OSTİM TECHNICAL UNIVERSITY
ANKARA

Sustainability at OSTIM Technical University

SDG 13: Climate Action Plan 2025

13 CLIMATE ACTION

Sustainability at OSTIM Technical University

SDG 13: Climate Action Plan (CAP) 2025

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LETTER FROM THE RECTOR

OSTIM Technical University's Commitment to Climate Action

We acknowledge that climate change is one of the most pressing global challenges, with profound consequences for both people and the planet. As part of our commitment to sustainability, we pledged in 2022 to take decisive action on climate change.

Recognizing the findings of the Intergovernmental Panel on Climate Change (IPCC) and the United Nations (UN) Production Gap Report, OSTIM Technical University affirms the urgent need for immediate and comprehensive measures to meet—and ideally exceed—the targets set by the Paris Agreement. The prevailing scientific consensus underscores that deep and sustained reductions in greenhouse gas emissions are essential to limiting global temperature rise to 1.5°C. Failure to act will exacerbate the severity of bushfire seasons, water scarcity, extreme weather events, and the collapse of vital ecosystems, including coral reefs. Furthermore, effective climate adaptation and disaster risk reduction strategies are imperative.

Addressing climate change is an inherently complex challenge, affecting diverse sectors such as ecology, energy, agriculture, health, cultural heritage, law, politics, migration, inequality, urban planning, finance, insurance, and international security. OSTIM Technical University is at the forefront of tackling these challenges through research, education, infrastructure development, policy initiatives, and national and international collaborations.

Our institution is home to leading research centers and institutes dedicated to developing innovative solutions to real-world environmental challenges. Our interdisciplinary programs and courses will continue to educate students on climate change and sustainability, equipping them with the knowledge and skills to drive meaningful change.

Given the urgency of the climate crisis and the scale of the challenges ahead, we declare that more immediate and extensive action is required. As scientists have warned, "the time to act is rapidly closing." In response, our next step is the adoption of a comprehensive Sustainability Strategy in 2024, which outlines concrete measures for emissions reduction and the transition to renewable energy.

Recognizing that effective climate action demands ongoing commitment from all institutions—including governments, corporations, and civil society actors— OSTIM Technical University pledges to regularly assess and strengthen its climate policies. To ensure accountability, we will conduct an annual review of our sustainability targets and implementation progress. Additionally, beginning in 2022, we will undertake a biennial review of our advancements in addressing climate change and SDG 13, with a commitment to continuously enhancing our performance where necessary.

Prof. Dr. A. Murat Yülek
Rector

EXECUTIVE SUMMARY

OSTIM Technical University's Commitment to Carbon Neutrality

Prof. Dr. A. Murat Yülek, Rector of OSTIM Technical University, has officially signed the OSTIM Technical University/CAP, aligning the University with leading academic institutions committed to developing a comprehensive institutional plan to achieve net-zero greenhouse gas (GHG) emissions. This initiative also aims to enhance sustainability research and integrate sustainability-focused educational programs across the University.

To ensure broad participation, the Sustainability Office invited faculty, staff, students, alumni, and representatives from various departments to contribute to this effort. The Sustainability Advisory Board served as the steering committee, organizing participants into five key working groups, each focusing on a critical area:

- Transportation
- Energy
- Water
- Waste Diversion
- Education

At the core of this initiative is the principle of conservation—reducing dependence on nonrenewable resources while actively exploring and implementing innovative renewable technologies and sustainable practices. This effort extends beyond operational adjustments, requiring a fundamental shift in habits, policies, and institutional culture to build a truly sustainable campus.

The Climate Action Plan (OSTIM Technical University/CAP) reflects the University's leadership in sustainability by integrating social, economic, and environmental sustainability principles into campus planning, design, operations, administration, education, and community engagement. This plan embodies the collective ambition, capability, and commitment of students, faculty, staff, and administration to significantly reduce greenhouse gas emissions and achieve carbon neutrality as swiftly as possible.

This document marks the University's first strategic step toward carbon neutrality. The collaborative process has provided invaluable insights, laying the foundation for future sustainability initiatives. Moving forward, OSTIM Technical University is committed to developing innovative strategies, systems, and technologies that can be scaled beyond the campus to benefit both the broader community and state-level sustainability efforts.
The specific objectives of the OSTIM Technical University/CAP are detailed in the following chapters.

INTRODUCTION

OSTIM Technical University's Commitment to Carbon Neutrality and Sustainability

OSTIM Technical University's decision to pursue carbon neutrality positions it as a leader among more than 200 universities in Turkey. Established in 2017, the University plays a pioneering role in science, engineering, a d technology. By producing forward-thinking projects, it aims to bridge the past and present while shaping the future of scientific and technological advancements. The University operates across three campuses: OSTIM, the Foreign Language School, and the New Campus, which is currently under construction.

The University's unique approach to achieving carbon neutrality is shaped by its institutional character an circumstances. This plan outlines the strategies established to reach this goal. In line with its commitment to fostering an ethical and environmentally responsible academic community, OSTIM Technical University actively engages in initiatives to protect and sustain the environment. For years, it has collaborated with national leaders to develop programs, policies, and strategies addressing climate change. Through its faculties, Energy Institute, Climate Research and Implementation Center, and Disaster Management Institute, the University conducts research on energy policy, organizes educational activities, and shares resources to advance climate action planning.

The Green Campus Initiative

In 2022, OSTIM Technical University formalized its Green Campus Philosophy, which is built upon the following core principles:

- Promoting a culture of sustainable living,
- Creating an aesthetically pleasing campus with a strong ecological identity,
- Ensuring an accessible, secure, and 24-hour campus environment,
- Developing a pedestrian- and bicycle-friendly campus,
- Providing sports and wellness opportunities,
- Implementing a comprehensive recycling and zero-waste movement,
- Supporting biodiversity and enhancing environmental quality.

