



BALIKESİR UNIVERSITY

"modern on education, science and arts"



SUSTAINABILITY REPORT



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About the Report

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.

In preparing this report, international sustainability reporting frameworks such as the **Global Reporting Initiative (GRI) Standards (2021)** and the **United Nations Sustainable Development Goals (SDGs)** have been taken into consideration. Data has been collected through energy audits, administrative records, and project monitoring activities. The reporting period covers activities conducted during the 2024-2025, unless otherwise stated.

This document represents BAUN's first comprehensive sustainability report and is designed as a reference point to guide future monitoring, reporting, and continuous improvement in sustainability performance.

- **Coordinator:** Prof. Dr. Yusuf YILDIZ
- **Energy Manager:** Halil SİNOPLUGİL

Educational, Administrative, and Physical Structure of BAUN

Balıkesir University (BAUN) 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. BAUN 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** serves as the central hub of the University's physical infrastructure and forms the primary focus of this sustainability report.

Universities are indispensable institutions, contributing directly and indirectly to national economic development through higher education, research, scientific advancement, and R&D activities. Beyond economic contributions, universities enhance human capital and serve as key pillars in the development of a knowledge-based society, in line with the global emphasis on innovation, scientific progress, and the “production of knowledge” as a strategic objective of the 21st century.



1. Organizational Profile

1.1 About Balıkesir University

Balıkesir University (BAUN) 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. BAUN comprises 14 faculties, 4 institutes, 2 undergraduate colleges, 12 vocational schools, 3 departments, 27 research and application centers, 8 coordinatorships, and 13 administrative units. The **Çağış Campus** serves as the central hub of the University's physical infrastructure and forms the primary focus of this sustainability report.

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1.2 Human Capital

As of [insert year], Balıkesir University employs **1,252 academic staff** and **814 administrative personnel**, serving a total student population of:

- **Associate Degree Students:** 9,680
- **Undergraduate Students:** 18,564
- **Graduate Students:** 1,645

This workforce and student body represent the University's core human capital, driving education, research, and sustainable development initiatives across the institution.

1.3 Governance Structure

BAUN's governance framework is structured to ensure accountability, transparency, and sustainability integration across all organizational levels:

1. Rector

- The highest executive authority of the University.
- Presides over University councils and implements decisions of the Council of Higher Education (YÖK).
- Prepares investment programs, budget proposals, and staffing plans.
- Supervises academic and administrative staff assignments.
- Oversees University-wide monitoring and control activities.

2. Senate

- Determines principles for education, teaching, and scientific research activities.
- Prepares draft regulations and directives.
- Approves the annual academic calendar.
- Confers honorary academic titles.
- Reviews appeals against faculty and unit decisions.

3. University Executive Board

- Assists the Rector in implementing Senate decisions.
- Reviews investment programs and draft budgets.
- Decides on appeals regarding faculty and vocational school management board decisions.

Sub-Units and Responsibilities

- **Faculties:** Led by Deans, responsible for academic councils, budget proposals, and implementation of education programs.
- **Faculty Councils:** Establish academic principles and calendars.
- **Faculty Executive Boards:** Support Deans in budgeting and program execution.

- **Institutes and Colleges:** Directors assume responsibilities equivalent to Deans under Law No. 2547. Councils operate at institute/college level in alignment with faculty council roles.
-

1.4 Information Technology Infrastructure

The University's **Information Technology Department** provides essential services to support education, research, administrative operations, and e-university principles. Core areas include software development, web hosting, web design, email, network management, system support, and access to digital library resources.

Currently, 39 servers operate within the department, supporting applications such as the **University Information System (UBS)**, **Student Information System (OBS)**, and **Electronic Document Management System (EBYS)**. The department also provides licensing and technical support for statistical analysis, research databases, and other academic applications. Strategic partnerships include public institutions such as **YÖK**, **TÜBİTAK**, the **Presidency Digital Transformation Office**, and private sector collaborators.

1.5 Legal Basis and Accountability

BAUN operates under **Law No. 2547 (Higher Education Law)** and **Law No. 5018 (Public Financial Management and Control Law)**. Resource utilization follows principles of **efficiency, responsibility, accountability, and transparency**.

The University's **Energy Management and Sustainability Team** operates hierarchically as follows:

- Rector → Vice Rector → Coordinator → Energy Management and Sustainability Commissions

This structure ensures that sustainability initiatives, energy efficiency projects, and monitoring of environmental performance are fully integrated into BAUN's governance and operational frameworks.

1.6 Higher Education Context and Legal Framework

In line with the Constitution, which protects the right to education and training, BAUN conducts its activities within the framework of national laws, regulations, directives, and protocols, primarily **Law No. 2547 on Higher Education**. Institutional activities are planned, monitored, evaluated, and continuously improved to ensure that individuals are supported in scientific research, knowledge and technology production, meeting societal needs, and contributing to social development.

The University prioritizes inclusiveness—particularly the rights of disabled individuals—while also focusing on knowledge production, R&D, employment creation, and technological innovation. These priorities are aligned with both national strategies and the University’s sustainability agenda.

1.7 Strategic Orientation and Rankings

BAUN aims to improve its position in **national and international university rankings** by considering stakeholder expectations and rapidly implementing new strategic decisions. The institution’s performance in such indexes is continuously monitored, and sustainability policies are adopted to ensure long-term development.

The **Strategic Plan** emphasizes enhancing R&D activities by:

- Increasing financial support from the Scientific Research Projects Unit,
- Strengthening the Project Coordination Unit,
- Promoting the use and visibility of the Central Research Laboratory,
- Expanding university–industry and university–society collaborations,
- Encouraging undergraduate and graduate student participation in projects,
- Supporting attendance at scientific congresses and exhibitions,
- Promoting applied research through specialized centers such as the Tourism Research and Application Center.

In addition, the **PESTLE Analysis for Sectoral Trends** highlights policies to strengthen partnerships with industry, foster patents, expand revenue-generating R&D studies, and ensure a **project-oriented research culture** that contributes to both regional and national development.

1.8 Research Competency and Performance

According to the **2023 Field-Based Competency Analysis of Universities** report, BAUN is represented in **15 main research fields and 64 sub-fields**.

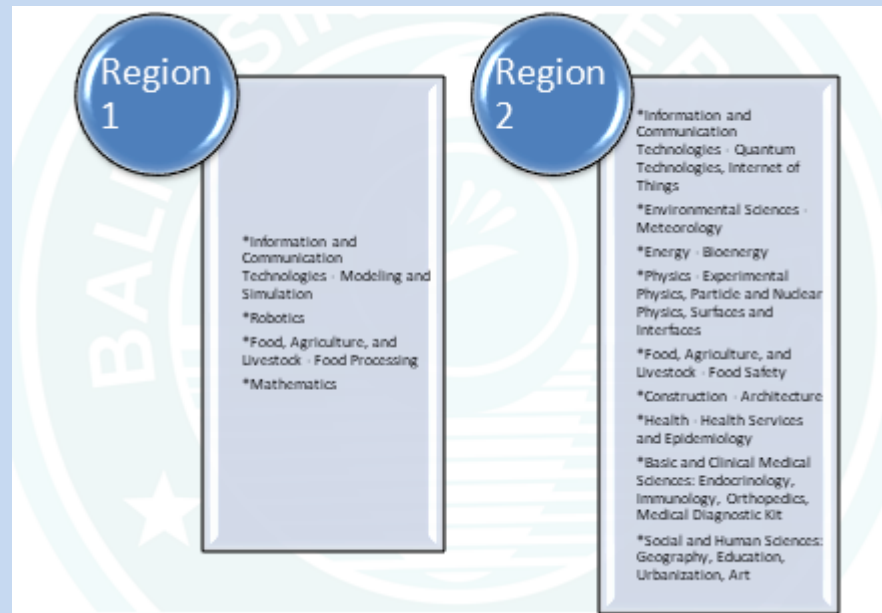
- **Region 1 (high volume and high quality):** BAUN ranks strongly in *Information and Communication Technologies – Modeling and Simulation, Robotics; Food, Agriculture and Livestock – Food Processing; and Mathematics*.
- **Region 2 (high volume, below-median quality indicators):** Representation includes *Quantum Technologies, Internet of Things, Meteorology, Bioenergy, Experimental and Nuclear Physics, Food Safety, Architecture, Health Sciences (Endocrinology, Immunology, Orthopedics, Epidemiology), Medical Diagnostic Kits, Geography, Education, Urbanization, and Arts*.

Key **quality indicators** used in the national analysis include:

- Relative citation impact compared to global benchmarks,
- Number of publications in the world's top 10% most cited,
- Research productivity per academic,
- Quality of R&D and innovation projects,
- Number of publications cited by patents,
- International collaborations contributing to the internationalization of BAUN.

This competency profile illustrates BAUN's growing role in advancing scientific knowledge and innovation, directly linked to sustainability through technology transfer, regional development, and societal impact.

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1.9 Human Resources and Sustainability

As of 2024, BAUN employs **1,252 academic staff** and **814 administrative staff**, serving nearly **30,000 students** across associate, undergraduate, and graduate levels.

The University's **human resources strategy** emphasizes gender balance, diversity, and capacity development. Over recent years, the ratio of **female professors, associate professors, and lecturers** has steadily increased, strengthening inclusivity within academic leadership.

The **Strategic Plan human resources analysis** highlights both strengths and risks:

- **Strengths:** Stable administrative staffing levels; increasing female participation in academic positions.
- **Risks:** A shortage of highly qualified academic staff with sufficient skills; reduced productivity due to high workloads.

To address these, BAUN has committed to:

- Strengthening recruitment policies,
 - Enhancing academic staff development programs,
 - Expanding postgraduate education opportunities to increase scientific publications,
 - Ensuring succession planning and long-term sustainability of human capital.
-

1.10 Sustainability Integration into Governance

In alignment with the **Presidential Annual Program** and the **Eleventh Development Plan**, BAUN's management approach integrates updated data on human resources, equipment, and research infrastructure to ensure **efficient use of resources, prevention of duplicate investments, and accessibility of research outputs**.

The governance framework incorporates sustainability through:

- Embedding **energy management and sustainability teams** under the Rectorate,
- Conducting **competency analyses** for future workforce planning,
- Aligning institutional strategies with **national climate and sustainability policies**.

This integration ensures that BAUN's organizational structure, research agenda, and human resource policies are aligned not only with academic excellence but also with long-term sustainability goals at local, national, and global levels.



1.11 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

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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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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.

2. Strategy and Material Topics

2.1 Sustainability Vision

Balıkesir University is committed to fulfilling its environmental, economic, and social responsibilities by integrating sustainability principles into education, research, and community service. The university's vision is to produce, implement, and disseminate innovative and sustainable solutions, leaving a more livable world for future generations.

