Boğaziçi University Sustainable Development Goals Progress Report

November • 2026



Boğaziçi University

PUBLICATION

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Boğaziçi University

AUTHORS

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7 AFFORDABLE AND CLEAN ENERGY

Sustainable Development Goal 7:

Affordable and Clean Energy



7

SDG 7: Affordable and Clean Energy – Global Ranking, Renewable Power and Efficiency

THE IMPACT RATINGS 2026

58.

World Rankings

70.4 / 100 Points

SDG 7 Clean Energy Performance Score

ISO 50001:2018 Accreditation
Since 2015, 100% carbon-neutral campus management in Kilyos

ANNUAL GREEN ENERGY SUPPLY AGREEMENT

12,000,000 kWh

5,904 tons of CO_2 avoided annually (equivalent to 14,365 trees)

1,200 Tons / Year

İMBİYOTAB Carbon-Negative Biorefinery CO_2 Capture Capacity

BÜRES WIND POWER PLANT

1 MW + 5 MW

Target of 1M kWh in energy savings and 8.76M kWh in new energy generation

KABEV & KADEV EFFICIENCY

112,882 m²

Energy renovation of 21 public buildings with World Bank funding

ROOFTOPSOLAR PV & E-MOBILITY

5 Facilities & 6 Chargers

Rooftop PV panels, 22% hot-water collectors, and fast-charging stations

Clean Energy Standards, Infrastructure Improvements and Sectoral Partnerships

ÜNVER-2	75 Boilers	4 LEED	EPİAŞ & TKYB	TTGV Awards
Honorable Mention	Condensing Cascade	Green Campus Buildings	Carbon Market	Battery & Biofuel

Energy Efficient Renovation and Building Construction

Boğaziçi University has an **Energy Management Unit Directive to** ensure that all new constructions and building renovations comply with energy efficiency standards. The purpose of the Directive is to regulate the procedures and principles for regulating energy management practices, using energy effectively and efficiently, preventing energy waste, reducing the burden of energy costs on the institution's budget, and increasing efficiency in energy use to protect the environment.

The Directive has been prepared based on the Provincial Administration Law No. 5542, Energy Efficiency Law No. 5627, Regulation on Increasing Efficiency in the Use of Energy Resources and Energy (RG-27/10/2011-28097), Regulation on Energy Performance in Buildings (RG-05/12/2008-27075), Saving Target and Implementation Guide in Institution Buildings, 2012-2023 Energy Efficiency Strategy Document and 2017-2023 National Energy Efficiency Action Plan. In this context, energy management activities in the buildings within the Agency are carried out in accordance with the current national or international TS EN ISO 50001 Energy Management System - Guidelines and Requirements Standard. Systems such as architectural, mechanical, electrical and lighting systems that affect the energy performance of buildings are periodically checked. Necessary maintenance, repair and modifications are carried out to ensure that the buildings are operated in a way that does not fall below the energy performance at the design stage.

In addition, Boğaziçi University aims to continuously improve its performance within the framework of quality and energy management systems in line with its **Integrated Management System Policy**. Within the scope of this goal, it undertakes to purchase energy efficient products and services and to provide the necessary support for efficient system designs.

> **Integrated Management System Policy:**
> https://yapiisleri.bogazici.edu.tr/tr/pages/entegre-yonetim-sistemi-politikasi/4095

ISO Certificates

Boğaziçi University has received ISO 9001-2015 Quality Management System and ISO 50001-2018 Energy Management System certificates, which are revised every 5 years by the International Organisation for Standardisation (ISO).




Certificate

A'ND

International Certification Registrar

BOGAZICI UNIVERSITESI

BEBEK MAH. CEVDETPASA CAD. BOGAZICI UNIVERSITESI NO:115 BESIKTAS ISTANBUL
GUNEY KAMPUS: BOGAZICI UNIVERSITESI GUNEY KAMPUS 34342 BEBEK/ISTANBUL
KUZEY KAMPUS: RUMELI HISARI, HISAR USTU NISPETIYE CD NO:7, 34342 SARIYER/ISTANBUL

A'ND certify that the system and processes of the above Organization have been assessed and found in accordance With the requirements of the Quality Management Systems detailed below.

ISO 9001:2015

Scope

EDUCATIONAL AND RESEARCH ACTIVITIES, SCIENTIFIC, CULTURAL, ARTISTIC AND SPORTS ACTIVITIES AND ADMINISTRATIVE SERVICES FOR THESE ACTIVITIES

Certificate No. : T9/2277/2022
Date of Initial Registration : 22 December 2022
Expiry Date : 21 December 2025

This document is valid between 22.12.2023-21.12.2024

Director

IAF TÜRKAK


Certificate

A'ND

International Certification Registrar

BOGAZICI UNIVERSITESI

GUNEY KAMPUS: BOGAZICI UNIVERSITESI GUNEY KAMPUS 34342 BEBEK/ISTANBUL
KUZEY KAMPUS: RUMELI HISARI, HISAR USTU NISPETIYE CD NO:7, 34342 SARIYER/ISTANBUL
HISAR KAMPUS: HISARUSTU, NISPETIYE CADDESI, RUMELIHISARI, SARIYER/ISTANBUL
KANDILLI KAMPUS: KANDILLI MAHALLESI, VANIKOY CADDESI, ESREF BITLIS SOKAK, USKUDAR/ISTANBUL
SARITEPE KAMPUS: BOGAZICI UNIVERSITESI, SARITEPE KAMPUSU, SARIYER/ISTANBUL
UCAKSAVAR KAMPUS: CENGIZ TOPEL CADDESI, OZDEN SOKAK, RUMELIHISARI, BESIKTAS/ISTANBUL

A'ND certify that the system and processes of the above Organization have been assessed and found in accordance With the requirements of the Energy Management Systems detailed below.

ISO 50001:2018

Scope

EDUCATIONAL AND RESEARCH ACTIVITIES, SCIENTIFIC, CULTURAL, ARTISTIC AND SPORTS ACTIVITIES AND ADMINISTRATIVE SERVICES FOR THESE ACTIVITIES

Certificate No. : T50001/31/2022
Date of Initial Registration : 22 December 2022
Expiry Date : 21 December 2025

This document is valid between 22.12.2023-21.12.2024

Director

IAF TÜRKAK

Energy Efficient Renovation and Building Construction

LEED Certificates

LEED certification is a system that sets environmental sustainability standards and evaluates the green design, construction and operation performance of buildings. Within the framework of sustainable campus life, Boğaziçi University has taken steps such as constructing new buildings with energy efficient systems and transforming old buildings and documenting them with LEED certification. This system provides a sustainable construction by creating positive environmental, economic and health impacts. So far, 4 buildings at Boğaziçi University have been registered with LEED certification.

- South Campus 1st Male Dormitory (Hamlin Hall), October 2012, Gold certificate
- Kandilli Campus Tsunami Monitoring Centre (UDIM), February 2015, Gold Certificate
- Tarsus Archaeology Architecture History and Cultural Heritage Centre, March 2016, Gold Certificate
- Kandilli Campus Student Dormitory, April 2018, Silver Certificate









Projects for Increasing Energy Efficiency of Existing Buildings

Boğaziçi University has implemented a comprehensive renovation plan with projects to increase the energy efficiency of its existing buildings. These projects include the‘Energy Efficiency in Public Buildings Project (KABEV)’ and‘Earthquake Resistance and Energy Efficiency in Public Buildings (KADEV)’ projects funded by the World Bank and implemented by the Ministry of Environment, Urbanisation and Climate Change. These projects aim to reduce energy consumption of buildings, provide cost efficiency and support environmental sustainability.

KABEV Project

The project aims to reduce energy consumption and greenhouse gas emissions by making improvements to increase energy efficiency in the buildings identified within the scope of the project, thus combating climate change. A total of 9 buildings (53,971m2) from our 2 campuses, which are at least 5 years old as of the project start date and were built in 2014 or before as of the date of the building licence, are included in the project.



PNO	BİNA ADI	BLOK SAYISI (AD.)	İNŞAAT ALANI (m²)
K01	KUZEY K. KÜTÜPHANE EK BİNASI	1	3.920,00
K02	KUZEY K. BİLGİSAYAR MÜHENDİSLİĞİ	1	3.445,00
K03	KUZEY K. EĞİTİM FAKÜLTESİ	1	5.471,00
K04	KUZEY K. EĞİTİM TEKNOLOJİSİ B BLOK	1	4.306,00
K05	KUZEY K. YENİ DERSLİK BİNASI	1	9.921,00
K06	KUZEY K. 4. KUZEY YURDU	1	7.407,00
K07	KUZEY K. 3. KUZEY YURDU	1	6.684,00
H01	HİSAR K. BLOKLARI (A-B-C-D-E)	5	9.664,00
H02	HİSAR K. SPOR SAL. & YÜZME HAV.	1	3.153,00

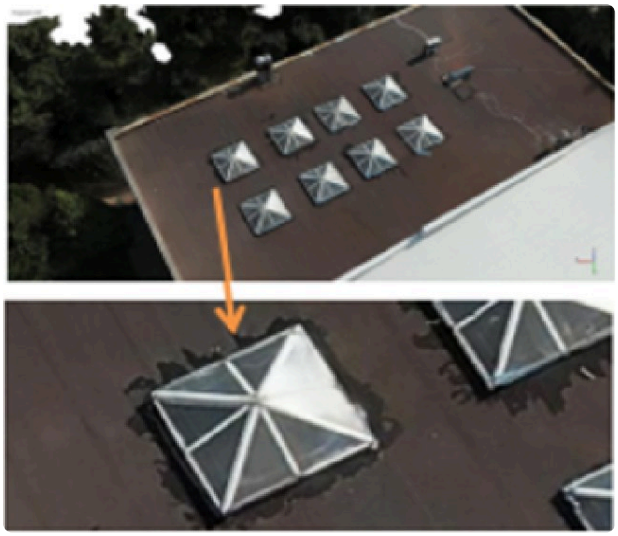
For detailed information about the project, you can visit the KABEV page of the Ministry of Environment, Urbanisation and Climate Change:
https://www.kabev.org/proje-hakkinda/

Projects for Increasing Energy Efficiency of Existing Buildings

Energy Efficiency Increasing Practices Planned within the Scope of KABEV Project

1. Building Insulation and Insulation Solutions

- New or improved building envelope insulation
- Pipe and duct insulation
- Renovation of windows and doors

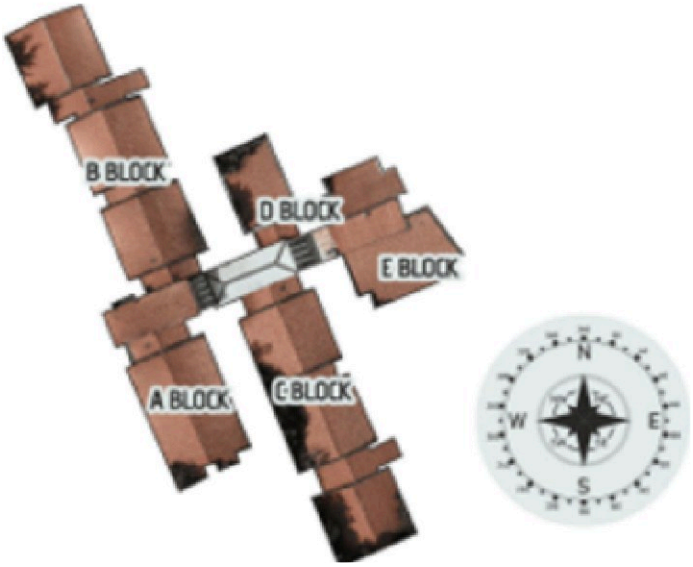




2. Renovation and Efficiency of Heating and Cooling Systems

- Heating boiler renovation
- Boiler burner adjustment
- Boiler waste heat recovery integration
- Renovation of cooling/chiller systems
- Use of thermostatic valve in heating/cooling circuit
- Heat pumps
- Variable speed circulation pumps and fans
- Upgrading electric motors with high efficiency models

