage individuals to adopt vegan food alternatives as a means of reducing their carbon footprint and supporting sustainable consumption which focuses on raising awareness for sustainable lifestyles (See Image 11).

Image 11. Green Nourish-Vegan Food Awareness Project

In collaboration with environmentally and animal-friendly boutique markets, the project organized food tastings, surveys, and social media campaigns to introduce plant-based alternatives and challenge common misconceptions about vegan diets. These interactive activities helped increase awareness of how individual food choices directly influence environmental sustainability.

The initiative successfully demonstrated that even small lifestyle adjustments, such as incorporating vegan alternatives, can make a significant positive impact on environmental health, animal welfare, and overall sustainability. By promoting conscious consumer behavior and reducing reliance on carbon-intensive foods, the project contributed to building a more responsible and eco-conscious consumption culture.

Artful Solutions for the Pollution: This project supports SDG 12: Responsible Consumption and Production by promoting awareness of recycling and upcycling as creative and sustainable approaches to waste management. The project team collected discarded bottle caps from around the campus and repurposed them into a large-scale artwork, illustrating how waste materials can be transformed into valuable and expressive creations (See Image 12).

Image 12. Artful Solutions for the Pollution project

A survey conducted as part of the project revealed that while many individuals recognize the importance of recycling, they often struggle to apply it correctly in daily life. To address this gap, the team created informative posters and installed special collection bins across campus to encourage

proper waste sorting and active participation in recycling initiatives.

This project underscores the importance of education, creativity, and behavioral change in reducing waste and promoting circular resource use. By transforming discarded items into meaningful art, the initiative highlighted the potential of upcycling as both an environmental and cultural practice that fosters a sustainable campus mindset.

Awards

Architecture student Zehra Dağıstan was accepted into the TÜBİTAK 2247-C Intern Researcher Fellowship Program (STAR), marking a significant achievement that strengthens the link between academic excellence and sustainability-oriented research (See Image 13.). Her participation directly supports SDG 12 and focuses on enhancing scientific and technological capacity for sustainable development.

Image 13. Architecture Student Zehra Dağıstan – TÜBİTAK 2247-C STAR Fellowship Award

Zehra will work under the mentorship of Assoc. Prof. Dr. İpek Gürsel Dino on the project *"Smart Building Technologies,"* part of the Advanced Technologies for Sustainable Cities Platform, led by Prof. Dr. Elif Uysal and supported by TÜBİTAK. The project explores resource-efficient infrastructure and smart design solutions, contributing to the sustainable management and efficient use of natural resources in alignment with Target 12.2.

This recognition not only highlights the university's strong research mentorship culture but also reflects its commitment to nurturing young scholars who integrate innovation, efficiency, and environmental responsibility into architectural and technological design.

Campus

TED University continues to strengthen its commitment to **SDG 12** through comprehensive waste management strategies and resource-efficient operational policies implemented across the campus.

Zero Waste: The university maintains strict standards for the **ethical sourcing and responsible use of food and materials**, ensuring that all products procured for campus operations adhere to **environmentally friendly, sustainable, and ethical supply principles**. Regular **monitoring and evaluation mechanisms** are in place to align food services, procurement operations, and material usage with the university's sustainability goals.

These practices minimize environmental impact, encourage the use of **local and recyclable products**, and promote **transparency and accountability** throughout the supply chain. The **Zero Waste Certificate (See Image 13)** remains valid, underscoring the university's ongoing commitment to **sustainable resource management, environmental protection**, and **ethical operational standards**.

Image 13. Zero Waste Certificate

Hazardous and General Waste Management: In TED University's laboratories and workshops, **hazardous waste materials** including laboratory chemical containers, paint cans, toners, cartridges, and waste batteries are managed in strict accordance with **national**

environmental regulations. All such materials are **carefully collected by trained hygiene and cleaning personnel** using appropriate protective equipment and safety procedures, then transported to a **designated hazardous-waste storage area** on campus (See Image 14).

Image 14. Hazardous Waste Bins in Designated Areas

The stored materials are **regularly transferred to licensed waste-management companies** under formal service agreements to ensure **safe disposal and recycling**. Waste batteries are returned directly to their **manufacturers for recovery**, fully complying with relevant environmental legislation. These measures demonstrate the university's ongoing commitment to maintaining an **environmentally responsible, safe, and sustainable waste-management system**.

Across the campus, **waste collection follows a strict source-separation protocol**. Recyclable and non-recyclable materials are sorted at the point of generation and securely stored in **temporary storage areas** for the durations specified in environmental regulations. Subsequently, all collected waste is delivered to the university's **authorized recycling contractor**, guaranteeing compliance with environmental standards and full traceability of recycling processes.

These practices form a cornerstone of the university's **Zero-Waste Policy** and **sustainable environmental-management framework**, contributing to the **efficient use of resources**, **waste minimization**, and the **reduction of overall ecological impact**.

Minimization of Plastic Use and Disposable Items: TED University has implemented the following initiatives aligned with **SDG 12** to reduce plastic use and encourage **environmentally responsible behaviors** across the campus (See Image 15).

