

KARADENİZ TECHNICAL UNIVERSITY

- WASTE DISPOSAL – HAZARDOUS SUBSTANCES (ORGANIC WASTE-INORGANIC WASTE) POLICY -

PURPOSE OF THE POLICY

This policy has been prepared to regulate the necessary procedures and principles for separation, safe temporary storage, transportation and final disposal of wastes generated as a result of education, research, health services and administrative activities within KTU according to their types (organic, inorganic, recyclable and hazardous wastes). The policy aims to reduce waste at its source, ensure its recycling, and reduce risks to the environment and human health.

RELEVANCE OF THE POLICY

Relevant Sustainable Development Goals (SDGs): This policy is primarily related to the following goals from the United Nations Sustainable Development Goals:

- SDG 3: Healthy Individuals
- SDG 6: Clean Water and Sanitation
- SDG 11: Sustainable Cities and Communities
- SDG 12: Responsible Production and Consumption
- SDG 15: Life on Land

Relevant Metrics:

- THE Impact Rankings
- UI GreenMetric

SCOPE OF POLICY

The policy covers field research in all campuses of KTU (Kanuni Campus, Sürmene Marine Sciences Campus, Maçka and other vocational schools), Farabi Hospital and Health Research and Application Center, practice hotels, laboratories, workshops, cafeteria and dining hall services, student dormitories, lodgings and off campus. All academic and administrative staff, students, visitors and subcontractors who have a share in waste production are within the scope of the policy.

BASIC PRINCIPLES AND LEGAL BASES

- **Legal Compliance and Zero Waste Approach:** The policy is based on the provisions of the Environmental Law No. 2872 and the Zero Waste Regulation and implements the principles of the KTU Zero Waste Directive.
- **Separation of Waste at Source:** According to the directive, wastes generated at the university are collected separately according to their recycling types at the place where they are produced and stored safely. The waste categories are as follows:
 - **Organic waste (brown bin):** Biodegradable materials such as vegetable and fruit waste, tea and coffee pulp, eggshells and food scraps.
 - **Recyclable inorganic wastes:** Glass (green box), metal (gray box), plastic (yellow box) and paper/cardboard (blue box) materials.
 - **Non-recyclable wastes (black bin):** Non-recyclable materials such as wet wipes, wooden mixers, porcelain, etc.
 - **Hazardous and special wastes:** Chemical, medical, biological and radioactive wastes; electronic wastes, dangerous substances such as batteries and accumulators, fluorescent lamps. The disposal of these wastes is carried out through specially licensed companies in accordance with the relevant legislation.



- **Responsibility and Oversight:** The University Zero Waste Board of Directors is responsible for ensuring that the units work in coordination in the management, storage and disposal processes of waste and for the implementation of legal regulations.
- **Health and Safety:** It is essential for personnel to use personal protective equipment and store waste in sealed, labeled containers when collecting hazardous waste.
- **Training and Awareness:** Training students and staff on waste separation rules and safe disposal of hazardous materials; establishing zero waste awareness in units.

RESPONSIBILITIES AND ROLES

- **Rectorate and Senate:** Responsible for approving the policy, providing the necessary budget and infrastructure, and monitoring performance indicators.
- **Environmental Problems Application and Research Center (UYGAR):** Monitors the waste inventory with the Zero Waste Coordinatorship. It supports the development of zero waste management plans by the relevant units and conducts and reports on-campus analyzes with the relevant units when necessary.
- **Zero Waste Coordinatorship:** Ensures the establishment of waste storage areas throughout the campus and inspects their compliance with standards, and supports the units to act in accordance with zero waste management plans. Collects and reports relevant data.
- **Department of Construction and Technical Affairs (YİTDB):** Provides physical planning of storage areas, construction of closed areas, ground impermeability and sealing measures; establishes leak collection and fire extinguishing systems.
- **Zero Waste Coordinatorship:** Manages labeling, record keeping, follow-up of insurance documents, sending waste to licensed companies at regular intervals and assigning personnel in waste storage areas.
- **Farabi Hospital Waste Management Unit:** Ensures the implementation of relevant standards for the collection, transportation, temporary storage and disposal of medical and hazardous wastes; manages the collection of medical wastes in durable, lidded bags and containers with the international bio-hazard emblem on them, the accumulation of sharps in drill-resistant boxes and their safe storage.
- **Academic and Administrative Units and Zero Waste Commissions:** Determines the need for storage space in the units; follows the appropriate areas or containers for temporary storage of waste; tracks the data of the wastes and reports them to the Zero Waste Coordinatorship and Environmental UYGAR.

