PRU
PÎRÎ REİS UNIVERSITY

2025

SUSTAINABLE DEVELOPMENT GOALS REPORT

6 CLEAN WATER AND SANITATION

SDG 6

Clean Water and Sanitation

2024–2025 Academic Year and 2025 Financial Year



Piri Reis University

sustainability.pirireis.edu.tr

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PUBLICATION
Piri Reis University
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SCOPE
2024-2025 academic year and 2025 financial year (1 September 2024 – 31 December 2025); ongoing practices are also covered.

COMPANION PUBLICATIONS
Piri Reis University Sustainability Report 2025 and the other 16 SDG reports prepared according to the THE Impact Rankings indicators.

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Contents

01 Piri Reis University at a Glance 3

02 Our Sustainability Approach and Reporting 4

03 SDG 6: Clean Water and Sanitation 5

04 Indicators, Explanations and Evidence 6

05 Our Activities under SDG 6 9

06 Research Projects Related to SDG 6 10

07 SDG 6 Activity Inventory 12

08 Conclusion and Assessment 13

This report presents Piri Reis University's policies, practices, research and activities under SDG 6, structured according to the THE Impact Rankings indicators and supported by evidence. Links in the indicator section lead to publicly available evidence; internal documents are available on request.

6 CLEAN WATER AND SANITATION

INSTITUTIONAL PROFILE

Piri Reis University at a Glance

Piri Reis University (PRU) is a foundation university established by the Turkish Maritime Education Foundation (TÜDEV), which was founded in 1993 by leading representatives of the maritime sector with the support of the İMEAK Chamber of Shipping; the University acquired legal personality upon the publication of Law No. 5733 in the Official Gazette on 8 February 2008. Its roots go back to the TÜDEV Maritime Education Centre, which trained 2,034 officers between 1995 and 2012.

Guided by its vision "to be a specialised university that is a pioneer in Türkiye and respected worldwide, adding value to the sector by striving for excellence in education and research in every maritime-related field", PRU explicitly commits in its mission to educating individuals who have embraced the Sustainable Development Goals; "Social Responsibility, Sustainability and Environmental Awareness" and "Respect for Diversity and Human Rights" are among the institution's core values.

The University provides education through its Faculties of Maritime Studies, Engineering, Economics and Administrative Sciences, Law, and Arts and Sciences, its Maritime Vocational School and its Graduate Institute, on the Sea Campus and the Preparatory Campus on the Marmara Sea coast in Tuzla. The Sea Campus was designed as a BREEAM-certified "Green Campus" and features a trigeneration plant, greywater and rainwater recovery systems and seawater-based cooling infrastructure.

PRU is the only Turkish foundation university that is a member of the International Association of Maritime Universities (IAMU). It was granted institutional accreditation under the YÖKAK Institutional Accreditation Programme on 21 March 2025, and its Maritime Simulators Centre was accredited by The Nautical Institute as an approved Dynamic Positioning (DP) Training Centre on 22 October 2024.

Piri Reis University in Numbers

6,330
total students (2025): 2,171 associate degree, 4,004 undergraduate, 155 postgraduate

210
full-time academic staff (+109 hourly-paid lecturers)

168
full-time administrative staff

5 + 1 + 1
faculties, vocational school and graduate institute

15
maritime simulators (including 3 full-mission bridges)

6
research and application centres (PRUSAM, DENEKAM, PUSEM, etc.)

42
student clubs, 1,996 club members

5 + 4
national and international patent applications in 2025

29%
share of women among students placed in 2025-26 (2014-15: 14%)

Source: Institutional Self-Evaluation Report (KİDR) 2025 (as of 31 December 2025) and sustainability.pirireis.edu.tr. The share of women is based on the table of placed students published on the sustainability website.

SUSTAINABILITY GOVERNANCE

Our Sustainability Approach and Reporting

Piri Reis University's 2023-2027 Strategic Plan is structured in alignment with the United Nations Sustainable Development Goals (SDGs). For each SDG, the sustainability website publicly sets out the links with the Strategic Plan objectives (excellence of the learning environment, research quality, industry–university cooperation, institutional culture and becoming the best university in maritime) together with additional actions.