In line with this vision, the university:

- Develops and implements pioneering projects in energy efficiency, waste management, water conservation, and biodiversity protection.
- Incorporates sustainability-focused courses into its curriculum and supports related research projects to increase awareness and knowledge.
- Actively participates in sustainability initiatives at both local and global levels, raising public awareness.
- Collaborates with public institutions, the private sector, and NGOs to achieve sustainability goals.

The university strives to inspire and lead its students, staff, and community toward a sustainable future.

2.2 Sustainability Mission and Management

Balıkesir University is dedicated to nurturing qualified individuals who possess interdisciplinary perspectives, conduct high-quality and original research, and contribute to continuous self-improvement and competitiveness.

The university's mission includes:

- Contributing to national development and improving quality of life, with a focus on Balıkesir.
- Educating individuals committed to social values, human rights, and Atatürk's Principles and Reforms.

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- Achieving international standards in education and research, while strengthening university–city–industry collaboration.
- Developing a participatory and transparent governance structure aligned with strategic goals.

To achieve these aims, the university has adopted a **Strategic Management Model**:

- The **2020–2024 Strategic Plan** defines objectives, activities, and key performance indicators (KPIs).
- Progress is monitored through **Strategic Plan Evaluation Reports**, which are shared publicly.
- Processes are supported by an integrated information management system for future-oriented planning.

This approach institutionalizes a culture of continuous improvement and sustainability.

2.3 Sustainability Priorities and Material Topics

The university recognizes several **priority sustainability dimensions**:

- **Resource Efficiency**: Maximizing output while minimizing waste and environmental impact.
- **Environmental Protection**: Reducing pollution, conserving biodiversity, and mitigating climate change.
- **Economic Viability**: Promoting productivity and stability that benefit local and national economies.
- **Social Responsibility**: Ensuring fair labor practices, safe working conditions, and equitable opportunities.
- **Innovation and Technology**: Leveraging new technologies for sustainable productivity.
- **Long-term Planning**: Prioritizing future-oriented strategies over short-term gains.

These material topics align with global sustainability challenges and institutional responsibilities.

2.4 Factors Influencing Sustainability

Balıkesir University acknowledges that sustainability is shaped by interconnected factors:

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- **Environmental Factors:** Climate change, resource depletion, pollution, biodiversity loss.
- **Economic Factors:** Efficient resource use, sustainable consumption, green investment.
- **Social Factors:** Equity, education, healthcare, and human rights.
- **Technological Factors:** Efficiency gains, waste reduction, sustainable product development.
- **Political and Regulatory Factors:** National policies, regulations, and international agreements.
- **Cultural Factors:** Promoting a culture of sustainability through education and awareness.
- **Institutional Factors:** Strong leadership and governance to drive initiatives.

Although sustainability practices at Balıkesir University are still in the early stages, the institution's determined stance and strategic orientation demonstrate strong potential for future progress



2.5 Materiality Assessment

Purpose of Materiality Assessment

The materiality assessment was conducted to identify and prioritize the most relevant environmental, social, and governance (ESG) topics for Balıkesir University (BAUN) in line with its mission, strategic plan, and sustainability vision. This assessment helps ensure that the University's sustainability initiatives align with both stakeholder expectations and global sustainability frameworks, while also contributing to national priorities and international commitments.

Process

Identification

Relevant sustainability issues were identified through:

- Review of BAUN's 2020–2024 Strategic Plan and institutional sustainability initiatives,
- National strategies and policies, including *Energy Efficiency 2030 Strategy, II. National Energy Efficiency Action Plan (2024–2030)*, *11th and 12th Development Plans*, and the *Türkiye National Energy Plan*,
- International frameworks and agreements, including the *Paris Agreement*, *IPCC reports*, *COP Conferences*, *International Energy Agency (IEA) guidelines*, and the *European Green Deal*.

Stakeholder Engagement

While no broad survey was conducted, valuable insights were gathered through:



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- Consultations and collaboration protocols with public authorities, such as the Ministry of Environment, Urbanization and Climate Change, particularly in the fields of energy efficiency and renewable energy,
- Cooperation agreements with industrial partners and other universities, mainly in education, research, and applied projects,
- Continuous dialogue with university leadership, academic staff, and student representatives.

Prioritization

Topics were evaluated based on:

- Their significance for BAUN's long-term sustainability and operational performance,
- Their relevance to external stakeholders and alignment with local, national, and global sustainability priorities.

Validation & Review

The prioritized material topics were validated by the University's senior management and aligned with the institutional quality management system. The assessment will be reviewed periodically to reflect evolving sustainability challenges and stakeholder expectations.

Material Topics for Balikesir University

The following topics were identified as material for BAUN:

- **Climate Change Mitigation and Adaptation** (renewable energy, energy efficiency, emissions reduction)
- **Water Conservation and Sustainable Water Management**

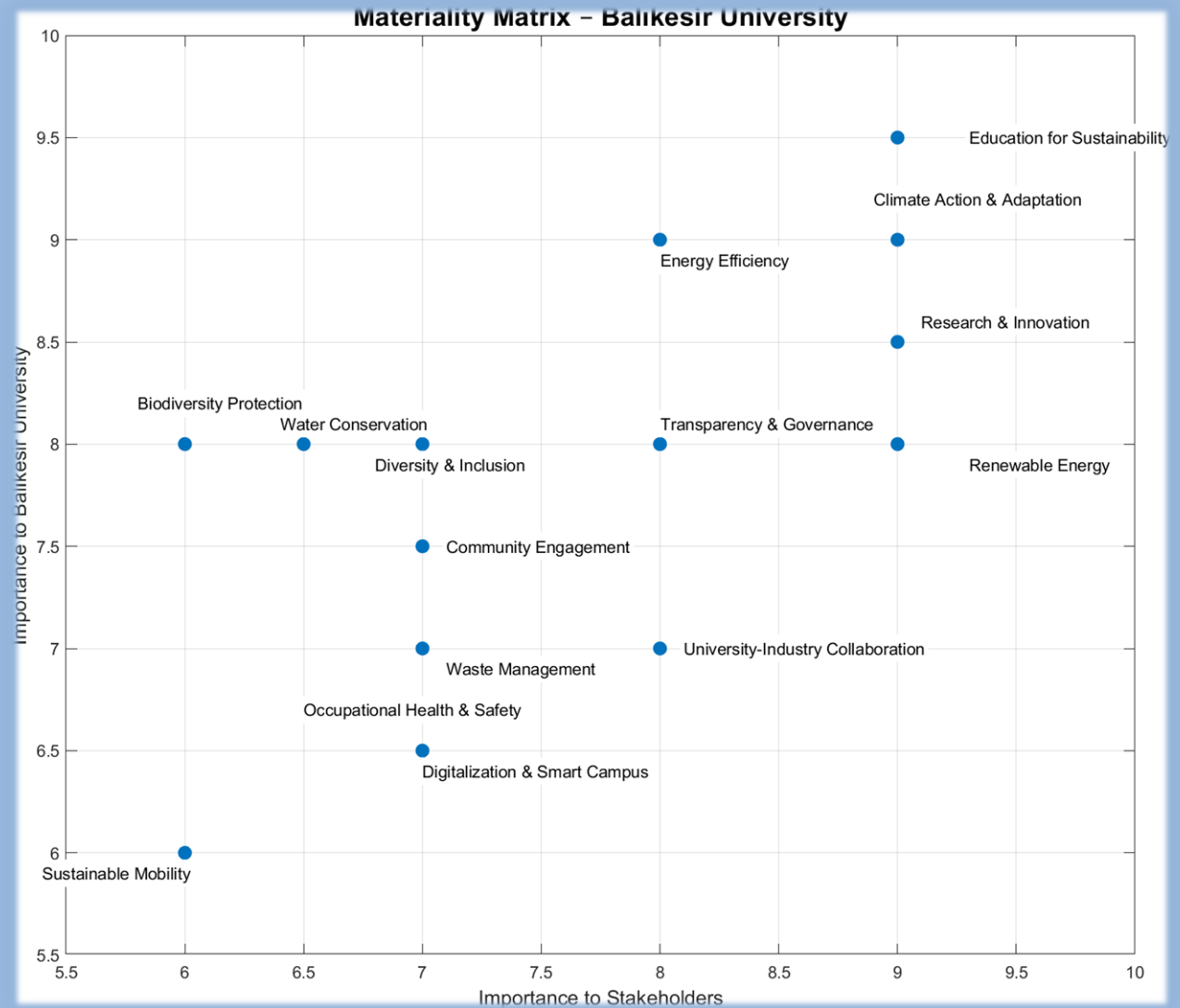
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- **Waste Management and Circular Economy**
- **Biodiversity and Green Campus Initiatives**
- **Sustainable Mobility and Low-Carbon Transport**
- **Student and Staff Well-being**
- **Equality, Diversity, and Inclusion**
- **University–Industry–Society Collaboration**
- **Innovation, Research, and Sustainable Technology**
- **Governance, Transparency, and Ethical Practices**

Materiality Matrix

To visualize the prioritization process, a materiality matrix was prepared based on two dimensions:

- **Importance to Stakeholders** (derived from national and international policy frameworks, stakeholder consultations, and collaboration agreements),
- **Importance to BAUN** (derived from strategic objectives,



operational impacts, and institutional sustainability goals).

The materiality matrix highlights several topics that stand out as highly material for Balıkesir University. Issues such as **Climate Action & Adaptation**, **Energy Efficiency**, **Education for Sustainability**, and **Water Conservation** are placed in the top-right quadrant, reflecting their strong importance both to stakeholders and to the University itself. These priorities align directly with global sustainability agendas and national policy frameworks, including the Paris Agreement, the European Green Deal, and Türkiye's Energy Efficiency 2030 Strategy.

In addition, **Renewable Energy**, **Research & Innovation**, and **Transparency & Governance** also appear as significant topics, underlining BAUN's role in scientific production, responsible governance, and the transition to sustainable energy systems. Social dimensions such as **Community Engagement**, **University–Industry Collaboration**, **Diversity & Inclusion**, and **Occupational Health & Safety** are positioned at high or medium-high importance, ensuring that the University's sustainability agenda remains balanced across environmental, social, and governance dimensions.

Supporting areas like **Sustainable Mobility**, **Biodiversity Protection**, and **Digitalization & Smart Campus** provide complementary contributions to BAUN's overall sustainability strategy, pointing toward long-term opportunities for innovation and systemic transformation.

2.6 Contribution to the UN Sustainable Development Goals (SDGs)

Balıkesir University (BAUN) recognizes the United Nations Sustainable Development Goals (SDGs) as a universal framework for addressing global challenges and building a sustainable future. In line with its mission and strategic plan, BAUN integrates the principles of the SDGs into its education, research, and community engagement activities, ensuring that its contributions extend beyond the campus and into society at large.

