



BALIKESİR UNIVERSITY

"modern on education, science and arts"



SUSTAINABILITY REPORT

2023



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About the Report

This report aims to comprehensively present the activities carried out by Balıkesir University in the field of sustainability, the achievements obtained, and the goals for the future. By detailing our university's efforts, projects, and future strategies in sustainability, this report demonstrates our commitment to fulfilling our environmental responsibilities both locally and globally.

The prepared report is intended to serve as a milestone for planned and future sustainability-based activities. As an initial step for the development of ongoing activities on behalf of our university, this report will also shed light on the distances to be covered in all branches of sustainable university management.

This report primarily focuses on the Çağış Campus and has been prepared by the Energy Management Coordination Office

(Coordinator Prof. Dr. Yusuf YILDIZ

Energy Manager Halil SİNOPLUGİL)

as a result of evaluating the university's activities in terms of sustainability.



Introduction

In today's world, the concept of sustainability comes to the forefront to leave a more livable world for future generations, being aware of our social and environmental responsibilities. Our university acts with this awareness, adopting and implementing sustainability principles in the fields of education, research, and community service.

This report aims to comprehensively present our university's activities in the field of sustainability, the achievements obtained, and the goals for the future. Our sustainability strategies include key elements such as reducing environmental impacts, increasing energy efficiency, waste management, water conservation, and raising social awareness.

Our university aims to expand its sustainability efforts not only within the campus boundaries but also at local and global levels. In this direction, together with our students, academic and administrative staff, we are determined to produce innovative solutions for a sustainable future and to implement these solutions.

Our university is committed to contributing to the national goals in line with the sustainability and green growth vision of the Presidency of the Republic of Turkey and to act in accordance with this vision. In this context, we are conducting various projects and initiatives to ensure environmental sustainability, support economic growth, and enhance social welfare.



Sustainability Vision

Our university is committed to fulfilling its environmental, economic, and social responsibilities by integrating sustainability principles into education, research, and community service. Our goal is to produce, implement, and disseminate innovative and sustainable solutions to leave a more livable world for future generations.

In line with this vision, our university:

- Develops and implements pioneering projects in areas such as energy efficiency, waste management, water conservation, and biodiversity protection.
- Adds sustainability-focused courses to our curriculum and supports research projects to increase awareness and expand knowledge in sustainability.
- Actively participates in sustainability initiatives at local and global levels and conducts activities to raise public awareness.
- Develops collaborations with public, private sector, and non-governmental organizations to achieve sustainability goals.

Our university aims to inspire and lead our students, staff, and the community by working diligently for a sustainable future.



Sustainability Mission and Management

Balıkesir University is committed to nurturing qualified individuals who are well-equipped, possess an interdisciplinary work culture, and are capable of conducting high-quality and original research. The university aims to foster competitiveness and continuous self-improvement while providing services and solutions that enhance the quality of life.





BAUN is committed to contributing to the development level and quality of life in our country, especially in Balıkesir. BAUN aims to nurture individuals who are committed to social values, respect human rights, produce knowledge and technology, and adhere to Atatürk's Principles and Reforms. Achieving international standards in education and teaching quality, fostering scientific production, and ensuring university-city-industry collaboration are among our university's goals to become a preferred institution.

Balıkesir University is organized with the aim and effort to develop an administrative and managerial structure that will achieve its strategic goals, evaluate the quality studies carried out within its body, ensure the healthy execution of processes, and maintain an

integrated information management system for future planning. The current organizational chart of the university and the distribution of duties among vice rectors, prepared with a participatory management approach, are regularly monitored and shared with the public via the web.

There is a strategic management model in place that aligns with the university's mission and ensures the achievement of its strategic goals. In this context, Balıkesir University has defined the main objectives, goals, activities, and success indicators in its 2020-2024 Strategic Plan and is currently implementing the plan. The prepared Strategic Plan, adopting participatory methods and in light of the 'Guide for Preparing Strategic Plans for Universities,' has determined the fundamental mission, vision, and goals for the future of our university. Additionally, necessary indicators to measure the success in achieving these goals and the proportional impact of these indicators on target success have been calculated. Strategic Plan Evaluation Reports are regularly prepared and shared with the public to analyze the current situation. Thus, a sustainable quality understanding is institutionalized.

Educational, Administrative, and Physical Structure of BAUN

Universities are indispensable institutions in a country, contributing both directly and indirectly to the national economy through advanced studies in education and research, scientific development, and R&D activities. When evaluating the impact of universities on any country, their contributions to the national economy are not the only measure. Universities play a crucial role in enhancing the human capital of society and embody the primary goal of the 21st century's indispensable development strategy, which is the "stock and production of knowledge" resulting from scientific progress in all fields. In the face of a growing world driven by the synergy created by globalization, universities form the essential building blocks of a country's development level through their efforts to transform the society they are part of into a knowledge society in every aspect.

Balıkesir University was established by Law No. 3837, published in the Official Gazette No. 21281 on July 11, 1992, and has been operational since January 1, 1993. Balıkesir University comprises 14 faculties, 4 institutes, 2 undergraduate colleges, 12 vocational schools, 3 departments, 27 research and application centers, 8 coordinators and 13 administrative units. The Çağış Campus forms the center of the university's physical structure. This report primarily focuses on the Çağış Campus.



Educational and Administrative Structure

The use of resources according to the principles of efficiency, responsibility, accountability, and transparency is an administrative necessity and also inclusive in terms of sustainability.