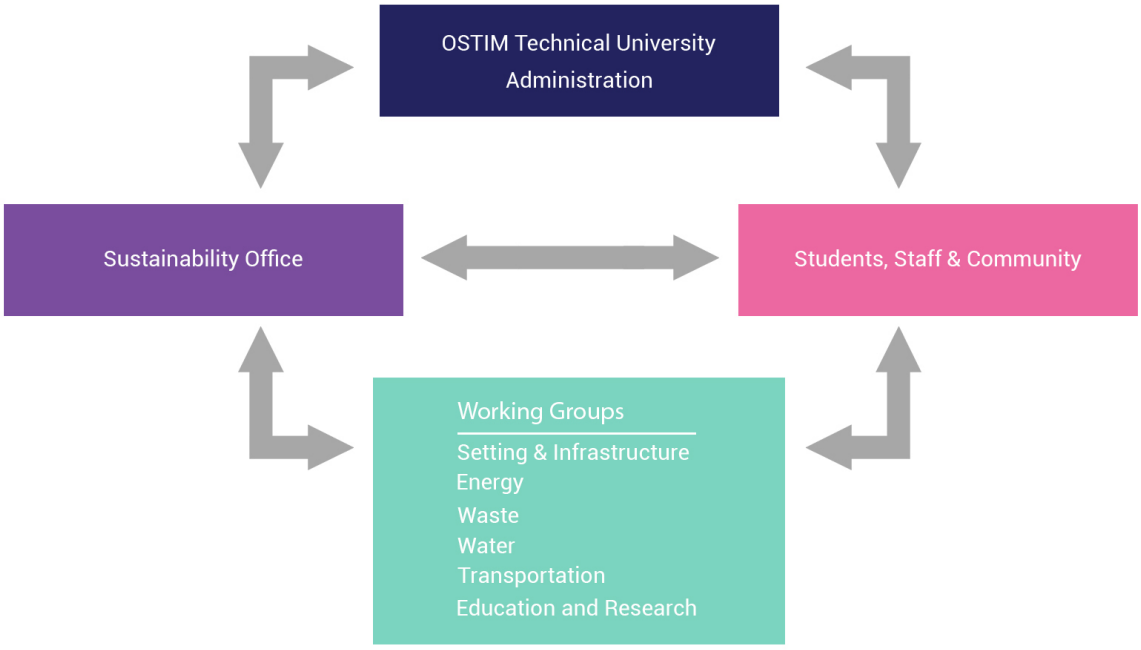
As part of this initiative, efforts have been launched to improve energy efficiency across all campuses, guided by the Energy Efficiency Law and the objectives outlined in the OSTIM Technical University Energy Management Directive. Additionally, the University aligns its energy policies with the 2023 Energy Efficiency Targets set forth in the Energy Efficiency Strategy Document and the National Energy Efficiency Action Plan. These efforts focus on both implementing high-impact energy efficiency measures and ensuring their long-term sustainability.

Institutionalizing Sustainability

In response to growing demand from students, faculty, and staff, sustainability was formally integrated into the University's Strategic Directions in 2022. As part of this initiative, the Sustainability Task Force was established to assess OSTIM Technical University's sustainability status in comparison to peer institutions. This committee developed the Outline of Sustainability Initiatives, which encompasses:

- Academics
- Community outreach and engagement
- Operational sustainability of auxiliary services
- Sustainable facilities management
- Campus life and student involvement
- Strategic decision-making by the Executive Council

Through these strategic efforts, OSTIM Technical University reaffirms its dedication to fostering sustainability, reducing its environmental impact, and setting a national example in climate action and carbon neutrality.



OSTIM Technical University's Climate Action Plan and Sustainability Commitment

Recognizing that the successful implementation of a comprehensive climate action plan requires strong leadership, OSTIM Technical University established the Office of Sustainability in September 2020. To ensure effective coordination and execution, a Director of Sustainability position was created, providing dedicated leadership with the authority and resources needed to achieve the University's sustainability objectives.

Since its inception, the Office of Sustainability has developed and implemented numerous initiatives aimed at fostering a culture of sustainability both on campus and throughout the broader Ankara community. The OSTIM Technical University Climate Action Plan (OSTIM Technical University/CAP) was designed with input from a diverse group of stakeholders, including faculty, staff, students, alumni, and representatives from various departments. These participants were organized into five key task teams under the leadership of the President's Sustainability Advisory Board, focusing on the following areas:

- Energy
- Transportation
- Land
- Water
- Zero Waste and Education

A Strategic Approach to Carbon Neutrality

This document represents OSTIM Technical University's first structured effort to achieve carbon neutrality. Throughout this process, participants have gained valuable insights and acknowledge that achieving this goal is an iterative process that will evolve with new data, technologies, and policies. The committee leading this initiative has been tasked with two primary responsibilities:

1.Assessing OSTIM Technical University's Greenhouse Gas (GHG) Emissions:
- Collecting and analyzing data on emissions sources.
- Defining the University's overall carbon footprint.

2.Developing a Clear Climate Action Plan (CAP):
- Establishing strategies for reducing the three major sources of GHG emissions:
  - Electricity consumption
  - Natural gas and water usage
  - Transportation emissions
- Raising awareness about climate change and promoting behavior change within the campus community.

The Climate Action Plan (CAP) outlines the University's target date and interim milestones for achieving climate neutrality, as well as the mitigation projects and tracking mechanisms necessary to measure progress. While the University is committed to significant on-campus carbon reduction efforts, it acknowledges that achieving full climate neutrality will also involve carbon offsets, external emissions reductions, or sequestration efforts beyond its own operational footprint.

Education, Engagement, and Institutional Leadership

A central component of the CAP is ensuring that all OSTIM Technical University graduates gain a solid understanding of sustainability, preparing them to contribute meaningfully to global climate solutions. Additionally, the initiative seeks to engage the entire campus community—students, faculty, staff, and alumni in this ambitious effort.

Beyond environmental responsibility, taking decisive action on climate change is expected to provide significant institutional benefits, including:

- Enhancing the University's ability to attract top students, faculty, and staff.
- Securing new sources of funding for sustainability-related research and projects.
- Strengthening relationships with alumni and local communities through shared sustainability goals.

At its core, this initiative reflects OSTIM Technical University's deep-rooted culture of public engagement, reinforcing the belief that universities have a fundamental responsibility to share knowledge and expertise to address pressing global issues. By taking bold steps to reduce its own climate footprint, OSTIM Technical University not only strengthens its own sustainability efforts but also contributes to the broader societal mission of combating climate change.

As the world increasingly looks to institutions of higher education for leadership and innovation, OSTIM Technical University is committed to being at the forefront of this movement, confident in its ability to drive meaningful change.

OBJECTIVES

The CAP includes the objectives, target date and interim milestones for achieving climate neutrality, strategies and mitigation projects. The objectives are presented in five topics below.

1.Transportation
2.Energy
3.Water
4.Waste Diversion
5.Education

1.TRANSPORTATION

1.1. Objectives Towards Increasing Environmentally Sustainable Transport

OSTIM Technical University's Commitment to Sustainable Transport

OSTIM Technical University is committed to reducing greenhouse gas (GHG) emissions associated with both campus-wide traffic and the daily commuting needs of students and staff. To achieve this, the University has adopted a series of sustainable transport policies aimed at minimizing the environmental impact of transportation while enhancing accessibility and mobility options.