Projects for Increasing Energy Efficiency of Existing Buildings

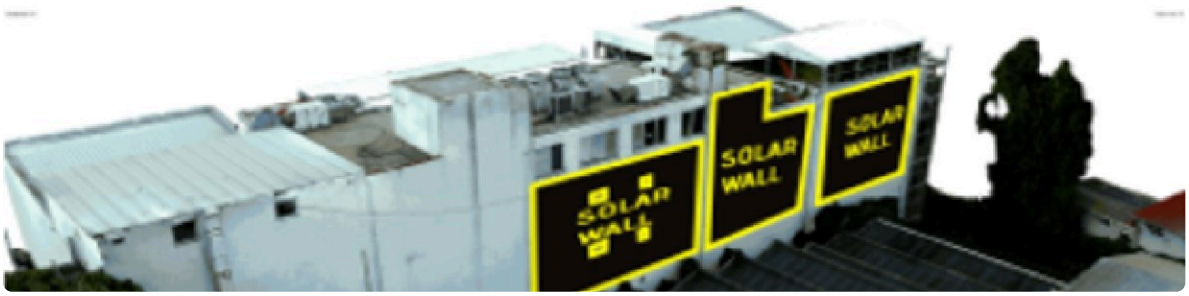


3. Lighting and Control Systems

- LED lighting systems
- Lighting ballast type renewal
- Motion sensor integration into lighting systems

4. Energy and Alternative Energy Sources

- Cogeneration/Trigeneration Photovoltaic (PV) systems
- Solar water heating (SWH)
- Other alternatives to biomass or fossil fuel-based energy



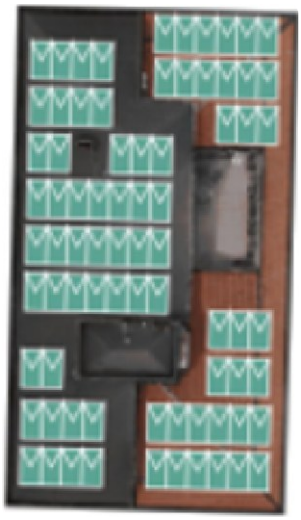
Projects for Increasing Energy Efficiency of Existing Buildings

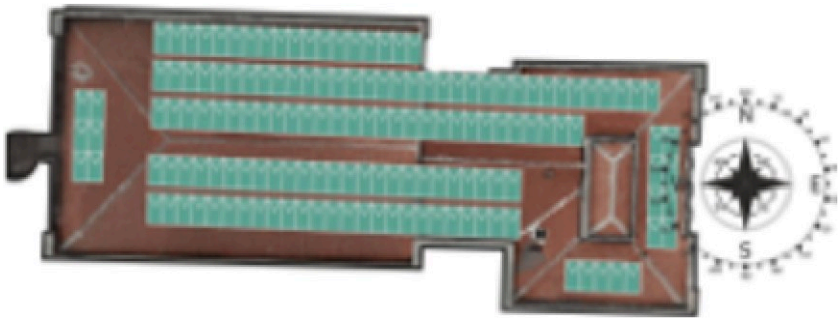
5. Building Automation and Energy Monitoring

- Building automation systems
- Energy monitoring system









Click here for the relevant web page of the Department of Construction and Technical Affairs:

https://yapiisleri.bogazici.edu.tr/tr/pages/kabev-projesi/4093

Projects for Increasing Energy Efficiency of Existing Buildings

KADEV Project

The project aims at earthquake retrofitting and energy efficiency interventions in the buildings identified within the scope of the project. A total of 12 buildings (58911m2) from our 4 campuses, built before 2007, with high earthquake risk and low energy efficiency, are included in the project.

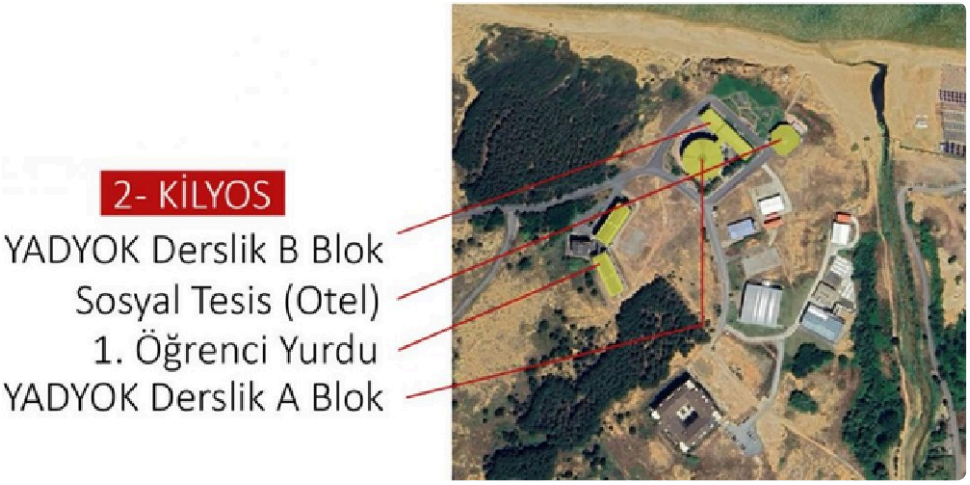


For detailed information about the project, you can visit the KADEV page of the Ministry of Environment, Urbanisation and Climate

Change: https://kamuguclendirme.csb.gov.tr/

Projects for Increasing Energy Efficiency of Existing Buildings

KADEV Project (Applicable Buildings)







Projects for Increasing Energy Efficiency of Existing Buildings

Applications Increasing Energy Efficiency within the Scope of KADEV Project

In addition to the applications planned in the KABEV Project, the applications to be realised in these buildings are as follows:

1. **Renovation and Efficiency of Heating and Cooling Systems**

- Heating fuel conversion by replacing boilers with heat pumps
- Retrofitting of cooling systems with 4-pipe heat pump coolers or reversible heat pumps
- Replacement of old chiller systems with ground, water or air source reversible heat pumps
- Hybrid solutions that integrate existing or retrofitted chillers with recycling heat pumps to increase energy efficiency during seasonal transition periods

2. **Natural Lighting and Use of Daylight**

- Natural lighting enhancement by daylight harvesting
- The transport of daylight indoors through the use of solar tubes

Click here for the relevant web page of the Department of Construction and Technical Affairs:
https://yapiisleri.bogazici.edu.tr/tr/pages/kadev-projesi/4092

Click for KADEV Project Environmental and Social Management Plans of the campuses:
https://bogazici.edu.tr/tr/pages/kadev/140

With the applications to be realised within the scope of these projects, Boğaziçi University aims to increase energy efficiency in its buildings and achieve sustainable campus targets.

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

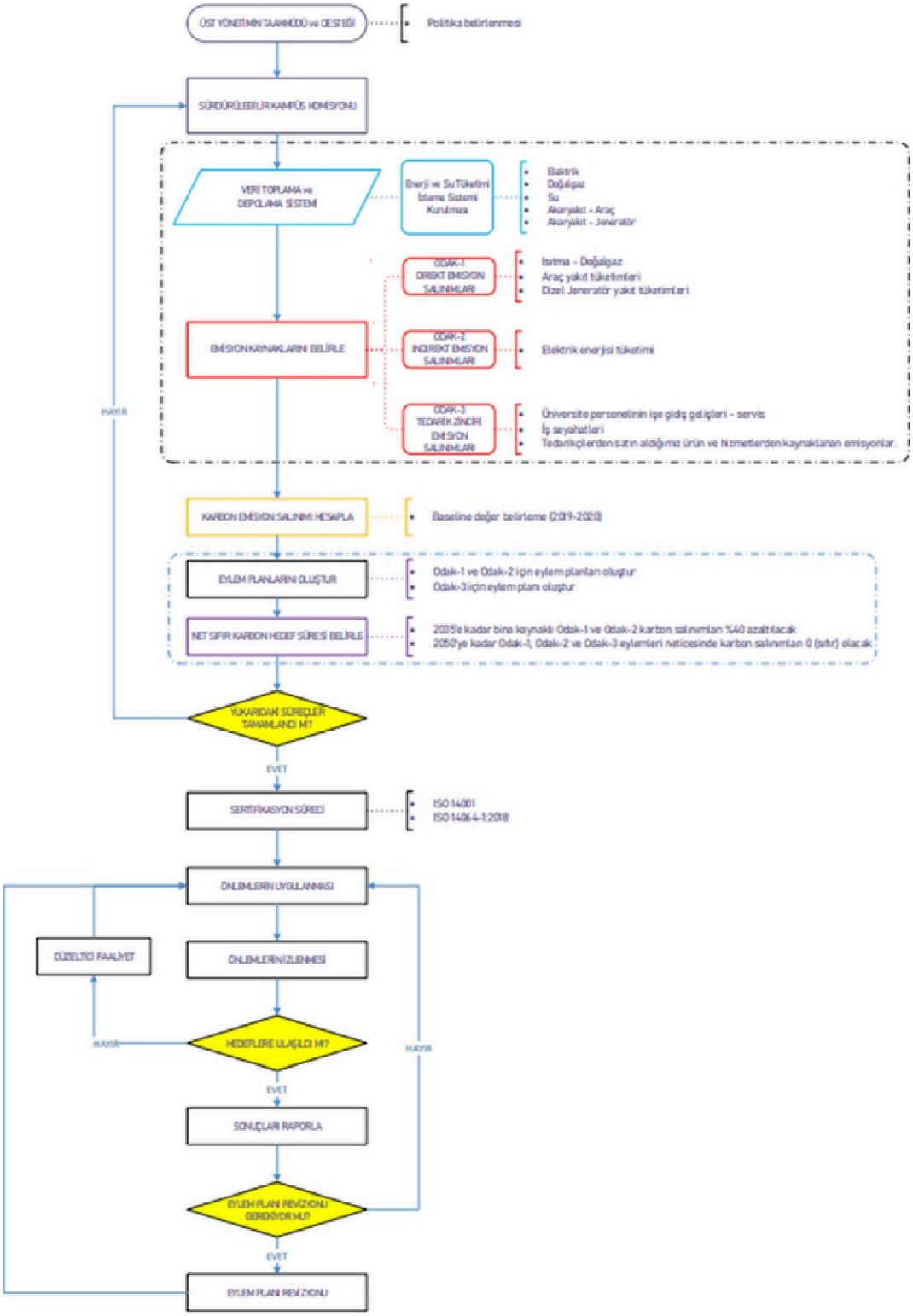
A comprehensive flowchart and action plans have been prepared to achieve the net zero carbon emission target at Boğaziçi University. Within the scope of the flow chart, three main focus areas were identified as Focus-1: Direct Emission Emissions, Focus-2: Indirect Emission Emissions and Focus-3: Supply Chain Emission Emissions. As a result of the action plans prepared for these three focus areas, it is aimed to reduce building-related Focus-1 and Focus-2 carbon emissions by 50% by 2030 and to eliminate carbon emissions in all focus areas by 2050.