Key contributions include:

- **SDG 4 (Quality Education):** Incorporating sustainability-focused courses and research projects into the curriculum, fostering interdisciplinary learning and raising student awareness.
- **SDG 6 (Clean Water and Sanitation):** Implementing rainwater harvesting projects and promoting sustainable water management practices.
- **SDG 7 (Affordable and Clean Energy):** Developing renewable energy initiatives such as the Solar Power Plant, and conducting energy efficiency projects in alignment with national and international energy policies.
- **SDG 11 (Sustainable Cities and Communities):** Promoting green campus infrastructure, sustainable mobility through cycling, and afforestation efforts to create healthier and more resilient communities.

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- **SDG 12 (Responsible Consumption and Production):** Advancing waste management through the Zero Waste Project, Paperless Bureaucracy, and circular economy practices.
- **SDG 13 (Climate Action):** Conducting energy audits, reducing emissions, and aligning with the Paris Agreement, IPCC findings, COP commitments, and the European Green Deal.
- **SDG 15 (Life on Land):** Enhancing biodiversity and ecological resilience through afforestation and habitat protection.
- **SDG 17 (Partnerships for the Goals):** Strengthening collaboration with ministries, industry, civil society, and international partners to accelerate progress towards sustainability.

Through these efforts, BAUN aligns its institutional strategy with Türkiye's **Energy Efficiency 2030 Strategy**, the **II. National Energy Efficiency Action Plan (2024–2030)**, the **11th and 12th Development Plans**, and the **National Energy Plan**. By positioning itself within global frameworks such as the **Paris Agreement**, **IPCC reports**, **COP Conferences**, **IEA guidance**, and the **European Green Deal**, BAUN ensures that its sustainability journey contributes not only to local and national development but also to the achievement of global sustainability targets.



3. Economic Performance

Balıkesir University (BAUN) has undertaken significant steps to integrate sustainability into its financial and operational strategies. Although the total institutional budget is not specified, measurable investments in energy efficiency and renewable energy demonstrate the University's commitment to responsible resource use and long-term economic sustainability.

3.1 Budget Allocations for Sustainability Projects

In 2024, BAUN allocated approximately **USD 250,000** to energy efficiency projects, including the modernization of lighting systems, maintenance of heating and cooling infrastructure, and water system improvements. In addition, the University has engaged in a large-scale **solar power project valued at nearly USD 1,000,000**, funded through external resources, to establish a Solar Power Plant (SPP) at the Çağış Campus.

3.2 Energy and Resource Efficiency Investments

- **Solar Power Plant (SPP):** Once operational, the SPP is expected to supply around **15% of the electricity needs of the Çağış Campus**, significantly reducing dependence on the national grid.
- **LED Lighting Conversion:** The replacement of traditional lighting systems with LED technology is projected to deliver savings of up to **50% in electricity consumption for campus lighting**.
- **Heating and Cooling Systems:** Routine maintenance and optimization of boilers, chillers, and air conditioning systems are expected to provide efficiency gains of approximately **10%**.
- **Water System Renovations:** Upgrades to water infrastructure aim to reduce consumption and ensure more efficient resource use.

3.3 Broader Economic Impact

These initiatives not only contribute to lowering operational costs but also strengthen BAUN's alignment with national and international strategies, such as Türkiye's **Energy Efficiency 2030 Strategy**, the **National Energy Plan**, and the **Paris Agreement**. By reducing resource consumption and improving efficiency, the University sets an example for sustainable management practices in the higher education sector, while also providing indirect benefits to the local community through lower environmental impact and knowledge transfer in sustainability-related fields.

3.4 Economic Impact on the Local Community

Balıkesir University (BAUN) contributes not only to education and research but also to the **local and regional economy** through its procurement policies and collaborative projects.

Local Procurement and Employment

In tender processes such as catering services, BAUN encourages contractors to rely on **local suppliers and resources**, thereby directly supporting the local economy and employment opportunities. This approach strengthens community ties and ensures that University operations generate tangible economic benefits for Balıkesir and its surrounding districts.

Regional and Sectoral Cooperation

The University has established numerous **collaboration protocols** with public institutions, industry partners, and civil society organizations, reflecting its role as a driver of sustainable regional development. Examples include:

- **Sustainable Nature, Landscape, Archaeology, and Cultural Tourism Practices Protocol**, promoting sustainable tourism and cultural heritage preservation.
- **7+1 Education Model Protocol with Industry**, linking engineering education to practical industrial applications.
- **Campus Environmental Design Protocol with Balıkesir Metropolitan Municipality**, contributing to green infrastructure and sustainable urban planning.
- **E-Scooter Service Agreement**, enabling discounted sustainable mobility options on campus.
- **Youth Office Cooperation with the Provincial Directorate of Youth and Sports**, supporting cultural, artistic, sports, and educational activities.
- **Forestry and Vocational Training Protocols** with the Regional Forestry Directorate, advancing sustainable land use and biodiversity conservation.
- **Water Supply Protocol with the Water and Sewerage Administration**, ensuring reliable and sustainable water services.
- **Health Services Protocol with the Armed Forces**, strengthening the role of the Veterinary Faculty in regional animal health.
- **Partnerships with NGOs and Industry**, including agreements with the Autism Support Foundation, Şişecam Chemicals, İŞKUR, and Varaka Paper Industry, supporting inclusive education and local employment.
- **Kazdağları Honey Forest and Balköy Project**, integrating rural development, biodiversity, and local economic opportunities.
- **Human Rights Cooperation Protocol**, embedding social sustainability into the University's governance.

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- **Enerjisa Collaboration – “Imagining the Future” Project**, raising awareness among children on energy and sustainability.

International Collaboration

Beyond the local context, BAUN has signed protocols with **more than 40 international universities**, expanding educational opportunities for its students and fostering sustainable diversity in higher education.

Overall Impact

Through these initiatives, BAUN strengthens its role as an **anchor institution in regional development**, integrating economic, social, and environmental dimensions. The University’s efforts contribute to local employment, sustainable infrastructure, and knowledge transfer, in line with both **national development plans** and **global sustainability frameworks**.

Great—let’s start **step-by-step** with **4.1 Energy Consumption and Management**. I’ve written a concise, GRI-aligned draft you can drop into the report, using your 2024 baseline and the facts we already have. I also added clear KPI fields so you can fill numbers as they become available.

4 Environmental Performance

4.1 Energy Consumption and Management (*GRI 3-3, GRI 302*)

Scope and Boundary (2024 Baseline)

This section covers electricity and thermal energy used across BAUN facilities, with primary focus on the **Çağış Campus** (central hub of academic, administrative and hospital functions). The 2024 baseline includes grid electricity and thermal energy (e.g., boilers/chillers). On-site renewable generation (Solar Power Plant, SPP) is reported under 4.2 and counted toward consumption reductions from the commissioning year onward. Data excludes third-party-operated facilities not under BAUN’s operational control (if any).

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Management Approach

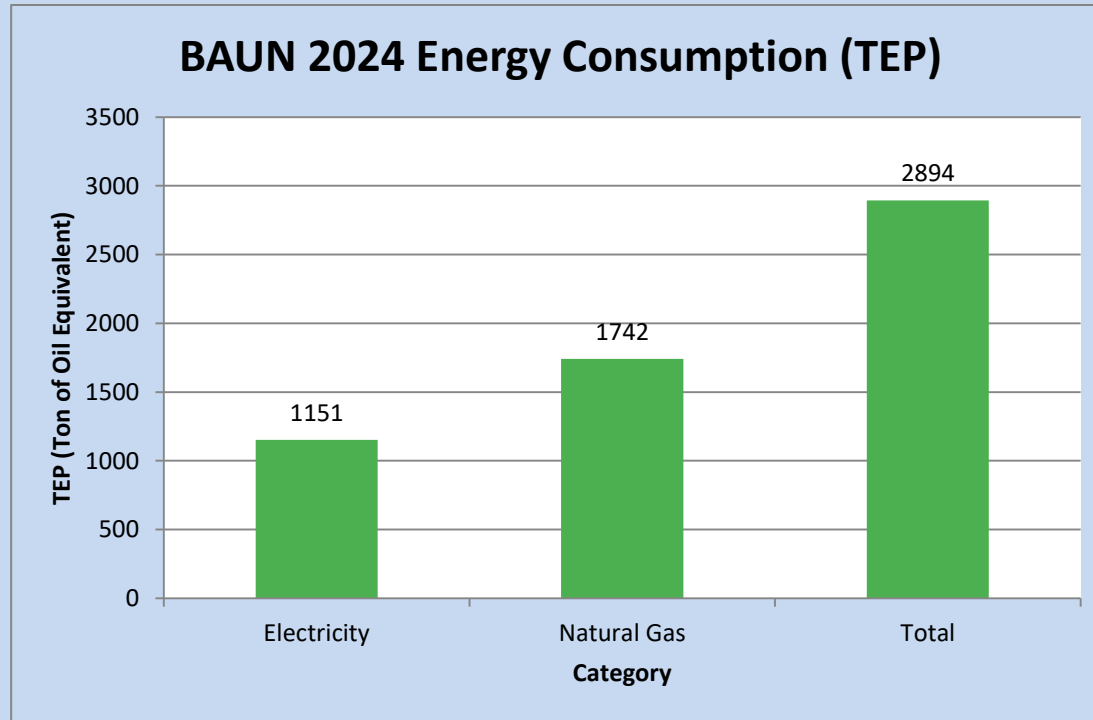
Energy performance is overseen by the **Energy Management and Sustainability Coordination Office**, guided by 2024 audit findings and an annual improvement cycle. BAUN applies practices aligned with **ISO 50001 principles** (policy, planning, implementation, performance evaluation, continual improvement), including:

- **Energy audits (2024)** completed to identify major consumers and savings potentials.
- **Operational measures:** boiler, chiller and HVAC maintenance/optimization (targeting ~10% efficiency gains on those systems).
- **Technology upgrades:** LED lighting conversions (up to ~50% reduction on lighting circuits).
- **Forthcoming onsite generation:** a ~USD 1,000,000 externally funded **SPP** project at Çağış.
- **Investment to date (2024):** ~USD 250,000 in energy-efficiency measures.

Energy Profile (2024)

- **Total electricity consumption (campus):** [13.386 MWh]
 - of which **Hospital share (approx.):** 49 %
- **Thermal energy** (natural gas): [2.112.095 m³]
- **Energy intensity:**
 - kWh per **indoor area** (389,034 m² total; 300,343 m² at Çağış): [~44,6 kWh/m²]
 - kWh per **student** (Associate 9,680; Undergraduate 18,564; Graduate 1,645): [~665 kWh/student]
 - kWh per **employee** (1,252 academic; 814 administrative): [~6480 kWh/employee]
- **Electricity:** ≈ 1,151 TEP
- **Natural Gas:** ≈ 1,742 TEP
- **Total Consumption:** ≈ 2,894 TEP

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The bar chart above compares electricity, natural gas, and the total consumption in **Ton of Oil Equivalent (TEP)**.