Strategies for Sustainable Mobility

The University's approach integrates active travel solutions and electromobility-based initiatives to specifically address campus-wide exhaust emissions. Additionally, a combination of restrictive policies for private car use and incentive-based approaches for public transportation aims to mitigate the broader city-wide and metropolitan scale traffic effects. These efforts are particularly crucial given that many of the University's campuses are located in the central business districts of the Ankara metropolitan area, where vehicular congestion and emissions pose significant challenges.

Sustainable Transport Goals

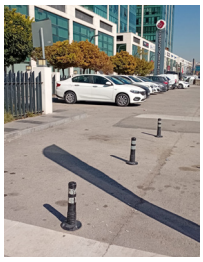
To further advance its sustainability objectives, OSTIM Technical University seeks to improve and expand existing solutions that reduce emissions from motorized vehicular traffic both on-campus and off-campus. These efforts align with the University's broader commitment to environmental responsibility, urban mobility innovation, and climate action.

By integrating sustainable transport policies into its overall climate strategy, OSTIM Technical University reinforces its leadership in promoting low-carbon mobility solutions that contribute to a healthier, more sustainable urban environment.

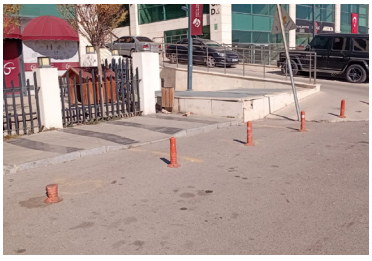
1.2. Restricting Gradually Private Car Traffic

1.2.1. Disabling By-Pass Traffic

To prohibit the bypass and transit passage of vehicles without a parking membership, particularly due to the presence of arterial roads surrounding most campuses. By restricting access to non-member vehicles, the University aims to reduce motorized traffic, thereby minimizing congestion at campus entrances, especially during peak hours. This measure will help decrease stop-and-go traffic, leading to lower emissions and a more sustainable campus environment.






1.2.2. Revising Management of Parking Lots in Conjunction with Membership

To revise the pricing and management strategies for parking memberships and daily parking without membership. In this context, the following measures have been (or are ready to be) implemented to reduce emissions from fossil fuel-powered vehicles: offering relatively favorable rates for parking memberships that prioritize electric and hybrid-electric vehicles; increasing the allocation of parking spaces for electric and hybrid-electric vehicle memberships while maintaining overall parking capacity limits; and adopting a dynamic pricing model for non-member vehicles based on real-time traffic congestion dynamics throughout the day.

1.3. Dynamic Information Dissemination Through Tools of Smart Campus

To develop tools for the dynamic management of campus network traffic within the framework of the OSTIM Technical University Smart Campus Project. The project aims, in part, to enhance the capabilities of the existing sensing and detection network by utilizing technologies such as Bluetooth, GPS, and IoT to achieve higher spatial and temporal resolution in monitoring traffic flows within the campus network. Additionally, it seeks to optimize the structure of data transmission to support the development of a data management software, which will be designed and integrated with a traffic simulation component. Through the implementation of this system, real-time data analysis will enable the assessment of various campus-wide traffic indicators, such as travel times and congested sections. Consequently, interactive short- and medium-term traffic predictions will be generated to support decision-making processes aimed at mitigating emissions.

2. ENERGY

2.1. Basis of OSTIM Technical University Energy

The OSTIM Technical University Energy Action Plan outlines the planned initiatives aligned with the university's strategic goals to reduce energy consumption and carbon emissions within the campus boundaries. The plan aims to protect the environment by utilizing renewable energy sources, thereby minimizing reliance on carbon intensive industries such as coal and oil. It also seeks to ensure the safe, uninterrupted, and cost-effective supply of energy by diversifying investments, ultimately alleviating the financial burden of energy costs on the university. A critical aspect of the plan is ensuring the sustainability of these initiatives and their outcomes, which is integral to energy efficiency efforts.

Committed to an environmentally friendly campus mission, the university strives to optimize energy and natural resource use. This involves not only reducing energy consumption but also enhancing energy production efficiency by prioritizing renewable energy sources over carbon-intensive alternatives such as natural gas, coal, and oil. In line with the objectives and scope defined in the 'OSTIM Technical University Energy Management Directive' and in accordance with the 'Energy Efficiency Law,' the university has initiated studies to improve energy efficiency within its campus boundaries. Additionally, taking into account the 2023 energy efficiency targets outlined in the Energy Efficiency Strategy Document and the strategic directions of the National Energy Efficiency Action Plan, necessary measures have been identified to ensure both the effective implementation and long-term sustainability of energy efficiency applications on campus.

In the initial phase, energy efficiency studies have been launched with a focus on the renovation of existing buildings and the construction of new structures across the university's campuses. Key factors such as the buildings' current conditions, construction years, architectural classifications, and monthly energy consumption have been assessed. As part of this effort, the OSTIM Technical University Energy Efficiency Action Plan has been developed, incorporating strategies to enhance energy efficiency by drawing on best practices from both Turkey and the global context.

Energy efficiency initiatives require a multifaceted approach that necessitates collaboration among public institutions, various industries, and multiple disciplines. However, the scope of energy efficiency measures in buildings varies depending on their specific functions and operational objectives. The buildings within OSTIM Technical University campuses serve diverse purposes, including administration, education, research, and accommodation, and they are designed with different structural and operational considerations. Each building has unique architectural features, load-bearing systems, mechanical infrastructures, and smart technologies. Therefore, effective coordination among institutions, sectors, and disciplines is essential for implementing the proposed actions and evaluating their outcomes. Tailored strategies must be devised for each building based on its specific characteristics.

The Rectorate will oversee the coordination and cooperation processes required for implementing, monitoring, reporting, and validating the Energy Action Plan, as stipulated in the 'OSTIM Technical University Energy Management Directive.

2.2. Scope of OSTIM Technical University Energy Action Plan

The OSTIM Technical University Energy Efficiency Action Plan outlines the policy actions designed to enhance energy efficiency across existing and new buildings, as well as within various sectors on the campuses of OSTIM Technical University. As defined in the 'OSTIM Technical University Energy Management Directive,' the key objectives include:

- The effective utilization of energy through the improvement of energy efficiency in both existing and planned buildings,
- Conducting energy audits to identify areas where energy waste is most prevalent,
- Phasing out investments in carbon-intensive energy industries, particularly coal and oil, to safeguard the environment and improve the efficiency of energy resources.

These objectives serve as the foundation for the directive's scope and the principles guiding its implementation. The directive also outlines the specific steps for the execution of these actions, the key performance indicators (KPIs), how the actions will be carried out, the anticipated outputs, and the potential impacts of these initiatives. These actions encompass multifaceted studies that require collaboration from experts across various faculties and other stakeholders. The studies will consider the economic, social, and environmental aspects, integrating innovative technological approaches based on resource efficiency. Sustainability remains a central consideration in the Action Plan, which is designed to be flexible and measurable, allowing for updates in response to evolving conditions.