Regarding higher education activities, relevant laws, decisions, regulations, directives, protocols, and other legislation, primarily the Law No. 2547 and institutional regulations, have been examined. Within the framework of the right to education and training protected by the Constitution, it has been determined that institutional activities should be planned, monitored, evaluated, and necessary interventions made for their development to assist individuals in conducting scientific research, producing knowledge and technology, meeting societal needs, and contributing to social development. Priorities include the rights of disabled individuals, knowledge production, research and development activities, creating employment opportunities, and technology activities.

Our University aims to rank higher in various national and international ranking systems by considering



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stakeholder expectations and rapidly implementing new strategic decisions in this direction. In this context, the institution's position in national and international university ranking indexes is continuously monitored. Thus, a policy is followed to ensure the sustainability of the achieved developments.

To enhance research and development activities and ensure their sustainability, the university has stated in its 2020-2024 Strategic Plan "Situation Analysis" that it will undertake initiatives to increase the financial support provided by the Scientific Research Projects Unit, actively operate the Project Coordination Unit, develop policies to increase the recognition and active use of the University Central Research Laboratory, conduct studies to establish and enhance university-industry and university-community collaborations, produce policies to encourage and ensure the participation of undergraduate and graduate students in projects, financially support participation in scientific congresses, symposiums, and exhibitions, develop policies for the active use of the Tourism Research and Application Center, and actively evaluate R&D performances.

Additionally, within the scope of the PESTLE Analysis for Sectoral Trends included in the strategic plan, it is aimed to conduct projects, patents, and R&D studies in collaboration with industry and to convert these studies into revenue. Emphasis is placed on a project-oriented research agenda, encouraging and transitioning to educational and training activities with stakeholders. Furthermore, improving research and development activities that will contribute to the development of the region and the country, ensuring the employment and development of qualified academic and administrative staff, and increasing the number of scientific publications by enhancing the quality and quantity of postgraduate education are among the strategic goals and objectives.

When looking at the strengths of education at Balıkesir University (BAUN), the competency analysis based on volume and quality indicators includes seven quality indicators with a weight of 60%. These quality indicators consist of:

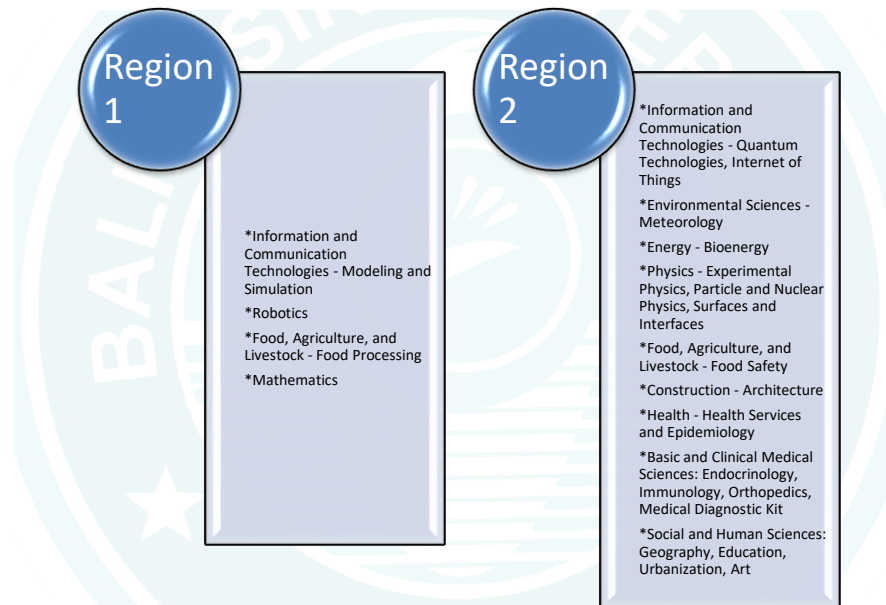
- Relative citation impact compared to the world
- The number of publications in the top 10% most cited globally
- Research productivity of academics
- The quality of R&D and innovation projects
- The number of publications cited by patents
- Contributions to the internationalization of our country/university through international collaborations

In light of these data, according to the 2023 'Field-Based Competency Analysis of Universities' report, Balıkesir University (BAUN) is represented in 15 main research fields and 64 sub-research fields. In the report, where high volume and high quality are classified as Region 1, BAUN ranks high in the fields of Information and Communication Technologies-Modeling and Simulation, Robotics, Food, Agriculture and

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Livestock-Food Processing, and Mathematics according to the competency analysis results. Balıkesir University has found its place in Region 1 in these research fields.

Additionally, our university is represented in many fields in Region 2, where it has high volume scores but falls below the median in quality indicators. Accordingly, BAUN is represented in the fields of Information and Communication Technologies-Quantum Technologies, Internet of Things, Environmental Sciences-Meteorology, Energy-Bioenergy, Physics-Experimental Physics, Particle and Nuclear Physics, Surfaces and Interfaces, Food, Agriculture and Livestock-Food Safety, Construction-Architecture, Health-Health Services and Epidemiology, Basic and Clinical Medical Sciences: Endocrinology, Basic and Clinical Medical Sciences: Immunology, Basic and Clinical Medical Sciences: Orthopedics, Medical Diagnostic Kit, Social and Human Sciences: Geography, Education, Urbanization, and Art.



