2022
Sustainability Report
SDG 6

CLEAN WATER AND SANITATION

EGE UNIVERSITY

LETTER FROM THE REPORT TEAM

As the Sustainability Report Team, Ege University, we are proud and excited to present the third annual Sustainability Report of Ege University, one of Turkey's pioneering universities, prepared to concretize the University's commitment to sustainability and enable you to follow our sustainability-related efforts closely.

Sustainability lies at the heart of Ege University's main objectives. Besides, our university bears the responsibility of leaving a more livable world to future generations, and it emphasizes its determination to integrate sustainability principles in the fields of education, research, social contribution, and campus management. Over the years, Ege University has built a strong track record of offering sustainable solutions to address the challenges facing the university and society. In 2020, all these efforts culminated in establishing the Rankings Office. This move not only strengthened the university's commitment to sustainability but also led to the formation of sub-commissions focusing on various Sustainable Development Goals. These sub-working groups brought together academics and administrative staff from every faculty and the Rectorate, each contributing diverse perspectives and professional expertise.

What makes the Rankings Office even more dynamic is its inclusion of the Sustainability Report Team, which actively participates in all activities, thus enhancing the visibility of the office across the university.

Ege University aims to extend influence far beyond the boundaries of our institution. The EGE Sustainability Team seeks to be a trailblazer in instilling a culture of sustainability in other higher education institutions. Our Sustainability Team and its sub-working groups are going to serve as advisors to our university as well as to other universities, offering insights into Sustainable Development Goals and impact management. Furthermore, we are going to continue to be actively involved in educational initiatives that support schools on their sustainability journeys.

Beyond our campuses, we actively engage with local communities, businesses, and government entities to foster sustainable relationships, collaborate on solving common issues, and share our wealth of knowledge.

Ege University is unwavering in its commitment to the responsible management of resources to mitigate their impact on society, the environment, and the economy. This report offers a transparent and current source of information, providing valuable guidance to universities and stakeholders seeking to expand their knowledge on sustainability.

EGE University is actively dedicated to advancing sustainability through research, education, and innovation to become a leading institution in Turkey and worldwide. Our primary focus is on enhancing the accessibility, inclusivity, and affordability of our university for the benefit of our community. We cultivate positive partnerships with industry leaders to strengthen our engagement and ensure the use of environmentally sustainable practices that support innovation and research.
This report offers insight into EGE UNI's position in 2022 regarding enhancing sustainability in Turkey. We share our initiatives and commitments related to environmental, social, and economic sustainability, along with their corresponding impacts. We extend our gratitude to our sub-working groups, the Sustainability Report team, our dedicated students, EGE's esteemed academicians, and the Rectorate for their unwavering efforts this year to further our sustainable impact.

Our journey towards securing the sustainability of our world is an extensive and long way one. As the EGE Sustainability Team, we place our trust in the dedication of our university's staff and students to continue their improvements this year and sustain their endeavors well into the future.

We appreciate your interest in the Ege University Sustainability Report and eagerly welcome the feedback of our readers.

Assoc. Prof. Göknur ŞİŞMAN AYDIN
Coordinator of Sustainability Studies
Office of Institutional Development
Planning and Monitoring

CLEAN WATER AND SANITATION

A sustainable life is only possible with the presence of a sufficient and high-quality water supply. Of the 1.4 billion cubic kilometers of water on Earth, only 2.5% exists in the form of fresh water that is usable by humans. The amount of fresh water accessible to humans is even less, accounting for less than 1% of the total water resources on Earth.

By the year 2025, it is expected that 1.8 billion people on Earth will be living in countries or regions with absolute water scarcity (less than 500 m^3/year per person), and two-thirds of the population will be living under water stress conditions (with 500-1000 m^3/ year per person).

Our university provides support for global goals related to CLEAN WATER and SANITATION objectives through various research projects and activities of different kinds.

WASTE WATER TREATMENT

On the campus, there is one Olympic-sized swimming pool with a volume of 3660m^3. The water in the pool is treated through sand filtration and disinfection methods, allowing it to be 100% reused. In order to maintain the hygiene of the pool water, water analyses are conducted by the pool operator at least three times a day. Additionally, every month, water samples are sent to institutions and laboratories authorized by the Turkish Ministry of Health and the results are monitored by the Ministry of Health to ensure the water's quality.