Boğaziçi University has taken important steps towards sustainability goals at Kilyos Sarıtepe Campus. Since 2015, the campus has been carbon neutral and meets all of its electricity needs from renewable energy thanks to its wind turbine. In addition, Europe's first carbon-negative biorefinery is located on the campus, making a significant contribution to reducing carbon emissions with an annual capacity to capture and use approximately 1200 tonnes of carbon dioxide.

In addition, Boğaziçi University contributes to the reduction of carbon emissions by utilising solar energy instead of fossil fuels through solar collector hot water system and photovoltaic panel applications in its buildings.

> **Net Zero Emission Target Action Plan:**
> https://impact.bogazici.edu.tr/sites/impact.bogazici.edu.tr/files/carbon_neutral_university_commitment.pdf

Carbon Net Zero Action Plan and Current Practices for Emission Reduction



Net Zero Carbon Emission Target Action Plan Flow Chart

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

SCOPE-1 and SCOPE-2 Action Plan

Optimising the use of space

- Making sure that we use our buildings intensively enables us to use less energy per person.

Organising user awareness activities for energy saving issues

- ISO 50001 training activities
- User awareness raising - field technical staff on monthly basis, energy efficiency awareness raising activity for student components once a year
- Changing user habits
- Adjustment and stabilisation of indoor temperatures in accordance with standards
  - Optimisation of hot water usage time for showers - shower duration of 4 minutes
  - Switching off devices and lighting during non-use hours
  - Spreading awareness of the use of electrical appliances for seven years or more.

Implementation of energy efficiency action plans - Implementation of ISO 50001 action plans

- Lighting LED conversion and automation
- Increasing boiler and boiler efficiencies
- Thermostatic valve applications
- Minimising heat losses from building thermal insulation
- Centralisation of distributed air conditioning systems
- Energy efficient building designs and applications
- Design and implementation of new building designs with integrated building design philosophy
- Application standardisation
- Overhaul of building heating systems
- PV - Air Source Heat Pump integrated systems

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

SCOPE-1 and SCOPE-2 Action Plan

Electric energy supply

- Procurement of electrical energy from Renewable Energy Certified energy supply companies - primarily consumers with annual consumption over 1.000.000 kWh

Investment in renewable energy sources

- Investment priority for rooftop PV applications
- Establishment of an additional wind power plant in Sarıtepe campus (Our proposal is 5 MW - It meets 50% of the total electricity consumption of the university).

Providing on-campus transport with electric vehicles

Making grey water waste facilities functional

FOCUS-3 Action Plan

Commuting of university staff - shuttle route optimisation
Procurement of printed publications from Recycling Certified suppliers e-books, e-journals and article databases are purchased more than printed sources
Ethical and sustainable food

- Vegan or vegetarian catering a certain number of days a week
- Avoid over-processed meat substitute options, favouring instead high-protein whole foods such as lentils, chickpeas and beans

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

Kilyos Sarıtepe Campus

Renewable Energy and Carbon-Negative Solutions
Kilyos Sarıtepe Campus, where important steps have been taken in line with sustainability goals, has been carbon neutral since 2015. Projects supported by national and international collaborations play a leading role in the process of reducing carbon emissions.

Boğaziçi University Wind Power Plant (BÜRES)

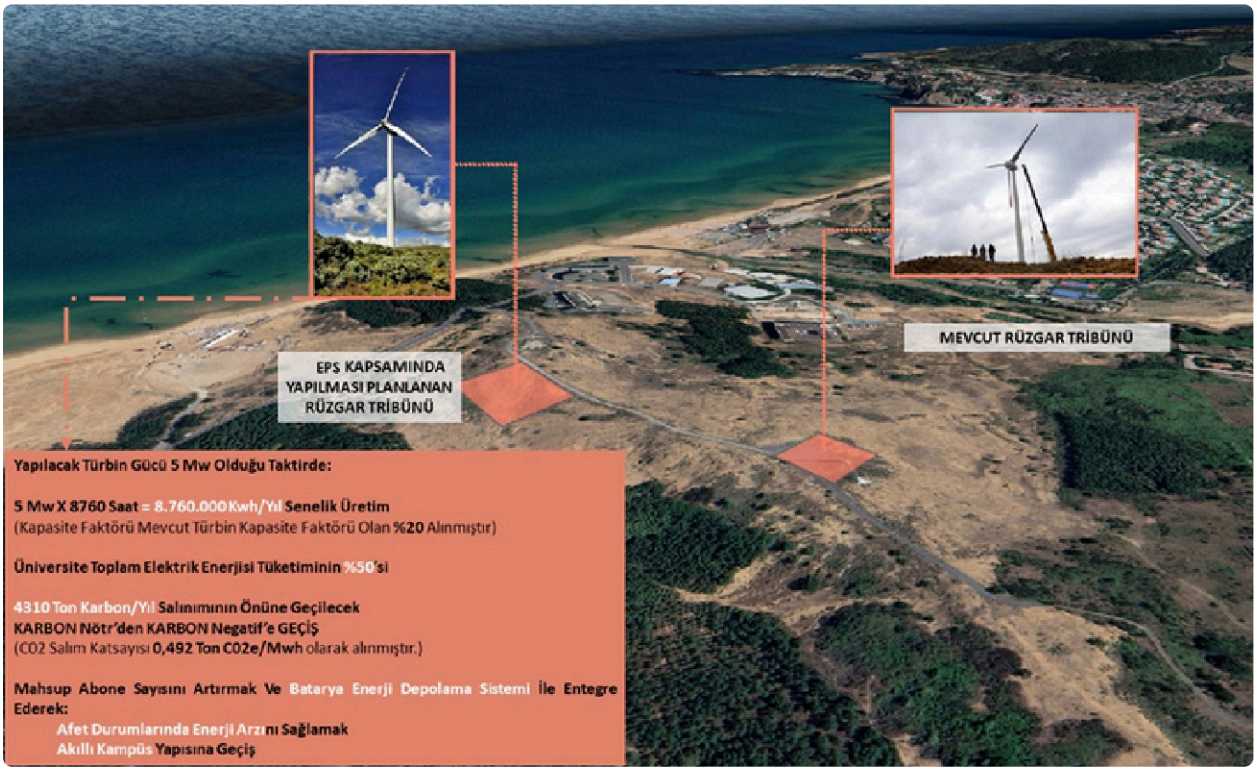
Kilyos Sarıtepe Campus became the first university campus in the world to meet all its electricity needs from its own and self-operated wind power plant with the wind turbine installed as part of the Boğaziçi University Wind Power Plant (BÜRES) project. Thanks to its 1 MW wind turbine, Kilyos Sarıtepe Campus generates 40% more electricity than its annual electricity consumption, preventing approximately 900 tonnes of carbon emissions in a year and saving 1 million kWh of energy. It is planned to install an additional 5 MW wind turbine on the campus, and it is estimated that this turbine will meet 50% of the total electricity consumption of the University. In this case, 4310 tonnes of carbon emissions will be prevented annually and a transition from carbon neutral to carbon negative will be achieved.

Click here for detailed information:
https://yapiisleri.bogazici.edu.tr/tr/pages/bogazici-universitesi-ruzgar-enerji-santrali/4076

https://yapiisleri.bogazici.edu.tr/tr/news/akademik/1/elektrik-ihtiyacinin-tamamini-kendi-ruzgar-sa/3444

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

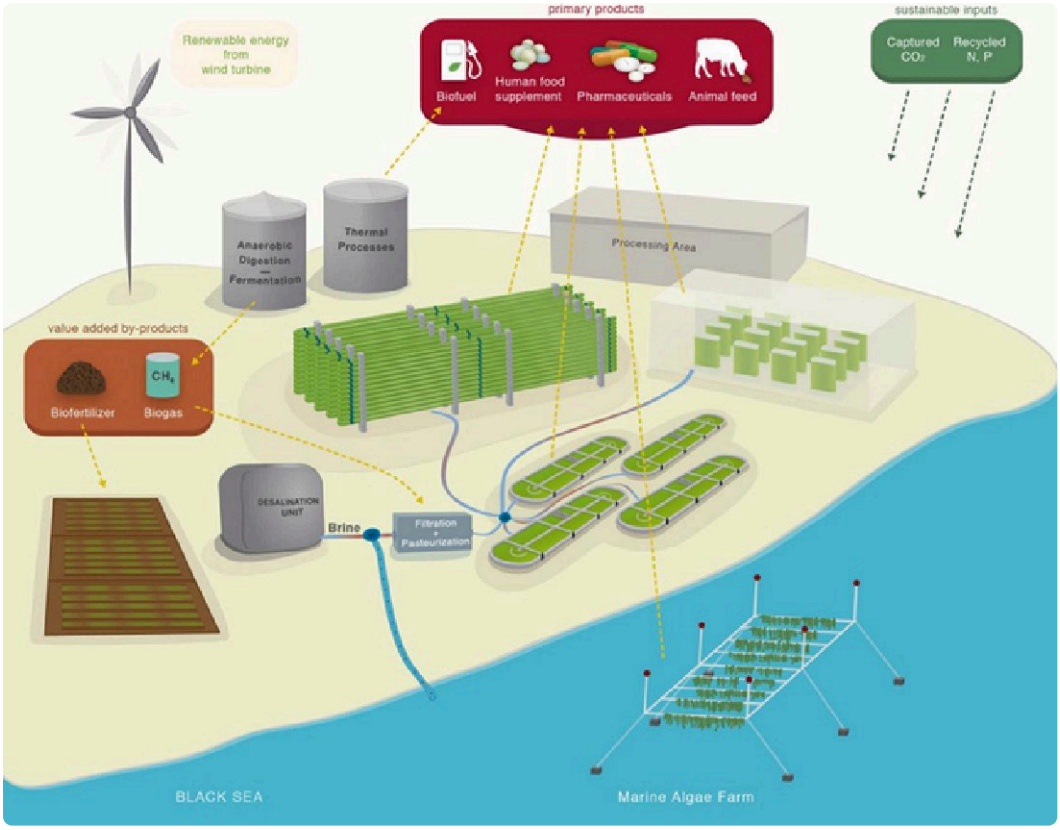




Carbon Net Zero Action Plan and Current Practices for Emission Reduction

Europe's first and only carbon-negative biorefinery

Since 2015, the INDEPENDENT project, which started its operations in 2021 at Boğaziçi University Sarıtepe Campus, which has been carbon-neutral since 2021, has the distinction of being the first carbon-negative biorefinery in Europe by providing an annual carbon dioxide capture and utilisation capacity of approximately 1200 tonnes. With the introduction of algae-based alternative products in the energy, food, health, environment, agriculture and livestock sectors, double-win sustainability is achieved by saving all resources that consume fossil energy in production.



Click here for detailed information:
https://independent.bogazici.edu.tr/tr/pages/avrupanin-ilk-karbon-negatif-biyorafinerisi/5516

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

Photovoltaic Panel Applications

Solar energy produces clean energy compared to fossil fuels and contributes to the fight against climate change by reducing carbon emissions. Electricity is generated by photovoltaic panels placed on the roof, and some of the electricity consumed in the buildings is met from this system. Currently used photovoltaic panels are located in North Campus Dormitory 3, North Campus Dormitory 4, South Campus Faculty of Economics and Administration, Kandilli Campus National Earthquake Monitoring Centre (UDIM) Tsunami Monitoring Building and Tarsus Gözlükule Excavations Research Centre buildings. New Solar Energy Systems are planned to be installed within the scope of KABEV (Energy Efficiency in Public Buildings Project) and KADEV (Earthquake Resistance and Energy Efficiency in Public Buildings) Projects.