Within the scope of the Presidential Annual Program and the Eleventh Development Plan (2019-2023), our university has adopted a management approach that includes up-to-date information on machinery-equipment, human resources, research activities, and testing services in its research infrastructures to increase accessibility and prevent duplicate investments. In this context, it has been committed to carrying out the necessary studies based on the analysis of policy documents within the current Strategic Plan. Within the scope of the human resources analysis, the academic and administrative staff data of our university have been consolidated and evaluated in light of these data. Over the years, the increase in the ratio of female professors, associate professors, and lecturers has been notable. The number of administrative staff decreased from 631 in 2015 to 625 in 2018, with approximately two administrative staff members per three faculty members. When examining the data showing the number of administrative staff, it is observed that the number of administrative staff has remained almost constant over the years. When examining the distribution of academic staff by age range over the years, it is observed that the majority are between 41-50 years old.

Additionally, within the scope of the PESTLE Analysis for Sectoral Trends in the current Strategic Plan, the "lack of qualified human resources with sufficient knowledge and skills and the decrease in productivity due to the high workload of academic staff" is perceived as a threat to the university.



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In the context of determining personnel strategies with a sustainable policy and in line with the Sectoral Structure Analysis, it has been emphasized that, in addition to the physical facilities and equipment of the university, human resources should also be strengthened for the future. While analyzing the current situation of the institution, a human resources competency analysis has also been conducted to determine future needs and requirements.

According to the data from the Personnel Department, there are currently 1252 academic staff, 814 administrative staff, and 31 contracted staff working within the institution.

Additionally, as of 2023, our university has 9790 students in vocational schools, 19284 students in undergraduate programs, 1645 students in master's programs, and 296 students in doctoral programs.



Physical Structure

General information about the physical structure of our university is as follows: The central campus of the university, Çağış Campus, is located at the 17th km of the Balıkesir-Bigadiç Highway, within the boundaries of Çağış and Paşaköy neighborhoods, on Parcel 266, covering an area of 5,074,032.46 m². In addition to our main campus, the total land area in the center and other districts is 708,773.36 m², making the total area 5,782,805.82 m².

The total indoor area physically used by the university is 389,004.00 m².



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As mentioned above, Balıkesir University was established by Law No. 3837, published in the Official Gazette No. 21281 on July 11, 1992, and has been operational since January 1, 1993. Balıkesir University comprises 14 faculties, 4 institutes, 2 undergraduate colleges, 12 vocational schools, 3 departments, 27 research and application centers, 8 coordinators and 13 administrative units. The Çağış Campus forms the center of the university's physical structure.

The total indoor area of administrative buildings such as hospitals, sports facilities, and dining halls is 119,350 square meters, while the total indoor area of educational buildings is 289,709 square meters.

Of the total indoor area of 389,034 square meters, 300,343 square meters are located at the Çağış Campus, with 20,025 square meters under construction.

The distribution of the remaining area in square meters is as follows:

Necatibey Faculty of Education Campus: 19,264	Veterinary Faculty Service Building: 2,665
Burhaniye School of Applied Sciences: 21,000	Edremit School of Civil Aviation: 2,475
Ayvalık Vocational School: 4,500	Burhaniye Vocational School: 3,200
Havran Vocational School: 3,200	Edremit Vocational School: 4,500
Dursunbey Vocational School: 7,000	Sındırgı Vocational School: 5,750
Savaştepe Vocational School: 3,300	Bigadiç Vocational School: 2,450
Altınoluk Vocational School: 1,880	İvrindi Vocational School: 4,000
Kepsut Vocational School: 3,212	

Sustainability Strategies and Actions

Sustainability Strategies

Sustainable strategies have been increasingly important on the agenda of BAUN, which is sensitive and responsible towards the world it inhabits. These strategies emphasize respect for nature and sustainable productivity in all areas.

Sustainable productivity refers to the ability to maintain and improve productivity levels over the long term without depleting natural resources or causing environmental harm. It involves the efficient use of resources, such as energy, water, and raw materials, to produce goods and services in a way that minimizes waste and reduces negative environmental impacts. Sustainable productivity also encompasses social and economic dimensions, ensuring that productivity gains contribute to the well-being of workers, communities, and society as a whole.



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Key elements of sustainable productivity include:

- **Resource Efficiency:** Utilizing resources in a manner that maximizes output while minimizing waste and environmental impact.
- **Environmental Protection:** Implementing practices that reduce pollution, conserve biodiversity, and mitigate climate change.
- **Economic Viability:** Ensuring that productivity improvements lead to economic growth and stability, benefiting businesses and economies.
- **Social Responsibility:** Promoting fair labor practices, safe working conditions, and equitable distribution of benefits.
- **Innovation and Technology:** Leveraging advancements in technology and innovation to enhance productivity sustainably.
- **Long-term Planning:** Adopting strategies that focus on long-term sustainability rather than short-term gains.



By integrating these elements, sustainable productivity aims to create a balanced approach that supports economic growth, environmental stewardship, and social well-being, ensuring that future generations can also enjoy the benefits of a productive and sustainable world.