In this regard, the OSTIM Technical University Energy Action Plan encompasses several core initiatives:

- The creation and activation of support models for energy efficiency,
- The development of sustainable financing mechanisms,
- Encouraging on-site production and consumption through the integration of renewable technologies, thereby increasing the use of renewable resources in line with energy efficiency goals,
- The promotion of smart buildings, smart campuses, and smart grids as integral elements of energy efficiency,
- Disseminating the principles of sustainable, environmentally-friendly structures and improving the energy efficiency of existing buildings.

These studies aim to enhance energy efficiency across all sectors, with a clear focus on sustainability and innovative, resource-efficient solutions.

2.3. Current Situation

Especially the main campus of OSTIM Technical University which is Ostim, and other campus Foreign Language School and The New Campus of OSTIM Technical University under construction campus have been evaluated. OSTIM campus consists of the Rectorate, Faculty, Institute and Education Units Buildings, Laboratories, Sports Facilities, Technopolis Buildings, Culture, Art and Health Units Buildings. OSTIM Technical University comprises several facilities: the Main OSTIM Campus and Department of Foreign Languages covering 88,394 m^2, the Innovation and Technology Center of 6,785 m^2, the Car Park of 3,392 m^2, Sport Facilities Area and Recreation Park spanning 7,526 m^2, the Incubation Center of 1,932 m^2, new campus covering 17,302 m^2, Mehmet Aslan Park at 3,840 m^2, and Nasrettin Hoca Park at 9,677 m^2. OSTIM Technical University has a total area of 138,848 m^2 and a total population of all students and university members are 7,837. OSTIM Technical University is located in an industrial area. OSTIM Technical University is located in the northwest of Ankara. The new campus of OSTIM Technical University will be constructed on island 42710, parcel 4 in the industrial zone and will house critical structures of the university such as the Faculty of Engineering, Vocational School, and library. The total construction area of the campus was planned as 46,632.57 square meters and the living area as 6,672.03 square meters.The campus will include 93 classrooms, 22 laboratories, 60 offices, 2 stores and a total of 4 amphitheaters (for 96 and 203 people) in order to meet modern educational needs. While the educational areas are kept wide and spacious, great importance was also given to green areas. The campus will include 10,630.19 square meters of green area and 2,059 square meters of terrace green area. The new campus will be constructed on island 42710, parcel 4 in the industrial zone and will house critical structures of the university such as the Faculty of Engineering, Vocational School, and library. The total construction area of the campus was planned as 46,632.57 square meters and the living area as 6,672.03 square meters.

2.3.1. Determination of Methods to be Applied to Determine the Energy Efficiency Potential in Buildings

Primary energy intensity in buildings is an important indicator in terms of demonstrating energy savings in primary and final energy consumption and improving energy efficiency. Therefore, the results in this study are presented with these two indicators. Three basic documents related to energy performance in buildings, which are also used in this document, constitute the technical background.

1) EN ISO 52000-1:2017: Energy Performance of Buildings, Energy performance assessment in Inclusive Buildings. - Part 1: General framework and procedures. (ISO 52000-1: 2017)
2) CEN/TS 16628:2014: Basic principles for the energy performance standard set in buildings.
3) CEN/TS 16629:2014: Detailed technical rules on the energy performance standard set of buildings.

2.3.2. Carbon Footprint of OSTIM Technical University in 2023

The amounts of greenhouse gases (CO2, CH4 and N2O) released into the atmosphere as a result of the electricity and natural gas consumptions used in the buildings in all campuses have been calculated. Calculations were made according to GHG Protocol Corporate Standard and CO2 emissions coefficients from the IPCC 2006 report. Tier 1 method was used for calculations.

Greenhouse Gas Emissions Report – 2023 Reference Year
To facilitate the year-on-year comparison of greenhouse gas (GHG) emissions, the year 2023 has been designated as the "reference year." In 2023, the total GHG emissions of OSTIM Technical University were 182.1639 tons of CO2 equivalent (CO2-eq.) for Scope 1 and 506.7520 tons of CO2-eq. for Scope 2. The distribution of emissions by scope for the reporting year is presented in the table below.

Scopes of Greenhouse Gas Emissions

Scope 1 (Direct Emissions):
This category includes GHG emissions from sources that are directly controlled by the institution.
Examples:
- Fuel consumption (e.g., natural gas or petroleum products used in company vehicles and facilities),
- Emissions from industrial processes.

Scope 2 (Indirect Energy-Related Emissions):
Scope 2 covers indirect emissions resulting from the purchase and consumption of energy sources such as electricity, heat, and steam.
Examples:
- Purchased electricity, heating, or cooling services.

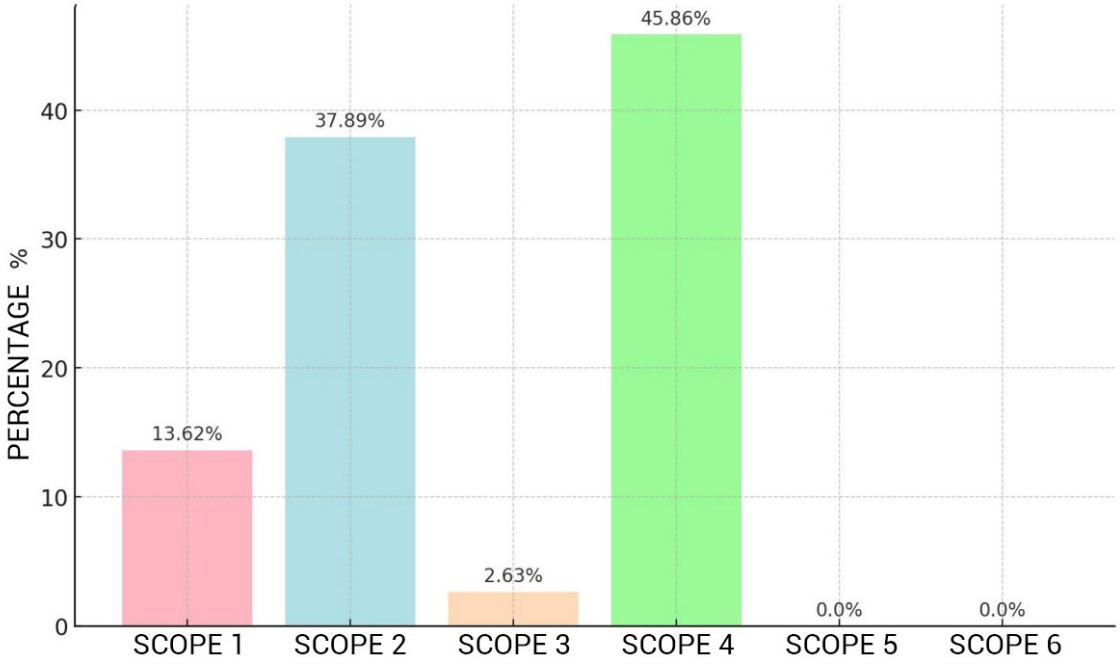
Scope 3 (Other Indirect Emissions):
Scope 3 includes emissions that are not directly controlled by the institution but are influenced by its activities.
Examples:
- Supply chain emissions (including the production and transportation of goods),
- Business travel,
- Emissions resulting from employees working remotely,
- Emissions from the use and disposal of sold products.