The Sustainability Research and Application Center (PRUSAM), established in 2024, works on energy management, decarbonisation, sustainable port operations and digitalisation in line with Net Zero targets; the Center's regulation lists the preparation of the sustainability report and similar outputs among its duties. The Social Contribution Commission, chaired by the Rector, and the Quality Coordination Office contribute to monitoring sustainability activities and disseminating them across the institution.

The University's Climate Change Mitigation and Action Policy Document (2023-2027) sets out the goal of becoming a carbon-neutral university by 2050. Campus operations are assured through the ISO 50001:2018 Energy Management System (2024-2027), the ISO 9001:2015 Quality Management System and the Zero Waste Certificate (February 2025).

PRU took part in the Times Higher Education (THE) Impact Rankings 2025 with all 17 SDGs and was placed in the 1501+ band overall. Its strongest results were in SDG 14 Life Below Water and SDG 15 Life on Land (401–600), followed by 601–800 in SDGs 6, 8, 12 and 16, 801–1000 in SDGs 5, 9, 11 and 13, 801+ in SDG 2, 1001+ in SDGs 1, 7 and 10 and 1501+ in SDGs 3, 4 and 17. This report series has been prepared separately for all 17 SDGs based on the THE Impact Rankings indicators and is published together with the general Sustainability Report.

Scope of this report

- Reporting period: 2024-2025 academic year and 2025 financial year (1 September 2024 – 31 December 2025). Ongoing practices are also covered.
- Scope: Sea Campus and Preparatory Campus; all academic and administrative units, research centres and student clubs.
- Data sources: activities published on sustainability.pirireis.edu.tr, pirireis.edu.tr and unit subdomains, KİDR 2025, the 2023-2027 Strategic Plan, institutional directives and policies, and final reports of Scientific Research Projects (BAP).
- Structure: Indicators are organised according to the THE Impact Rankings methodology; publicly accessible evidence links are provided under each indicator.

SDG 6 · CLEAN WATER AND SANITATION

Circular use of water and protection of aquatic ecosystems

PRU's Sea Campus has addressed water efficiency from the design stage onwards through greywater and rainwater recovery, landscape irrigation automation and seawater-based cooling infrastructure, while the University's researchers develop new materials to remove heavy metals and dyes from seawater.

On campus, washbasin wastewater (greywater) passes through filtration, biological treatment, membrane and chlorination stages and is reused in urinals; rainwater collected through roof gutters is treated and used for landscape irrigation. Fats in kitchen wastewater are retained by grease separators, and free water dispensers are available across the campus.

On the research side, BAP projects have studied a polymeric fluorescence sensor measuring iron ions in seawater, the removal of dyes and heavy metals from waters in the Tuzla shipyard area using rice husk ash, and dye adsorption by biofilms.

6
related activities and practices (all periods)

2
activities in the reporting period (Sep 2024 – Dec 2025)

8
related research projects (BAP, TÜBİTAK, EU)

35,943 m³
annual water use, metered by source

Highlights of the period

- Annual water use of 35,943 m^3 metered by source; 4.42% from rainwater and recovered greywater
- BREEAM-certified buildings and landscape irrigation automation
- Research on heavy metal and dye removal from seawater in the Tuzla shipyard area (BAP-2020-09)
- THE Impact Rankings 2025 SDG 6: 601-800 band

THE IMPACT RANKINGS INDICATORS

Indicators, Explanations and Evidence

This section summarises Piri Reis University's policies, practices and activities against the indicators of the Times Higher Education (THE) Impact Rankings methodology for SDG 6. Evidence for each indicator is provided with links.

6.2 Water consumption tracking

6.2.1 Measurement of water use

Mains water, harvested rainwater and recovered greywater are measured with separate meters and recorded monthly. Annual water use reported in the Blue Water Efficiency Certificate application is 35,943 m^3 for the Sea Campus: 34,355 m^3 mains water (İSKİ), 1,202 m^3 rainwater and 386 m^3 recovered greywater. Non-conventional sources account for 4.42%.

EVIDENCE

- Internal document: Photos of mains, greywater and rainwater meters (available on request)
- Internal document: Blue Water Efficiency Certificate application form (available on request)

6.3 Water usage and care

6.3.1 Wastewater treatment

In the greywater recovery system on the Sea Campus, wastewater passes through filtration, biological treatment, membrane filtration and chlorination stages. Water collected by the rainwater treatment system is treated and reused.