Click here for detailed information:
https://yapiisleri.bogazici.edu.tr/tr/pages/bogazici-universitesi-gunes-enerji-

Carbon Net Zero Action Plan and Current Practices for Emission Reduction

Solar Collector Hot Water System

Solar collector hot water systems consist of planar collectors that collect solar energy, a tank where the heated water is collected and insulated pipes that provide the connection between these two parts, pump and controller. Thanks to the solar collector hot water system, 22% of the hot water needs of the 1st Men's Dormitory and 100% of the hot water needs of the Tarsus Gözlükule Excavations Research Centre are met.



Click here for detailed information:
https://yesilkampus.bogazici.edu.tr/tr/content/gunes-kollektorlu-sicak-su-sistemi

Energy Consumption Reduction and Efficiency Strategies

Boğaziçi University Department of Construction and Technical Affairs implements a comprehensive energy efficiency plan to reduce energy consumption on campuses and achieve sustainability goals based on the Boğaziçi University Energy Management Unit Directive and the Savings Target and Implementation Guide in Public Buildings. Our university, which hasISO 50001 Energy Management System Certificate, creates energy efficiency action plans every year and implements these plans effectively. Annual information on energy management activities and energy use is sent to the Ministry of Energy and Natural Resources until the end of March every year and data entries are made to the Energy Efficiency Portal.

Applications

Boğaziçi University's sustainability strategies and practices ensure more efficient use of resources and minimise environmental impacts by reducing energy consumption. These efforts aim to leave a more sustainable world for the future by raising awareness of energy efficiency both on campuses and throughout society. Some of the practices we have implemented as a university are as follows:

South Natural Gas Revision

Within the scope of boiler rooms and natural gas installation works in the South Campus, the natural gas installations of 26 boiler rooms and 9 combi boiler areas were renewed. The skid station was cancelled and new natural gas lines were installed in the relevant areas, the main lines were installed by İGDAŞ and the branch lines were installed by the contractor company. The system has been modernised by using 75 condensing type boilers in total.

Energy Consumption Reduction and Efficiency Strategies





Click for detailed information:
https://yapiisleri.bogazici.edu.tr/tr/pages/guney-dogal-gaz-revizasyonu/4088

Energy Consumption Reduction and Efficiency Strategies

LED Conversion

With the use of LED technology, the energy consumption of the campus is reduced and the environmental impact is minimised, while at the same time creating a brighter and safer environment.





Click here to see the list of buildings with LED transformation:
https://yapiisleri.bogazici.edu.tr/tr/pages/led-donusumu/4089

Grey Water Collection

The grey water collection system reduces the need for clean water by reusing used and treated water in areas such as toilets and garden irrigation. Thus, it reduces the energy consumption of centralised water treatment plants and contributes to energy efficiency by supporting the on-site use of water.

Click here to see examples of grey water collection:
https://yapiisleri.bogazici.edu.tr/tr/pages/gri-su-toplama/4090

Electric Charging Stations

Electric charging stations reduce fossil fuel consumption by encouraging electric vehicles, can be integrated with renewable energy and support a more sustainable energy use by increasing energy efficiency thanks to smart charging systems. In 2023, a total of six electric charging stations were put into service, two 120 kW DC and 11 kW AC at the South Campus and 4 11 kW DC at the North Campus North Parking Building car park.



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For detailed information, please click here:

https://yapiisleri.bogazici.edu.tr/tr/pages/elektrikli-sarj-istasyonlari/4091

Energy Consumption Reduction and Efficiency Strategies

Electricity Tariff Management

Reduces energy costs by optimising energy consumption and efficiency. It incentivises users to consume energy during off-peak hours with pricing applied in different time periods; thus, demand on the grid is balanced and energy efficiency increases. This method indirectly reduces total energy consumption and increases efficiency by managing demand more effectively.

Energy Performance Contract (EPS)

Energy Performance Contract (EPS) is a contract that guarantees the energy savings to be achieved as a result of the implementation projects and is based on the payment of the expenditures made with the savings that will occur as a result of the implementation. The methods used within the scope of EPS are as follows:



Energy Consumption Reduction and Efficiency Strategies

- Guaranteed Savings: A certain energy saving target is determined within the scope of the contract and the contractor guarantees the achievement of this target. When savings are achieved, the contractor is paid.
- Performance Based Contracts: The contractor commits to a certain level of performance and undertakes the investments required to achieve this performance. Payment is made when performance targets are achieved.
- Flexible Financing Models: Various financing sources such as private financing, loans and grants can be used for energy saving.

These methods allow public institutions and the private sector to develop different cooperation models to improve energy performance and reduce energy costs. Our university continues its efforts within the scope of EPS in order to increase energy efficiency and reduce energy costs in all campuses.

News

BounEnergy Team continues to work

Boğaziçi University Energy Team BounEnergy organises 'ISO 50001 Energy Review Meetings' in order to ensure savings in consumption. The team held its last meeting on 13 September at Boğaziçi University South Campus and determined the road map to be followed for energy saving. The distribution of energy consumption across campuses, flow charts, examples applied by our university and the 'Energy Management System Policy' were also shown in the presentation. As a result of the meeting, short and long term goals were announced and an action plan was prepared.



Click here to read the news:
https://yapiisleri.bogazici.edu.tr/tr/news/akademik/1/bounenergy-ekibi-calismalarina-devam-ediyor/3428

News

Bounenergy held EPS meeting

BounEnergy team hosted Emar EVD and EnerjiSA companies of Elginkan Group and held a meeting about energy efficiency studies and targets. During the meeting, the first Energy Performance Contracting (EPC) model implemented by Emar EED within the scope of Energy Efficiency in Public Buildings (EABEV) was detailed; the project process, challenges encountered and regulation changes were discussed. In addition, a comprehensive evaluation was made on energy efficiency opportunities at EnerjiSA and Boğaziçi University and investments that can be realised within the scope of EPS.



Click here to read the news:
https://yapiisleri.bogazici.edu.tr/tr/news/akademik/1/bounenergy-eps-toplantisi-yapti/3425

Energy Efficiency Award to Boğaziçi University

In the second Inter-University Energy Efficiency Competition (ÜNVER-2) organised by the Ministry of Energy and Natural Resources in 2023, Boğaziçi University was awarded an honourable mention for its energy efficiency practices in the South Campus. In addition to the award, a certificate of appreciation was presented to our University by Alparslan Bayraktar, Minister of Energy and Natural Resources.



Determination of Energy Waste

Boğaziçi University Energy Management System includes various elements to reduce energy consumption and increase efficiency on campuses. This system aims to use resources efficiently by preventing energy waste and to create a sustainable campus environment. The main elements of our energy management system and their contributions to reducing energy consumption are summarised below.



Energy Quality Analyser: helps prevent energy waste by detecting inefficiencies, losses and underperformance in the energy system. It identifies faults and imbalances, provides preventive maintenance and optimises energy consumption. In this way, unnecessary energy losses are reduced and a more efficient system is achieved.

ISO 50001 - Efficiency Improvement Project (VAP): These are financial and technical supports provided to organisations that have ISO 50001 standard certificate in order to increase energy efficiency and reduce energy costs. These supports contribute to the optimisation of energy consumption of institutions.

Determination of Energy Waste

Building-Based Energy Consumption Monitoring: It provides effective energy management by monitoring the energy consumption of each building in detail. This method helps to identify deficiencies and opportunities for improvement by providing the opportunity to compare the energy efficiency and performance of similar buildings.

Energy Audits: Energy audits have started to be carried out in our campus buildings, which are outside the scope of KABEV and KADEV Projects, in order to monitor energy consumption, identify energy inefficiencies and potential savings opportunities. In line with the findings and recommendations in the audit report, which projects will be implemented within the scope of the Energy Performance Contract (EPS) and the expected savings are revealed.

Energy Identity Certificate: It is an official document showing the energy consumption class and energy efficiency status of a building. The energy identity certificate provides information about the efficiency of systems such as insulation, heating, cooling and lighting in the building, thus helping to identify areas of improvement necessary to reduce energy consumption.

Exit Policy from Carbon Intensive Investments

In line with its policy aiming to move away from carbon-intensive energy sectors, especially coal and oil, Boğaziçi University takes various steps to support the transition to sustainable energy sources. The practices carried out in this context and planned for the future within the framework of the Net Zero Carbon Emission Target Action Plan are presented below.

Renewable Energy Supply: Especially in buildings with an annual consumption of more than 1,000,000 kWh, it has been prioritised to obtain electricity from renewable energy certified suppliers. With the Green Energy Agreement, approximately 12 million kWh of energy will be supplied from Green Certified sources throughout 2024.

Renewable Energy Investments: While solar energy investments such as rooftop PV applications are prioritised, an additional wind power plant with a capacity of 5 MW is planned to be installed at Sarıtepe Campus. This investment aims to meet 50% of the university's total electricity consumption.

Revision of Building Heating Systems: It is aimed to reduce the dependence on carbon-intensive heating sources by renewing the existing heating systems and switching to integrated systems such as PV - Air Source Heat Pump.

On-Campus Transport with Electric Vehicles: Providing on-campus transport with electric vehicles will reduce the use of fossil fuels.

Recycled and Digital Publications: While it is preferred to provide printed publications from Recycling Certified suppliers, it is planned to purchase e-books, e-journals and digital article databases more than printed sources.

Exit Policy from Carbon Intensive Investments

Ethical and Sustainable Food Policies: Offering vegan or vegetarian meal options on certain days of the week, as well as preferring high-protein whole foods such as lentils, chickpeas and beans instead of over-processed meat substitutes, encourages sustainable eating habits by avoiding carbon-intensive food products.

These implementation steps demonstrate Boğaziçi University's determination to move away from carbon-intensive investments and transition to clean energy and contribute to the goal of minimising environmental impacts.

Net Zero Emission Target Action Plan:
https://impact.bogazici.edu.tr/sites/impact.bogazici.edu.tr/files/carbon_neutral_university_commitment.pdf

Green Energy Agreement:
https://yapiisleri.bogazici.edu.tr/tr/pages/yesil-enerji-anlasmasi/4085

Energy Efficiency and Clean Energy Programmes for Local Communities

Boğaziçi University organises various trainings for a wide range of participants in order to raise social awareness on energy efficiency and clean energy issues. These training programmes, prepared by Boğaziçi University Lifelong Learning Centre (BÜYEM), are offered to students, employees and managers at individual or corporate level. The programmes contribute to the creation of a more sustainable and environmentally sensitive society by shaping corporate policies through the individuals they reach.

Corporate Sustainability Certificate Programme (CSSP)

The Corporate Sustainability Certificate Programme, which has been running for 22 years in cooperation with BÜYEM, UN SDSN Turkey and REC Turkey, is the first certified training programme in its field, designed in the light of the contributions of Turkey's leading universities and international experience.



Energy Efficiency and Clean Energy Programmes for Local Communities

The programme offers comprehensive courses on sustainability such as Turkey's Energy Policies and Clean Energy, Carbon Management, Just Transition to a Carbon-Free Economy, Green and Digital Transformation in Industry, Environmental and Social Impact Assessment . The programme is attended by experts and managers working in different areas of large enterprises such as sustainability, environment, R&D, corporate communication and strategy. The programme offers participants the opportunity to expand their sustainability knowledge, enhance their organisations' reputation and strengthen their social responsibility.