Scope 4 (Emissions Beyond Organizational Boundaries):
This category includes emissions from sources outside the institution's operational boundaries but related to its products.
Examples:
- Raw material extraction and agricultural activities,
- Transportation of raw materials between suppliers,
- Processing and production of raw materials,
- Solid and liquid waste emissions from resource use.

Scope 5 (Product Life Cycle Emissions):
This scope accounts for GHG emissions generated throughout the lifecycle of the institution's products.
Examples:
- Emissions resulting from the use of products after the production process.

Importance of Scope Categorization in Carbon Footprint Assessment
Assessing these scopes separately in corporate carbon footprint calculations helps institutions understand and strategically improve their sustainability performance. Additionally, defining these categories enables organizations to set sustainability goals and guide efforts to reduce GHG emissions.

This report covers GHG emissions from Scope 1 (Direct), Scope 2 (Indirect Energy-Related), and Scopes 3, 4, 5, and 6 (Other Indirect) activities between January 2023 and December 2023. It has been prepared in accordance with the principles set by the International Organization for Standardization (ISO) for GHG emissions calculation and reporting (ISO 14064-1: 2006).



OSTIM Technical University's Greenhouse Gas Emissions Breakdown by Scopes

OSTIM Technical University's Greenhouse Gas Emissions Breakdown by Scopes

Scope 1: Direct Emissions

Scope 1 emissions account for 182.1639 tCO2e, representing approximately 13.62% of total emissions. These emissions originate from direct energy consumption.

1. Stationary Combustion:
    - 162.2090 tCO2e, constituting 89.05% of Scope 1 emissions.
    - This category includes emissions from energy production or fixed sources.
2. Mobile Combustion:
    - 18.6418 tCO2e, making up 10.23% of Scope 1 emissions.
    - These emissions result from transportation and mobile energy sources.
3. Fugitive Emissions:
    - 1.3130 tCO2e, representing 0.72% of Scope 1 emissions.
    - These emissions arise from greenhouse gas leaks from anthropogenic systems.

Scope 2: Indirect Energy Emissions

Scope 2 emissions total 506.752 tCO2e, accounting for 37.89% of total emissions. To reduce emissions under this category, transitioning to renewable energy sources or prioritizing environmentally friendly energy procurement is recommended.

Scope 3: Supply Chain and Logistics Emissions

Scope 3 emissions amount to 35.2096 tCO2e, representing 2.63% of total emissions. These emissions stem from supply chain and logistics activities.

1. Upstream Transportation: No emissions reported in this category.
2. Downstream Transportation:
    - 0.2497 tCO2e, accounting for 0.71% of total transportation-related emissions.
    - This category covers the environmental impact of transporting goods to customers or end users.
3. Employee Commuting:
    - 10.6902 tCO2e, making up 30.36% of total transportation-related emissions.
4. Business Travel:
    - 24.2698 tCO2e, representing 68.93% of total transportation-related emissions.
    - This category includes carbon emissions from employee business trips.

Scope 4: Product Life Cycle Emissions
Scope 4 emissions total 613.3257 tCO2e, constituting 45.86% of total emissions. Implementing low-carbon product design, sustainable material choices, and improved recycling processes are among the most effective ways to reduce these emissions.

1. Purchased Goods:
    - 409,768.285 tCO2e, representing 95.8% of Scope 4 emissions.
    - This category accounts for the largest share of Scope 4 emissions, reflecting the environmental impact of the products used by the organization.
    - Emissions can be mitigated through the adoption of low-carbon products and supplier collaborations.
2. Capital Goods:
    - 25.3815 tCO2e, contributing 4.14% of total emissions.
    - This category covers the environmental impact of buildings, machinery, and other capital investments.
3. Waste Disposal:
    - 0.3164 tCO2e, comprising 0.05% of total emissions.
    - Increasing recycling rates and adopting environmentally friendly waste disposal methods can help reduce these emissions.
4. Other Services:
    - 0.0345 tCO2e, representing only 0.01% of total emissions.
    - This category includes emissions from services such as consulting, cleaning, maintenance, and postal delivery.
    - While emissions in this category are minimal, choosing environmentally friendly service providers can further reduce them.

This comprehensive breakdown highlights the importance of strategic emission reduction initiatives across all scopes to enhance sustainability and reduce the institution's carbon footprint.

Click for OSTIM Technical University's Carbon Foot Print in 2023
https://sustainability.ostimtech.net/tr/agreements

2.4. Planned Actions

The main objective of the Action Plan, which was prepared to cover OSTIM Technical University Campuses, is to make the highest contribution to the welfare of the country by using energy and natural resources in an efficient and environmentally friendly manner. Planned actions are listed under 7 headings:

1. Establishment of energy management systems and increasing their effectiveness.
2. Development of Database, Reporting, and Recording Systems and Creation of Energy Platform for Smart Management.
3. Energy Efficiency Audits.
4. Establishing A Database Including Energy Consumption Data on Campuses.
5. Defining Energy-Saving Targets for Buildings.
6. Rehabilitation of Existing Buildings and Improvement of Energy Efficiency.
7. Expanding the Use of Renewable Energy and Cogeneration Systems in Buildings.

2.4.1. Establishment of Energy Management Systems and Increasing Their Effectiveness

Goal	Increasing the effectiveness of the “energy management unit” installation activities of certain sizes of buildings in OSTIM Technical University Campuses. Establishment of the current energy management system; It is mandatory in public buildings with a total construction area of over 10,000 m2 or annual energy consumption of more than 250 TOE. As stated in the OSTIM Technical University Energy Management Specification, Energy management practices will be established within the framework of the current legislation, necessary activities will be carried out, and energy manager appointments will be provided for all buildings and enterprises located on the campus that meet the conditions defined in the legislation. Energy management systems will be established following ISO 50001 Energy Management System-User Manual and Conditions Standard. These activities will be strengthened by periodic inspections. The scope will be expanded depending on the application’s performance. According to the legislation, buildings of certain sizes must have an energy manager and carry out energy management activities. In addition, it is necessary to carry out and monitor energy management activities in buildings and facilities. With energy management systems, energy efficiency activities have achieved an effective and continuous application ground. It is aimed to reach 80% implementation efficiency by the end of 2022.
Activities to Undertake	• Updating the energy manager lists in OSTIM Technical University Campuses buildings. • Providing energy manager assignments to buildings that do not have energy managers. • Organizing training to improve the competence of energy managers. • Annual updating and auditing of energy manager appointments and energy management unit installation status.
Outputs	Increasing the ratio of buildings responsible for having an energy manager and/or establishing an energy management unit to 80%, encouraging and increasing the installation of the Energy Management System.
Responsible Institutions	OSTIM Technical University Rectorate, all Faculties, Institutes, facilities are located on campuses.
Timeline	In 2025, the obligatory building list will be updated and implementation efficiency will be reached by the end of 2026.