APPLICATION STEPS

- **Inventory and Risk Analysis:** The types and amounts of waste generated in all units are determined; hazardous waste inventory is made in high-risk areas such as laboratories and hospitals.
- **Establishment of Waste Separation and Collection System:**
 - A color-coded box/container system is implemented throughout the campus: brown (organic), yellow (plastic), blue (paper/cardboard), green (glass), gray (metal), black (non-recyclable)
 - Plastic drums with lids for chemical waste in laboratories, red medical waste bags for biological waste; Yellow containers are used for infectious waste, and puncture-resistant containers are used for piercing/cutting waste.
 - Separate collection bins are placed for battery, accumulator, electronic and fluorescent waste.
- **Training and Information:** At the beginning of each academic semester, compulsory "waste separation and hazardous substance safety" trainings are organized; posters and digital materials are prepared showing which waste will be thrown into which bin.
- **Storage and Handling:**
 - Organic waste is directed to the composting facility or local municipal compost program; A compost unit is established on campus.
 - Recyclable waste is regularly sent to licensed recycling companies.

- Hazardous waste (chemical, biological, radioactive) is labeled in sealed containers and kept in temporary storage areas; The storage period is limited by legal limits and is sent to licensed disposal facilities.
- **Record Keeping and Notification:** Unit Commissions fill out waste declaration forms and report the amount and types of waste to the Zero Waste Management Unit every six months. Transportation and disposal reports are prepared for medical and chemical waste.
- **Monitoring and Auditing:** Regular audits are carried out in the units by the Zero Waste Management Board and Coordinator; the compliance of waste management practices with the legislation and university directives is checked.
- **Emergency and Accident Management:** Emergency action plans are created for chemical spills, biological contamination or radioactive leaks; responsible personnel are trained, and post-incident accident reports are prepared.
- **Continuous Improvement and Research:** Innovative methods to reduce waste and increase recycling rates (e.g., biodegradable plastics, recovery of laboratory solvents, green chemistry applications) are explored; pilot projects are implemented.

PERFORMANCE INDICATORS

Indicator	Goal	Source of Verification
Annual waste production per capita (kg/person)	Reduction by 40% by 2030	Environmental Problems UYGAR Zero Waste Coordinatorship Reports
Proportion of recycled inorganic waste	Increase by 60% by 2030	Environmental Problems UYGAR Zero Waste Coordinatorship Reports
Amount of organic waste composted	Composting 70% of organic waste by 2030	Environmental Problems UYGAR Zero Waste Coordinatorship Reports
The rate at which hazardous wastes are correctly labeled and sent to licensed disposal	70% to be sent to licensed disposal by 2030	Environmental Problems UYGAR Zero Waste Coordinatorship Reports
Ratio of staff/students participating in waste separation and safety training	Achieve 40% participation by 2030	Environmental Problems UYGAR SKS Reports
Qualification of waste separation box and collection equipment in units	Increase by 70% by 2030	Environmental Problems UYGAR Zero Waste Coordinatorship Reports
Number of inspections in accordance with legal regulations	Organization of at least 4 programs per year	Environmental Problems UYGAR SKS Reports

AUDIT AND REPORTING

- **Monitoring Frequency:** Performance indicators are evaluated annually; relevant indicators are regularly monitored by the relevant responsible units every year. The changes in the values in the indicators during the year are determined and necessary measures are taken in a timely manner.
- **Reporting Frequency:** Annual data are recorded in KTU Sustainability Reports within six months following the end of the relevant year and shared with the public on the university's website. Four-year data is compiled to form an input for the next strategic planning period. In addition, the relevant data obtained each year is reported to UI GreenMetric and other international sustainability indices.
- **External Verification:** Participation in national and international certification programs is provided in order to certify the performance of the university within the framework of the relevant indicators. The participation program and decision are taken by the senate. The implementation and effects of the policy are verified through audits to be carried out by independent organizations.



- **Revision Conditions:** In case 60% of the targeted values of the determined performance indicators cannot be reached for two consecutive years or in case of changes in national/international legislation; the policy is reviewed by the implementing units, revision proposals are prepared and the policy is submitted to the senate for approval again.

EFFECTIVE DATE

This policy comes into effect from the date it is approved by the KTU Senate. University units are obliged to comply with and implement the provisions of the policy.