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There are many factors that affect sustainability. The main ones can be listed as follows:

- **Environmental Factors:** These include climate change, natural resource depletion, pollution, and biodiversity loss. Sustainable practices aim to minimize environmental impact and preserve ecosystems.
- **Economic Factors:** Economic stability and growth are crucial for sustainability. This includes efficient resource use, sustainable production and consumption patterns, and investment in green technologies.
- **Social Factors:** Social equity, community development, and human rights are essential for sustainability. Ensuring fair labor practices, access to education, and healthcare contribute to a sustainable society.
- **Technological Factors:** Advances in technology can drive sustainability by improving energy efficiency, reducing waste, and enabling the development of sustainable products and services.
- **Political and Regulatory Factors:** Government policies, regulations, and international agreements play a significant role in promoting sustainability. Supportive policies can incentivize sustainable practices and ensure compliance with environmental standards.
- **Cultural Factors:** Cultural values and societal norms influence sustainability. Promoting a culture of sustainability through education and awareness can lead to more sustainable behaviors and practices.
- **Institutional Factors:** The role of institutions, including businesses, non-profits, and educational organizations, is critical in implementing and promoting sustainable practices. Strong leadership and governance are essential for driving sustainability initiatives.



Although the sustainable practices implemented by Balıkesir University, - considering its sensitivity towards nature, abovementioned sustainable policies, productivity, and the factors affecting them - are still in the early stages, the institution's determined stance towards the future is promising.



Sustainability Actions

Re-You Project

Within the scope of the project titled "Renewable Youth Energy/RE-YOU Operation," prepared in partnership with Balıkesir University (BAUN) and Çanakkale Onsekiz Mart University (ÇOMÜ) and deemed worthy of support under the European Union Instrument for Pre-Accession Assistance (IPA), a Renewable Energy Training Center was established within Balıkesir University.

The BAUNSEM Renewable Energy Training Center, established under the project described as the most comprehensive renewable energy project funded by the European Union in Turkey, includes a Solar Energy Systems Training Laboratory, two Wind Energy Systems Training Laboratories, a Biogas Energy Systems Training Laboratory, and two Renewable Energy Computer Laboratories. Additionally, the center has three classrooms.

Within this scope, 480 new university graduates have received education in renewable energy systems.



Thanks to the project, trainees have participated in congresses, fairs, and various events on topics such as energy efficiency, smart building automation, and renewable energy management. Additionally, trainees have attended different career fairs in the renewable energy sector, gaining a close understanding of the job opportunities they can achieve with the skills acquired through the project. This project has facilitated the employment of 150 trainees.



Renewable Energy Initiatives

BAUN places particular emphasis on solar energy within the scope of renewable energy. As of 2023, an implementation is underway in this regard, and projects for larger capacity investments are being prepared. With the solar power plant to be installed on the roof of Edremit Vocational School, 35% of the school's annual electricity expenses will be covered.



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BAUN is conducting project preparations for a Solar Power Plant that will initially meet approximately 30% of the electricity needs of the hospital, which is responsible for half of the electricity consumption of the Çağış campus.

BAUN has conducted preliminary energy audits to measure energy consumption, identify major energy consumers, and determine savings and efficiency potentials. Following the preliminary energy audits, detailed energy audits will be conducted to reveal the renewable energy capacity. Based on these audits, initiatives for project investments in solar energy systems that can meet 30% of the total electricity consumption of the Çağış campus are being planned.



Rainwater Harvesting Project

Balıkesir University has taken another significant step towards sustainable environmental practices. Within the framework of the university's green campus initiatives, a rainwater harvesting project has begun.

The project aims to collect rainwater from impermeable surfaces within the campus and store it for use in agricultural and landscaping activities. This approach will not only save water but also adopt an environmentally friendly approach. As part of the project, the first model application has been implemented by the Rectorate in the Engineering Faculty building, and it is planned to expand the project to suitable areas within the campus.



Cycling Mobility

Cycling Mobility activities continue at BAUN, the Sports-Friendly University. This is also an important step in reducing carbon emissions.

At Balıkesir University, bicycle tours are organized to support cycling mobility and raise awareness. Additionally, a certain number of bicycles are distributed to all campuses to encourage the use of bicycles, especially for on-campus transportation.

During the events held at the Çağış Campus, students who are members of the Bicycle Club contribute to the bicycle promotion policy by touring the campus with bicycles provided to the university by the Ministry of Health.

The university administration frequently emphasizes their support for cycling mobility with the identity of a sports-friendly university. With the support of Balıkesir Metropolitan Municipality, bicycle paths have been arranged and organized on the campus, and the university administration continues to support cycling mobility and social, cultural, and sports activities on the campus, taking into account the demands of the students.

The Bicycle Club continues its activities in the club room and workshop established with the support of Balıkesir Metropolitan Municipality within the BAUN Alparslan Türkeş Stadium.



Zero Waste Project

Balıkesir University has established a zero waste management system at the Çağış Campus and has been awarded the Zero Waste Certificate by the Ministry of Environment, Urbanization, and Climate Change. With the zero waste management system implemented at the university, waste generated on the campus and in buildings is collected in waste bins according to their types and delivered to environmentally licensed facilities for recycling.

BAUN has established a zero waste management system and has been awarded the Zero Waste Certificate by the Ministry of Environment, Urbanization, and Climate Change.

What is Zero Waste?

"Zero Waste" is defined as a waste management philosophy that aims to prevent waste, use resources more efficiently, review the causes of waste generation to prevent or minimize waste, and ensure that waste is collected separately at its source and recycled if it is generated.



Zero waste practices are crucial for several reasons:

By reducing the amount of waste sent to landfills and incinerators, zero waste practices help decrease pollution, conserve natural resources, and protect ecosystems. This contributes to a healthier planet and mitigates the effects of climate change.