2.4.2. Development of Database, Reporting, and Recording Systems and Creation of Energy Platform for Smart Management

Goal	Establishing a system where energy efficiency activities and energy consumption are tracked and advanced reporting can be made.
Activities to Undertake	• Creating an energy platform and providing technical infrastructure for the development and smart management of energy monitoring, recording, database, and reporting systems in buildings. • Extending of smart meters. • Energy efficiency indicators will be determined on campus, and savings will be monitored and reported. • Determining energy efficiency indicators on campus and monitoring and reporting the savings achieved. • Establishing a network of experts on energy efficiency among the faculty members on campus, benefiting from the knowledge and experience of the people in this network in energy efficiency studies. • Recording and reporting of the completed studies and establishing a quality assurance structure in this direction.
Outputs	Establishment and development of a monitoring and evaluation system.
Responsible Institutions	OSTIM Technical University Rectorate.
Timeline	Needs analysis and development activities will be completed in 2025 and it will be actively used in all its scope in 2025.

2.4.3. Energy Efficiency Audits

Goal	Completing energy efficiency studies to determine the measures that can be applied in energy efficiency together with saving potentials, creating an inventory for buildings, and making projections for the future in energy efficiency. To review the building stock in OSTIM Technical University campuses and to renew the building stock in a way that will also be effective on energy efficiency, and also to support the creation of a long-term strategy for investments in this subject. (EU Energy Efficiency Directive 2012/27/EU on energy efficiency http://data.europa.eu/eli/dir/2018/2002/oj)
Activities to Undertake	• Conducting energy audits. • Updating the inventory of buildings. • Carrying out audits, where is sufficient, or only preliminary audits, taking into account cost analyzes for audits and preliminary audits. • Updating audit formats, developing a common methodology and format. • Defining annual targets to accelerate energy efficiency audits in buildings and strengthening the monitoring system. • Creating an energy efficiency inventory as a result of the audits and publishing it electronically.
Outputs	Audit formats, energy efficiency inventory reports, the completion rate of energy audits.
Responsible Institutions	OSTIM Technical University Rectorate, all Faculties, Institutes, facilities are located on campuses.
Timeline	In 2025, an inventory of the buildings will be made and the action will be implemented in 2026.

2.4.4. Establishing A Database Including Energy Consumption Data on Campuses

Goal	Developing an inventory containing the main features of buildings in OSTIM Technical University Campuses, collecting real energy consumption and emission data of buildings of certain sizes, establishing a database that can compare and evaluate buildings in terms of energy efficiency.
Activities to Undertake	• Compilation of statistical data on buildings currently available. • Creating templates to be used in data collection studies on buildings.
Outputs	Establishment of database, development performance with statistical data.
Responsible Institutions	OSTIM Technical University Rectorate, all Faculties, Institutes, facilities are located on campuses.
Timeline	In 2025, the scope of the database will be determined and infrastructure work will be carried out. Starting from 2025, the building inventory will be started.

2.4.5. Defining Energy-Saving Targets for Buildings

Goal	Defining annual targets for increasing energy efficiency in buildings. Ensuring that the energy-saving potential in the OSTIM Technical University building stock is defined following Article 7 of the EU Energy Efficiency Directive.
Activities to Undertake	Determination of savings targets with energy analysis studies in buildings. • Development of guidelines with energy-saving measures. • Carrying out studies to raise awareness of energy-saving among public employees. • Ensuring the appointment of energy managers to buildings. • Making energy efficiency renovations and applications in buildings within the program. • Monitoring of energy-saving results.
Outputs	Savings target and realized the amount of savings.
Responsible Institutions	OSTIM Technical University Rectorate, all Faculties, Institutes, facilities are located on campuses.
Timeline	Savings targets will be determined in 2025 and savings will be provided and followed up as of 2026.

2.4.6. Rehabilitation of Existing Buildings and Improvement of Energy Efficiency

Goal	Carrying out studies to increase energy efficiency in areas such as thermal insulation and the use of high-efficiency windows, lighting, white goods, heat pumps, boilers, and elevator motors in buildings.
Activities to Undertake	• Making macroeconomic analyzes for the rehabilitation of existing buildings. • Developing mechanisms for implementation, taking into account incentive, support, and taxation methods in line with the analyzes to be made. • Making necessary legislative arrangements and defining implementation plans. • Conducting awareness-raising activities, preparing guidelines, and guiding documents for the mechanism. • Developing a method for the control and monitoring of applications.
Outputs	Legislative regulation, mechanism development, number of buildings rehabilitated.
Responsible Institutions	OSTIM Technical University Rectorate.
Timeline	In 2025, the appropriate method will be determined, and necessary legislative studies will be carried out. As of 2026, the determining method will be implemented and the results will be followed.

2.4.7. Expanding the Use of Renewable Energy and Cogeneration Systems in Buildings

Goal	To increase the use of renewable energy sources and cogeneration systems in buildings, to increase the number of low carbon emission, sustainable, and environmentally friendly buildings on campus. To give information about the effect of renewable technology integrations on the energy efficiency of both the existing and new buildings.
Activities to Undertake	• Investigation of the use and suitability of renewable energy sources in buildings. • Conducting feasibility studies for the application of renewable energy sources in buildings. • Making settlement studies with the grid operators of buildings using photovoltaic (solar panels). • Investigation of indirect or direct support models to apply cogeneration, heat pump, and renewable energy sources in existing buildings.
Outputs	Legislative regulation, total renewable energy, and cogeneration installed power to be established for self-consumption in buildings.
Responsible Institutions	OSTIM Technical University Rectorate.
Timeline	In 2025, technical and administrative studies will be carried out and implementation will begin.

3. WATER

3.1. Current Water Use on OSTIM Technical University Campuses

Currently, in OSTIM Technical University campuses, the distribution of total water use is not known since there is no water meter at each building entrance.