Although there is no wastewater treatment plant for domestic wastewater on the campus, 100% of the generated wastewater is sent to Izmir Metropolitan Municipality's advanced biological wastewater treatment facility. The wastewater meets acceptance standards before being discharged into the municipal drainage network. A wastewater treatment contribution fee is paid to the Metropolitan Municipality for each unit of wastewater treated.

PREVENTION OF WATER SYSTEM CONTAMINATION

To address potential accidents, Ege University has a Maintenance and Repair Branch Directorate under the Technical Affairs Directorate. The Maintenance and Repair Branch Directorate has administrative personnel working 24/7, ready to respond immediately to any accidents. To prevent any pollutants from entering the water system, appropriate plumbing materials are used and replaced when necessary. The presence of any pollutants is continuously monitored in accordance with the regulations regarding waters intended for human consumption, as published in Official Gazette number 25730.

Ege University, within the Department of Public Health at the Faculty of Medicine, has a water hygiene laboratory where bacteriological, physical, and chemical analyses are conducted regularly.

PROVISION OF FREE DRINKING WATER

Spring water is treated to meet the standards specified in the "Regulation on Waters Intended for Human Consumption," and it is used as drinking and utility water across the entire campus.

Water analyses are regularly monitored by the Public Health Unit of Ege University Medical Faculty. Outdoors, there are 45 filtered water dispensers providing free water for staff, students, and guests. Additionally, free drinking water is provided in staff and student cafeterias through water dispensers. The filters of these dispensers are replaced every 6 months.

WATER USE AND TREATMENT

To minimize water usage on the campus, some facilities are equipped with sensor-operated faucets and urinals. Effective irrigation methods are employed across the campus to prevent unnecessary water consumption, and watering is done during the early or late hours of the day rather than when the sun is at its peak. Rainwater is stored in tanks and reservoirs for the irrigation of green areas within the campus.

The project by İzmir Development Agency (İZKA) was completed in 2020. Establishing a water management system is one component of the project aimed at reducing the water footprint. In this context, it has been determined that water harvested from the university's roof surfaces will be sufficient for irrigating all green areas on the campus. Rainwater harvesting is included in the plans for new building developments on the campus.

Furthermore, with the Ege-TGB project, the Ege University ONYX project, covering an area of 1200 square meters, will achieve a 40% water savings. The Onyx Building, located within Ege University's campus, will be revitalized for workshop and office purposes. The design process is based on green building principles for the extensive renovations. The project is currently a LEED Gold candidate and sets an example for many other projects in terms of energy and water efficiency.

In addition, water-efficient plants are preferred in the selection of vegetation in green areas on the campus.

WATER-CONSCIOUS PLANTING

Within the campus grounds, apart from the experimental gardens of the Faculty of Agriculture, a significant portion of the trees consist of coniferous trees. These needle-leaved trees require less water and thrive primarily based on rainfall, making them crucial for substantial water conservation compared to deciduous trees. Of the total vegetation area within the campus, 18.45% is composed of olive trees, while 42.81% consists of pine trees. In total, 61.26% of the campus area is covered by drought-resistant trees that do not require irrigation.



WATER RECYCLE POLICY

A project funded by İzmir Development Agency (İZKA) for water and wastewater recycling was completed in 2020. The establishment of a water management system is one part of the project aimed at reducing the water footprint. In this context, it has been determined that water harvested from the university's roof surfaces will be sufficient for irrigating all green areas on the campus. Rainwater harvesting is included in the plans for new building developments on the campus. Additionally, the use of permeable ground materials on the campus (accounting for 38.2% of total water absorption area) facilitates groundwater replenishment. Moreover, an Olympic-sized swimming pool is present on the campus with a water volume of 3660m^3. The pool water is treated using sand filtration and disinfection methods, allowing it to be 100% reused.


MEASURING WATER RECYCLING

As part of the İZKA project, which includes the installation of systems to harvest and make rooftop rainwater usable, initial efforts are planned for garden and tree irrigation. The project has determined that the total area identified for this purpose and the amount of rainwater that can be harvested from their rooftops amounts to approximately 165,000 m^3. It is evident that the planned rainwater harvesting will significantly exceed the water requirement for irrigation.

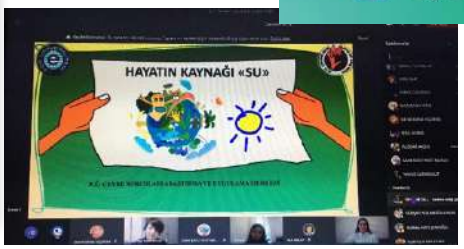
The water in the Olympic-sized swimming pool on the campus, with a daily volume of 3660 m^3, is treated using sand filtration and disinfection methods, allowing for 100% reuse.