Zero waste emphasizes the efficient use of resources, promoting recycling, reusing, and composting. This reduces the need for raw materials, conserves energy, and minimizes the environmental impact of resource extraction and processing.

Implementing zero waste practices can lead to cost savings for businesses and communities. By reducing waste disposal costs and creating new markets for recycled materials, zero waste can stimulate economic growth and create green jobs.

Zero waste practices encourage sustainable consumption and production patterns, fostering a culture of environmental stewardship and responsibility. This helps build more resilient and sustainable communities.

Reducing waste and pollution can improve air and water quality, leading to better public health outcomes. By minimizing exposure to harmful chemicals and waste-related hazards, zero waste practices contribute to a healthier living environment.

Zero waste encourages innovation in product design, packaging, and waste management. This can lead to more efficient processes, reduced waste generation, and the development of sustainable technologies.



Additionally, certified zero waste training is provided at the BAUN Continuous Education Center. The training can be taken online.

Purpose of the Training:

The aim is to train individuals who can understand the Zero Waste goal, which is defined as a waste management philosophy that includes preventing waste, using resources more efficiently, reviewing the causes of waste generation to prevent or minimize waste generation, and ensuring that waste is collected separately at its source and recycled if it is generated.

Content of the Training:

- Zero Waste Training Pre-Test
- Basic Concepts of Environmental Science
- Sustainability
- Basic Information and Concepts Related to Zero Waste – Zero Waste Project
- Zero Waste System Installation – Legislation
- Non-Hazardous Waste - Hazardous Waste
- Paper Waste - Plastic Waste
- Glass Waste - Metal Waste
- Wood Waste - Composite Waste - Textile Waste
- Organic Waste
- Electronic Waste - Waste Battery
- Vegetable Waste Oil
- Medical Waste
- Local Governments in the Zero Waste System
- The Role of the Industrial Sector in Reducing Waste
- Waste Generation and Prevention - Changing Consumption Habits and Practices
- Deposit Management System
- Gains of Zero Waste Practices
- Zero Waste Training Final Test
- Exam

Paperless Bureaucracy

While Balıkesir University implements environmentally friendly practices such as "Zero Waste" in all its units, measures are now being implemented to eliminate paper consumption in all administrative processes through "Paperless Bureaucracy" practices. The main point of the program is to end the use of paper in all areas permitted by legal regulations and to carry out the relevant processes on digital platforms. The university administration is raising awareness among staff about minimizing paper use and monitoring the implementation of these practices.

The "Paperless Bureaucracy" practice has started to bear its first fruits with the savings data obtained. After implementing measures to eliminate paper consumption in administrative processes in all units, the amount of savings achieved in the early stages of the project was calculated to be approximately 160,000 TL. Our General Secretariat notified all units of our institution on 22.06.2023 that the "Paperless Bureaucracy" practice would be implemented starting from October 2023. Additionally, during meetings with administrative managers in the units, information was provided about ending the use of paper in all areas permitted by legal regulations and carrying out the relevant processes on digital platforms. Based on feedback from the units during the first three-month period of the process, the amount of savings was found to be 159,656 TL. According to these data, the annual savings amount is approximately 700,000 TL.

The savings achieved in paper use and the determined stance on this issue also shed light on the awareness level of staff regarding energy and water savings efforts.



This initiative focuses on transitioning all relevant procedures to digital platforms, reducing paper consumption wherever legally permissible. The university administration is actively educating staff on minimizing paper use and closely monitoring the implementation of these practices.

Afforestation Efforts

Balıkesir University places great importance on afforestation efforts, especially on the vast land of the Çağış Campus. The afforestation activities at Balıkesir University continued with the fourth mass participation program of 2023, with a sapling planting event held around the 15 July Martyrs' Square in front of the Rectorate. The event, organized by the Rectorate with the theme "Planting 2023 Saplings in the 100th Year of Our Republic," was attended by Balıkesir University Rector Prof. Dr. Yücel Oğurlu, the university's senior management, senate members, and academic and administrative staff.

The afforestation efforts, which began in 2023 in front of the additional building of the Faculty of Engineering, continued with the sapling planting event themed "A Breath for the Future" at Havran Vocational School and the sapling planting event held on the Çağış Campus within the framework of the 21 March Down Syndrome Awareness Day. In the fourth afforestation event, saplings were planted for the "Martyrs' Memorial Forest."

The afforestation efforts at Balıkesir University's Çağış Campus also continued with olive sapling planting events.

One of the afforestation and support activities for natural life is the project titled TTGS-II/205-"Olive Tree Cultivation in the Era of Climate Change: Tackling Future Impacts with Adaptation Strategies," in which Balıkesir University Edremit Vocational School's Olive Cultivation and Olive Processing Technology Program is a stakeholder.

In the second half of the project, planned to be completed by the end of 2024, it is planned to prepare a curriculum on current and sustainable methods and provide farmer training for olive cultivation activities in the Selva and Edremit Regions, based on the determined climate projections. Within the framework of university-city collaborations, all national and international project stakeholders aim to contribute to sustainability in the olive cultivation sector, one of Balıkesir's most important sources of livelihood, and in the cultivation of the olive plant, a strategic agricultural product for our country, by developing modern agricultural practices in harmony with nature through collective wisdom. The project also aims to protect the local olive population and olive producers from threats caused by climate change.

The afforestation efforts at Balıkesir University, carried out with the principle of being a breath for the future and a greener environment, continue uninterrupted.

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Balıkesir University will continue its efforts to protect and expand green areas in our country, starting with its own surroundings.