Image 15. Minimizing Plastic Use

In an effort to reduce plastic consumption and promote environmentally responsible habits across the campus, several initiatives have been implemented:

- The production of TED University-branded glass bottles has continued, and these bottles have been made available for use by both staff and students.
- Carafes and glasses made from 100% recycled glass continue to be used in all event areas, as well as in conference and meeting rooms.
- A total of 44 purified water dispensers located throughout the campus help keep the use of plastic bottles to a minimum and significantly reduce single-use plastic consumption (See Image 16).

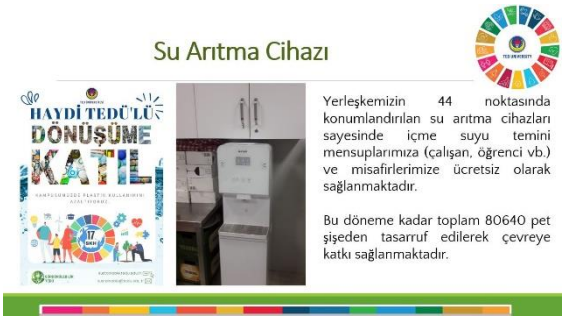

Image 16. Purified Water Dispensers

These practices reflect the university's strong commitment to its zero waste objectives, sustainable resource management, and eco-friendly campus vision, contributing to the enhancement of environmental awareness and the promotion of a sustainable lifestyle within the university community.

Shared Printers: To minimize the use of single-use products, sustainable, durable, and environmentally friendly alternatives are preferred across TEDU campus. For printing operations involving paper materials, the secure print feature on network printers continues to be used to prevent waste and promote efficient paper management.

Image 17. Shared Printers

Cleaning and Hygiene Products: With the aim of establishing a healthier, more sustainable, and higher standard of living, minimizing the environmental impact of products used, contributing to a circular economy, and reducing plastic and packaging use, carbon footprint, and waste generation, a significant transition has been implemented on campus. Accordingly, a total of 85 paper towel dispensers and 148 toilet paper dispensers have been replaced with Essity TORK dispensers, which are designed in line with sustainability principles, and remain in active use.

In addition, cleaning and hygiene products supplied by the same company are preferred, reinforcing the university's commitment to a sustainable supply chain and an environmentally conscious campus management approach.

Extension of Sustainability and Waste Minimisation Policies to Suppliers and Services: Within the scope of the Zero Waste Project, it is aimed to ensure that recyclable wastes are delivered to the recycling company and recycled and/or that the recycling company carries out all processes until their final disposal. This process is carried out in accordance with the laws, the Zero Waste Regulation published in the Official Gazette dated 12.07.2019 and numbered 30829 of the Ministry of Environment, Urbanization and Climate Change, and the conditions sought in the Packaging Waste Control Regulation published in the Official Gazette dated 26.06.2021 and numbered 31523 (See Image 18).

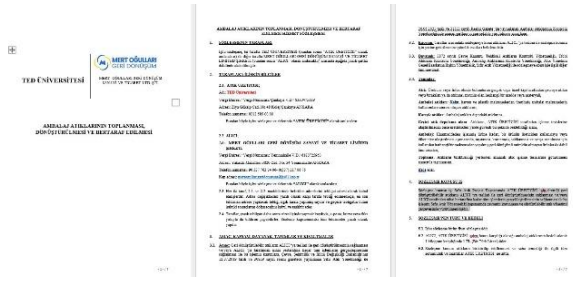

Image 18. Zero Waste Policy at TEDU

In both on-campus and off-campus events, promotional items are predominantly selected from sustainably produced and remanufactured materials (See Image 19). Accordingly, environmentally friendly products such as notebooks made from recycled paper, natural wooden or paper-based pens, and cotton or clutch bags made from raw fabric are preferred.

Image 19. Sustainably produced and remanufactured materials

During the procurement process, suppliers are informed in advance that sustainable products will be prioritized, and proposals are evaluated exclusively from this group of eco-friendly items to ensure environmentally responsible purchasing decisions. These materials are also used in carrying out the messages to promote sustainability (See Image 20).

Image 20. Promotions materials produced with remanufactured materials

Furthermore, the designs featured on the promotional materials are created to reflect the university's environmental awareness, incorporating sustainability-related messages and visuals (See Image 21). In this way, each promotional item serves not only as a communication tool but also as a medium for promoting environmental consciousness and sustainability awareness.

See Image 21. An exemplary material produced with remanufactured materials

A mutual agreement has been signed with Mertoğulları Recycling Company in order to ensure that all processes are carried out until the measurement of recyclable wastes within the campus, delivery to the recycling company, recycling and/or final disposal by the recycling company, and to ensure that this process is carried out in accordance with the laws. (The Zero Waste Regulation published in the Official Gazette dated 12.07.2019 and numbered 30829 of the Ministry of Environment, Urbanization and Climate Change). The conditions sought in the Packaging Waste Control Regulation published in the Official Gazette dated 26.06.2021 and numbered 31523, and the activities for the process are continuing.

In 2024, a total of 334,090 kg of waste was generated. This amount represents a 42% reduction compared to the previous year. This significant decrease is attributed to the organization's effective waste reduction notifications, awareness initiatives targeting internal and external stakeholders, and the implementation of recycling activities in line with its sustainability objectives.

This progress is considered a major step forward in reducing environmental impacts and optimizing resource use. The organization plans to continue and enhance these improvement efforts in the coming years to further strengthen its environmental performance.