



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



# Message From the Rector

In an era when the world faces mounting environmental, social, and economic challenges, the role of universities has become more vital than ever. Institutions of higher education are not only centers of learning but also agents of transformation — shaping knowledge, values, and actions that define the future of our planet and humanity.

At Biruni University, we embrace this global responsibility with determination and vision. Guided by the United Nations Sustainable Development Goals (SDGs), we are committed to advancing sustainability through excellence in education, innovative research, and community-centered impact.

Our mission extends beyond academic achievement; it is about producing knowledge that heals, transforms, and sustains life in all its forms.

As a pioneering health sciences university, we channel our scientific expertise toward creating solutions that enhance well-being and social equity. Our multidisciplinary approach allows us to integrate health, innovation, and sustainability — transforming research into real-world benefits for people and communities. The projects and studies we carry out, particularly in the fields of medicine, health, and technology, stand as concrete reflections of this commitment.

Our understanding of sustainability transcends academic boundaries. It is woven into the fabric of our campuses, hospitals, and community initiatives — from energy efficiency and environmentally friendly infrastructure to nurturing students with the awareness and capacity to become responsible global citizens.

Through the dedication of our academic and administrative teams, and the unwavering support of our partners, Biruni University continues to build a resilient, inclusive, and sustainable future. Together, we reaffirm our pledge to serve humanity through science and compassion — today and for generations to come.



**Prof. Dr. Adnan Yüksel**  
Rector, Biruni University

# Message From the Editor

The world is entering an age of profound transformation — one that demands wisdom as much as it demands action. Climate disruption, social fragmentation, and economic imbalance have made it clear that the systems which once defined progress can no longer sustain it. Humanity needs a new compass — one that points toward balance, compassion, and collective renewal.

Universities stand at the very heart of this change. They are not merely institutions of teaching and research; they are the laboratories of humanity's future — places where science, conscience, and purpose must meet.

At Biruni University, we see sustainability not as a goal to be reached, but as a way of being. It is the thread that weaves through our research, our classrooms, our hospitals, and our partnerships. It is how we measure success —

by the difference we make in people's lives and the legacy we leave for the generations to come.

Guided by the **United Nations Sustainable Development Goals**, we are reimagining higher education as a force for healing — for reconnecting human progress with planetary well-being, for bridging innovation with empathy, and for transforming knowledge into impact.

Our mission is both scientific and moral: to cultivate minds that create, question, and care; to generate ideas that build a more equitable, peaceful, and sustainable world. Every discovery, every collaboration, every act of learning becomes part of a larger story — the story of humanity's renewal through knowledge.

This report is more than an evaluation of where we stand; it is a reflection of who we choose to be. Biruni University stands as a living commitment

to the idea that education can heal, science can serve, and together we can build a future worthy of hope.



**Aslıhan Güzin ALSAN, P.h.D. FHEA**  
Director of Institutional Impact,  
Visibility and Corporate Reputation



# BIRUNI UNIVERSITY COMMITMENT TO RESPONSIBLE CONSUMPTION AND PRODUCTION

The way humanity produces and consumes defines the world it creates. Every resource we use, every product we design, and every habit we cultivate leaves an imprint -on the planet, on society, and on the generations that follow. To consume responsibly is to act consciously; to produce responsibly is to lead ethically.

At Biruni University, we embrace Sustainable Development Goal 12: Responsible Consumption and Production as a guiding principle in rethinking how knowledge, innovation, and daily practice can reshape our relationship with the material world. We believe sustainability begins not in policy, but in awareness - in the moment we choose purpose over convenience, and long-term value over short-term gain.

Our mission is to build a culture of responsibility across every level of the university - from laboratories to classrooms, from procurement to community engagement. We recognize that the health of ecosystems and the health of societies are

inseparable. Waste is not only an environmental issue; it is an ethical one. Overconsumption is not only an economic behavior; it is a reflection of collective consciousness.

being. Through education, research, and operational practices, we work to ensure that every decision - from what we teach to how we build - contributes to a circular, regenerative future.

This report represents our ongoing effort to model sustainability in action — to transform our institution into a living example of balance, responsibility, and innovation.



As a university grounded in the health sciences, we are acutely aware that sustainable production and consumption directly affect human well-

## Our Approach: Cultivating Conscious Systems of Use and Renewal

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At Biruni University, we approach SDG 12 through a systemic lens — connecting economy, ecology, and ethics. Our aim is not only to reduce waste but to redesign the way we think about resources, efficiency, and value creation.

Our philosophy rests on three foundational principles: Reduction, Regeneration, and Responsibility.

- **Reduction:** We minimize waste and resource consumption through smart procurement, digital transformation, and behavior-based efficiency programs.
- **Regeneration:** We promote circular systems - from recycling and reusing to innovative research in sustainable materials and environmental health.
- **Responsibility:** We cultivate awareness among students, faculty, and staff, empowering them to act as conscious consumers and sustainability ambassadors in their fields.

We see every small act - from reducing paper use to designing zero-waste laboratories - as part of a broader cultural transformation toward mindful living.