EVIDENCE

- Treatment system – https://sustainability.pirireis.edu.tr/etkinlikler/aritma-sistemi-2/
- Institutional Self-Evaluation Report (KİDR) 2025 – https://pirireis.edu.tr/wp-content/uploads/2026/09/KIDR-2025.pdf

6.3.2 Preventing polluted water from entering the water system

Animal and vegetable fats and grease generated in the dining hall and kitchens are retained in grease separators before being discharged into the wastewater system. The Waste Directive regulates the separate collection at source, temporary storage and licensed disposal of chemical and biological waste from laboratories.

EVIDENCE

- Grease separator – https://sustainability.pirireis.edu.tr/etkinlikler/yag-ayirici/
- Waste Directive – https://pirireis.edu.tr/wp-content/uploads/2026/06/PIRI-REIS-UNIVERSITESI-ATIK-YONERGESI.pdf

6.3.3 Free drinking water

Free water dispensers are available at various points on campus for students and academic and administrative staff. Drinking water quality is monitored through analyses by the Occupational Health Unit.

EVIDENCE
- Water dispensers – https://sustainability.pirireis.edu.tr/etkinlikler/su-sebilleri/
- Occupational Health Unit (infirmary) – https://sustainability.pirireis.edu.tr/etkinlikler/revir/

6.3.4 Water-conscious building standards

The Sea Campus buildings are certified to the BREEAM standard, which also assesses water efficiency (Block A BREEAM Excellent; Blocks B, C and D BREEAM Very Good).

All cisterns, urinals and showers on campus are water-efficient; tap replacement is ongoing, with 94% of fixtures overall water-efficient and a 100% target for 2027.

EVIDENCE
- Green energy: BREEAM certificate – https://sustainability.pirireis.edu.tr/etkinlikler/yesil-enerji-breeam-sertifikasi/
- Green Campus page – https://pirireis.edu.tr/pruda-yasam/yesil-kampus/
- Internal document: Blue Water Efficiency Certificate application form (available on request)

6.3.5 Water-conscious landscaping

All 4,672 m^2 of green space on campus is irrigated automatically by drip (2,824 m^2) and sprinkler (1,848 m^2) systems before sunrise or after sunset. Drought-tolerant plants cover 24.06% of the green area (1,124 m^2), drought-resistant Festuca ovina is used in lawns, and 7.91% of irrigation water comes from harvested rainwater.

EVIDENCE
- Landscape Automation – https://sustainability.pirireis.edu.tr/etkinlikler/peyzaj-otomasyon/
- Landscape automation – https://sustainability.pirireis.edu.tr/etkinlikler/peyzaj-otomasyon/
- Green Campus page – https://pirireis.edu.tr/pruda-yasam/yesil-kampus/

6.4 Water reuse

6.4.1 Water reuse

Washbasin water treated by the greywater system is reused in urinals, and treated rainwater is reused for landscape irrigation. The Climate Change Mitigation and Action Policy Document defines the protection of water resources and water saving among its sustainable campus objectives.

The Water Efficiency and Management Policy (POL.KLT.07, 13 September 2025) commits to regular monitoring of water consumption and infrastructure performance, preventing leaks, choosing water-efficient fixtures, operating the seawater reverse-osmosis plant and the greywater, rainwater and foundation-drainage systems effectively so that recovered water is reused, prioritising drip irrigation and recovered water in landscaping, and pursuing Blue, Green and Turquoise Water Efficiency Certification.

EVIDENCE

- Treatment system – https://sustainability.pirireis.edu.tr/etkinlikler/aritma-sistemi-2/
- Institutional Self-Evaluation Report (KİDR) 2025 – https://pirireis.edu.tr/wp-content/uploads/2026/09/KIDR-2025.pdf
- Climate Change Mitigation and Action Policy Document (2023-2027) – https://sustainability.pirireis.edu.tr/wp-content/uploads/2024/11/Iklim-Degisikligi-Mucadelesi-ve-Eylemi-Politika-Belgesi.pdf
- Water Efficiency and Management Policy (POL.KLT.07) – https://sustainability.pirireis.edu.tr/politika/su-verimliligi-ve-yonetimi-politikasi/

6.4.2 Measurement of water reuse

Reused water is measured with separate meters: the Blue Water Efficiency Certificate application reports annual use of 1,202 m^3 of harvested rainwater and 386 m^3 of recovered greywater.