2024-2025 Actions and Early Outcomes

- **LED retrofits** commenced; measured circuits indicate up to ~**50%** savings versus legacy luminaires.
- **HVAC O&M optimization** (boilers, chillers, AC) implemented; expected ~**10%** system efficiency gain pending full M&V.
- **SPP project** mobilized; upon commissioning it is expected to supply ~**15%** of Çağış Campus electricity demand (see 4.2).

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KPIs, Targets and Timeline

KPI	Baseline (2024)	Target	Target Year	Status/Notes
Total electricity (MWh)	[13386]	–[30]% vs 2016-2018	2030	Aligned with national policies
Thermal energy (MWh)	[22277]	–[30]% vs 2016-2018	2030	
Energy intensity (kWh/m ²)	[]	–[30]% vs 2016-2018	2030	
LED coverage	[]	100%	2029	Up to ~50% circuit savings
HVAC efficiency	[]	– 10%	2026	Post-maintenance
On-site renewable share (% of electricity) []		≥ 15% (Çağış)	Commissioning year	Via SPP

Monitoring & Verification (M&V)

- Monthly energy reviews using utility meters and sub-metering where available;
- Project-level M&V (e.g., IPMVP-consistent approaches) for LED and HVAC measures;
- Annual management review of performance against targets with corrective actions.

Cross-references:

- 4.2 Renewable Energy Initiatives (SPP)
- 4.7 Greenhouse Gas Emissions (impact of efficiency and on-site renewables)

4.2 Renewable Energy Initiatives

Strategic Alignment and Policy Context

Balıkesir University (BAUN) places renewable energy at the core of its sustainability vision, aligning with Türkiye's **Energy Efficiency 2030 Strategy**, the **II. National Energy Efficiency Action Plan (2024–2030)**, and global frameworks such as the **Paris Agreement** and the **European Green Deal**. In this context, BAUN has also applied to the **KABEV (Energy Efficiency in Public Buildings Project)**, coordinated by the Ministry of Environment, Urbanization and Climate Change with funding from the **World Bank**. This program includes renewable energy utilization and energy efficiency improvements, further strengthening BAUN's renewable energy roadmap.

Solar Power Plant (SPP) – Çağış Campus

- With the support of the Ministry of Environment, Urbanization and Climate Change, BAUN has initiated the implementation phase of a **Solar Power Plant (SPP)** at the Çağış Campus.
- The project is designed to cover approximately **30% of the electricity demand of the University Hospital**, which itself accounts for nearly half of the total electricity consumption of the campus.
- Based on comprehensive energy audits, this investment also reflects BAUN's broader energy efficiency strategy. The audits not only addressed renewable capacity but also identified savings potential across lighting, HVAC, and water systems, producing a clear roadmap for future investments.
- Once fully commissioned, the SPP is expected to meet about **30% of total electricity demand at the Çağış Campus**, reducing grid dependency and carbon footprint significantly.

Solar Applications at Other Campuses

- At **Edremit Vocational School**, a rooftop solar system already provides approximately **35% of the school's annual electricity needs**.



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- Expansion of rooftop solar projects to other faculties and vocational schools is included in BAUN's medium-term sustainability strategy.

RE-You Project (Renewable Youth Energy)

- In partnership with Çanakkale Onsekiz Mart University (ÇOMÜ) and funded under the **EU IPA (Instrument for Pre-Accession Assistance)** program, BAUN established a **Renewable Energy Training Center** within the framework of the “**Renewable Youth Energy / RE-YOU Operation.**”
- The Center includes:
 - Solar Energy Systems Training Laboratory
 - Two Wind Energy Systems Training Laboratories
 - Biogas Energy Systems Training Laboratory
 - Two Renewable Energy Computer Laboratories
 - Three classrooms for applied education
- **480 graduates** received renewable energy systems training.
- The project facilitated the employment of **150 trainees** and allowed participants to join international congresses, fairs, and renewable energy career events.

Renewable Energy Research and Application Center

Founded in **2013**, the Center supports BAUN's role as a national-level hub for renewable energy R&D, training, and technology development. Activities include:

- Developing domestic renewable energy technologies
- Training technical staff for the sector
- Improving energy efficiency and power quality through applied research



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The Center operates multiple specialized units, such as:

- Solar Energy and Applications Research Unit
- Wind Energy and Applications Research Unit
- Biomass Energy and Applications Research Unit
- Geothermal Energy and Applications Research Unit
- Smart Energy Systems Research Unit
- Renewable Energy Finance Unit
- Power Systems Energy Efficiency and Power Quality Research Unit

Overall Impact

Through these initiatives, BAUN combines **investment (SPP, rooftop solar)**, **training (RE-You Project)**, and **research (Renewable Energy Center)** into a comprehensive renewable energy strategy. The University not only reduces its own carbon footprint but also contributes to national energy independence, regional economic development, and the creation of green jobs in line with **SDGs 7, 11, 13, and 17**.



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Planned Implementation Area for the Parking Lot Solar Power Plant Project is seen above.

4.3 Water Management and Rainwater Harvesting

Strategic Approach

Balıkesir University (BAUN) recognizes **water conservation** as an essential part of its environmental sustainability strategy, aligning with **SDG 6 (Clean Water and Sanitation)** and Türkiye's national water efficiency policies. Efficient water management not only reduces operational costs but also minimizes the environmental footprint of campus activities.

Rainwater Harvesting Project

- BAUN has initiated a **rainwater harvesting project** as part of its green campus initiatives.
 - The project focuses on collecting rainwater from impermeable surfaces across the Çağış Campus and storing it for **agricultural irrigation** and **landscaping activities**.
 - The **first pilot system** was installed in the Faculty of Engineering building under the coordination of the Rectorate.
 - Plans are in place to **expand the project to other suitable buildings** and facilities across the campus.
 - This system is designed not only to reduce the University's dependence on municipal water but also to serve as a **practical demonstration project** for sustainable urban water management.
-

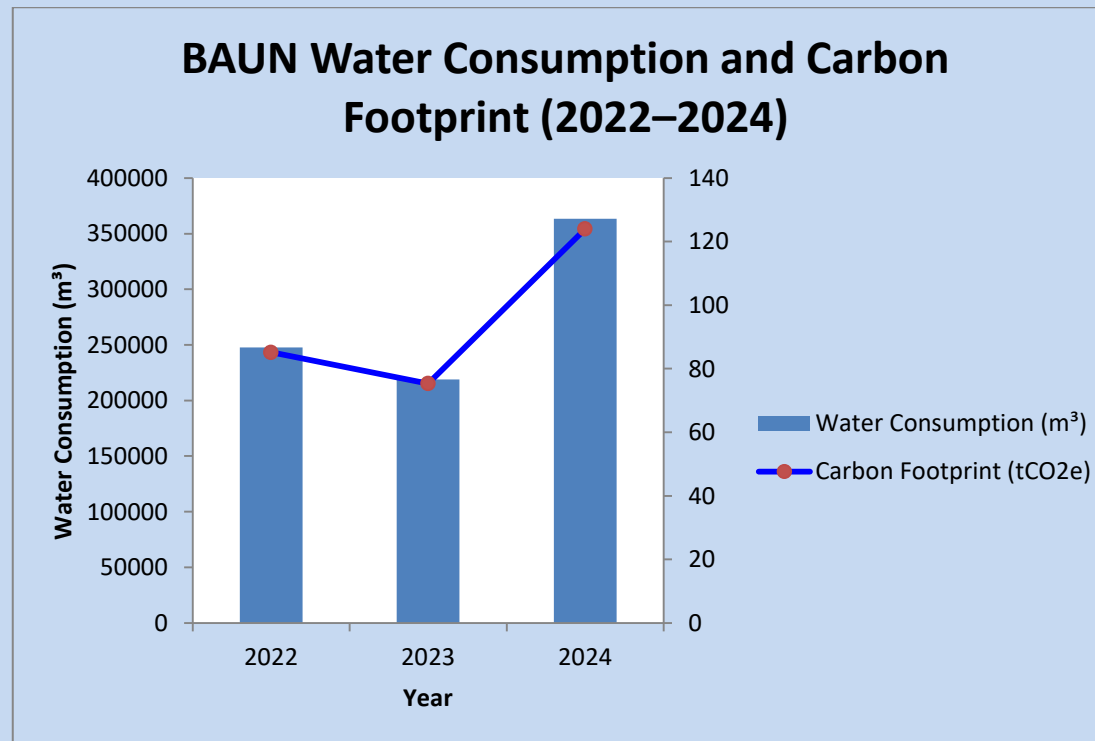
Additional Water Efficiency Measures

- **Infrastructure Renovations:** BAUN has upgraded parts of its water distribution system, reducing leakage and inefficiencies.
 - **Efficiency Gains:** These renovations are expected to provide measurable **water savings**, contributing both to reduced operating costs and environmental impact.
 - **Awareness Campaigns:** Staff and students are encouraged to use water responsibly, complementing technical measures with behavioral change.
-

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Expected Impact

- Reduction of potable water consumption for non-drinking purposes, particularly irrigation.
- Increased resilience of campus operations against potential drought or water scarcity.
- Contribution to Türkiye's broader climate adaptation policies through localized action on sustainable water use.
- Educational value: by showcasing applied sustainability solutions, BAUN integrates water management into teaching, research, and community engagement.



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In 2024, BAUN recorded a significant increase in water consumption, rising to **363,467 m³** compared to **219,060 m³** in 2023. Consequently, the carbon footprint associated with water use also increased to **124.01 tCO₂e**, up from **75.36 tCO₂e** in the previous year.

This increase is primarily linked to the **growing patient load of the University Hospital** (polyclinics, emergency services, and surgeries) as well as **ongoing construction activities** on the Çağış Campus, which required additional water use.

Looking forward, **pipeline and distribution system improvements implemented in late 2024 are expected to yield positive results in 2025**, reducing water losses and supporting more efficient resource management.

4.4 Waste Management

Zero Waste Project

Balıkesir University (BAUN) has established a **comprehensive zero waste management system** across the Çağış Campus and has been awarded the official **Zero Waste Certificate** by the Ministry of Environment, Urbanization, and Climate Change.

The system ensures that waste generated on campus is:

- Collected separately at source through color-coded waste bins.
- Delivered to **licensed recycling facilities** for environmentally safe processing.
- Managed in accordance with Türkiye's **Zero Waste Regulation** and the principles of resource efficiency.

To strengthen this effort, **certified zero waste training** programs are provided through BAUN's Continuous Education Center (BAUNSEM). These trainings cover topics such as hazardous and non-hazardous waste management, deposit systems, industrial sector responsibilities, and



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changing consumption habits. The initiative aims to build a **culture of environmental responsibility** among students, staff, and local stakeholders.

Recycling Practices

The recycling program at BAUN not only reduces the volume of waste sent to landfills but also conserves raw materials and energy. Specific practices include:

- Segregation of recyclable fractions (paper, plastic, glass, metals, wood, textiles, and organics).
- Safe disposal of **electronic waste, batteries, medical waste, and used vegetable oils** in line with environmental regulations.
- Partnerships with **licensed waste management companies** to ensure proper recycling and recovery.