## Institutional Framework: Integrating Sustainability Into Practice

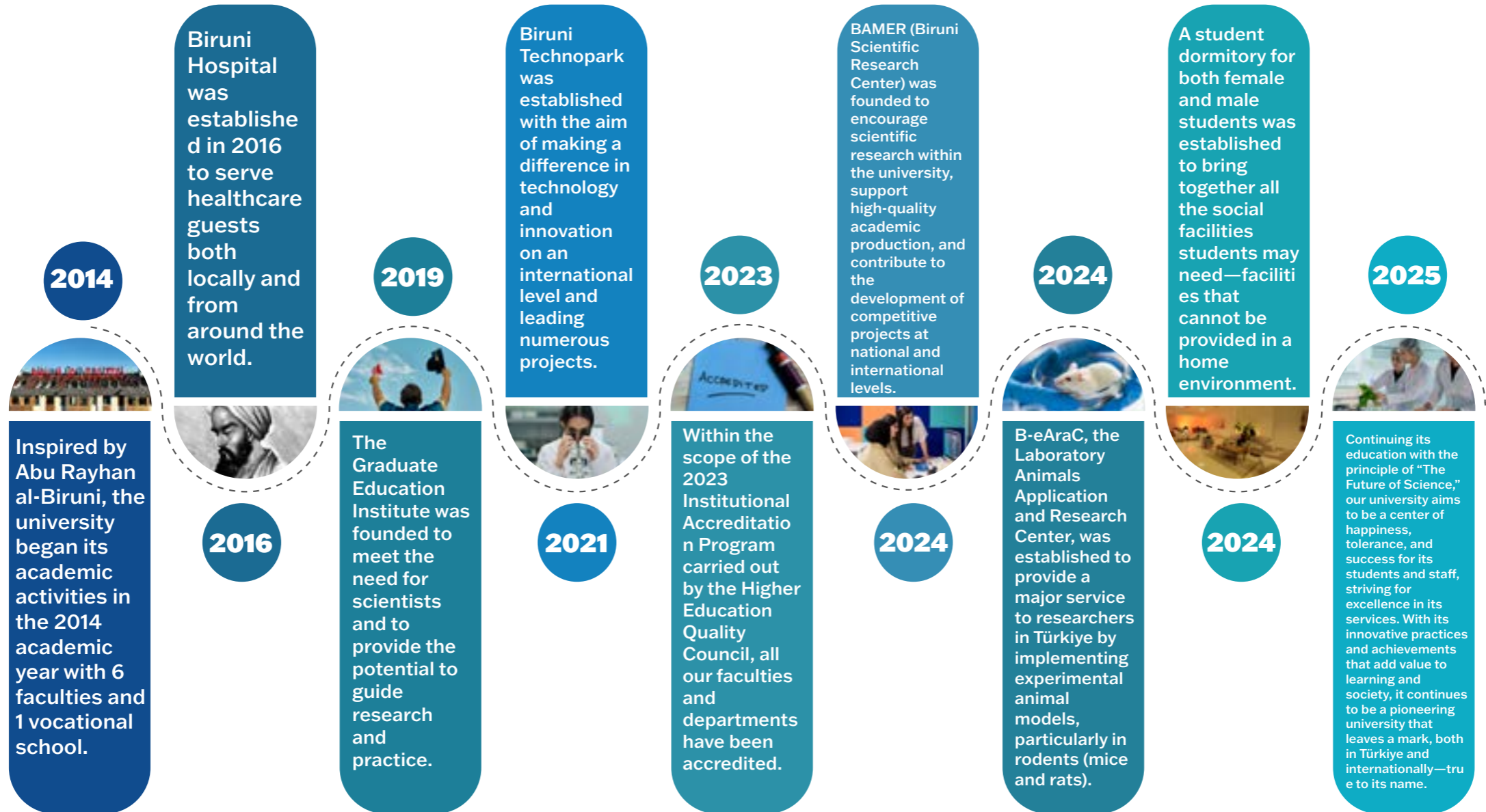
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Biruni University's sustainability framework for SDG 12 connects policy with practice, and learning with leadership.

- **Sustainable Procurement:** The university applies environmental and ethical criteria in purchasing processes, prioritizing local, recyclable, and energy-efficient products.
- **Waste Management Systems:** Comprehensive recycling, composting, and waste segregation mechanisms operate across campus and hospital facilities, ensuring measurable reductions in landfill output.
- **Green Laboratories:** Research units implement safety and sustainability standards that reduce chemical waste and energy use while promoting responsible science.
- **Awareness and Education:** Workshops, exhibitions, and campaigns engage the university community in sustainable consumption habits, food waste prevention, and environmental ethics.
- **Research and Innovation:** Academic projects explore sustainable materials, eco-design, and responsible manufacturing - connecting research outcomes with community and industry needs.

At Biruni University, sustainability is not confined to policy documents - it lives in choices, habits, and the everyday awareness of those who believe that responsibility is the highest form of intelligence.

# O U R S T O R Y



# O u r V i s i o n

To be a pioneering university that, true to its name, leaves a lasting mark — leading change through knowledge, innovation, and impact.

# O u r M i s s i o n

To be an innovative and leading university that cultivates qualified individuals through transformative education, produces original knowledge at both national and international levels, and contributes to solving societal challenges with scientific and ethical responsibility.

# C O R E V A L U E S



## K n o w l e d g e

Commitment to learning, discovery, and the pursuit of truth as the foundation of progress.



## W i s d o m

Using knowledge with depth, reflection, and ethical judgment to serve humanity.



## H u m a n i t y

Placing human dignity, empathy, and compassion at the heart of education, research, and service.



## A c a d e m i c F r e e d o m

Protecting the right to think, question, and create freely within an environment of respect and integrity.



## P i o n e e r i n g S p i r i t

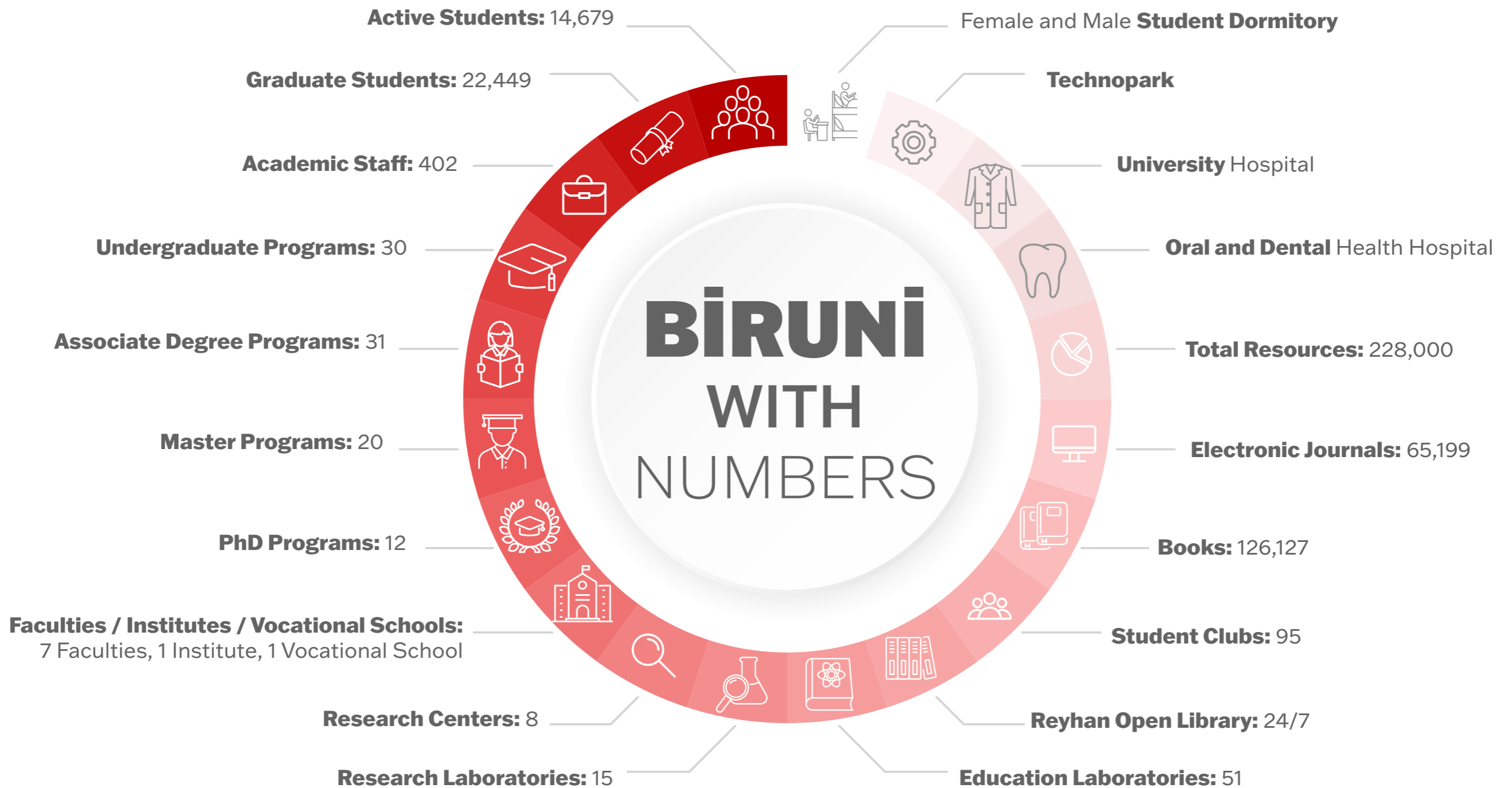
Challenging conventions with creativity and vision; leading transformative change in education and science.