EVIDENCE

- Internal document: Photos of greywater and rainwater meters (available on request)

6.5 Water in the community

6.5.1 Water management education and awareness for the community

The Culture Coordination Office organised the seminar “Türkiye’s Geopolitical Position and the Use of Water Resources” (April 2025); the Faculty of Maritime Studies held an Advanced Maritime Seminar on water treatment systems on ships.

EVIDENCE

- “Türkiye’s Geopolitical Position and the Use of Water Resources” Seminar Held (18 April 2025) – https://sustainability.pirireis.edu.tr/etkinlikler/turkiyenin-jeopolitik-konumu-ve-su-kaynaklarinin-kullanimi-semineri-gerceklesti/
- Advanced Maritime Seminars: water treatment systems on ships (12 October 2024) – https://denizcilik.pirireis.edu.tr/etkinlikler/ileri-denizcilik-seminerleri-gemilerde-su-tedavi-sistemi/

6.5.6 Promoting conscious water use on campus

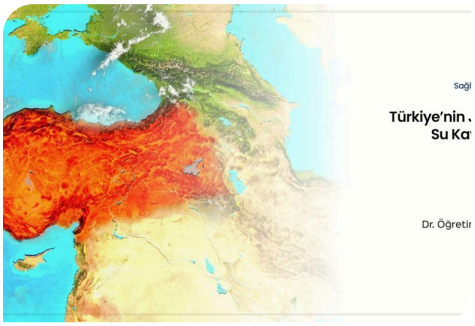
On 10 December 2025, technical staff received Water Efficiency training covering legislation, individual water-saving practices and the impact of climate change on water resources. Water-saving posters are displayed at taps, washbasins, lifts and building entrances.

EVIDENCE

- Internal document: Water Efficiency training attendance record (10 Dec 2025) (available on request)

ACTIVITIES AND EVENTS

Our Activities under SDG 6



"Türkiye's Geopolitical Position and the Use of Water Resources" Seminar Held

18 April 2025

The presentation titled "Türkiye's Geopolitical Position and the Use of Water Resources", organised by the Culture Coordination Office of the Piri Reis University Directorate of Health, Culture and Sports Services, was delivered by Asst. Prof. Dr. Abdülkadir Akturan of the Faculty of Economics and Administrative Sciences on Friday, 18 April 2025 at 14:00 in the University's Seminar Hall.

SDG 6

Source: https://sustainability.pirireis.edu.tr/etkinlikler/turkiyenin-jeopolitik-konumu-ve-su-kaynaklarinin-kullanimi-semineri-gerceklesti/



Treatment system

A greywater and rainwater treatment system is used at our University. In greywater recovery treatment systems, filtration is applied first. Water passed through fine-pored filters is cleared of all suspended solids such as hair, skin, nail and food particles.

SDG 6 SDG 12

Source: https://sustainability.pirireis.edu.tr/etkinlikler/aritma-sistemi-2/



Grease separator

If animal fats, vegetable oils and grease that mix into wastewater during production at our University were sent to the wastewater system without any separation, the entire system, from the facility's wastewater pipework up to the wastewater treatment plant, would inevitably become clogged.

SDG 6 SDG 12 SDG 15

Source: https://sustainability.pirireis.edu.tr/etkinlikler/yag-ayirici/



Water dispensers

Free water dispensers for students and academic and administrative staff have been placed in various parts of the University.

SDG 6 SDG 12

Source: https://sustainability.pirireis.edu.tr/etkinlikler/su-sebilleri/

RESEARCH AND PROJECTS

Research Projects Related to SDG 6

Below are research projects related to SDG 6 that were assessed as highly or moderately relevant to sustainability. They were compiled from final reports of Scientific Research Projects (BAP) and from BAP, TÜBİTAK and EU project records.

BAP-2021-02 · BAP · 2021-2022

Preparation of Polycaprolactone Composite Biofilms for Dye Adsorption

Prof. Dr. Musa KAMACI · Maritime Vocational School (MVS)

For the removal of dyes that cause water pollution, chitosan-containing iron particles were prepared and dispersed in polycaprolactone (PCL) at different ratios to produce composite biofilms. The biofilms were characterised by FT-IR and tested for the adsorptive removal of the cationic dye methylene blue from aqueous media with respect to pH, temperature, adsorbent amount, contact time and concentration. Approved budget TRY 56,050.