These actions contribute to **climate change mitigation** by reducing greenhouse gas emissions associated with waste decomposition and incineration.

Paperless Bureaucracy

In parallel with the Zero Waste initiative, BAUN has adopted a “**Paperless Bureaucracy**” program to minimize paper consumption across administrative units.

- The initiative eliminates paper use wherever legally permissible, shifting processes to **digital platforms** such as the **Electronic Document Management System (EBYS)** and Application Procedures of the **Department of Health, Culture and Sports**.
 - Staff are trained and encouraged to reduce paper use in daily operations.
 - Early implementation results show **annual savings of approximately 700,000 TL**, demonstrating both the economic and environmental value of the practice.
 - The program also raises awareness among personnel regarding broader sustainability issues such as **energy and water conservation**.
-

Expected Impact

By combining **Zero Waste Certification**, **recycling practices**, and the **Paperless Bureaucracy program**, BAUN demonstrates a holistic approach to waste management. These practices align with **SDG 12 (Responsible Consumption and Production)** and contribute directly to **SDG 13 (Climate Action)** by reducing emissions from waste.

4.5 Green Mobility

Strategic Approach

Balıkesir University (BAUN) integrates **green mobility** into its sustainability policies as part of its efforts to reduce greenhouse gas emissions, encourage healthy lifestyles, and improve accessibility across campuses. These actions directly support **SDG 11 (Sustainable Cities and Communities)** and **SDG 13 (Climate Action)**.

Cycling Mobility

- As a **Sports-Friendly University**, BAUN actively promotes **cycling** both as a sport and as a sustainable means of transport.
- Regular **bicycle tours** are organized on the Çağış Campus to raise awareness and encourage low-carbon mobility.
- The Ministry of Health provided bicycles to BAUN, which were distributed to students, especially through the **University Bicycle Club**.
- With the support of the **Balıkesir Metropolitan Municipality**, dedicated **bicycle paths** have been developed across the Çağış Campus, making cycling a safer and more attractive option for students and staff.
- A dedicated **club room and workshop** was established in the BAUN Alparslan Türkeş Stadium to support student activities, maintenance, and awareness events related to cycling.



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Electric Scooter (E-Scooter) Initiative

- A protocol was signed to enable the use of **electric scooters (e-scooters)** within the Çağış Campus at discounted rates.
 - This initiative contributes to **reducing reliance on fossil-fuel transportation** and promotes **shared micro-mobility solutions** aligned with urban sustainability trends.
-

Collaboration and Awareness

- The University regularly organizes **awareness events** and collaborates with **local authorities** to enhance transport sustainability.
 - Green mobility practices are promoted not only as transport alternatives but also as **educational and cultural initiatives**, reinforcing BAUN's identity as a sustainable and student-centered institution.
-

Expected Impact

- Reduction of on-campus **carbon emissions** from conventional transport.
- Improved **air quality** and **health benefits** for students and staff through active mobility.
- Contribution to long-term **campus sustainability goals** by integrating modern, eco-friendly transport solutions into daily life.

4.6 Biodiversity and Afforestation Efforts

Strategic Approach

Balıkesir University (BAUN) integrates **biodiversity protection and afforestation** into its sustainability policies to enhance ecosystem services, mitigate climate change, and contribute to healthier living environments. These initiatives align with **SDG 15 (Life on Land)** and reinforce BAUN's vision of a greener and more resilient campus.

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Campus Afforestation Activities

- BAUN has undertaken multiple **mass afforestation events** on the Çağış Campus, particularly around symbolic areas such as the **15 July Martyrs' Square**.
 - In 2023, the event themed “*Planting 2023 Saplings in the 100th Year of Our Republic*” mobilized participation from senior management, senate members, faculty, administrative staff, and students.
 - Other campaigns included:
 - “*A Breath for the Future*” at Havran Vocational School.
 - A sapling planting event on the Çağış Campus for **21 March Down Syndrome Awareness Day**.
 - Creation of a **Martyrs' Memorial Forest** within campus grounds.
-

Olive Tree Cultivation Projects

- BAUN's Edremit Vocational School is a stakeholder in the project TTGS-II/205 – “**Olive Tree Cultivation in the Era of Climate Change: Tackling Future Impacts with Adaptation Strategies.**”
 - The project aims to develop a **curriculum on sustainable olive cultivation**, provide **farmer training**, and prepare adaptation strategies against the impacts of climate change.
 - This initiative is particularly significant as olive cultivation is one of the **most important livelihoods in the Balıkesir region**, making the project a strong example of university–community collaboration.
 - In parallel, **olive sapling planting** has been expanded across the Çağış Campus to integrate agricultural biodiversity into campus afforestation efforts.
-

Biodiversity and Community Engagement

- Afforestation and biodiversity projects are designed as **community-driven efforts**, engaging students, staff, and external stakeholders in collective action.
- Activities focus not only on **carbon sequestration and climate adaptation**, but also on **enhancing natural habitats** for local flora and fauna.

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- Collaboration with national and international partners ensures that projects contribute to both **scientific research** and **regional development**.

Expected Impact

- Expanded **green cover** across the Çağış Campus and other university facilities.
- Increased **resilience against climate change**, particularly in agriculture and ecosystem services.
- Enhanced **community awareness and participation** in environmental stewardship.
- Strengthened role of BAUN as a **regional leader in sustainable land use and biodiversity protection**.



4.7 Greenhouse Gas Emissions and Climate Change Mitigation

Emission Profile

Balıkesir University (BAUN) regularly monitors its **greenhouse gas (GHG) emissions** to assess its environmental footprint and to identify areas for mitigation. According to 2024 data, the University's total carbon footprint was estimated at **21,062 tons of CO₂ equivalent (tCO₂e)**.

The major contributors were:

- **Other Vehicles (commuting, external transport, etc.): 9,000 tCO₂e (43%)**
- **Electricity Consumption: 4,967 tCO₂e (24%)**
- **Natural Gas Consumption: 4,078 tCO₂e (19%)**
- **Construction Activities: 1,500 tCO₂e (7%)**
- Other categories including public transport, university fleet, water use, and logistics together accounted for the remaining 7%.

This distribution highlights the **critical role of energy consumption and mobility patterns** in the University's overall carbon footprint.

Mitigation Actions

To address these emissions, BAUN has already taken significant measures:

- **Renewable Energy Transition:** A solar power plant (SPP) is under implementation at the Çağış Campus, expected to meet 30% of hospital electricity demand, and rooftop PV systems at vocational schools are providing up to 35% coverage.
- **Energy Efficiency Measures:** LED lighting retrofit programs ($\approx$ 50% savings), maintenance of boilers, chillers, and HVAC systems ($\approx$ 10% efficiency gains), and pipeline renovations for water savings.
- **Mobility Initiatives:** Promotion of cycling mobility, discounted **e-scooter sharing**, and collaboration with local authorities for bicycle infrastructure on campus.
- **Zero Waste and Paperless Bureaucracy:** Significant reduction in landfill waste and an annual saving of $\approx$ 700,000 TL through digitalization of administrative processes.

Alignment with National and Global Policy

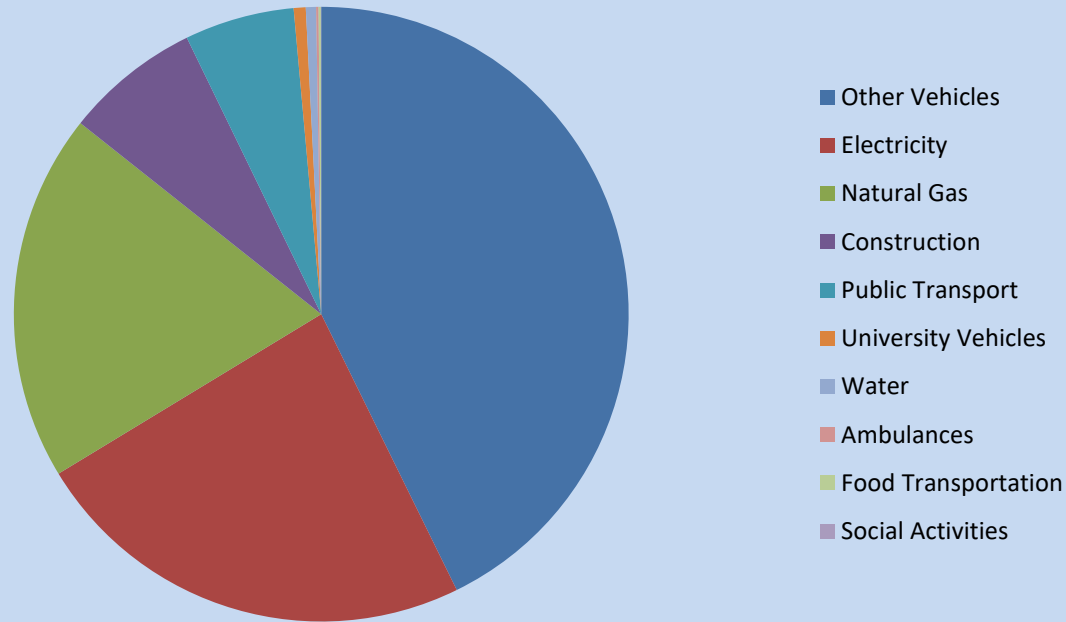
BAUN's emission management strategy aligns with:

- **Türkiye's National Energy Plan, Energy Efficiency 2030 Strategy, and II. National Energy Efficiency Action Plan (2024–2030).**
 - **Paris Agreement** targets and **EU Green Deal** commitments.
 - International climate frameworks including the **IPCC recommendations** and outcomes of the **COP summits**.
-

Outlook

- The significant **2024 increase in water-related emissions (113 tCO₂e)** is linked to rising hospital service demand and ongoing construction activities.
- **2025 targets** include efficiency gains from water distribution improvements and the commissioning of renewable energy projects, which are expected to **reduce Scope 2 emissions (electricity) by more than 15%**.
- BAUN aims to expand its GHG inventory to **Scope 3 categories** (supply chains, student commuting, etc.), ensuring a comprehensive climate action plan.

BAUN Greenhouse Gas Emissions (2024)



5. Social Performance

5.1 Employment and Human Resources

Balıkesir University (BAUN) employed a total of **2,066 staff members in 2024**, consisting of **1,252 academic personnel** and **814 administrative personnel**. Among them, **547 academic staff** and **380 administrative staff** were women, reflecting BAUN's commitment to gender equality.

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The University provides support to academic staff in management, teaching, research, community relations, and overall job satisfaction. Key initiatives include:

- Expanding the number of faculty members.
- Improving access to research infrastructure.
- Providing grants and support to encourage participation in national and international scientific events.

Additionally, BAUN hosts the **Women's Studies Application and Research Center**, which strengthens academic and social initiatives around gender equality.