Click here for detailed information:
https://buyem.bogazici.edu.tr/course/kurumsal-surdurulebilirlik-programi

Sustainability Strategy Programme for Managers (KS-YISS)

The Sustainability Strategy for Managers Programme, implemented in cooperation with BÜYEM and Sustainability Academy, offers managers innovative approaches focused on sustainability. The programme has a comprehensive content consisting of strategies to increase competitiveness and brand value in areas such as marketing, procurement, human resources, operations management, supply chain, energy and resource efficiency, national and global developments, sustainability practices and case studies. The programme, planned as 15 sessions in total, supports managers to make effective decisions by providing up-to-date information on sustainable business strategies.

Click here for detailed information:
https://buyem.bogazici.edu.tr/course/yoneticiler-icin-surdurulebilirlik-stratejisi

Energy Efficiency and Clean Energy Programmes for Local Communities



Click here for detailed information:
https://buyem.bogazici.edu.tr/course/yoneticiler-icin-surdurulebilirlik-stratejisi

Smart Life Academy: Training for a Sustainable Future

A Sustainable Future Education programme, implemented in partnership with Zorlu Holding and imeceLAB and with the academic partnership of BÜYEM, aims to equip young people with basic competencies in sustainability.

Energy Efficiency and Clean Energy Programmes for Local Communities



All university students who are concerned about sustainability-oriented issues and want to increase their knowledge in this field can apply to the programme. During the training process, young people's achievements and the perspectives formed by the curriculum are transformed into various contents, and participants who successfully complete the programme are given a certificate of participation.

For detailed information, please click here:
https://imece.com/temalar/surdurulebilirlik_akademisi

Energy Efficiency and Clean Energy Programmes for Local Communities

Smart Life Academy: Sustainability 101 Training

In line with its Smart Life 2030 vision, Zorlu Holding continues its Sustainability 101 training programme, organised in cooperation with BÜYEM, to increase the knowledge of its employees on sustainability. In 2023, 300 Zorlu Group employees participated in the programme, which completed its 4th term, and comprehensive courses were offered on topics such as the basics of sustainability, entrepreneurship and innovation, corporate sustainability, inclusion and diversity.

Click here to read the news:
https://www.ekoiq.com/akilli-hayat-akademisinde-4-donem-egitimleri-tamamlandi/

Zorlu Enerji Experience Programme (Zexperience)

Zexperience is an innovative learning platform offered to Zorlu Enerji scholarship holders in the fields of energy, climate, sustainability, technology and communication in partnership with imeceLAB and Zorlu Holding, and with the academic partnership of BÜYEM. In 17 online trainings given by BÜYEM academics and Zorlu Enerji experts, topics such as renewable energy sources, the latest developments in energy technologies, carbon markets and electric vehicle technologies are covered. 49 scholarship holders who participated in the programme in 2023 had the opportunity to gain knowledge and competence in these fields.

For detailed information, please click here:
https://imece.com/temalar/zorlu-enerji-experience

Energy Efficiency and Clean Energy Programmes for Local Communities

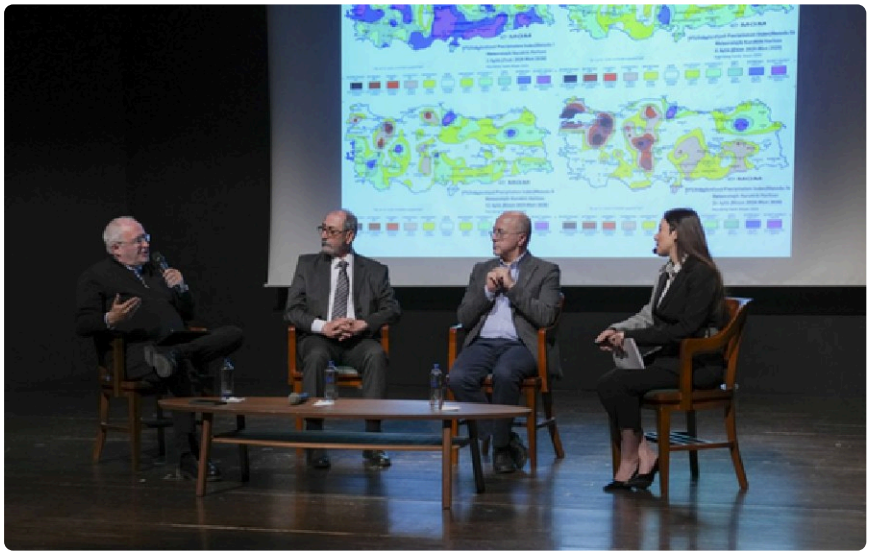
Trainings for EPİAŞ Personnel:

In the training leg of the cooperation protocol signed between Boğaziçi University and Enerji Piyasaları İşletme A.Ş. (EPİAŞ), it is aimed to increase the competencies of EPİAŞ personnel in energy markets with the training modules offered by BÜYEM.

Click here to read the news:
https://haberler.bogazici.edu.tr/tr/news/akademik/1/bogazici-universitesi-ile-epiastan-arastirma-/2474

Climate Change and Hydropower Generation Discussed at Yeşilhat Academy Meetings

The "Yeşilhat Academy Meetings" panel, organised jointly by Boğaziçi University and Anadolu Agency's (AA) Yeşilhat platform, was held at Demir Demirgil Hall on 27 April 2026 under the theme "Agriculture in the Face of the Climate Crisis: Risks, Adaptation and Solutions". Experts from Boğaziçi University's Center for Climate Change and Policy Studies—Prof. Dr. Levent Kurnaz, Prof. Dr. Murat Türkeş and Prof. Dr. Cem Avcı—examined the effects of climate change on the closely interconnected systems of agriculture, water and energy, and addressed the critical impacts of the climate crisis on energy systems, power generation and energy security.



Energy Efficiency and Clean Energy Programmes for Local Communities

The panel highlighted how rising global temperatures, declining and increasingly irregular precipitation patterns, short periods of intense rainfall, and extended droughts adversely affect hydroelectric power generation and place significant pressure on national energy supply security. The discussions underscored that traditional energy infrastructure and dam planning models based on historical climate data are no longer adequate under changing climate conditions, calling for climate-resilient energy systems. By drawing attention to the effects of changing water availability on renewable energy generation, the event underlined the importance of integrating adaptation strategies into energy planning to secure a clean energy supply.

The full news article is available here.

100% Renewable Energy Commitment

Boğaziçi University promotes energy efficiency and transition to renewable energy by holding ISO 9001-2015 Quality Management System and ISO 50001-2018 Energy Management System certificates. These certificates recognise the University's commitment to sustainable energy use at national and international level. In line with the 100% renewable energy target, the University continues its efforts to achieve this goal by seeking public funding from global and Turkish banks. These funds are used to accelerate Boğaziçi University's transition to renewable energy and support environmental sustainability.

Boğaziçi University maintains its commitment to 100% renewable energy as the first university campus in the world to meet all of its electricity needs from its own wind power plant at the Kilyos Sarıtepe Campus. In addition, agreements have been signed to purchase electricity from Renewable Energy Certified energy supply companies at the South, North and Kandilli Campuses. With these initiatives, Boğaziçi University fulfils its environmental responsibility by using renewable energy within the university and encourages

the widespread use of renewable energy outside the university. The University also raises local and national awareness on the transition to renewable energy through energy and sustainability summits that bring together leading figures from the energy sector and local communities.

The First University Campus in the World to Meet All of Its Electricity Needs from Its Own Wind Power Plant

With its pioneering steps in the field of renewable energy, Boğaziçi University has made its Kilyos Sarıtepe Campus the first university campus in the world to meet all its electricity needs from its own wind power plant. The 1 MW wind turbine installed as part of theBoğaziçi University Wind Power Plant (BÜRES) project has been generating electricity since 27 December 2014, providing more than 40% of the campus' annual electricity consumption. In this way, Kilyos Sarıtepe Campus saves approximately 1 million kWh of energy and prevents 900 tonnes of carbon emissions every year.



SDG7: Affordable and Clean Energy

100% Renewable Energy Commitment

This innovative initiative of the university supports the goal of creating a sustainable living space that respects nature by meeting the energy needs of the campus entirely from renewable sources. It is estimated that the new 5 MW wind turbine, which is planned to be installed on the campus, will meet 50% of the total electricity consumption of the university, generate 8.8 million kWh of energy annually and prevent 4310 tonnes of carbon emissions.



Click here for detailed information:
https://yapiisleri.bogazici.edu.tr/tr/pages/bogazici-universitesi-ruzgar-enerji-santrali/4076

https://yapiisleri.bogazici.edu.tr/tr/news/akademik/1/elektrik-ihtiyacinin-tamamini-kendi-ruzgar-sa/3444

100% Renewable Energy Commitment

Green Energy Agreement

An agreement has been signed to purchase electricity from Renewable Energy Certified energy supply companies at Boğaziçi University, South, North and Kandilli campuses. Under this agreement, approximately 12 million kWh of energy will be supplied from Green Certified sources annually through 2024. This important step aims to increase environmental sustainability by reducing Turkey's carbon footprint. According to calculations, the use of green energy in 2024 will prevent approximately 5904 tonnes of carbon emissions and will have an impact on nature as if 14,365 trees were planted annually. While Boğaziçi University fulfils its environmental responsibility through sustainable energy use, it also aims to raise environmental awareness nationally.



Click here for the relevant web page of the Department of Construction and Technical Affairs:
https://yapiisleri.bogazici.edu.tr/tr/pages/yesil-enerji-anlasmasi/4085

100% Renewable Energy Commitment

Boğaziçi Energy Summit

Organised annually by Boğaziçi University Electrotechnology Club (BUEC-IEEE), Bosphorus Energy Summit is an important event where current developments in energy efficiency, electric vehicles, renewable energies and sustainability are shared. The summit brings together leading names in the industry, students and local communities, encouraging knowledge sharing and solution-oriented discussions in the field of energy. Held on 18 November 2023 at the Garanti Cultural Centre, this year's summit gave participants the opportunity to meet with companies in the energy sector and find career opportunities.



100% Renewable Energy Commitment

Boğaziçi Energy Summit





For more information, please click here:

https://buec.com.tr/bogazici-enerji-zirvesi/

100% Renewable Energy Commitment

Corporate Sustainability and Responsibility Summit

The 5th Corporate Sustainability and Responsibility Summit, organised by Boğaziçi University Lifelong Learning Centre (BÜYEM) with the contributions of United Nations Sustainable Development Solutions Network (UN SDSN) Turkey, convened on 14 December 2023 with the theme of 'Triple Transformation', and online sessions were held with the participation of many experts working in the field of sustainability in the world and in Turkey. The projects and studies of institutions and individuals for 'Triple Transformation' in solving the ecological, economic and social problems we are experiencing, the road map of triple transformation from the perspective of sustainability were discussed with academia, business world, public and NGO representatives.



Click here for more information:
http://ksszirvesibogazici.com/

Click here to watch the summit online:
https://www.youtube.com/watch?v=SKVoV0e_nPY

Energy Efficiency and Clean Energy Services for Industry

Boğaziçi University provides various paid and free services to the local industry and carries out collaborations in order to develop and disseminate energy efficiency and clean energy practices. It develops solutions in energy markets by organising joint projects, workshops and trainings through industry-university collaborations and aims to train qualified manpower for the needs of the sector. Contributing to the sector with its research laboratories working on renewable energy technologies, the university provides consultancy, project development, testing and analysis services to SMEs. In addition, while providing scientific and technological support to sector stakeholders, it also offers information, documents, legislation, databases and literature resources to guide their strategic planning.