Energy Management System

BAUN has begun the necessary preparations to obtain the ISO 50001 Energy Management System Certificate from the Turkish Standards Institute (TSE) and to implement a sustainable energy management system based on the principle of efficient energy use. In this context, the Energy Management Coordination Office continues its work in contact with the relevant units. The Energy Management System is important for monitoring the university's energy, analyzing consumption data, and systematically organizing the work carried out.

BAUN applies this systematic structure in its energy management efforts.

The existence of the Energy Management Coordination Office and the work under the responsibility of the university's energy management coordinator and energy manager essentially take place within the framework of the energy management system. BAUN regularly monitors and analyzes its energy consumption to identify potential savings points. Based on these findings, plans for savings and efficiency investments are being developed.

It is planned to prepare the necessary documents for certification and to be ready for application for ISO 50001 in 2024.

Additionally, preparations have begun and preliminary studies have been conducted for a detailed survey project report that will include every factor affecting the energy and water consumption of buildings.



Renewable Energy Research and Application Center

Balıkesir is one of the provinces in our country with the highest wind energy potential. Therefore, it is among the provinces where wind energy plants are most frequently established in today's Turkey. Additionally, a significant number of companies producing the main components of wind energy plants, such as towers, blades, generators, and transformers, are located within the borders of Balıkesir or very close to Balıkesir.

On the other hand, Balıkesir is a region with significant solar and geothermal energy potential; it also has a high capacity of agricultural and animal waste for biogas and biomass energy.

As a result of the above-mentioned factors, the Renewable Energy Research, Development, Application, and Research Center was established in 2013. The primary goals of this center are to become a national-level technical personnel training center for the renewable energy sector; to develop domestic renewable energy technologies; and to develop methods/devices to improve energy efficiency and power quality.



Within the Renewable Energy Research and Application Center, there are many working groups. These groups conduct studies to contribute to academic research, internal and external training, and various industrial applications.

These groups conduct their studies within the units listed below:

- Power Systems Energy Efficiency and Power Quality Research Unit
- Renewable Energy Finance Research Unit
- Solar Energy and Applications Research Unit
- Biomass Energy and Applications Research Unit
- Wind Energy and Applications Research Unit
- Hydro, Wave, and Marine Currents Energy Research Unit
- Hydro, Wave, and Marine Currents Energy and Applications Research Unit
- Renewable Energy Finance Unit
- Smart Energy Systems Research Unit
- Geothermal Energy and Applications Research Unit



CONSUMPTIONS

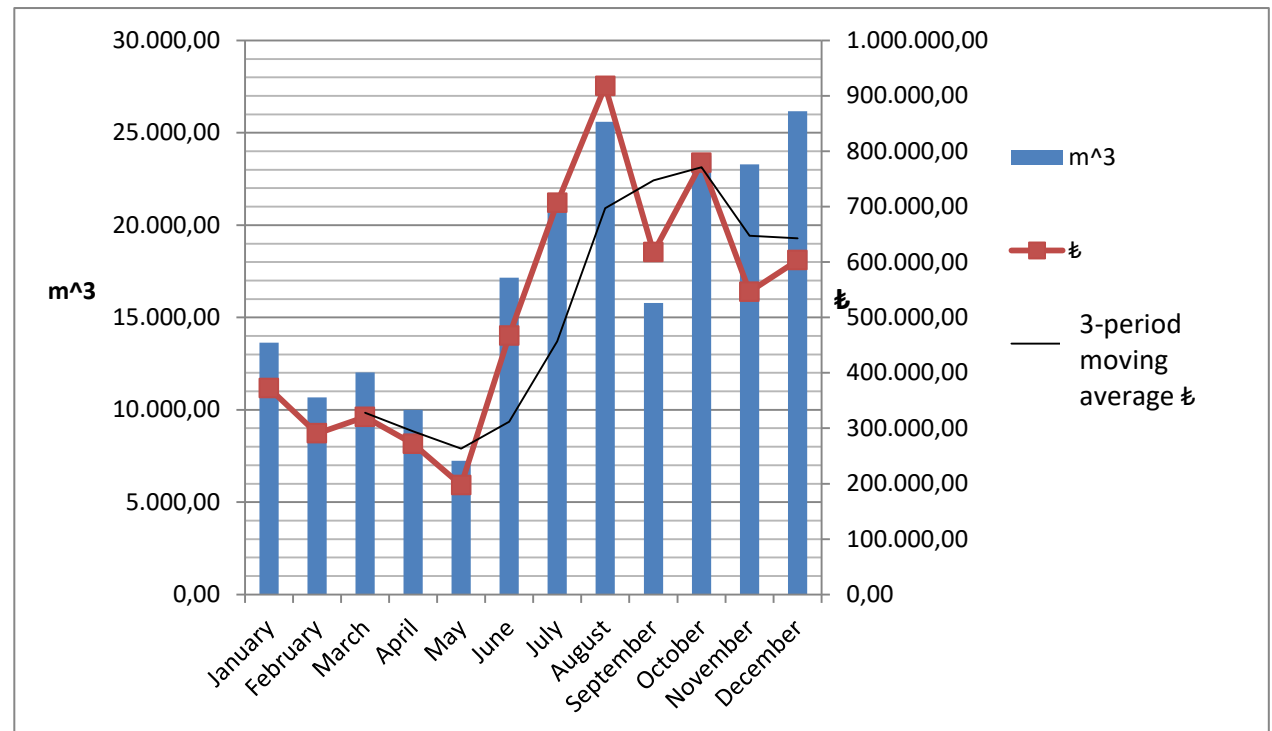
To see and analyze the results of sustainability activities, it is necessary to present the current situation. Thus, the progress made can be relatively incorporated into future reports.