5.2 Student Support and Inclusion

In 2024, BAUN had more than **29,800 students**, including **600 international students**, reflecting the University's growing role in fostering cultural diversity and global engagement.

For 2025, BAUN allocated **20,000,000 TL (≈ 660,000 USD)** for **student scholarships**, significantly improving access to education and reducing economic barriers. Students also benefit from career counseling, internships, and participation in cultural and sports activities.

5.3 Community Engagement and Social Responsibility

BAUN carries out diverse **social responsibility projects** and partnerships, including:

- Support for disadvantaged groups through cooperation with the Autism Support Foundation.
- Youth and sports initiatives in collaboration with the Balıkesir Provincial Directorate of Youth and Sports.
- Afforestation campaigns, environmental projects, and the Kazdağları Honey Forest initiative.
- Vocational training programs in collaboration with the Regional Directorate of Forestry.
- Health and veterinary services through the Faculty of Veterinary Medicine.

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Through these efforts, BAUN strengthens its role as a **regional development actor**, contributing to social, cultural, and environmental progress.

5.4 Occupational Health, Safety, and Well-being

BAUN has an established **Occupational Health and Safety (OHS) Coordination Office** responsible for ensuring compliance with national safety regulations. Activities include:

- **Regular inspections and risk assessments** across laboratories and administrative units.
- Provision of **protective equipment**, OHS training, and emergency preparedness drills.
- Monitoring staff and student well-being, including access to psychological support services.

Importantly, **no significant workplace accidents were recorded in recent years**, reflecting the effectiveness of the University's preventive approach.

6. Governance and Ethics

6.1 Governance Structure

Balıkesir University (BAUN) is governed under the provisions of **Law No. 2547 on Higher Education** and the **Public Financial Management and Control Law No. 5018**, which define the accountability and transparency principles of public universities in Türkiye.

The governance structure includes:

- **Rector:** The highest executive authority of the university, responsible for implementing decisions of the Higher Education Council (YÖK), preparing investment programs and budgets, assigning staff, and overseeing all academic and administrative activities.
- **University Senate:** Determines principles of education, training, and scientific research; approves the academic calendar; and grants honorary academic titles.
- **University Administrative Board:** Assists the Rector in implementing Senate decisions, evaluates faculty-level appeals, and reviews budget and investment proposals.

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At faculty and institute levels, **deans, directors, and their councils** function in accordance with national legislation to ensure effective governance.

6.2 Transparency and Accountability

Balıkesir University (BAUN) implements its governance processes in line with the principles of **efficiency, responsibility, transparency, and accountability** defined under the Public Financial Management and Control Law No. 5018.

To ensure transparency:

- The University regularly prepares and publishes its **Institutional Administrative Activity Reports** and **Institutional Performance Program Reports**, providing the public with detailed information on operational results, resource use, and performance indicators.
- The University's **2025–2029 Strategic Plan** is publicly available online, ensuring access to long-term goals, targets, and performance metrics.
- Importantly, **monthly energy consumption data are published on the official university website**, reflecting BAUN's commitment to accountability and proactive disclosure in the field of sustainability.

These practices not only strengthen **institutional trust** but also demonstrate BAUN's willingness to engage with stakeholders, monitor progress, and benchmark sustainability performance in line with national and international standards.

6.3 Energy and Sustainability Governance

For sustainability-specific governance, BAUN has established a dedicated structure:

- **Energy and Sustainability Coordination Office**, operating under the Rectorate.
- A governance chain consisting of **Rector → Vice Rector → Coordinator → Energy and Sustainability Commissions**.
- This unit is responsible for the implementation of the **ISO 50001 Energy Management System**, monitoring energy use, and coordinating all sustainability-related initiatives across the campus.



6.4 Ethics and Integrity

Balıkesir University (BAUN) upholds **ethics and integrity** as guiding principles in all areas of education, research, administration, and community engagement.

Institutional Framework

- The University has a formally established **Ethics Committee**, ensuring compliance with ethical standards in academic, research, and administrative activities.
- The **Institutional Performance Program** explicitly emphasizes the importance of “acting with ethical awareness” as one of BAUN’s guiding policy priorities.
- The **Strategic Plan (2025–2029)** highlights emerging areas such as the ethical use of **artificial intelligence (AI) applications** in education and research, underlining BAUN’s proactive approach to adapting technology within ethical boundaries.

Transparency and Compliance

- All **procurement and tendering processes** are carried out in strict compliance with national legislation, ensuring **fairness, transparency, and accountability**.
- BAUN adheres rigorously to the **Presidential Circular on Public Expenditure Savings**, demonstrating financial responsibility in line with national public sector expectations.
- The University is subject to **regular external audits by the Turkish Court of Accounts (Sayıştay)**, which reinforces the reliability of its financial and operational practices.

Ethical Culture and Communication

- In line with its Strategic Plan, BAUN prioritizes the establishment of a **Social Media Coordination Office**, with the aim of ensuring the **accurate, inclusive, and effective use of social media** for institutional promotion and communication.
- Staff and students are regularly informed and trained on ethical principles, academic integrity, and responsible conduct.
- These mechanisms contribute to fostering a **culture of trust, inclusiveness, and accountability**, positioning BAUN as a responsible and transparent higher education institution.

7. Research, Innovation, and Partnerships

This topic will be addressed under three subheadings.

7.1 Renewable Energy Research and Application Center

Balıkesir University established the **Renewable Energy Research and Application Center** in 2013, recognizing Balıkesir's strategic potential in **wind, solar, geothermal, biogas, and biomass**. The center serves as a hub for:

- **R&D activities** to develop domestic renewable energy technologies.
- **Training programs** for technical personnel in renewable energy sectors.
- **Research units** covering solar, wind, biomass, geothermal, hydro & marine currents, smart energy systems, renewable energy finance, and power quality.
- **Collaboration with industry**, particularly given Balıkesir's role as a hub for wind turbine component manufacturers.

This Center positions BAUN as a **national-level contributor** to Türkiye's renewable energy transition.



7.2 Sustainability-Oriented Research and Projects

BAUN actively integrates sustainability into its **research agenda**:

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- **RE-You Project (Renewable Youth Energy):** EU-funded initiative training 480 graduates in renewable energy systems, with 150 securing employment.
- **Olive Tree Cultivation in the Era of Climate Change (TTGS-II/205):** Climate adaptation project for sustainable agriculture in Balıkesir's olive sector, including curriculum development and farmer training.
- **Zero Waste Training Programs** through BAUNSEM: Building environmental literacy among staff, students, and external stakeholders.
- Academic support for **smart campus, energy efficiency, and climate change adaptation** research, aligned with **SDG 7, 11, 13, and 15**.

7.3 Collaborations with Public Institutions and NGOs

BAUN has signed multiple **protocols and partnerships** to extend its research and social impact:

- **Ministry of Environment, Urbanization and Climate Change:** Cooperation under the **KABEV Project** and joint renewable energy initiatives.
- **Balıkesir Metropolitan Municipality:** Campus landscaping and bicycle path development.
- **Regional Directorate of Forestry:** Vocational training and afforestation programs.
- **Autism Support Foundation, Youth and Sports Directorate, and Otizmli Bireyleri Destekleme Vakfı:** Social inclusion and community development initiatives.
- **Enerjisa & Faculty of Education:** “Imagining the Future” project introducing children to energy and sustainability concepts.
- Internationally, BAUN maintains partnerships with **40 foreign universities**, expanding research and educational diversity.

7.4 Sustainability-Oriented Education

Balıkesir University systematically integrates sustainability into its educational programs. Courses are offered across faculties, institutes, schools, and vocational schools (MYOs), ensuring that sustainability principles reach a wide student base.

- **Faculties:** Courses include *Green Engineering and Sustainability*, *Solid Waste Management and the 5R Principle* (Environmental Engineering), *Environmental Chemistry* and *Green Chemistry* (Chemistry), *Environmental Sustainability and Tourism* and *Global Warming and Climate Change* (Geography), *Environmental Problems* (Sociology), and *Sustainable Tourism* (Burhaniye Faculty of Applied Sciences).
- **School of Civil Aviation (Edremit):** Offers *Sustainability in Aviation*.

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- **Vocational Schools:** More than **80 sustainability-related courses** are delivered across Balıkesir, Edremit, Havran, Sındırgı, Bigadiç, Dursunbey, Kepsut, Savaştepe, İvrindi, and Kimya Teknolojileri MYOs. These courses cover topics such as tourism sustainability, environmental protection, zero waste, and sustainable agriculture.

7.5 Research and Publications

- Faculties and institutes have produced **20+ scientific articles** and **5 international book chapters** on climate change, energy efficiency, environmental sociology, and sustainable tourism.
- Several BAP-funded projects focus on climate adaptation, water management, sustainable olive cultivation, and urban-rural sustainability.
- Vocational schools also contribute: Kepsut MYO (international book chapter), Sındırgı MYO (3 articles, 4 conference papers, plus Zero Waste certification).

7.6 Seminars, Conferences, and Outreach

BAUN organizes and participates in numerous sustainability-oriented activities:

- International conferences such as *International Congress on Sustainable Development (SD'2024)* and *Mesopotamia Cultural and Faith Tourism Congress*.
- Community-based outreach including Zero Waste trainings, climate change seminars for schools, TÜBİTAK science talks (*How Do Airplanes Fly?*), and social events organized by vocational schools (Havran MYO with 10 events, İvrindi MYO with 27 events).

7.7 Social Contribution by Vocational Schools

Vocational schools play a central role in BAUN's sustainability outreach:

- **Havran MYO:** 21 courses + 10 social activities.
- **İvrindi MYO:** 27 social activities.
- **Sındırgı MYO:** 1 project, 1 sustainability course, 3 articles, 4 conference papers, and Zero Waste certification.
- **Balıkesir MYO:** 34 courses, 3 articles, 4 papers, 2 social events, and ministry-led training sessions.
- **Kimya Teknolojileri MYO:** 19 courses, 9 seminars, 1 workshop, 2 trainings, 1 social event.

7.8 Summary

- **Courses:** 120+ across faculties, schools, and MYOs.
- **Research Outputs:** 20+ articles, 5+ book chapters, multiple BAP projects.
- **Outreach:** 50+ seminars, workshops, and conferences.
- **Social Engagement:** 40+ social contribution activities from vocational schools.

Through this comprehensive integration, BAUN ensures that sustainability is embedded not only in academic curricula but also in applied research and community service, with vocational schools playing a particularly active role in outreach.

All courses, scientific studies, projects, and social activities related to sustainability at Balıkesir University have been systematically compiled, verified with evidence, and recorded under the University's GreenMetric studies. This comprehensive documentation ensures that BAUN's sustainability-related education, research, and community engagement activities are aligned with international benchmarking standards. The registered data cover sustainability-oriented curricula, peer-reviewed publications, funded projects, outreach seminars, and community-based contributions across faculties, institutes, and vocational schools. By aligning these records with the GreenMetric indicators, BAUN strengthens its institutional capacity to monitor, evaluate, and continuously improve its sustainability performance.