WATER MANAGEMENT TRAINING FACILITIES

To increase water awareness, free educational seminars are provided at the primary, middle, and high school levels to create awareness of sustainable water use. Ege University's Centre For Environmental Studies, organizes seminars open to students and the public to promote water consciousness. Online education on water management was provided to secondary school students through the "Life Source: Water" Social Responsibility project. Additionally, online education and seminars are conducted at the undergraduate level in various faculties to ensure responsible water management.

PROMOTION OF CONSCIOUS WATER CONSUMPTION

To raise awareness about the decreasing global water resources and provide solutions on how irrigation in agriculture can be done more consciously, educational sessions and panels on the topic of Irrigation and Efficiency are organized. Furthermore, Ege University's Centre For Environmental Studies conducts various activities aimed at promoting conscious water use. Through the "Life Source: Water" Social Responsibility project, online education on water management has been provided to secondary school students.



Ege University took part in COP27

Assoc. Prof. Dr. İnci Tüney Kızılkaya represented Ege University at the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27). She made a presentation on "Efforts to Combat Climate Change in Gökova Special Environmental Protection Areas."
Assoc. Dr. Kızılkaya is the Science Coordinator of the "Research on the Effects of Climate Change on Marine and Terrestrial Ecosystems in Gökova Special Environmental Protection Area and Increasing Adaptation Capacity Project" carried out by the Ministry of Environment, Urbanization and Climate Change.

Our Scıentıst Represented Turkey At The Un Regıonal Forum For Sustaınable Development.

Instructor Dr. Huriye Göncüoğlu Bodur was invited to contribute to the Regional Sustainable Development organized by the United Nations Economic Commission for Europe, and she represented our University at the meeting held at the United Nations Headquarters in Geneva.

COOPERATION FOR NGOs

Ege University, Assoc. Prof. Dr. İnci Tüney Kızılkaya, in collaboration with the Mediterranean Conservation Association, analyses the impact of climate change on marine ecosystems and living life in detail. In this context, the project team carries out studies on the potential effects of climate change on marine biodiversity, strategic planning on the importance of protecting marine areas and

Gökova Bay to Cape Gelidonya Turkey Project

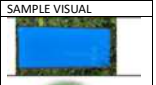
Restoring marine ecosystem connectivity in south western Turkey. This project is removing barriers to the recovery of marine ecosystem from Gökova Bay to Cape Gelidonya, triggering the revival of healthy ecosystem processes. A fully functioning ecosystem which keeps invasive species in check will generate sustainable benefits for local people and increase resilience to climate change.

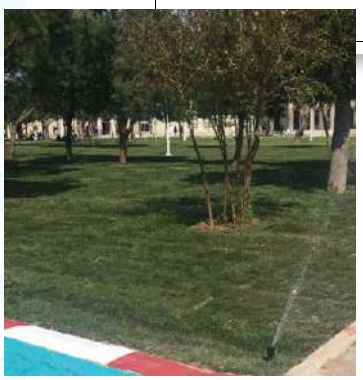
SUSTAINABLE WATER EXTRACTION ON CAMPUS

On the campus, water-efficient irrigation methods such as drip and sprinkler irrigation are employed for the watering of green areas, promoting effective water utilization.

Furthermore, in the management of irrigation for green areas, technologies have been implemented that can monitor real-time soil moisture levels and capillary water movement in the soil profile, and manage irrigation systems using artificial intelligence.

The campus utilizes groundwater and does not rely on fossil water sources.

PRODUCT	SAMPLE VISUAL
Capillary Water Movement Detection Sensor	
Sensor, Power, Communication and Energy Unit	
Valve Control Unit	
Central Control Unit	
Cloud-Based Centralized Management	



COLLABORATION ON WATER SECURITY

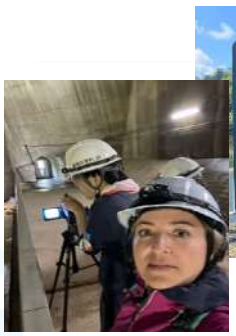
Ege University has been supporting the preservation and security of both freshwater and seawater resources for many years and has been collaborating with relevant ministries at the local, regional, and national levels.