Cooperation between Boğaziçi University and EPİAŞ in research and education

Boğaziçi University and Enerji Piyasaları İşletme A.Ş. (EPİAŞ) signed a comprehensive cooperation protocol covering education, consultancy and research areas. Signed in 2021, the three-year protocol aims to promote innovation in energy markets through projects such as carbon market studies and personnel trainings, while also developing solutions to address climate change and the global energy crisis.

Protocol Highlights:

1. Cooperation for Carbon Market Studies: Within the framework of the cooperation between Boğaziçi University and EPİAŞ, EPİAŞ's existing spot market products (GÖP, GİP, Natural Gas STP), new futures products (VEP, VGP) and environmental market product YEK-G system software development, update and improvement studies are carried out.

Energy Efficiency and Clean Energy Services for Industry

In this process, Boğaziçi University contributes to the application of

advanced technologies such as artificial intelligence, big data, blockchain and data mining in energy markets, and supports the development of the Carbon Market (Emission Trading System) and the optimisation engine within EPİAŞ.

2. Trainings for EPİAŞ Personnel: The training pillar of the protocol includes certificate programmes, joint courses and seminars on energy markets. The training modules provided by Boğaziçi University Lifelong Learning Centre (BÜYEM) aim to increase the competencies of EPİAŞ personnel. It is also planned to organise scientific events such as symposiums, congresses and conferences on energy markets.



Click here to read the news:
https://haberler.bogazici.edu.tr/tr/news/akademik/1/bogazici-universitesi-ile-epiastan-arastirma-/2474

Energy Efficiency and Clean Energy Services for Industry

New Cooperation between Boğaziçi University and Development Investment Bank of Turkey

A new cooperation agreement has been signed between Boğaziçi University and the Development Investment Bank of Turkey to strengthen sustainability in Turkey and university-industry cooperation in this field. According to the signed protocol, joint projects, workshops and trainings are planned to be carried out between the two institutions in many areas such as renewable energy and natural resource efficiency, sustainable financing, water and waste management, low-carbon and smart transport within the framework of the United Nations (UN) Sustainable Development Goals. The agreement is expected to make significant contributions to Turkey's 2053 net zero emission target and strategies under the Paris Climate Agreement.



Click here to read the news:
https://haberler.bogazici.edu.tr/tr/news/kampus/2/bogazici-universitesinden-surdurulebilirlik-h/2827

Energy Efficiency and Clean Energy Services for Industry

Turkey's Energy Academy

Turkey's Energy Academy, which has been implemented in cooperation with Limak Energy and Boğaziçi University Lifelong Learning Centre (BÜYEM), is an exemplary industry-university cooperation that aims to develop qualified manpower to meet the needs of the energy sector in the fields of production, distribution and marketing, while providing solutions to youth unemployment by offering engineering students job opportunities in the energy sector.

3rd and 4th year students studying in the departments of electrical, electrical-electronics, machinery, construction, industry, energy systems, mining, petroleum, geology, meteorology and management engineering of state universities can apply toTurkey's Energy Academy. The 100 students who successfully pass the interview process are entitled to participate in the training programme and receive an internationally recognised certificate.



For detailed information please click here:
https://www.limakvakfi.org/faaliyetler/turkiyenin-enerji-akademisi

Click here to browse other Corporate Social Responsibility projects of BÜYEM:
https://kss.bogazici.edu.tr/wp-content/uploads/wp-buyem-kss-brosur-1.pdf

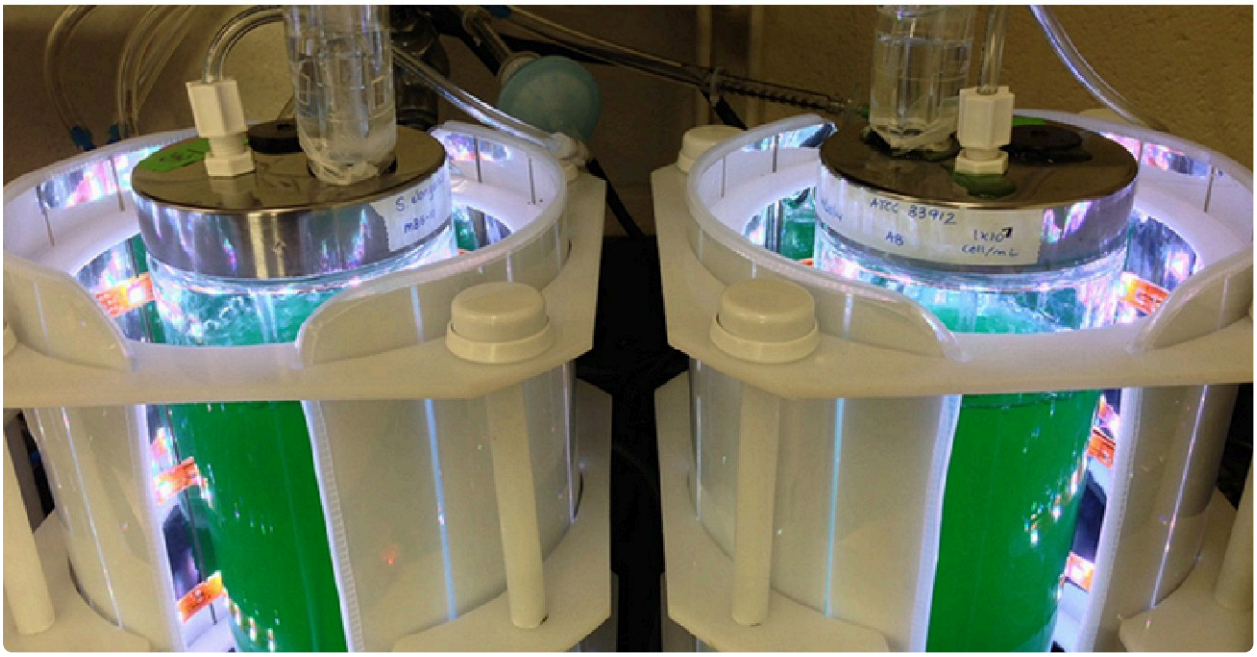
Energy Efficiency and Clean Energy Services for Industry

Integrated Biorefinery Concept for Bioeconomy Driven Development (INDEPENDENT)

INDEPENDENT Project is an innovative initiative under the Competitive Sectors Programme implemented by the Ministry of Industry and Technology with the financial cooperation of the European Union and the Republic of Turkey. The project is based on a bioeconomy-oriented growth model that aims to reduce fossil fuel dependency through the development of innovative products and technologies from algae-based natural resources. In line with the goal of accessible and clean energy, environmentally friendly biofuels such as bio-jet fuel, biodiesel and green biohydrogen can be produced from micro and macroalgae produced in algae production reactors established on land and at sea. With these biofuels, it is aimed to increase the energy efficiency of the industry by reducing the dependence on fossil-based energy and to create a more sustainable economy. The project also supports sectoral development by providing consultancy, project development, testing and analysis services to SMEs operating in the food, energy, environment and health sectors.



Energy Efficiency and Clean Energy Services for Industry



International Competitiveness for SMEs: INDEPENDENT project provides important solutions to reduce dependence on fossil fuels by offering algae-based biotechnological products to SMEs operating in the energy, food, health, environment, agriculture and livestock sectors. Within the scope of the project, biodiesel produced from algae can be used in existing diesel engines without any modification and can be blended with standard diesel fuel at a rate of 7-15%. With this innovative approach, SMEs increase their international competitiveness with economic inputs obtained from renewable and sustainable resources. In addition, with the INDEPENDENT project, consultancy, project development, know-how and technology transfer, equipment design, product testing and analysis services are provided to SMEs within the framework of Public University Industry Cooperation (KÜSİ), and sector development is ensured by creating employment.

Click here to see all algae-based biotechnological products for SMEs:
https://independent.bogazici.edu.tr/tr/pages/kobilere-uluslararasi-rekabet-gucu/5518



Energy Efficiency and Clean Energy Services for Industry

Energy R&D Activities

The fact that Turkey's energy portfolio is largely based on imported fossil fuels, that renewable energy resources cannot be utilised sufficiently and that there are significant opportunities for energy saving, reveals the need for transformation in the energy future of our country. Accordingly, within the scope of the INDEPENDENT project, sustainable biofuels (bio-jet fuel, biodiesel, biohydrogen, biomethane, bioethanol) are produced from algal biomass. The project carries out activities for the assessment, production, management and harvesting of biomass feedstock integration and develops a long-term R&D programme to support the bioenergy industry in Turkey.



For further information please click here:
https://independent.bogazici.edu.tr/tr/pages/enerji/5526

Energy Efficiency and Clean Energy Services for Industry

Test-Analysis Services

INDEPENDENT project team provides test-analysis, consultancy, project development and implementation services for all products and technologies in the field of algae biotechnologies from laboratory scale to industrial production scale. These services are based on systems biology-based R&D experience and expertise and include a wide range of analyses such as genomic and transcriptomic analyses, metabolomic and proteomic analyses, bioinformatics analyses, analytical and biochemical characterisation, species identification and microbiological characterisation, single cell studies, molecular and cellular imaging, biofuel analyses and value-added product analyses with a large algal culture collection.





For detailed information please click here:
https://independent.bogazici.edu.tr/tr/pages/test-analiz/5533

Training Services

Within the scope of the INDEPENDENT project, trainings are organised to increase the use of algae-based biotechnology products, to make communication and cooperation between stakeholders operating in related sectors effective, and to support R&D activities. While providing scientific and technological support to sector stakeholders, the INDEPENDENT team provides information, documents, legislative resources, databases and literature to guide their strategic planning. Training modules include 'Basic Principles of Algae Cultivation,' 'Algae Biotechnologies' and 'Large Scale Algae Production and Processing'.

For more information, please click here:
https://independent.bogazici.edu.tr/tr/pages/egitim/5542

News

Two Prestigious Awards from TTGV to Boğaziçi University in Sustainability and Energy Technologies

Boğaziçi University has once again demonstrated its pioneering role in sustainability, clean energy technologies, and climate policy by receiving two prestigious awards at the 2025 TTGV (Technology Development Foundation of Türkiye) Awards. Assoc. Prof. Damla Eroğlu Pala from the Department of Chemical Engineering was honoured with the **"Dr. Akın Çakmakcı Pioneer Researcher Award"** for her groundbreaking work on **"Lithium-Sulphur Batteries and Next-Generation Battery Technologies"**, which aims to advance environmentally friendly, high-efficiency energy storage solutions for industrial applications. Concurrently, Boğaziçi University's Center for Climate Change and Policy Studies (İklimBU) received the **"Mehmet Şuhubi Pioneer Civil Initiative Award"** for its interdisciplinary, solution-oriented work that integrates climate science, economics, energy, and policy.



Energy Efficiency and Clean Energy Services for Industry

As part of the event, the panel **"The Future of Climate Technologies"** brought together experts from academia, industry, and the entrepreneurial ecosystem to discuss the future of sustainable technologies. These achievements demonstrate Boğaziçi University's role in advancing knowledge of clean energy technologies, energy storage solutions, and climate-oriented transformation, while also supporting capacity development in energy efficiency and sustainable technologies through engagement with the wider industrial and technology ecosystem.

The full news article is available here.

Visit from energy company to AlgBU Microtechnology Centre

Nail Maganov, CEO of the Russian-based energy company Tatneft Group of Companies, and Radik Gimatdinov, Turkey Representative, visited the AlgBU Centre for Microtechnology at the Kilyos Campus. While the delegation was informed about the ongoing energy studies in the centre, possible collaborations were also evaluated.