8. Consumption and Performance Indicators

8.1 Energy Consumption

- **Electricity (2024):** 13,386,132 kWh
- **Natural Gas (2024):** 2,112,095 m³ ($\approx$ 22,277,402 kWh)
- **Total Consumption (2024):** $\approx$ 35,663,535 kWh
- **Campus Area:** 300,343 m²
- **Specific Energy Consumption:** $\approx$ 118.7 kWh/m²
- **Total Energy (TEP):** $\approx$ 2,894 TEP (Electricity: 1,151; Natural Gas: 1,742)

Trend: Compared to 2023, both electricity and gas consumption increased, reflecting rising hospital demand and construction activities on campus.

8.2 Water Consumption

Year Water Consumption (m³) CO₂e (t)

2022	247,586	85.16
2023	219,060	75.36
2024	363,467	124.01

Trend: A sharp increase in 2024 linked to hospital service demand (polyclinics, emergency care, surgeries) and ongoing construction. Pipeline improvements are expected to reduce consumption in 2025.



8.3 Waste Generation and Recycling

- **Zero Waste Certificate** obtained from the Ministry of Environment, Urbanization, and Climate Change.
- Waste separation at source (paper, plastic, glass, metals, organics, hazardous waste).
- Recycling carried out through licensed facilities.
- Electronic waste, batteries, medical waste, and vegetable oils are managed according to regulation.
- **Paperless Bureaucracy** program achieved $\approx 700,000$ ₺ annual savings.

Trend: Exact tonnage data is not yet consolidated, but collection and recycling coverage reached all units of the Çağış Campus.

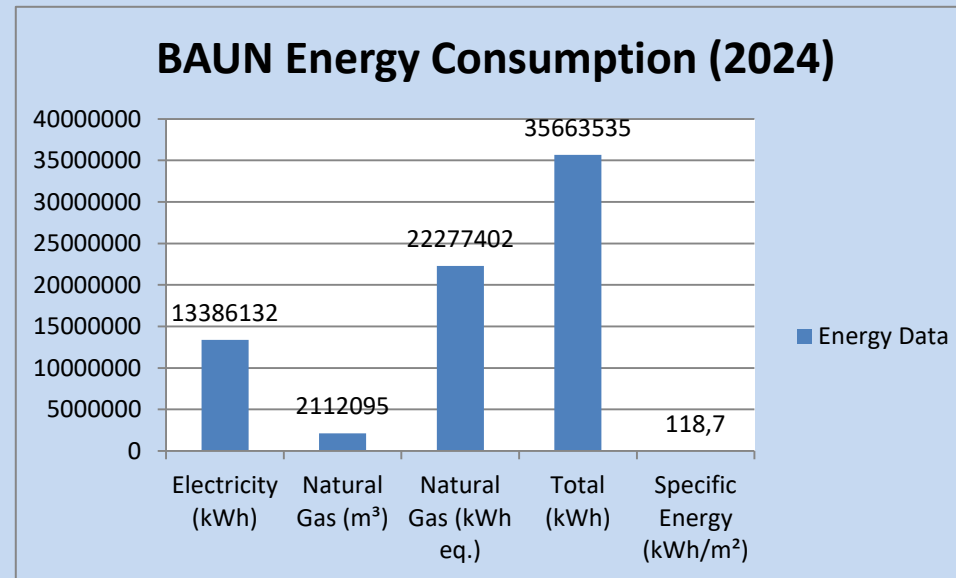
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8.4 Emissions (GHG Inventory, 2024)

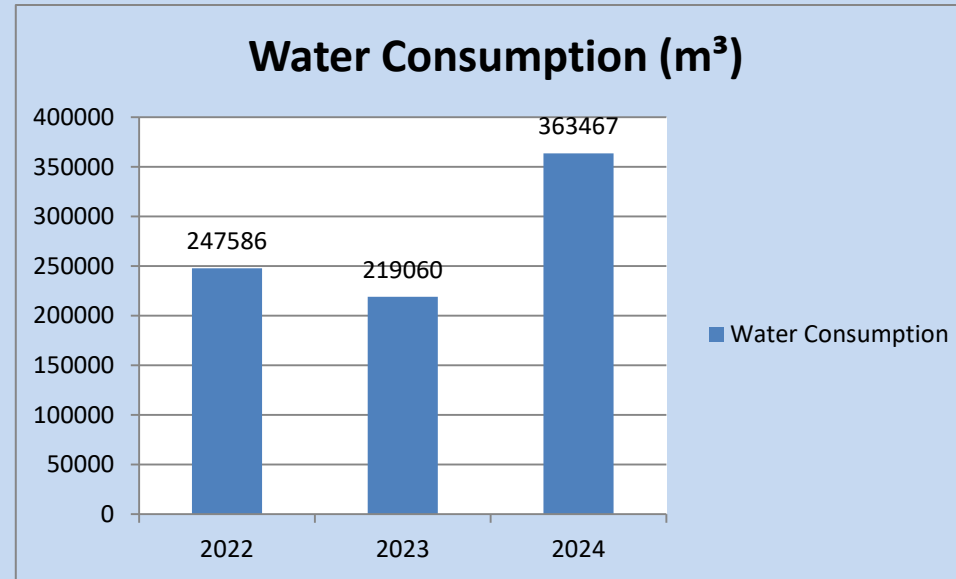
Source	Emissions (tCO ₂ e)
Other Vehicles	9,000
Electricity	4,967
Natural Gas	4,078
Construction	1,500
Public Transport	1,215
University Vehicles	133
Water	113
Ambulances	27
Food Transportation	25
Social Activities	4
Total	21,062

Trend: The largest contributors are transportation (43%) and electricity consumption (24%). Renewable energy initiatives and mobility programs are expected to reduce Scope 2 and partial Scope 3 emissions from 2025 onwards.

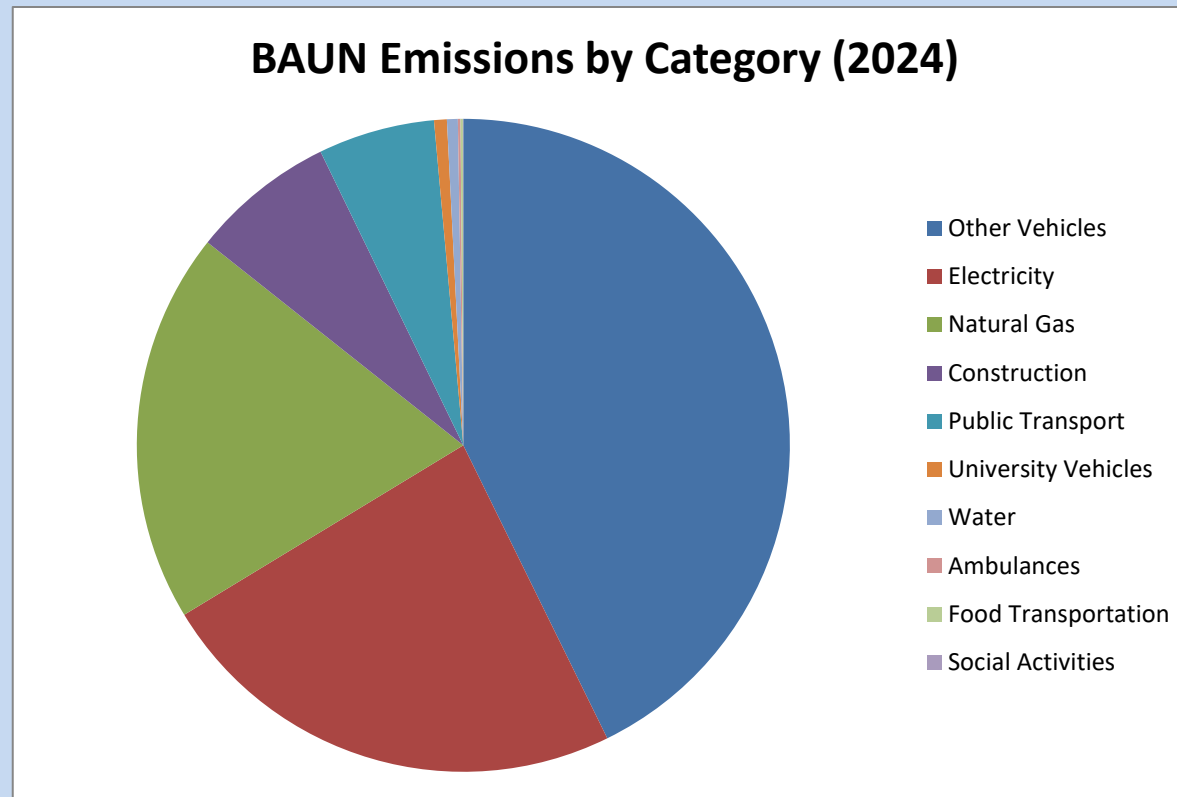
The data covered in this section are presented below as energy and water charts, a waste management table, and an emissions chart, respectively.



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Initiative	Description
Zero Waste Certification	Certified zero waste management system covering all units
Recycling Practices	Licensed recycling of paper, plastic, glass, metals, organics, hazardous waste
Paperless Bureaucracy	≈700,000 TL annual savings from digitalization of processes