## C o u r a g e

Acting with integrity and resilience in the face of uncertainty — daring to stand for what is right and meaningful.

# BİRÜNİ WITH NUMBERS



**124,000 mt**  
**Amount of waste generated**

**36,120 mt**  
**Amount of waste recycled by  
expenditure on arts and heritage**

## Waste Management And Reduction Of Environmentally Harmful Products Policy

### Waste Management

Waste management encompasses the prevention of waste generation, its reduction at source, reuse, separation, collection, transportation, recycling, disposal, and the monitoring, control, and supervision of post-disposal processes. In line with its vision of creating an environmentally responsible and sustainable campus environment, Biruni University has developed a comprehensive policy to reduce the use of environmentally harmful products and ensure waste management in all its activities.

### Policy Objectives

With this policy, the university's goal is to contribute to environmental sustainability by reducing waste at its source, encouraging recycling, and using natural resources efficiently. Biruni University is committed to developing various measures and incentives to ensure campus-wide waste management and limit the use of environmentally friendly products.

### Core Values

The core values underlying Biruni University's Waste Management and Environmentally Harmful Products Reduction Policy are shaped



by principles that prioritize environmental awareness and support sustainable development. These values are as follows:

1. Sustainability Principle: As a university, our priority is to use resources efficiently to ensure

the sustainability of nature and to leave a livable world for future generations. Sustainability awareness guides all our activities.

2. Environmental Leadership: Biruni University has undertaken a mission to lead society in waste management and the reduction of environmentally harmful products. Our university strives to be a pioneer in these decisions and create positive change in society.

3. Innovation and Technological Integration: We pursue innovative technologies in our waste management processes, integrating technological solutions that do not harm the environment, save energy, and increase efficiency. We work with a focus on continuous improvement and development.

4. Community Engagement: Raising awareness of environmental issues and engaging our students, staff, and the local community in these processes is a priority. Waste management is conducted not only on campus but also in collaboration with local and international stakeholders.

5. Ethical Responsibility and Transparency: We adhere to the principle of transparency in

our waste management policies and prioritize ethical values in all decision-making processes. We support transparent and responsible behavior in the efficient use of resources.

6. Environmental Education: One of our most important goals is to raise our students with an awareness of environmental responsibility. All education provided within the university fosters environmental awareness and is built on respect for nature.

7. Social Responsibility: As a university, it is our social responsibility to create a positive environmental impact not only within the campus boundaries but also on the surrounding areas and communities.

#### Policy Strategies

Biruni University has adopted the following strategies in its policy of waste management and reduction of environmentally harmful products:

1. Current Practices and Feedback: The university's waste management strategy is updated in line with best practice examples from universities and relevant non-governmental organizations around the world, government guidelines, and collected feedback.

2. Waste Separation and Planning: Waste resulting from university activities is identified, separated appropriately and recycled, and a planned system is created.

3. Budgeting and Needs Analysis: The University ensures the establishment of an effective system by planning the necessary budget and resources for waste management.

4. Implementation of the PUKÖ Cycle: All waste management processes are carried out within the framework of the "Plan-Do-Check-Act" (PUKÖ) cycle.

5. Healthy and Safe Conditions: Necessary

and disposal are determined in line with the relevant technological developments.

7. Reducing Waste at Source: The aim is to minimize the use of waste materials by prioritizing efficiency in the materials and methods selected.

8. Safe Disposal: Waste is collected and separated at the source and disposed of safely outside the university.

9. Training and Awareness-Raising Activities: Necessary training is provided to students and employees in line with the waste management strategy. Sanctions for non-compliance with policies are clearly announced.

#### Goals

The objectives of Biruni University's Waste Management and Reduction of Environmentally Harmful Products Policy are aimed directly at reducing environmental impacts and creating a sustainable campus environment. These goals are as follows:

1. Reducing Waste: Minimizing waste generation across the campus, particularly limiting the use of single-use items. Reducing waste through source separation methods.

2. Zero Waste Goal: To ensure that the university operates in accordance with its "zero waste" policy in the long term. To achieve this goal by increasing recycling rates through our



precautions are taken in all waste management processes to ensure a healthy and safe environment on campus.

6. Following Technological Developments: The methods to be used in waste management

waste management strategies.

3. **Energy and Water Conservation:** Implementing projects that reduce energy and water consumption and ensure the efficient use of existing resources. Accelerating the transition to green energy sources.

4. **Reducing Environmentally Harmful Substances:** Minimizing the use of harmful chemicals throughout the university and replacing them with sustainable and environmentally friendly alternatives.

5. **Developing Environmental Awareness:** Organizing environmental awareness and sustainability training programs for both students and employees and spreading this awareness.

6. **Innovative Recycling Projects:** To encourage students and academic staff to develop innovative recycling projects. To implement these projects in collaboration with local authorities and to contribute to society.

7. **Green Campus Vision:** To align the physical structure and environment of our university with green campus standards. To reduce our carbon footprint by implementing environmentally friendly buildings and landscaping.

8. **Collaboration and Contribution to Society:**

To contribute to environmental sustainability projects by collaborating with local governments, non-governmental organizations, and other universities. To minimize environmental impacts by developing regional and international collaborations.



9. **Inclusive Approach to Waste Management:** To act with a sense of shared responsibility by including all university stakeholders (students, academic and administrative staff, external stakeholders) in the waste management

process.

10. **Continuous Monitoring and Development:** Establishing performance indicators for waste management and reducing environmentally harmful products. Continuously monitoring, improving, and taking corrective measures in line with these indicators.

#### Monitoring and Development

The rate of achievement of these targets is regularly measured, and necessary corrective and remedial measures are taken based on the data obtained. Policy success is monitored through various performance indicators, ensuring continuous improvement. This policy is an important part of Biruni University's mission to create an environmentally sensitive and sustainable campus.

## Ethical And Sustainable Procurement And Supplier Policy

Biruni University is committed to prioritizing ethical, environmentally responsible, and sustainable practices in all its procurement processes. From supplier selection to the procurement of goods and services, our university makes decisions based on the principles of social responsibility, environmental sustainability, and fair trade. This policy aims to manage the supply chain in a way that considers its social and environmental impacts while contributing to our university's sustainable development goals.

### Core Values

Biruni University Ethical and Sustainable Procurement and Supplier Policy is based on the following core values:

1. **Ethical Business Practices:** The University is committed to transparent and ethical business practices, consistent with fair trade principles, in all procurement processes. Business partners are expected to embrace the same values.
2. **Sustainability:** Procurement processes aim to conserve natural resources and minimize

environmental impact. Our university prioritizes goods and services that ensure environmental sustainability.