OUTPUTS

Writing of a publication is ongoing (an internationally indexed journal is planned)

SDG 6 SDG 14 SDG 12

BAP-2020-07 · BAP · 2020-2021

Development of a Polymeric Fluorescent Sensor for the Removal of Heavy Metals from Seawater

Asst. Prof. Dr. Musa KAMACI · Maritime Vocational School (MVS)

A fluorescent sensor containing polycaprolactone (PCL) and ZnO quantum dots was developed for the determination of heavy metal ions (particularly Fe3+) in seawater. The sensor's selectivity towards a large number of metal ions was examined, and it was found to show high selectivity and sensitivity for Fe3+ (LOD 0.333–0.410 µM).

OUTPUTS

Writing of an article based on the project outputs is reported to have begun

SDG 14 SDG 6 SDG 3

BAP-2020-09 · BAP · 2020-2021

Investigation of the Removal of Dyes and Heavy Metals from Seawater in the Tuzla Shipyards Region Using Rice Husk Ash

Prof. Dr. Özgül TAŞPINAR · Chemistry R&D Laboratory; students of the Department of Naval Architecture and Marine Engineering (GMİM)

A dark-coloured polluted water sample taken from a shipyard in Tuzla was treated with rice husk ash (RHA), a waste material, and rendered clear and colourless. The results were documented by FTIR and photographs; it was concluded that RHA and the nanostructured calcium silicate to be produced from it could be effective in the treatment of ship/shipyard wastewater. Work has begun on establishing infrastructure for this purpose in the Chemistry R&D Laboratory.

OUTPUTS

Spring 2022 MF428 graduation thesis (Mustafa Bozkurt, Ahmet Alparslan Kuzucu); An international journal/conference publication is in preparation

SDG 14 SDG 6 SDG 12

BAP-2025-02-03 · BAP · 2024-2025 (2nd call)

Use of Polyamide-6 (PA-6) and Polyacrylonitrile (PAN) Composite Nanofibres in Oil–Water Separation

SDG 6 SDG 14 SDG 12

BAP-L-2024-14 · Student BAP · 2023-2024

Production of Nanofibres for Oil–Water Separation by Electrospinning

Student project

SDG 6 SDG 14 SDG 12

BAP-2024-08 · BAP · 2023-2024 (1st call)

Determination of the Effects of Parameters Involved in Mucilage Formation in a Controlled Experimental Setting

SDG 14 SDG 6 SDG 13

2250262 · TÜBİTAK BİGG 1812

Use of Innovative, Economical and Environmentally Friendly Polymeric Nanofibres in Water Treatment

Prof. Dr. Elif ÖZEN CANSOY · Faculty of Arts and Sciences

SDG 6 SDG 12 SDG 14

120493 · TÜBİTAK 1005

Design, Manufacture and Field Testing of an Unmanned Aerial Vehicle for Monitoring Irrigation Efficiency

Prof. Dr. Tahir Hikmet KARAKOÇ

SDG 6 SDG 2

ANNEX

SDG 6 Activity Inventory

The table below lists all activities associated with SDG 6 during and before the reporting period that are publicly available on the university's websites. The links serve as evidence.

Date	Activity	Unit	SDG
18 April 2025	"Türkiye's Geopolitical Position and the Use of Water Resources" Seminar Held		6
12 October 2024	Advanced Maritime Seminars: water treatment systems on ships	Faculty of Maritime Studies	14 6
	Sea Water Intake Structure		6 7
	Treatment system		6 12
	Grease separator		6 12 15
	Water dispensers		6 12

CONCLUSION

Conclusion and Assessment

On the Sea Campus, mains water, rainwater and greywater are metered separately, and 4.42% of annual water use of 35,943 m^3 comes from alternative sources. The Water Efficiency and Management Policy, 94% water-efficient fixtures, automated drip irrigation with drought-tolerant planting and BREEAM-certified buildings have turned circular water use into institutional practice.

Development areas include extending metering to the Preparatory Campus, completing the switch to water-efficient taps in line with the 2027 target, finalising the Blue Water Efficiency Certificate process and increasing joint work with local communities on water saving and water security.



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SDG 6: Clean Water and Sanitation

Piri Reis University · Sustainable Development Goals Report · 2024–2025 Academic Year and 2025 Financial Year

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