Planning, implementation, monitoring and/or evaluation of all programs related to Water Management through the utilization of Information and Communication Technology (ICT)

Stage	Activities/ Programs	ICT Utilization	Evidence	Timeline	Responsible Team/ Department
Planning	Develop water con-servation strategy, set targets	**Water usage analytics software**	Strategic plan doc-uments, water usage reports	Jan 2024 - Feb 2024	**Sustainability Office, ICT Dept**
Implemen-tation	**Install water-saving fixtures, promote awareness**	Smart meters, water-saving app	**Installation logs, awareness cam-paign reports**	Mar 2024 - Apr 2024	Facility Man-agement, ICT Dept
Monitoring	Track water usage and savings	Real-time moni-tor-ing software	Water usage reports, savings analytics	**Ongoing**	Sustainability Office, ICT Dept
Evaluation	Assess effec-tiveness of conservation programs	Data analysis tools, feedback systems	Program eval-uation reports, stakeholder feedback	Annually	Sustainability Office, ICT Dept

3.2. Targets Related to Water Use

Key actions in the OSTIM Technical University Water Management Plan include:

- Publishing the OSTIM Technical University Water Directive and establishing the Water Management Coordination Board.
- Monitoring and recording water usage on a building-by-building basis.
- Prioritizing buildings for the installation of water meters through a Technical/Administrative Commission to be formed by the Water Management Coordination Board.
- Creating an inventory of water fixtures (such as toilet flushes and taps) in university buildings and replacing them with more water-efficient alternatives.
- Detecting and preventing water leaks.
- Installing the necessary infrastructure in selected buildings for rainwater harvesting from rooftops.
- Designing and constructing new buildings with provisions for grey water reuse.
- Installing monitoring systems for rainwater harvesting and grey water reuse to measure and record water volumes, and to calculate the amount of water saved.

4. WASTE DIVERSION

4.1. Objectives for Sustainable Waste Management

Sustainable waste management plays a crucial role in addressing Climate Change, as improper waste management leads to increased raw material consumption and the generation of greenhouse gases. At OSTIM Technical University, the aim of sustainable waste management is to establish a zero-waste hierarchy grounded in the principles of a circular economy. To implement this hierarchy, the primary focus will be on waste prevention and reduction. Following this, efforts will be directed towards enhancing the recycling and recovery of waste materials. To assess the effectiveness of these initiatives, key indicators, such as total waste generation and the amount of recycled packaging waste, will be monitored over specific time periods.

4.2. Prevention and Reduction

4.2.1. Prevention/Reducing Paper Use

One of OSTIM Technical University's primary strategic goals is digitalization. With the spread of digitalization, transactions made using paper in many departments are carried out electronically. The EBYS and LMS systems used at the university are good examples of this. With the EBYS system, correspondence between departments started to be made electronically. LMS, on the other hand, is a platform where lecture presentations can be shared with students and assignments are sent electronically to faculty members. Thanks to these digital systems, significant reductions in paper usage have been achieved. However, many departments still have paper reduction potential. As an example, the Leave Form has recently been transferred to the digital environment and the waste of paper used by the personnel in each permit process has been prevented. In order to reduce the paper usage, the processes in all departments will be reviewed and the processes will be transferred to the digital environment at the maximum rate.

4.2.2. Preventing/Reducing Plastic Use

One of the most important pollutants of seas and beaches is single-use plastics. OSTIM Technical University adopts the policy of reducing single-use plastics on all campuses. For this purpose, studies will be carried out to reduce plastic straws, plates, forks, knives, spoons, stirrers and foam food containers and PET (polyethylene terephthalate) water bottles. In this context, statements regarding the reduction of single-use plastics will be included in the contracts for rentals (especially eating and drinking places) to be made on campuses. In addition, the number of drinking fountains in some buildings will be increased in order to reduce PET water bottles. Students and staff will also be encouraged to bring their water bottles.

4.2.3. Preventing/Reducing Organic Waste

It is seen that some of the meals taken in the cafeterias and dining halls on the campuses are thrown away without being touched. In order to raise awareness on this issue, photo and poster competitions will be organized and trainings will be given. In this way, less organic waste will be generated.

4.3. Circular OSTIM Technical University

OSTIM Technical University adopts the circular economy as a policy and encourages the use of waste as a resource.

4.3.1. Preference of Materials Suitable for Circular Economy in Procurements

Procurements are carried out in many different departments. Trainings will be given to procurement officers in order to choose materials suitable for the circular economy. It will be ensured that the procurements specifications include statements that are environmentally friendly, reusable and recyclable, and that products with a high content of recycled materials will be preferred.

4.3.2. Increasing Sharing and Repairing

At the top of the Zero waste hierarchy based on the circular economy is the prevention of the purchase of new products. Commonly used methods for this purpose are sharing and repairing. As part of the ongoing Asset Management Project at OSTIM Technical University, an inventory of all assets is prepared, and it is aimed to use this inventory more efficiently and to prevent unnecessary purchases. In addition, sharing of the same materials in many departments will be ensured. While a separate printer was used in each room in the administrative departments at OSTIM Technical University until recently, a single printer was used in the departments with the joint printer project. Similar studies will be carried out to increase sharing. There are many laboratories at OSTIM Technical University. In these laboratories, when the expiry date of chemical consumables has passed, they are classified as hazardous waste and properly disposed of at the municipality's facilities. In order to prevent this situation, a web page will be prepared where the lists of chemical consumables whose expiry date is approaching can be viewed. Other consumables such as glass materials, are not needed.

Relevant administrative and academic personnel can register here and monthly lists will be shared with these people via e-mail. In this way, the purchase of new consumables will be prevented and the amount of hazardous waste will be reduced. In OSTIM Technical University, the broken computers of the personnel are repaired free of charge in the IT (Information Technology) Center, and there are repair shops in many departments. In addition, free bicycles were distributed to many departments on campus, and the share of these bicycles was encouraged. Instead of buying a new one, special discounts will be provided for OSTIM Technical University staff and students by making institutional agreements with repair companies in order to encourage repair and increase their usage time. Weekly organizations will be held for the repair of tools. In addition, workshops will be organized so that staff and students can do simple repairs themselves.

4.3.3. Dissemination of Appropriate System for Separation of Wastes at Source

The collection of packaging waste in Istanbul is under the responsibility of Yenimahalle Municipality/Ankara, and there are differences in the practices of district municipalities. Since OSTIM Technical University campuses are located within the borders of different district municipalities, waste separation containers of different colors and numbers are used on campuses. This confuses and wastes being thrown into the wrong container. A pilot study was conducted in representative buildings to use a uniform system at OSTIM Technical University. According to the results of the study, the triple system (glass; paper/plastic/metal; other) was selected, and triple separation containers were placed in many buildings. The use of the new separation system in all campuses and buildings will be provided as soon as possible.