3. **Respect for Human Rights:** Protection of



employee rights, fair wages, occupational safety and respect for human rights are among the priority principles that our suppliers must also adopt.

4. **Local and Responsible Sourcing:** The University prioritizes purchasing goods and services from local suppliers to support the local economy . It also promotes responsible sourcing at every stage of the supply chain.

5. **Diversity and Inclusion :** When selecting suppliers, preference is given to suppliers that support social diversity and have inclusive business models. This includes supporting small businesses, women entrepreneurs, and businesses that contribute to social responsibility projects.

### Ethical and Sustainable Sourcing Policy Strategies

Biruni University's supply chain management is shaped by the following strategies:

1. **Supplier Evaluation and Selection Criteria:** Suppliers are evaluated not only on cost and quality criteria , but also on their commitment to ethical business practices, environmental performance, labor rights, and

sustainability. Adherence to these values is a prerequisite in all agreements with suppliers.

2. **Preferring Environmentally Friendly Goods and Services:** The University prioritizes suppliers that are environmentally friendly, energy-efficient, and use recyclable materials. Criteria such as reducing plastic use, choosing recyclable packaging, and maintaining a low carbon footprint are important in our procurement processes.

3. **Supporting Local Suppliers:** Purchasing services from local suppliers is seen as a strategy that promotes sustainability. This contributes to the local economy while minimizing the environmental impact of transportation and logistics processes.

4. **Ethics and Sustainability Training:** Our university organizes training programs to raise awareness of sustainability and ethics in supplier relationships. By participating in these trainings, suppliers learn current practices in sustainable supply chain management.

5. **Continuous Improvement and Development:** Sustainability and ethical performance in the supply chain are regularly monitored and reported. Areas for improvement are identified, and action plans are implemented to improve processes. Suppliers are also required to commit to continuous performance improvement.

6. **Commitment to Worker Rights and**

**Safety:** The University requires all suppliers to respect worker rights and provide safe working conditions. Practices that violate human rights, such as child labor and forced labor, are strictly prohibited. Job security, equal pay, and workplace safety measures are important evaluation criteria in procurement processes.

7. **Ethical Auditing and Transparency:** Suppliers are regularly audited for their compliance with ethical business practices.



Transparency is ensured throughout the supply chain, ensuring accurate and reliable information is shared at every stage. The University is committed to not condoning non-transparent or

unethical practices.

8. **Combating Climate Change:** Choosing energy-efficient products and services is a priority to reduce carbon emissions in the supply chain. Our university encourages its suppliers to adopt low-carbon production and distribution methods.

Goals

Biruni University's ethical and sustainable procurement policy objectives are:

1. **Creating an Ethical Supplier Network:** Our university aims to create a network of suppliers who embrace ethical business practices. Supplier auditing programs are implemented to ensure that 100% of our suppliers comply with ethical standards.

2. **Increasing the Share of Sustainable Products and Services:** The University aims to ensure that at least 50% of the goods and services it purchases come from environmentally friendly and sustainable sources. This percentage is reviewed and increased annually.

3. **Reducing Carbon Footprint:** Reducing carbon emissions from the supply chain by 30% is a priority goal of sustainable procurement

practices. Low-emission vehicles and logistics optimizations in transportation processes minimize carbon footprint.

4. **Supporting the Local Economy:** Our

university aims to source at least 40% of its supplies from local suppliers and contribute to the local economy. This ratio aims to contribute to sustainable economic development by supporting the local workforce.

5. Increasing Participation in Supplier Training Programs: Ensuring that 75% of our suppliers participate in university training programs on sustainability and ethical business practices. Encouraging suppliers to make progress in sustainability as a result of these trainings.

6. Sustainable Packaging Use: Ensure that 50% of purchased products are presented in recyclable or environmentally friendly packaging materials. Minimize the use of plastic and single-use materials throughout campus.

7. Increasing Supply Chain Transparency: Increasing supply chain transparency to 90% and ensuring traceability of all procurement processes. Monitoring and reporting the implementation of ethical standards in these processes.

To achieve these goals, our university regularly reviews its supply chain processes, monitors performance indicators, and continues improvement efforts within the framework of sustainable supply management. Biruni University is committed to creating an environmentally and socially responsible supply chain through its ethical and sustainable procurement policy.



## An Investigation of Snack Packaged Foods Consumed by High School Students in Terms of Sustainability Criteria and Effects on Individual-Specific Parameters



### Summary:

This study examines the snack packaged food consumption habits of high school students through the lens of sustainability principles and health-related parameters. The research aims to evaluate both the environmental impact of packaged snack products and their influence on individual well-being, including nutritional balance, awareness of sustainable consumption, and purchasing behaviors.

Through surveys and observational data collected from participating schools, the study analyzes factors such as packaging materials, production origin, brand transparency regarding sustainability, and students' level of environmental awareness. Additionally, the research investigates how frequent consumption of packaged snacks affects specific physiological and behavioral parameters, such as energy levels, concentration, and body mass index (BMI).

The findings highlight a need to increase awareness among young consumers regarding the ecological footprint of their food choices. The study also proposes educational strategies to promote sustainable consumption habits in early life stages, in alignment with the objectives of SDG 12: Responsible Consumption and Production.

### Contribution to SDG 12:

By integrating sustainability assessment with youth consumption behavior analysis, this research contributes to the development of responsible production and consumption models. It supports educational initiatives within the university that encourage environmentally conscious dietary decisions and fosters a culture of sustainability in everyday life practices.

## Evaluation of the Black Sea Culinary Culture within the Scope of Sustainable Nutrition Behaviors and Ecological Footprint Awareness

### Aim:

To examine the traditional Black Sea culinary culture through the lens of sustainable nutrition, local food practices, and ecological footprint awareness, fostering responsible production and consumption behaviors rooted in cultural heritage.

### Description:

This project explores how regional gastronomy and local food traditions from the Black Sea region can inform modern sustainable nutrition practices. It analyzes the relationship between dietary choices, resource use, and environmental impact, emphasizing the importance of seasonal, plant-based, and locally sourced ingredients. By studying both traditional cooking techniques and current consumption patterns, the research identifies how cultural knowledge can support eco-friendly food systems and reduce waste in food production.

### Impact:

The study contributes to the preservation of regional culinary heritage while promoting sustainable food consumption habits that align with ecological responsibility. It raises awareness about the environmental implications of dietary choices and provides valuable insights for policymakers, educators, and local producers seeking to balance cultural identity with sustainability.

### SDG 12 Contribution:

Aligned with SDG 12: Responsible Consumption and Production, this project supports Target 12.8, fostering awareness of sustainable lifestyles in harmony with nature. It demonstrates how traditional food cultures can be leveraged to reduce environmental impact and inspire more sustainable production and consumption systems.



## Evaluation of University Students' Sustainable Nutrition Behaviors and Ecological Footprint Awareness



### Aim:

To assess university students' levels of awareness, attitudes, and behaviors regarding sustainable nutrition and ecological footprint, identifying key factors that influence environmentally responsible consumption.