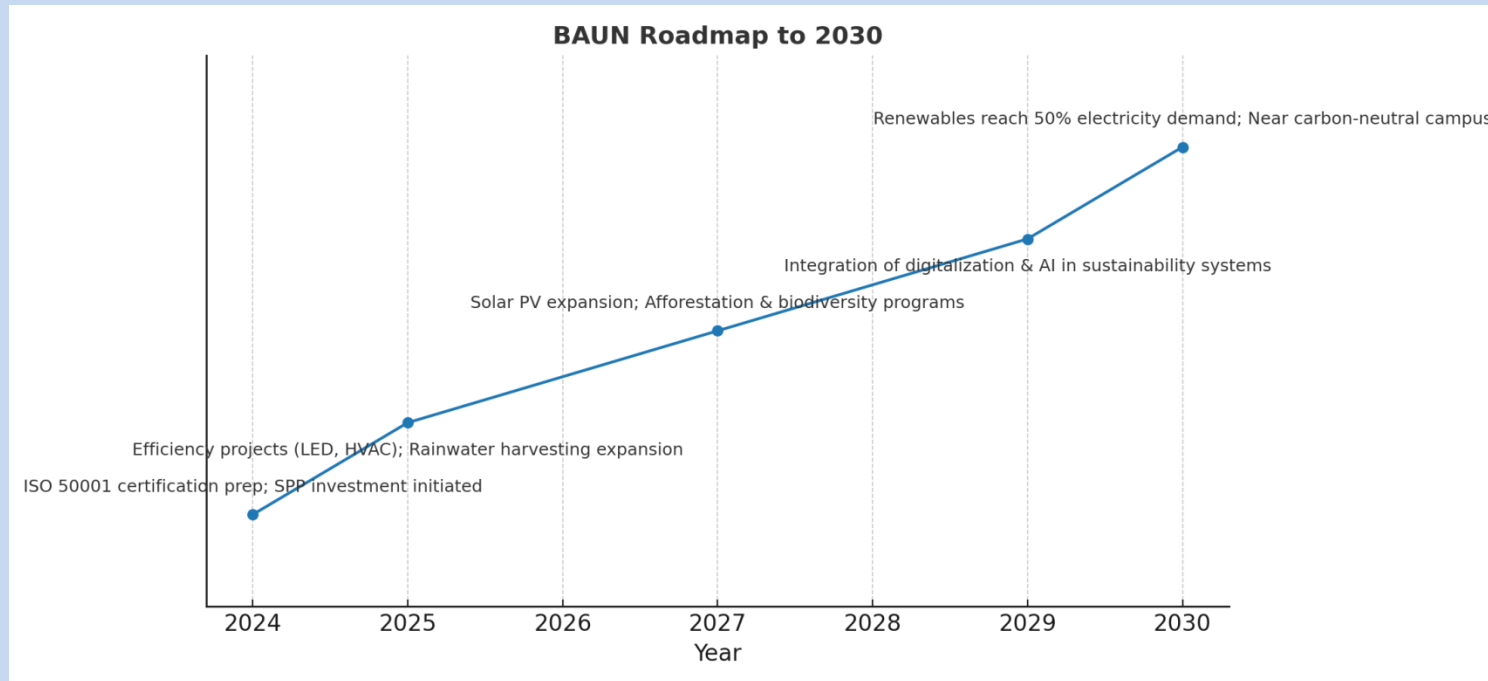
9. Future Outlook

9.1 Roadmap for 2030 and Beyond

Balıkesir University has set ambitious sustainability goals for the coming decade. By 2030, the University aims to increase the share of renewable energy in its total electricity demand from the current 30% to at least 50%. This will be achieved through continued investments in solar power, expansion of on-campus renewable energy facilities, and participation in national and international funding programs.

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In addition, the University has committed to lowering overall energy intensity by prioritizing LED conversions, optimizing heating and cooling systems, and strengthening building insulation measures. In parallel, further improvements in water efficiency, the expansion of rainwater harvesting systems, and the continuation of zero waste practices will contribute to the University's long-term vision of transforming the Çağış Campus into a near carbon-neutral campus. Afforestation efforts and biodiversity protection programs will also serve as crucial components of this roadmap.



9.2 Alignment with National Climate and Energy Policies

The University's sustainability strategy is carefully aligned with both national and international frameworks. Key guiding policies include the *Energy Efficiency 2030 Strategy*, the *Second National Energy Efficiency Action Plan (2024–2030)*, the *Turkish National Energy Plan*, and the *11th and 12th Development Plans*. These frameworks ensure that BAUN's actions remain consistent with the country's long-term energy and climate goals.

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At the global level, BAUN aligns itself with the *Paris Agreement*, the outcomes of *COP Conferences*, *IPCC Guidelines*, and the *European Green Deal*. These international agreements provide a broader context, reinforcing the University's contribution to global climate action and sustainable development.

Alignment with National and Global Policies

Level	Policy/Agreement
National	Energy Efficiency 2030 Strategy
National	Second National Energy Efficiency Action Plan (2024-2030)
National	Turkish National Energy Plan
National	11th & 12th Development Plans
Global	Paris Agreement
Global	COP Conferences & IPCC Guidelines
Global	International Energy Agency (IEA) Recommendations
Regional	European Green Deal

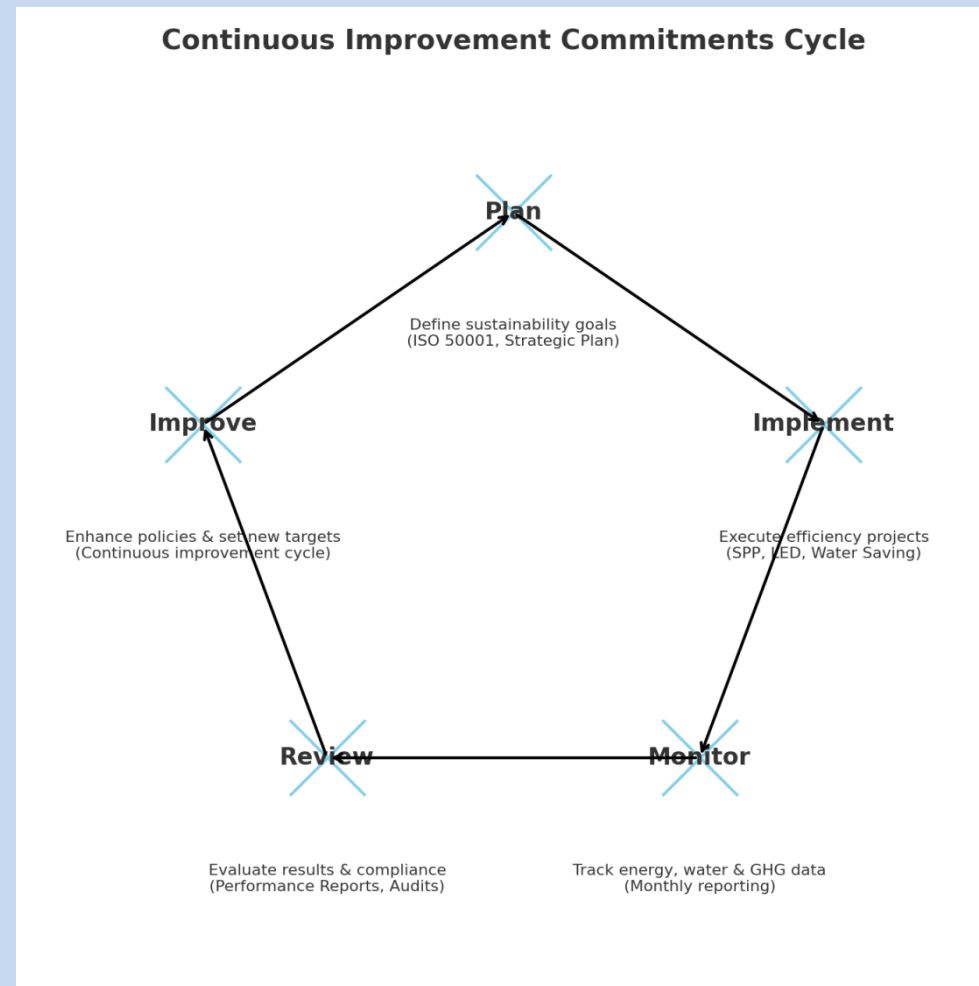
9.3 Continuous Improvement Commitments

Continuous improvement is central to BAUN's sustainability vision. The University has already begun preparations for certification under the ISO 50001 Energy Management System, which will establish a systematic and verifiable framework for energy monitoring, efficiency planning, and reporting. Regular disclosure of energy, water, and greenhouse gas data through the University's website demonstrates a commitment to transparency and accountability.

Looking ahead, BAUN plans to integrate sustainability more deeply into education and research by developing new interdisciplinary programs, embedding sustainability concepts across curricula, and expanding partnerships with public institutions, industry, and NGOs. These collaborations will not only enhance knowledge production but also accelerate practical implementation of sustainability measures. The University also recognizes the importance of digitalization and emerging technologies. Efforts to incorporate artificial intelligence, smart

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campus applications, and innovative monitoring systems will provide new opportunities to optimize resource efficiency. By embedding sustainability into governance, academic culture, and campus life, BAUN commits to a cycle of continuous improvement that ensures progress toward its 2030 targets and beyond.



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The **Continuous Improvement Commitments Cycle** illustrates BAUN's systematic approach to sustainability management. The cycle begins with **planning**, where strategic goals and frameworks such as the ISO 50001 Energy Management System and the University's Strategic Plan are defined. These goals are followed by **implementation**, which includes projects such as solar power plant investments, LED conversions, and water-saving measures.

Progress is **monitored** through the regular collection and disclosure of energy, water, and greenhouse gas data, while outcomes are **reviewed** via performance reports, audits, and stakeholder feedback. Finally, BAUN continuously **improves** by refining its policies, updating targets, and embedding new sustainability measures into its operational framework.

This cycle ensures that sustainability efforts remain **dynamic, measurable, and aligned with both national and international standards**, driving the University closer to its 2030 targets of efficiency, transparency, and carbon neutrality.

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10. Annexes / Appendices – GRI Content Index

Section	Content	Relevant GRI Standards
About the Report	Purpose, scope, preparation process	GRI 2-1, 2-2, 2-3
Organizational Profile	Structure, staff, students, governance	GRI 2-1, 2-6, 2-7, 2-9, 2-10
Strategy and Material Topics	Vision, mission, materiality process & matrix	GRI 2-22, 2-23, 3-1, 3-2
Economic Performance	Energy efficiency investments, budget use, local procurement	GRI 201-1, 203-1, 204-1
Environmental Performance	Energy, water, waste, biodiversity, mobility, emissions	GRI 302, 303, 305, 306
Social Performance	Students, staff, equality, community projects, health & safety	GRI 401, 402, 403, 404, 405, 413
Governance and Ethics	Ethics committee, transparency, accountability	GRI 2-9, 2-12, 2-13, 2-14
Research, Innovation, Partnerships	Renewable energy research center, projects, collaborations	GRI 203-1, 413-1
Consumption and Performance Indicators	Consolidated data tables (energy, water, waste, GHG)	GRI 302, 303, 305, 306
Future Outlook	Roadmap 2030, alignment with policies, continuous improvement	GRI 2-22, 3-3

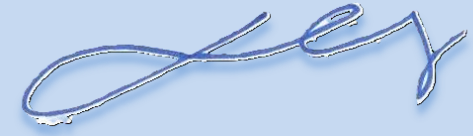
11. Closing Statement

Closing Statement

Balıkesir University reaffirms its commitment to building a sustainable future for our students, staff, and society. This Sustainability Report highlights our ongoing efforts in energy efficiency, renewable energy investments, water and waste management, social inclusion, and transparent governance.

Looking forward, we will continue to align our actions with Türkiye's *Energy Efficiency 2030 Strategy*, the *National Energy Plan*, and international frameworks such as the *Paris Agreement* and the *European Green Deal*. With the planned expansion of renewable energy capacity, adoption of ISO 50001 Energy Management, and integration of sustainability in education and research, BAUN strives to transform the Çağış Campus into a near carbon-neutral campus by 2030.

Through the active participation of our students, academic staff, administrative staff, and external stakeholders, Balıkesir University will persist in its mission of contributing to sustainable development at the local, national, and global levels.



on behalf of the Rector
Prof. Dr. Murat DOĞDUBAY
Vice Rector