4.3.4. Increasing Recycling

With the widespread use of the above-mentioned triple separation systems, an increase in the recycling rates of packaging waste is expected. However, placing separation containers alone is not enough. It is also important to ensure that waste is disposed of in the correct containers. Wastes thrown into the wrong containers cannot be used as a source, and inappropriate materials thrown into the recyclable waste container cause the low quality of packaging waste. For this reason, the efficiency of triple separation systems will be checked periodically, and the results will be shared with students and staff. In this context, trainings will be organized for staff and students for correct use, and this issue will be especially emphasized in orientations to new students and staff.

4.3.5. Increasing Recovery

In OSTIM Technical University, a significant amount of organic waste is generated from eating and drinking places, especially cafeterias and dining halls. In order to ensure the recovery of these organic wastes, composting unit is placed at different points in order to increase the recovery of organic wastes. Composting workshops will be organized for staff and students. The compost to be obtained from these areas will be used in the green areas of the campuses.

4.3.6. Raising Awareness on Upcycling

Although the recycling of packaging waste has been known for many years, upcycling, in which materials with higher added value are obtained, has come to the fore in recent years. Since this is a relatively new approach, awareness activities such as exhibitions and workshops will be carried out regarding upcycling. In addition, R&D (Research & Development) projects for upcycling will be encouraged.

5.EDUCATION

Higher Education and Sustainable Development Goals

As globalization continues to reshape the world, educational institutions, including those in higher education, are also undergoing significant transformations. In response to the evolving demands of the modern era, the United Nations has outlined the Sustainable Development Goals (SDGs) as a framework for addressing global challenges. Consequently, many higher education institutions worldwide have begun integrating various aspects of the SDGs into their curricula.

Among these goals, Quality Education (SDG 4) emphasizes the need for relevant and inclusive learning that prepares individuals for active citizenship in an interconnected world. This objective serves as the foundation for mainstreaming Global Citizenship Education (GCE) across all levels of education, equipping students with the necessary competencies to critically engage with global issues and comprehend the complexities of sustainable development. Furthermore, to ensure graduates are well-prepared for the dynamic demands of the 21st-century workplace, higher education institutions are continuously innovating their curricula. A key component of this transformation is the integration of 21st-century 4Cs skills—Critical Thinking, Communication, Collaboration, and Creativity—as part of a holistic approach to fostering a globally competent and sustainability-conscious student profile.

Enriching Lives Through Research and Education

OSTİM Technical University is committed to integrating sustainability into research, education, and campus life to foster social and environmental progress. Through world-class innovative learning processes, the university aims to embed sustainability into every aspect of campus life, guiding individuals and society toward a better future.

In this context, we pledge to create a unique intersection of research, education, and operations to direct sustainability efforts and contribute to a long-term sustainable future for Turkey and the world. By integrating sustainability into campus life, our university will lead social and environmental change, cultivate a strong sense of belonging and responsibility, and generate sustainability solutions through world-class research and interdisciplinary initiatives.

Our researchers specialize in various fields, including renewable energy, biodiversity, indigenous worldviews, and climate justice. Their expertise shapes our educational programs, equipping graduates with the ability to critically engage with complex global systems and drive positive change.

Implementation Strategies

1. Implementing Research Competency in Campus-Based Living Laboratories

We will transform our campuses into “living laboratories” where sustainability research is actively applied. This approach fosters practical applications, enhances research-education synergies, and encourages faculty, staff, and students to participate in sustainability innovations.

Objectives:

- Promote collaboration among students, faculty, and operational staff on campus-based sustainability projects.
- Establish transparent agreements for the implementation and scaling of living laboratory initiatives.

2. Promoting Interdisciplinary Sustainability Research

We will advance research that addresses local and global sustainability challenges through interdisciplinary collaboration.

Objectives:

- Integrate sustainability as a core focus in faculty research strategies and funding plans.
- Use the United Nations Sustainable Development Goals (SDGs) as a unifying framework for research initiatives.
- Recruit and retain leading academics to develop innovative solutions to sustainability challenges.

3. Strengthening Global and Local Partnerships for Effective Implementation

Collaboration with external stakeholders will enhance the scalability and applicability of our sustainability research.

Objectives:

- Strengthen partnerships with communities, industries, non-governmental organizations (NGOs), and government agencies.
- Contribute to global sustainability efforts, including United Nations initiatives.

4. Expanding University-Wide Sustainability Education

By enriching curricula to reflect the interdisciplinary and interconnected nature of sustainability, we will provide transformative learning experiences.

Objectives:

- Integrate sustainability themes into curricula, drawing inspiration from diverse cultural perspectives.
- Offer interdisciplinary opportunities such as major, minor, and micro-credential programs in sustainability.
- Enhance experiential learning through partnerships with industry and community project units, as well as open learning modules.
- Recognize and reward excellence in sustainability education.

5. Increasing Student Engagement in Sustainability Principles

Enhancing student engagement in sustainability will promote a deep understanding of environmental, social, and economic challenges through education and practical experience. This will encourage active participation in sustainable practices on and off-campus while enabling students to contribute positively to social and environmental change.

Objectives:

- Raise awareness of environmental, social, and economic sustainability issues.
- Foster critical thinking about sustainability challenges and solutions.
- Support active participation in sustainability initiatives and practices on and beyond campus.
- Encourage interdisciplinary learning by connecting sustainability with various fields of study.
- Equip students with leadership skills to integrate sustainability into their future careers.
- Develop a sense of responsibility for environmental protection and social justice.
- Facilitate collaboration among students, staff, and community members in sustainability projects.
- Ensure holistic engagement by integrating sustainability into academic curricula and extracurricular activities.
- Develop mechanisms to promote student involvement in sustainability research, internships, workplace training, and leadership programs.
- By implementing these strategies, OSTİM Technical University aims to be a leading institution in sustainability, fostering research-driven solutions and nurturing a generation of responsible, forward-thinking individuals.

CONCLUSION

In 2025, OSTIM Technical University made a formal commitment to achieving carbon neutrality at the earliest possible date as 2030. As demonstrated by the various initiatives under the OSTIM Tech/CAP framework, there are limitless opportunities for developing innovative solutions to meet this ambitious goal. With the approval of OSTIM Tech/CAP 2025-2048, the university reaffirms its dedication to environmental stewardship and looks forward to expanding its sustainability efforts in the coming years.

In summary, we recognize the necessity of embracing transformative change in pursuit of a long-term, sustainable future. However, the possibilities for enacting meaningful progress remain boundless. Through this statement, we commit ourselves to disruptive decision-making, substantial behavioral shifts, and enduring climate action—whether initiated on campus, within local communities, or on national and global scales.

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