To do this, it is necessary to examine water, electricity, and fuel consumption in order.

Water Consumption

This graph provides insights into the seasonal variations in water consumption and its associated costs. The significant peaks in July and October suggest higher water usage during these months, which could be due to seasonal factors such as increased irrigation or higher temperatures. The moving average helps in understanding the overall trend without being affected by short-term fluctuations.

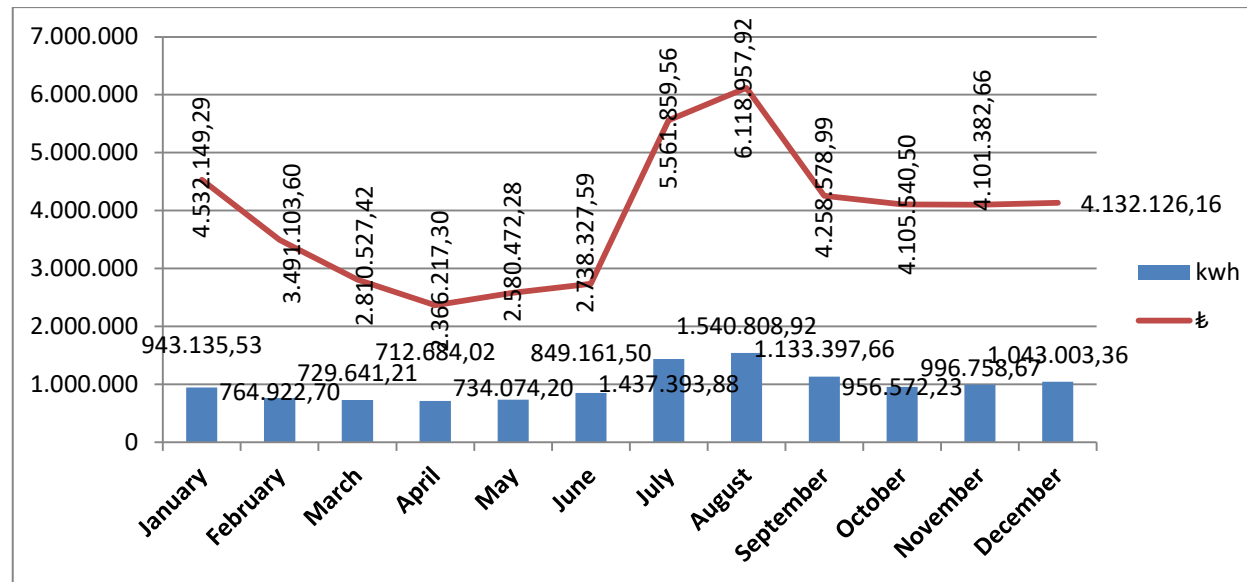
The total water consumption is 206,898.00 cubic meters. Water losses due to leaks and similar plumbing defects, user habits, and water expenditures in heating and irrigation systems should be reviewed, and all possible savings and recycling applications should be evaluated.



Electricity Consumption

The total electricity consumption of BAUN in 2023 is 13,307,867.10 kWh. Of this consumption, 11,841,553.85 kWh is attributed to the buildings and facilities within the Çağış Campus. Çağış Campus's electricity consumption constitutes approximately 89% of the total electricity consumption.

Below is the monthly electricity consumption distribution of Çağış Campus for the year 2023, part of which was conducted through remote education due to the earthquake.



The highest electricity consumption occurs in July and August, with significant peaks. This could be due to increased use of air conditioning during the summer months.

Identifying the reasons for these peaks can help in implementing targeted energy-saving measures.

The cost of electricity consumption follows a similar trend to the consumption itself, with the highest costs in July and August.

Reducing consumption during these peak months can lead to substantial cost savings.

Implementing energy-efficient practices and technologies, such as LED lighting, energy-efficient HVAC systems, and smart building management systems, can help reduce overall consumption.

These can also contribute to long-term sustainability goals and reduce carbon footprint.

Regular maintenance of electrical systems to prevent energy losses and ensure optimal performance...

Exploring the integration of renewable energy sources, such as solar panels, can help offset some of the electricity consumption and reduce reliance on non-renewable energy sources...

Encouraging energy-saving behaviors among campus users, such as turning off lights and equipment when not in use, can contribute to reducing overall consumption.

Awareness campaigns and incentives for energy conservation can be effective in promoting sustainable practices.