### Description:

This research investigates how young adults understand and practice sustainable eating behaviors, such as reducing food waste, preferring local and plant-based products, and being mindful of energy and resource use in food preparation. It employs quantitative surveys and behavioral analyses to measure ecological footprint awareness and determine correlations between sustainability knowledge and daily consumption choices.

### Impact:

By analyzing the consumption patterns of future professionals and decision-makers, the study provides critical data for developing educational campaigns, sustainability policies, and university-based awareness programs. It encourages students to adopt conscious consumption habits and integrate sustainability principles into their personal and professional lives, creating a ripple effect across society.

### SDG 12 Contribution:

This project directly contributes to SDG 12: Responsible Consumption and Production by promoting sustainable lifestyles and consumption awareness among youth. It supports Target 12.5 (reducing waste generation) and Target 12.8 (ensuring awareness for sustainable development), helping build a generation equipped to make informed, environmentally conscious choices that reduce ecological impact.

## From Waste to Energy: Strengthening Sustainable Energy Processes through Circular-Economy-Based Biorefinery Technologies

### Aim

To develop and implement biorefinery technologies that utilize waste streams as renewable resources, enhancing sustainable energy production while reducing environmental impact and increasing resource efficiency within a circular economy framework.

### Description

This research focuses on transforming biomass and organic waste into high-value energy products through advanced biorefinery methods. By integrating circular economy principles, the project repositions waste as a strategic input for energy systems, decreasing reliance on fossil fuels and promoting cleaner production pathways. University-industry collaborations further support the development of innovative conversion technologies that optimize energy yield, minimize waste, and reinforce sustainable resource management across operational processes.

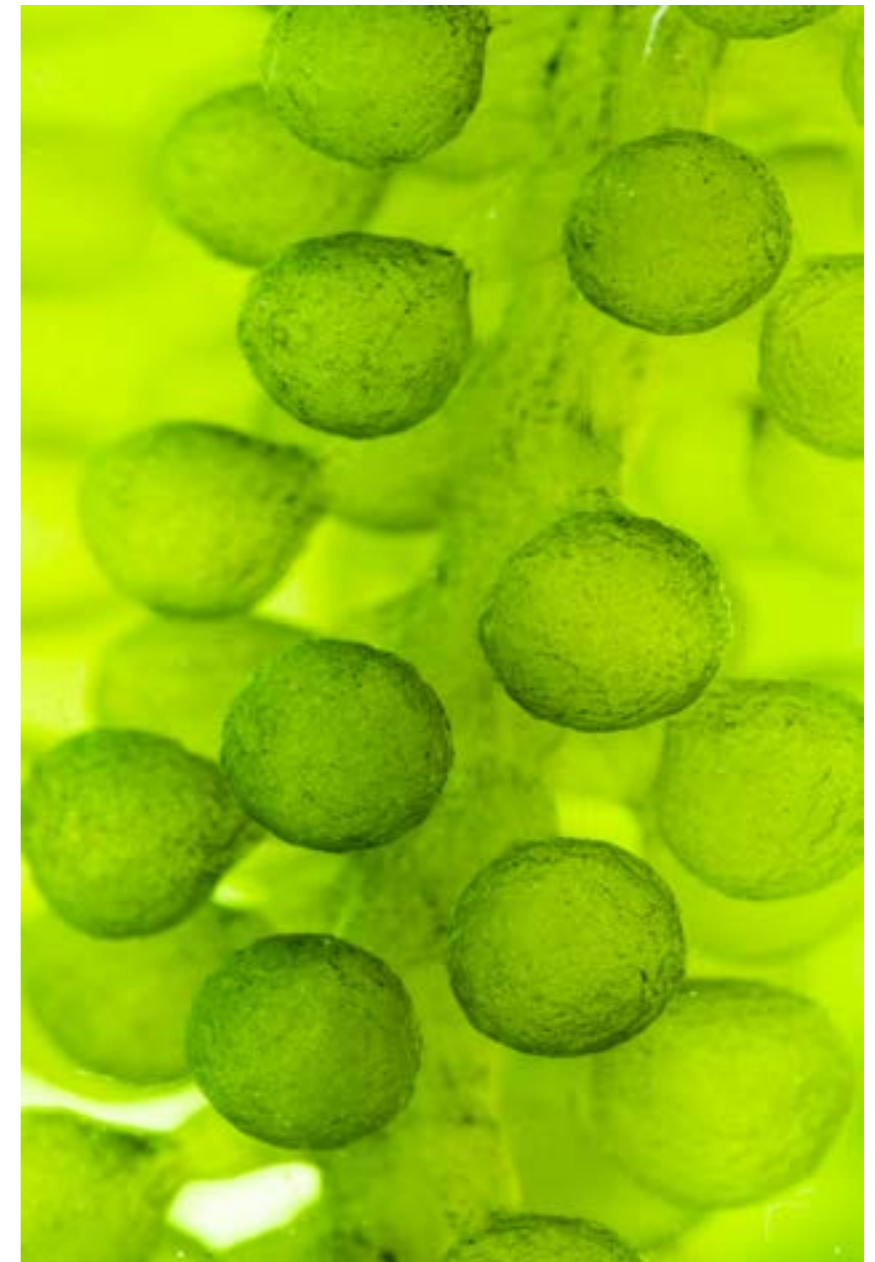
### Impact

The initiative generates multifaceted impact:

- Environmental: Significant reduction of waste volumes and institutional carbon footprint.
- Technological: Advancement of scalable biorefinery solutions capable of supporting regional and national clean-energy transitions.
- Economic: Creation of new value chains through the conversion of waste into usable energy resources, enabling more cost-effective sustainability strategies.
- Scientific: Strengthening the university's research leadership in waste-to-energy technologies and circular resource systems.

### SDG 12 Contribution

This research directly supports SDG 12: Responsible Consumption and Production by advancing resource-efficient systems, promoting waste valorization, and enabling sustainable energy cycles. It aligns with SDG 12 targets on reducing waste generation through prevention, reduction, recycling, and reuse, while establishing a model for responsible resource management grounded in circular economy principles.