Comprehensive research by Boğaziçi University for the energy efficiency of buildings in 81 cities of Turkey

Boğaziçi University Department of Civil Engineering faculty member Prof. Dr. Beliz Özorhon, the BAP project titled 'Determination of the Optimum Insulation Thickness of a Prototype Building for All Cities of Turkey with a Stochastic Approach' aims to analyse the optimum insulation thickness required for buildings in 81 cities in our country and to implement practices that will increase energy saving and energy efficiency.

Click here to read the news:
https://bogazicindebilim.bogazici.edu.tr/content/bogazici-universitesinden-turkiyenin-81-kentindeki-binalarin-enerji-verimliligi-icin

Support to the Development of Energy Efficiency and Clean Energy Policies

Through its scientific research and projects, Boğaziçi University provides information and support to local, regional, national and international governments in the development of energy efficiency and clean energy technologies. It also contributes to the implementation of national and international policies by monitoring and reporting nuclear tests banned by the Treaty on the Comprehensive Prohibition of Nuclear Testing (CTBT) worldwide.

Energy Policy Research Centre (EPAM)

Boğaziçi University's Energy Policy Research Centre (EPAM) aims to guide governments in the development of clean energy and energy efficiency policies. EPAM approaches energy policies from a multidisciplinary perspective, conducts scientific research, organises training programmes, and establishes national and international cooperation networks. The Centre contributes to the formulation of informed energy policies by providing a scientific, transparent, reliable and easily accessible consultation and decision support environment for public administration, policy makers and experts. With these activities, EPAM aims to be a leading research and application centre in the development and implementation of sustainable energy policies at local, national, regional and international levels.

For detailed information, please click here:
http://epam.bogazici.edu.tr/

Support to the Development of Energy Efficiency and Clean Energy Policies

BÜEMS Turkey Model under the Leadership of EPAM & IAEE

Boğaziçi University, under the leadership of EPAM and the International Association for Energy Economics (IAEE), has created the most advanced modelling system in the field of energy in Turkey to date with the project 'Development of Boğaziçi University Energy Modelling System and Investigation of the Effects of Greenhouse Gas Emission Restrictions on Turkey: BÜEMS Turkey Model and Scenario Analysis' project, it has created the most advanced modelling system in the field of energy in Turkey to date. With this model, various scenario analyses were carried out in which carbon emissions are restricted and carbon tax is defined. The project aimed to present projections until 2050 in line with different parameters and scenarios in the energy sector, while analysing the costs and impacts of these projections on the energy system. With the results of the study, it is aimed to provide support for both short and long term energy-environmental planning and policies of Turkey.

Click here to read the news:
https://bogazicindebilim.bogazici.edu.tr/content/bogazici-universitesinden-turkiyenin-enerji-politikalarina-yon-verecek-arastirma

Support to the Development of Energy Efficiency and Clean Energy Policies

INDEPENDENT Project: Leading Contribution to the European Green Deal Goals

The Integrated Biorefinery Concept for Bioeconomy Driven Development (INDEPENDENT) project is already contributing to the Green Deal targets of the EU and Turkey through its 100% renewable wind powered site and zero waste based bioenergy applications. The project provides a model to guide governments in the development of clean energy and energy efficient technology policies.



Support to the Development of Energy Efficiency and Clean Energy Policies

Boğaziçi University will be a model for the EU with its Carbon Negative Biorefinery

The carbon-negative biorefinery at Boğaziçi University Kilyos Sarıtepe Campus under the INDEPENDENT Project is a strong model for clean energy policies for EU countries, setting an example for the European Union's (EU) Green Deal targets. As emphasised by the Head of the EU Delegation to Turkey, Ambassador Nikolaus Meyer-Landrut, this innovative project reflects Turkey's commitment to the Paris Climate Agreement, strengthens R&D cooperation between Turkey and Europe and represents an important step towards reducing carbon emissions. By providing a direct transfer of knowledge and expertise from Turkey to the EU, this study is a valuable guide for governments in developing energy efficiency and clean energy policies.



Click here to read the news:

1) https://haberler.bogazici.edu.tr/tr/news/akademik/1/bogazici-universitesi-karbon-negatif-biyorafi/1797

2) https://haberler.bogazici.edu.tr/tr/news/bilim/4/bogazici-universitesinde-avrupanin-ilk-karbon/2502

Support to the Development of Energy Efficiency and Clean Energy Policies

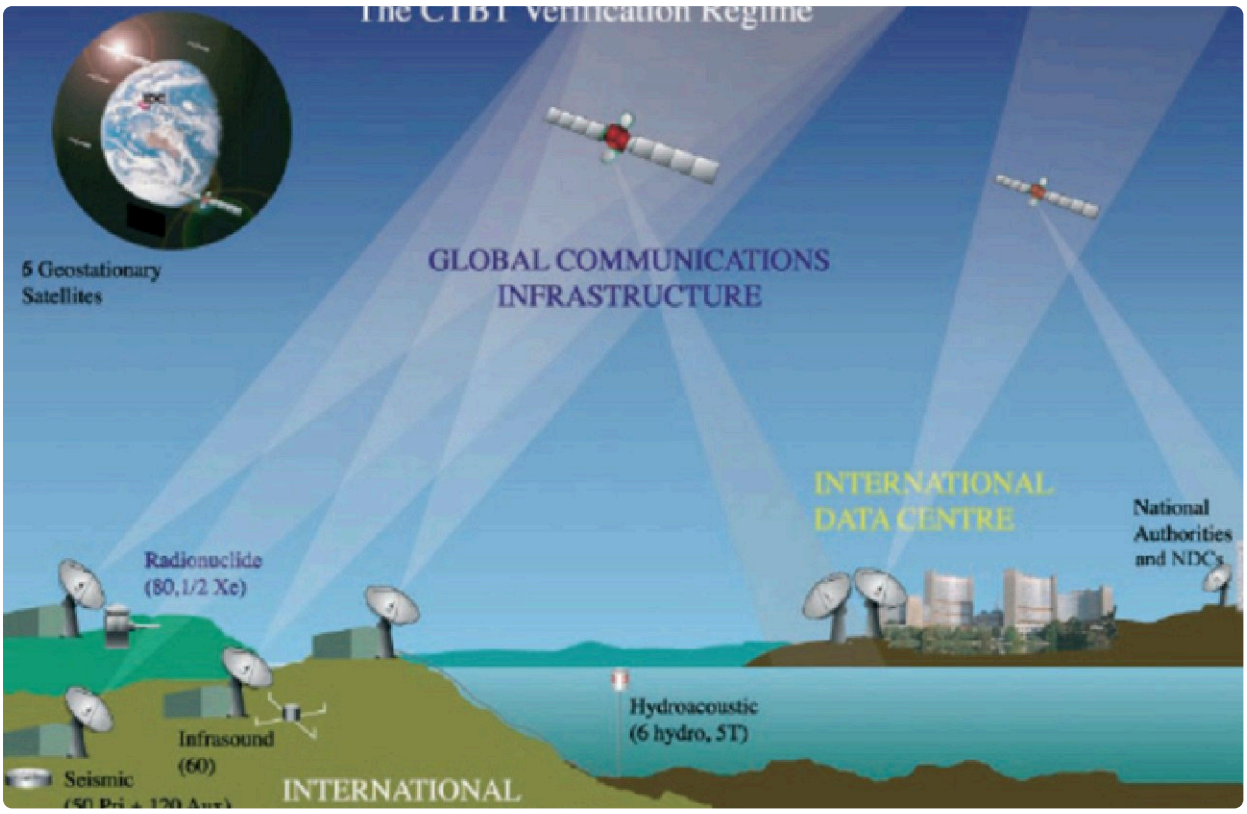
KRDAE-Belbashi Nuclear Test Monitoring Centre

KRDAE-Belbaşı Nuclear Test Monitoring Centre operates within the framework of Law No. 4462 on the ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT) and Law No. 5031 on the ratification of the agreement between the Government of the Republic of Turkey and the Government of the United States of America on the closure of the Belbaşı facility and the activation of a new seismic research station. In this context, the centre is responsible for operating the Belbaşı-Keskin seismic arrays, sending the collected signals simultaneously to the International Data Centre (IDC) of the Comprehensive Nuclear Test Ban Treaty Organisation (CTBTO) and the U.S. Air Force Technical Applications Centre (AFTAC), participating in CTBTO technical meetings, and conducting strategic, technical and scientific studies on the subject. (Figures produced by CTBTO)



Comprehensive Nuclear Test Ban Treaty:
https://belbasi.bogazici.edu.tr/tr/pages/nukleer-denemelerin-analiz-ve-raporlanmasi/3609

Support to the Development of Energy Efficiency and Clean Energy Policies



The Centre closely monitors the nuclear tests conducted around the world and immediately transmits the relevant analysis and evaluation reports to the Directorate General for International Security Affairs of the Ministry of Foreign Affairs of the Republic of Turkey and the Permanent Mission to the UN in Vienna. In order to represent our country and our Institute, technical and scientific meetings of CTBTO are regularly attended and the Task Leadership of CTBTO - Technical Working Group - Tests, Temporary Operations and Yield Evaluation is currently carried out by the Central Directorate and in this context, international support is provided to the work of CTBTO.

For detailed information, please click here:
https://belbasi.bogazici.edu.tr/

Support to the Development of Energy Efficiency and Clean Energy Policies

You can access the reports prepared so far from the links below:

03 September 2017 DPRK Nuclear Test - NDIM:

> https://mediastore.cc.bogazici.edu.tr/web/userfiles/files/3_sep_2017_0.pdf

09 September 2016 DPRK Nuclear Test - NDIM:

> https://mediastore.cc.bogazici.edu.tr/web/userfiles/files/9_eylul2016.pdf

06 January 2016 DPRK Nuclear Test - NDIM:

> https://mediastore.cc.bogazici.edu.tr/web/userfiles/files/6ocak2016.pdf

12 February 2013 DPRK Nuclear Test - NDIM:

> https://mediastore.cc.bogazici.edu.tr/web/userfiles/files/12_feb_2013_1.pdf

25 May 2009 DPRK Nuclear Test - NDIM:

> https://mediastore.cc.bogazici.edu.tr/web/userfiles/files/25_may_2009_1.pdf



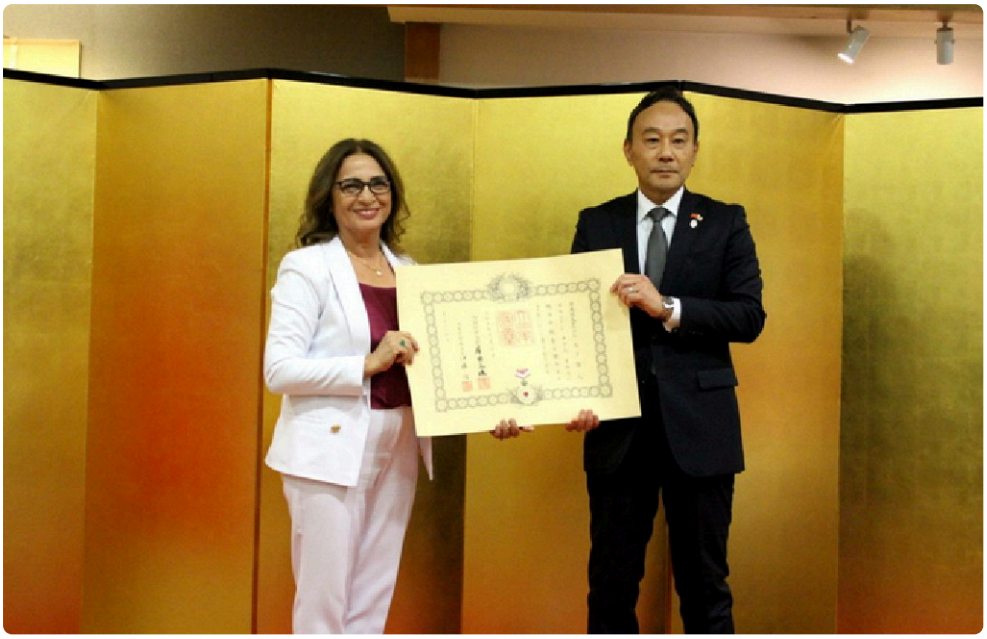
Support to the Development of Energy Efficiency and Clean Energy Policies

KRDAE Department of Geophysics Faculty Member Prof. Dr. Nurcan Meral Özel was awarded the State Order of Japan

Boğaziçi University Kandilli Observatory and Earthquake Research Institute (KRDAE) Department of Geophysics Faculty Member Prof. Dr. Nurcan Meral Özel has been appointed to the International Monitoring System (IMS) of the Comprehensive Nuclear Test Ban Treaty Organisation (CTBTO) between 2014 and 2022. Prof. Dr. Nurcan Meral Özel was awarded Japan's prestigious state decoration 'Golden Lights, Order of the Rising Sun and Neck Tie' on the 100th anniversary of Turkey-Japan diplomatic relations for her successful work in the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) between 2014 and 2022 and for her significant contributions to the development of the organisation's cooperation with Japan.