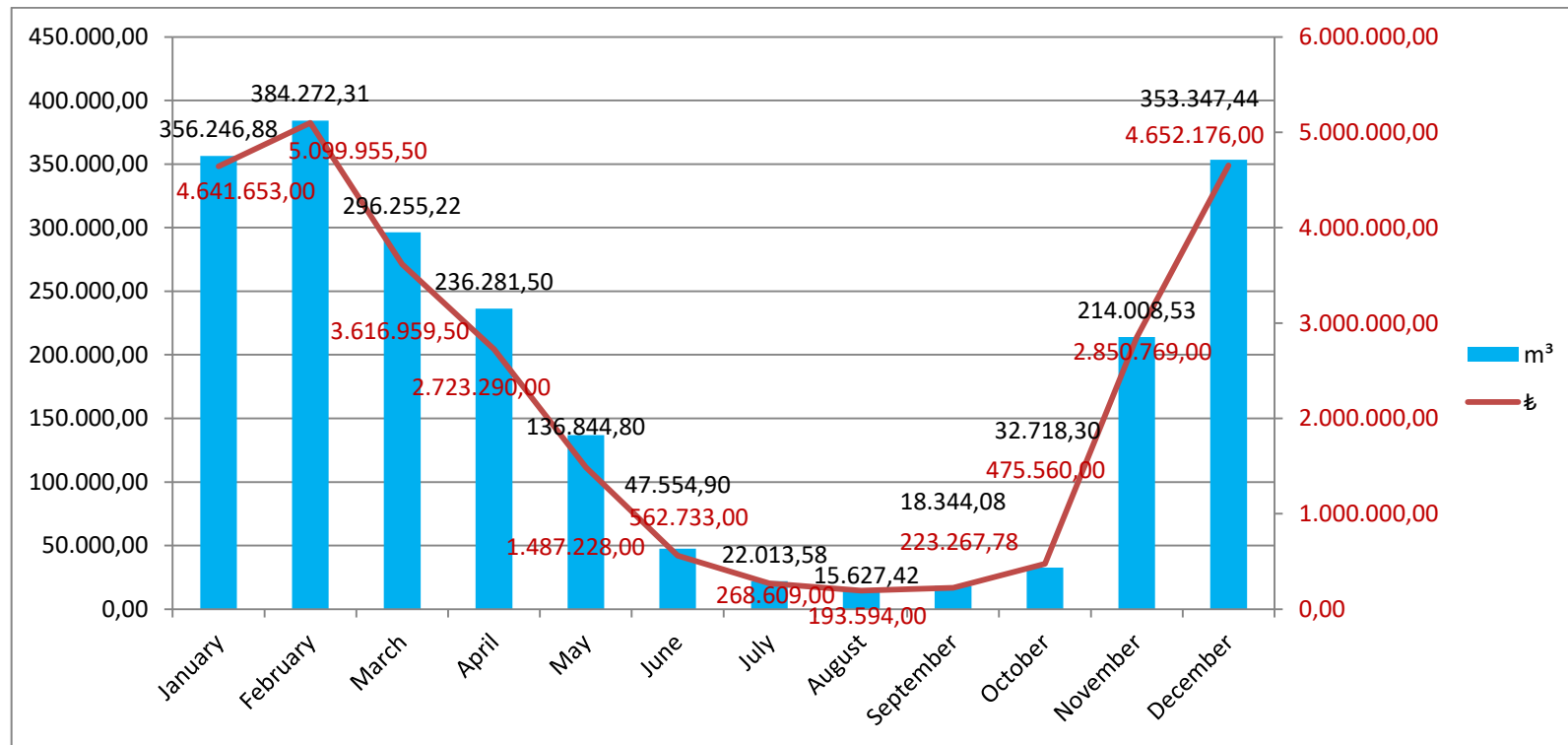
By addressing these areas, Çağış Campus can improve its energy efficiency and sustainability, leading to reduced costs and a smaller environmental impact.

An energy audit has been planned for 2024, which will include inventories and building condition analyses regarding electricity consumption, major energy consumers, renewable energy usage potential, and measures to increase savings and efficiency.

Natural Gas Consumption

The total natural gas consumption of BAUN in 2023 is 2,238,403.58 m³, and 2,113,514.96 m³ of this consumption is attributed to Çağış Campus. Çağış Campus's natural gas consumption constitutes approximately 94.42% of the total natural gas consumption of BAUN. The high consumption in Çağış Campus is due to the number of buildings and the presence of the hospital on this campus. Approximately half of the electricity and one-third of the natural gas in Çağış Campus are consumed by the hospital.

Below is the monthly distribution of natural gas consumption at Çağış Campus for the year 2023.



The graph above shows the monthly natural gas consumption (in m³) and the associated cost (in ₺) for Çağış Campus throughout 2023.

The highest natural gas consumption occurs in January, February, and December, with significant peaks. This is due to increased heating needs during the winter months.

Identifying the reasons for these peaks and providing more efficient heating can help in implementing targeted energy-saving measures. Reducing consumption during these peak months can lead to substantial cost savings.

Implementing energy-efficient practices and technologies, such as improved insulation, energy-efficient heating systems, and smart building management systems, can help reduce overall consumption and regular maintenance of heating systems to prevent energy losses and ensure optimal performance.

Exploring the integration of renewable energy sources, such as solar thermal systems, can help offset some of the natural gas consumption and reduce reliance on non-renewable energy sources.

This can also contribute to long-term sustainability goals and reduce carbon footprint.

Encouraging energy-saving behaviors among campus users, such as setting thermostats to energy-efficient temperatures and reducing heating when buildings are unoccupied, can contribute to reducing overall consumption.

Awareness campaigns and incentives for energy conservation can be effective in promoting sustainable practices.

Implementing efficiency-enhancing measures in applications that require natural gas usage, such as heating, maintaining the desired temperature of swimming pool water, and food services, will be an effective action towards BAUN's sustainability goals and vision of creating a more environmentally friendly campus with lower carbon emissions. An energy audit is planned for 2024, which will include the analysis of natural gas consumption and efficiency-enhancing projects. As a result of these audits, applications will be made for support projects funded by the government, and projects that the University can undertake on its own will be identified and presented to the administration.