## Sustainable Living Experience with Aromatic Plants: Medicinal Plants Garden Tour and Workshop



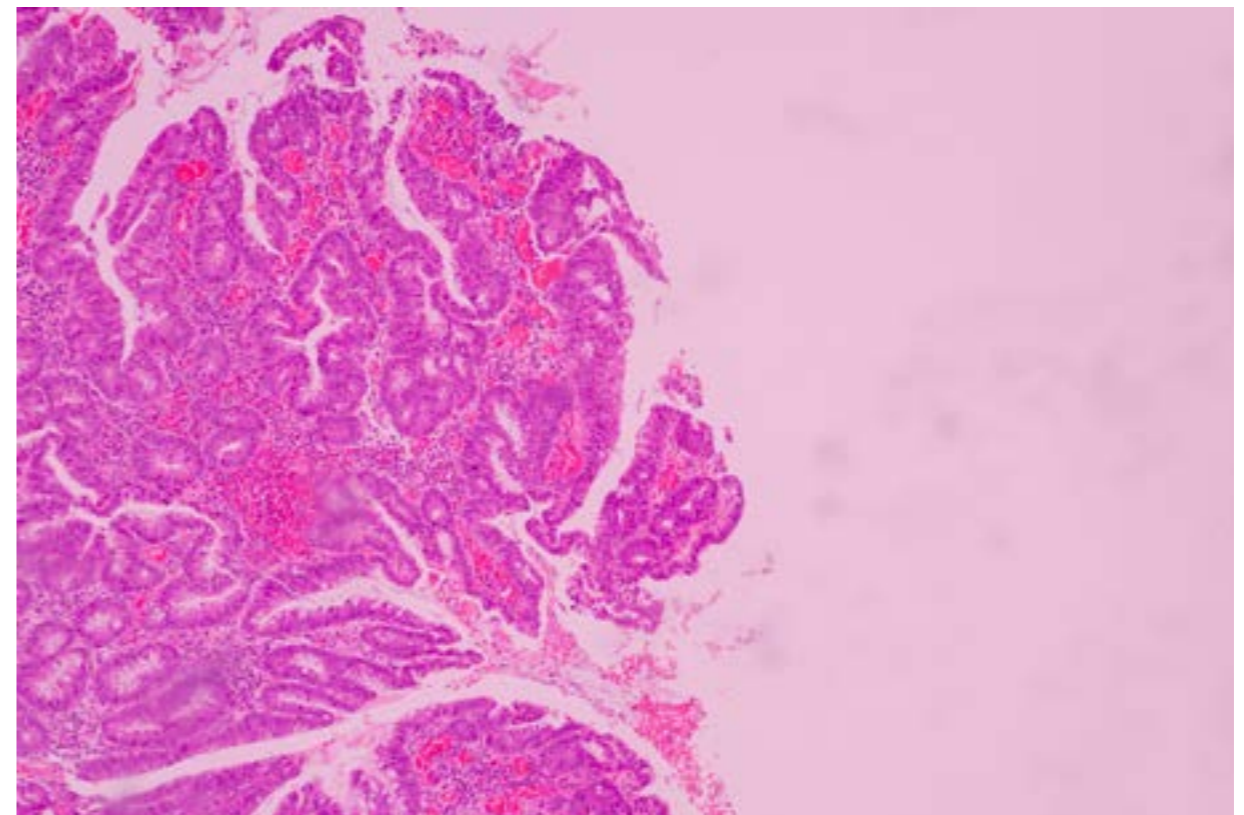
The Biruni University Nutrition and Dietetics Community organized the “Medicinal Aromatic Plants Garden Tour and Workshop” to promote a culture of sustainable living through experiential learning, providing students with both a nature-integrated educational environment and awareness of conscious consumption. Participants examined the cultivation processes of aromatic plants on-site and gained knowledge about ecological farming practices. Following the tour, they took part in a workshop focused on brewing healthy and natural teas using medicinal plants, reinforcing responsible production and consumption habits.

This activity enabled students to develop an environmentally friendly understanding of nutrition and to experience lifestyles aligned with ecological harmony. Directly aligned with SDG 12 – Responsible Consumption and Production, the event supported the conscious use of local resources and the promotion of sustainable dietary practices.

## SciReact 5th Knowledge Day: Production of Human Cell and Tissue Products Under GMP Conditions and Regulatory Frameworks

Through the event titled “SciReact 5th Knowledge Day: Production of Human Cell and Tissue Products Under GMP Conditions and Regulations,” Biruni University promoted awareness on quality, safety, and sustainability within biotechnological production processes as part of its vision for innovative research and responsible manufacturing. The event brought together academics, researchers, and students to discuss the production stages of human cell and tissue products, ethical considerations, and the societal impact of regulatory compliance under Good Manufacturing Practices (GMP).

This scientific platform was directly aligned with Sustainable Development Goal (SDG) 12 – Responsible Consumption and Production, emphasizing the reduction of environmental impacts of biotechnological products, enhancement of resource efficiency, and adoption of ethical production standards. The event provided an important knowledge-sharing opportunity that strengthened quality awareness, ethical sensitivity, and environmental responsibility among future healthcare professionals, thereby contributing to sustainable development in the field of biotechnology.



## **Ethnobotany Community – Aromatherapy Candle Workshop**



The “Aromatherapy Candle Workshop,” organized by the Biruni University Ethnobotany Community, aimed to promote awareness of natural resource-based production by encouraging the use of plant-derived extracts. During the workshop, participants produced chemical-free aromatherapy candles using environmentally friendly raw materials and explored the psychological and physiological effects of herbal essences.

Directly aligned with SDG 12 – Responsible Consumption and Production, the event emphasized efficient use of natural resources, waste reduction, and the strengthening of ecological awareness. Through this activity, Biruni University reinforced environmental sustainability, ethical production, and conscious consumption values, promoting socially responsible and nature-aligned production models among its students.

## Young Doctors of the Earth Perfume Workshop

Organized by the Young Doctors of the Earth Community, the Perfume Workshop provided participants with the opportunity to experience sustainable and environmentally friendly production processes using natural raw materials. Discussions addressed the potential environmental and health impacts of synthetic chemicals, while participants applied ethical production practices using botanical extracts, essential oils, and recyclable packaging materials.

The event helped participants understand the importance of nature-inspired production processes in reducing environmental footprints and promoted conscious consumption habits. Through this initiative, Biruni University strengthened students' creative production skills while cultivating environmental and social responsibility in alignment with SDG 12 – Responsible Consumption and Production.



## Nature-Inspired Sustainable Production: Perfume Workshop Experience

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The Perfume Workshop held by the Biruni University Young Doctors of the Earth Community offered participants hands-on experience in the responsible use of natural resources and sustainable production. By highlighting the environmental impacts of synthetic substances, the workshop introduced perfume production techniques using plant extracts and natural oils, encouraging the adoption of eco-friendly methods.

Participants gained awareness of minimizing waste and using recyclable materials throughout the product life cycle. This initiative encouraged students to approach production processes from a critical and sustainability-oriented perspective, contributing directly to SDG 12 – Responsible Consumption and Production.

## Sustainable Beauty and Natural Production: Lip Gloss Workshop Experience

The Lip Gloss Workshop organized by BIRUPSA offered participants a practical learning experience on sustainable material use and environmentally friendly formulations in cosmetic production. The workshop discussed the negative ecological impacts of synthetic ingredients frequently used in industrial cosmetics and introduced methods for producing personal care products using natural oils, beeswax, and plant-based pigments.

Students not only developed awareness of responsible consumption but also gained individual production skills. Through this activity, Biruni University aimed to cultivate environmentally sensitive individuals who embrace sustainable production principles in alignment with SDG12 – Responsible Consumption and Production.



## Transforming Seeds Workshop: Strengthening Sustainable Agriculture and Resource Cycles



Organized by the Climate and Energy Community, the “Transforming Seeds Workshop” aimed to introduce participants to ecological production and circular agriculture—key pillars of environmental sustainability. Activities focused on seed diversity, protection of local agriculture, and the creation of sustainable production chains, all while promoting effective use of natural resources.