In 2014, Prof. Dr Özel was elected as the director of the International Monitoring System (IMS), which is used by 183 countries to detect nuclear tests around the world. Responsible for the detection of possible nuclear detonations and the maintenance of the global network of facilities, he has undertaken successful initiatives to build the IMS with the diplomatic and scientific representatives of the signatory states, has installed many new monitoring stations in various parts of the world, and has made significant contributions to the establishment of a world free of nuclear weapons.

Support to the Development of Energy Efficiency and Clean Energy Policies





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Support for Low Carbon Innovation

Boğaziçi University encourages and supports initiatives that support low carbon economy and technologies. The University's contributions are realised both through academic research and through the entrepreneurship ecosystem.

Boğaziçi University Entrepreneurship Research and Application Centre (BRIGHT)

In order to prepare the ground for the emergence of innovative companies that will compete with the world from Turkey, the Centre supports entrepreneurs in training, mentoring, workshops, fundraising, solution partnership with companies, conducts research, generates data and processes and shares this data. For this purpose, the Centre offers various entrepreneurship programmes such as Fire Up, University Innovation Fellowship Programme with Stanford d.school, Startup Carnival, Pitching Day, BrightTalks, RedBull Basement, Startup Europe Universities Network and student verticals created according to students' career and interests. Among the student verticals, especially Bumpact attracts attention with its focus on sustainability. In addition, DreamBU Incubation Centre, which was established to enable Boğaziçi University students, graduates and academicians to commercialise their business ideas, continues its activities in cooperation with Boğaziçi University Technology Transfer Office and Boğaziçi University Entrepreneurship Centre Bright.

You can visit the page for detailed information:
https://bogazicibright.com/

Support for Low Carbon Innovation

INDEPENDENT Project: Public University Industry Cooperation (KÜSİ)

With the INDEPENDENT project, consultancy, project development, know-how and technology transfer, equipment design, product testing and analysis services are provided to SMEs operating in many different fields where algae-based products are used, such as petrochemicals, cosmetics, textiles, especially in the target sectors of the project within the framework of Public University Industry Cooperation (KÜSİ). The project provides key solutions to reduce dependence on fossil resources by offering algae-based biotechnological products to SMEs. Thus, it increases the international competitiveness of SMEs by contributing to obtaining high economic input from renewable and sustainable resources.



Biyo-dizel

Alglerden elde edilen biyo-dizel, mevcut dizel motorlarda her hangi bir değişiklik yapılmasına gerek duyulmadan hacmen %7-15 aralığında standart dizel ile harmanlanarak kullanılabiliyor.



Chlorella

Bitkisel tabanlı yüksek protein, fiber, vitamin ve mineral içeriği ile kurutulmuş Chlorella, sağlıklı gıda ve atıştırmalık ürün tariflerinde tercih edilirken, doğrudan da tüketilebiliyor.



Fikosiyanin

Mavi-yeşil alglerden elde edilen fikosiyanin pigmenti yüksek antioksidan kapasitesi ile fonksiyonel gıda ürünlerinde kullanılabiliyor. Ek olarak doğada nadir bulunan mavi rengi sayesinde doğal gıda boyası olarak tercih ediliyor.



Spirulina

Yüksek bitkisel protein içeriği ile kurutulmuş Spirulina sağlıklı gıda ürünlerinde tercih edilen oldukça popüler bir ürün olarak dikkat çekiyor.



Omega-3 yağ asitleri

Beslenme yolu ile alınması gereken eikosapentaenoik asit (EPA) ve dokosaheksaenoik asit (DHA) gibi omega-3 yağ asitleri, tamamen vegan bir kaynak olarak alglerden ekstrakte edilerek takviye ürün olarak kullanılabiliyor.



Astakzantin

Bilinen en kuvvetli doğal anti-oksidan olan astakzantin pigmenti gıda takviyesi ve akuakültür sektöründe yem katkısı olarak kullanılabiliyor.



Beta-karoten

Provitamin-A karotenoidlerinden olan beta-karoten gıda takviyesi ve doğal gıda boyası olarak yaygın olarak kullanılabiliyor.

Showcasing Low-Carbon Innovation: Boğaziçi University's IMBIYOTAB Hosts UK Delegation

On **May 6, 2026**, Boğaziçi University's Istanbul Microalgae Biotechnology Research and Development Center (IMBIYOTAB) hosted a high-level UK delegation, led by UK Special Representative for Climate Ruth Davis OBE and Consul General David Reed MBE, at the Sarıtepe Campus. During the visit, the delegation was introduced to IMBIYOTAB's research and applied activities in microalgae biotechnology, algae-based bioprocesses, carbon capture and utilisation, biofuels and the sustainable bioeconomy. Information was also provided on the research infrastructure, pilot-scale production capacity and university–industry technology development model of IMBIYOTAB, the first carbon-negative biorefinery of its kind in Türkiye and Europe.



The discussions also addressed how joint projects undertaken by Boğaziçi University and the University of Cambridge with support from the Newton Fund, the Royal Society of Chemistry and the British Council have contributed to the development and commercialisation of innovative microalgae technologies. By combining advanced research infrastructure with pilot-scale production, entrepreneurship and technology transfer, IMBIYOTAB's approach stands as a strong example of Boğaziçi University's support for the development of microalgae-based biofuels and other low-carbon technologies.

News





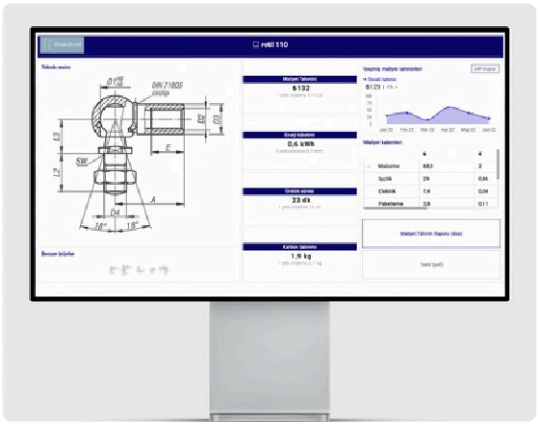
The full news article is available here.

AI-Powered Cost and Energy Analysis Driving Industrial Efficiency

Boğaziçi University's Institute of Data Science and Artificial Intelligence is leading an innovative project designed to enhance energy efficiency and process optimization in the industrial sector. Supported under TÜBİTAK's 1711 Artificial Intelligence Ecosystem Call and developed in partnership with private industry, the project "AI-Assisted Cost Estimation Software from Technical Drawings" enables the prediction of critical parameters—such as cost, production time, energy consumption, and carbon emissions—directly from technical drawings of manufactured parts in just 60 seconds.

By automating processes that would traditionally take days of manual analysis, this university–industry collaboration aims to save both time and resources, while simultaneously improving the energy efficiency and global competitiveness of local manufacturing enterprises. In doing so, Boğaziçi University delivers direct services to industry, contributing significantly to digital transformation, cost analysis, and sustainable energy management.





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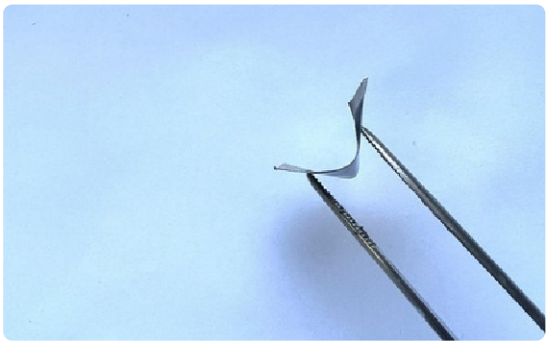
News

Next-Generation Supercapacitor Development for Industry

Led by Assoc. Prof. Müslüm Demir from the Department of Chemical Engineering at Boğaziçi University, the next-generation supercapacitor project aims to develop flexible, fast-charging, and long shelf-life energy storage systems for industrial applications. Supported by TÜBİTAK's 2247-D National Young Researchers Program and awarded by the Japan Society for the Promotion of Science, the project focuses on designing advanced supercapacitor electrodes for use in fields requiring high energy efficiency, such as electric vehicles, electronic devices, and renewable energy systems.

Conducted within Boğaziçi University's strong research infrastructure, these studies facilitate the development of cutting-edge technologies with direct industrial applications while promoting the widespread adoption of clean energy solutions in energy transformation processes. The active involvement of students and researchers at various levels further strengthens university–industry collaboration and contributes to the advancement of the university's research capacity.





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Dr. Berat Haznedaroğlu Receives Climate Technologies Award

Boğaziçi University's Dr. Berat Haznedaroğlu, faculty member of the Institute of Environmental Sciences, has been honored with the Dr. Akın Çakmakcı Pioneer Researcher Award by the Technology Development Foundation of Türkiye (TTGV) for his project on Developing High-Value Products from Algae. This recognition underscores the university's leadership in low-carbon technologies and green transition–oriented innovation.

Conducted within Europe's first and only carbon-negative microalgae biorefinery, Dr. Haznedaroğlu's research and development activities provide scientific and technological support for industry's transition to a low-carbon economy both in Türkiye and on an international scale. This achievement serves as tangible evidence of Boğaziçi University's commitment to advancing climate technologies, driving industrial transformation, and contributing to sustainable production processes through cutting-edge academic research and innovation.



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Award for Research on the Development of High-Value Algae-Based Products

Dr. Berat Haznedaroğlu, faculty member at the Institute of Environmental Sciences at Boğaziçi University, has been honored with the 2024 Dr. Akın Çakmakcı Pioneer Researcher Award by the Technology Development Foundation of Türkiye (TTGV) for his groundbreaking work in developing high-value algae-based products.

These studies are conducted at Europe's first and only carbon-negative microalgae biorefinery, located on Boğaziçi University's Kilyos-Sarıtepe Campus. The research not only exemplifies innovation in biotechnology but also provides a national and international benchmark for advancing low-carbon economies through R&D and the production of sustainable technologies.



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7 AFFORDABLE AND CLEAN ENERGY
To ensure access to affordable and sustainable energy for all
SUSTAINABLE DEVELOPMENT GOALS