Ege University actively participates in the "Management Committee for the Küçük Menderes Basin" established by the Turkish Ministry of Agriculture and Forestry's General Directorate of Water Management, the "Izmir Provincial Water Management Coordination Committee," as well as the "Management Committee for the Gediz Basin" and "Manisa Provincial Water Management Coordination Committee" formed by the Manisa Governorship. They have contributed as long-term partners in the conservation and security of water resources.

As part of the agreement between Ege University and Tokyo University of Agriculture and Technology (TUAT), Ege University and TUAT jointly developed a project for the Izmir Agricultural Technology Center (ITC), also known as the "Silicon Valley of Agriculture," initiated by ITC. The project aims to implement smart agriculture technologies for cotton cultivation in the Ege Region, starting from the Menemen plain. Ege University, TUAT, and ITC simultaneously signed a project protocol for this endeavor.

Ege University's retired faculty members, Prof. Dr. Süheyda Atalay and Prof. Dr. Ferhan Sami Atalay, from the Department of Chemical Engineering at the Faculty of Engineering, have developed a four-stage treatment system that allows wastewater from textile factories to be used in agriculture. This achievement comes as a result of their work initiated two years ago.

An international project led by Prof. Dr. Ninel ALVER, a faculty member at Ege University, has received support of 13.5 million Yen from Japan. Within the scope of this project, artificial intelligence algorithms will be applied to develop a new method for detecting damages that may occur due to environmental effects or dynamic loads like earthquakes throughout the service life of water infrastructure such as water storage structures, dams, reservoirs, water transport structures, coastal and port facilities.



İzmir Gulf With Zero Waste Project

Izmir Gulf With Zero Waste Project with the participation of 10 partners has been carried out by addressing sustainable valorisation of the plastic wastes collected from Izmir Gulf

Recycling of fishing nets and plastic bottle wastes collected from Izmir Gulf

i-collection of waste collected from the region of Izmir Gulf
ii-transform into value added products
iii- Fabrication of end-use product

Diving activity for cleaning sediment layer of the sea was organized by Faculty of Fisheries and Urla Maritime Vocational School

Protection Of Water Systems

Ege University Özdere Recreation Facility was awarded the Blue Flag.

THE Impact Rankings Methodology 2024 & GRI Index Matrix

THE	Impact Rankings Methodology 2023 Version 1.1	GRI	Disclosure	Reported	Page
6.1	**Research on water**			Fully	
6.2	**Water consumption per person**			Fully	
6.2.1	Measure the total volume of water used in the university that is taken from mains supply, desalinated, or extracted from rivers, lakes, or aquifers?	GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared Fully resource 303-3 Water withdrawal 303-5 Water consumption	Fully	
6.2.2	Water consumption per person		303-3 Water withdrawal 303-5 Water consumption	Fully	
	Volume of water used in the university: Inbound (treated/extracted water)			Fully	
	Number of campus population			Fully	
6.3	**Water usage and care**			Fully	
6.3.1	Wastewater treatment A process in place to treat wastewater.	GRI 303: Water and Effluents 2018	303-4 Water discharge	Fully	
6.3.2	Preventing water system pollution Processes to prevent polluted water entering the water system, including pollution caused by accidents and incidents at the university.			Fully	
6.3.3	Free drinking water provided. Provide free drinking water for students, staff and visitors (e.g., drinking water fountains).		303-1 Interactions with water as a shared Fully resource	Fully	
6.3.4	Water-conscious building standards Apply building standards to minimise water use			Fully	
6.3.5	Water-conscious planting Plant landscapes to minimise water usage. (e.g. use drought- tolerant plants)			Fully	
6.4	**Water reuse**			Fully	
6.4.1	Water reuse policy Have a policy to maximise water reuse across the university?	GRI 303: Water and Effluents 2018	303-3 Water withdrawal 303-5 Water consumption	Fully	
6.4.2	Water reuse measurement Measure the reuse of water across the university?			Fully	
6.5	**Water in the community**			Fully	
6.5.1	Water management educational opportunities Provide educational opportunities for local communities to learn about good water management			Fully	
6.5.2	Promoting conscious water usage Actively promote conscious water usage on campus, and in the wider community			Fully	
6.5.3	Off-campus water conservation support Support water conservation off campus			Fully	
6.5.4	Sustainable water extraction on campus Where water is extracted (for example from aquifers, lakes or rivers) utilise sustainable water extraction technologies on associated university grounds on and off campus.	GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared 303-3 Water withdrawal	Fully	
6.5.5	Cooperation on water security Cooperate with local, regional, national, or global governments on water security.	GRI 304: Biodiversity 2016	304-3-a	Fully	

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