Participants experienced firsthand that seeds represent not only an agricultural input but also a symbol of biodiversity, food security, and ecosystem continuity. Through this initiative, Biruni University supports environmentally conscious production practices and contributes meaningfully to SDG 12 – Responsible Consumption and Production by fostering societal awareness and environmental responsibility.

## Workshop with Chef Tin Tin: Creative and Conscious Approaches to Sustainable Nutrition

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The “Workshop with Chef Tin Tin,” organized by the Nutrition and Dietetics Community, provided a hands-on learning experience where healthy and sustainable eating habits were combined with culinary creativity. Students focused on effective use of local and seasonal ingredients, reducing food waste, and developing conscious consumption behaviors.

Participants created innovative recipes that contribute to both social and environmental sustainability by merging the fundamental principles of nutrition science with kitchen practice. Through this initiative, Biruni University strengthened students’ adoption of sustainable production and consumption culture in alignment with SDG 12 – Responsible Consumption and Production.



## Conscious Use of Natural Resources in Perfume Production



The “Perfume Workshop with Pharmacist Mehmet Gözoğlu,” organized by the İVEK Community, aimed to raise awareness about fragrance chemistry, environmental impacts of natural raw materials, and sustainable production processes. Participants observed the journey of natural essences from sourcing to bottling, evaluating the ecological implications of chemical components.

By emphasizing environmentally friendly and ethical formulation techniques, the workshop contributed to the promotion of conscious consumption culture. The event directly aligned with SDG 12 – Responsible Consumption and Production, strengthening students’ environmental sensitivity and responsible production perspectives.

## Nature-Inspired Handcrafts: Punch Embroidery Workshop

The Punch Embroidery Workshop organized by the Birebe Community provided participants with a sustainable production experience that combined craftsmanship and creativity. Using specially designed needles and natural threads, participants explored how handcrafts can integrate with environmentally friendly production methods.

The workshop emphasized the use of recyclable and natural materials, promoting sustainable consumption habits. This initiative strengthened students' environmental awareness and social responsibility in production processes, directly supporting SDG 12 – Responsible Consumption and Production.



## Symbol of Creative Transformation: Recycling Tree Art Installation



The “Recycling Tree” project by the Art and Design Community served as an impactful awareness initiative promoting the reuse of waste materials through artistic creation. Students designed a tree-shaped art piece using recyclable materials such as plastic, cardboard, metal, and paper, combining environmental sensitivity with artistic creativity.

As a visual representation of sustainable production and consumption culture, the project demonstrated how resource reuse can be integrated with aesthetic value. Aligned with SDG 12 – Responsible Consumption and Production, the initiative strengthened students’ awareness of environmental responsibility, social impact, and conscious production habits.

## The Voice of Nature Piano Recital: Art, Accessibility, and Sustainability

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The “Voice of Nature Piano Recital” organized by the Climate and Energy Community was a unique social responsibility project that combined the inclusive power of art with awareness of sustainable living. Performed by a visually impaired student, the recital contributed to promoting accessible art while recognizing individual talent.

Audience members reinforced their environmental responsibility by depositing plastic and cardboard waste into specially designed recycling stations established according to the university’s sustainability vision. Aligned with SDG 12 – Responsible Consumption and Production, the recital reflected a holistic sustainability approach integrating social awareness, inclusivity, and environmental sensitivity.



## EcoLife Information Stand: Sustainable Living and Organic Seed Sharing

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The “EcoLife Information Stand and Awareness Activity,” organized by the EcoLife Community, served as an important environmental awareness initiative promoting sustainable lifestyles and community engagement. Participants received information on ecological production, organic agriculture, and efficient use of natural resources, while also receiving organic seeds to encourage individual involvement in production processes.

Aligned with SDG 12 – Responsible Consumption and Production, the activity strengthened environmental consciousness through tangible action and helped internalize key concepts such as ecological balance, circular economy, and local production within the university community.

## Laboratory Safety and Waste Management

The “Laboratory Safety and Waste Management” course offered by Biruni University provides students with comprehensive instruction on the implementation of safety protocols in laboratory environments and the effective management of chemical, biological, and general waste. The course emphasizes the importance of sustainable practices during laboratory work, raising student awareness on proper waste classification, the use of recyclable materials, and the application of energy-efficient methods.

This learning process contributes to the widespread adoption of resource efficiency and a culture of safe laboratory practices, helping young scientists develop environmentally conscious production and consumption habits.



## Hayhak Makeup Masterclass

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The “Hayhak Makeup Masterclass,” organized by the Biruni University Animal Rights Community, aimed to raise awareness about ethical consumption, cruelty-free production, and sustainable beauty practices in the cosmetics sector. Participants were informed about the importance of using products that are not tested on animals and that contain environmentally friendly ingredients, while also engaging in a hands-on learning experience that promotes conscious consumption behaviors.

Aligned directly with Sustainable Development Goal (SDG) 12: Responsible Consumption and Production, the event strengthened students’ understanding of how to transform their consumption habits within an ethical framework. Through this initiative, Biruni University demonstrated exemplary practice in promoting sustainability, social sensitivity, and environmentally responsible lifestyles.

## **Sustainable Campus Management: Responsible Production and Consumption Approach**

Biruni University has adopted the principles of Sustainable Development Goal 12: Responsible Consumption and Production not merely as an environmental policy but as an institutional way of life. In this context, the university has implemented a multidimensional management framework that enhances resource efficiency, reduces waste generation, and strengthens sustainable consumption habits across the entire campus.

The system encompasses core areas including natural resource conservation, energy and water efficiency, recycling, and reuse practices. These initiatives reduce the environmental impact across campus while cultivating a culture of sustainable living among students and staff. Beyond infrastructural adjustments, the university reinforces sustainability through education, research, and social awareness initiatives.

This comprehensive process is coordinated by the Biruni Sustainability and Data Valuation Office in collaboration with the Department of Construction and Technical Affairs, the Department of Health, Culture and Sports, and relevant faculties. Each unit assumes responsibilities ranging from campus-wide waste segregation and energy efficiency projects to environmentally responsible procurement processes and carbon footprint reduction.

Through this holistic approach, Biruni University not only strengthens its environmental performance but also builds an environmentally conscious institutional culture that sets an example for future professionals. By aligning its social responsibility mission with sustainable development goals, the university stands as an exemplary model among higher education institutions in Türkiye.



## Waste Management and Recycling Practices



Biruni University manages Waste Management and Recycling processes systematically in line with its environmental sustainability goals. Packaging, plastic, paper, glass, and organic waste are collected separately campus-wide and processed within the scope of the “Waste Management Plan (2024),” which serves as a comprehensive roadmap for waste reduction, increasing recycling rates, and promoting environmentally responsible behaviors.

Recycling stations located in faculty buildings, cafeterias, laboratories, and common areas strengthen recycling awareness among students and staff. Complementing these practices, creative student-led initiatives such as the “Recycling Tree” have enhanced campus-wide awareness. Developed by the Art and Design Society, this project presented an art installation created from recycled materials, highlighting the concept of “restoring value to waste” and merging environmental sensitivity with artistic expression.

The “Laboratory Waste Management Procedure” is rigorously implemented to ensure the safe and environmentally responsible management of laboratory waste. Hazardous chemical waste is collected regularly and disposed of exclusively by licensed firms in accordance with environmental legislation, thereby protecting environmental and occupational health.

Additionally, the “Laboratory Safety and Waste Management” course offered by the Faculty of Pharmacy equips students with practical knowledge on waste classification, safe storage, recovery techniques, and environmental risk management. This training aims to instill sustainable laboratory practices among future health professionals.

With this multilayered approach, Biruni University treats waste management not merely as an operational process but as a sustainability culture intertwined with education, art, and social responsibility.

## Sustainable Procurement and Green Purchasing

Biruni University embeds environmental and social responsibility at the core of its supply chain management by placing sustainable procurement and green purchasing policies at the center of institutional processes. The “Green Purchasing Procedure (2024)” prioritizes environmentally friendly products, refillable systems, and recyclable packaging across all procurement activities.

The procedure also incorporates supplier selection criteria, fostering long-term collaborations with suppliers that demonstrate strong environmental performance, adhere to ethical values, and comply with sustainable production standards. Through this framework, the university has developed a sustainable supply chain model balancing economic efficiency with environmental responsibility.

Concrete steps have been taken to reduce single-use plastics on campus. Single-use straws, cups, and bottles have been progressively phased out, while water dispenser systems have been expanded. This transition reduces plastic waste while fostering the adoption of reusable products among students and staff.

To further strengthen this culture, Biruni University introduced the “Refill Campus” model, promoting reusable bottle and container use through awareness campaigns. These initiatives support behavioral change aimed at reducing resource consumption.

This holistic system transforms the university’s goal of minimizing environmental impact into a campus-wide culture of sustainable consumption.



## Food and Resource Efficiency



Biruni University regards sustainable nutrition and resource efficiency as essential components of campus life. Accordingly, it has implemented practices aimed at reducing the environmental impact of food production and consumption, promoting efficient natural resource use, and preventing food waste.

The “Medicinal and Aromatic Plants Garden Tour and Workshop” organized by the Nutrition and Dietetics Society emphasized sustainability within the production–consumption chain. Participants received practical training on plant cultivation, herbal tea brewing, and the ecological benefits of aromatic plants, thereby experiencing sustainable agriculture and consumption practices. These activities not only enhance students’ environmental awareness but also support the university’s social sustainability mission.

These initiatives are aligned with the “Sustainable Nutrition and Ecological Footprint Awareness Program (2024–2025),” which aims to measure and reduce the ecological footprint of food production, distribution, and consumption processes while promoting sustainable eating habits. Furthermore, the campus kitchens have implemented a pilot “Food Waste Monitoring System,” introducing an important innovation in data-driven resource management. Meal-based food waste is digitally monitored, and menu planning is optimized based on these findings. The university aims to reduce per capita food waste by 25% by the end of 2025.

Through this holistic approach, Biruni University not only contributes to environmental sustainability but also sets a pioneering model that fosters responsible consumption among students, staff, and the wider community.

## Circular Economy and Energy Efficiency

In alignment with sustainable development goals, Biruni University adopts innovative approaches in circular economy and energy efficiency, enhancing its capacity through research and application-based projects. The university has begun implementing locally the principles of the European COST Action CA20127 – Waste Biorefinery Technologies for Accelerating Sustainable Energy Processes.

Within this scope, the “Waste-to-Energy Conversion Pilot Unit” project aims to conduct experimental studies on converting biological waste into energy at a campus scale. Laboratory-based preliminary tests evaluate the feasibility of applying biorefinery approaches locally and reveal the synergy between waste management and energy production. These efforts support the university’s vision of reducing energy consumption while transforming waste into valuable resources.

Findings and pilot results have been reported within the Energy and Waste Management Integration Plan (2025), which outlines strategic objectives to reduce the university’s carbon footprint and increase energy efficiency. The plan includes monitoring energy consumption, increasing the use of renewable energy sources, and expanding circular production models.

Through this integrated approach, Biruni University has developed an environmentally responsible energy management system and has become one of the leading higher education institutions in Türkiye to implement circular economy practices.



## Awareness Activities and Student Engagement



Biruni University advances its sustainability goals not only through structural and technical implementations but also through student-centered awareness activities. Student clubs organize various events on sustainable production, environmental awareness, social responsibility, and ethical consumption to raise awareness within the campus community.

During the “Eco-Life Information Booth,” the Eco-Life Society distributed organic seeds to promote understanding of natural production processes and the importance of local agriculture. The “Voice of Nature Piano Recital” organized by the Climate and Energy Society used art as a tool for environmental awareness, encouraging participants to dispose of recyclable materials responsibly.

The Animal Rights Society’s “Hayhak Makeup Masterclass” promoted cruelty-free cosmetic products and raised awareness of ethical consumption. Meanwhile, the Culture Society’s event “In the Footsteps of the Past: Archaeology Museum Tour” highlighted cultural heritage preservation and sustainable tourism, offering students an experiential learning opportunity connecting culture and environmental sustainability.

All events were conducted under the supervision of the Biruni Sustainability and Data Valuation Office, and event reports, participant numbers, visuals, and outcome analyses are archived annually. By integrating student participation as an active component of its sustainability process, Biruni University aims to expand sustainability awareness from campus life to society at large.

## Sustainability Performance Monitoring and Reporting

Biruni University uses a data-driven monitoring and reporting system to support its sustainability policies with measurable indicators. All departments report monthly data on energy, water, waste, and resource efficiency through the Biruni DataHub platform, enabling systematic evaluation and optimization of resource use.

This system allows the university to track sustainability performance quantitatively, analyze trends in resource consumption and energy efficiency, and evaluate waste management outcomes comprehensively. As a result, decision-making processes are shaped by evidence-based management principles.

Collected data are analyzed by the Biruni Sustainability and Data Valuation Office and published annually as the “Responsible Production and Consumption Performance Report.” This report evaluates progress in energy and resource efficiency, carbon emissions, waste reduction, and sustainable procurement. Published annually for public access, the report reflects the university’s commitment to transparency, accountability, and continuous improvement, serving as a key reference document for assessing the impact of sustainability strategies.



## Conclusion

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Biruni University approaches sustainability not merely as an environmental goal but as a core institutional responsibility. Through its initiatives in waste management, circular economy, food sustainability, and green purchasing, the university has embedded a culture of “responsible production and consumption” into all dimensions of campus life.

This comprehensive model integrates energy efficiency, resource management, environmental awareness, and community engagement into a unified sustainability framework. By involving all stakeholders—from students to administrative units—the university aims to cultivate lasting sustainable living habits.

Through these efforts, Biruni University has transformed its campus into a model environment for sustainable and innovative living practices, positioning itself as a leading institution contributing to SDG 12: Responsible Consumption and Production both nationally and internationally.