

## **METU NORTHERN CYPRUS CAMPUS**

### **GREEN CAMPUS STRATEGY DOCUMENT**

#### **1. MAIN POLICY**

METU Northern Cyprus Campus Green Campus Strategy Document is a social responsibility initiative which has been constituted with the notions of sustainability and environmental friendliness.

Within the framework of national and international norms and related legal regulations; increasing the efficiency of energy generation (generators), transmission and consumption on the Campus, prevention of unconscious consumption and waste, the sustainability of energy costs; decreasing the greenhouse gas emission on Campus in order to cope with climate change; providing the preservation of natural resources with the aid of the land use and rainwater management plan; preventing environmental pollution with the waste management plan and raising awareness among students and public about the issues concerning energy and the environment are the prior and essential components of the environment and energy policy of METU Northern Cyprus Campus.

With the “Green Campus Strategy Document”, METU Northern Cyprus Campus designates strategic goals and objectives concerning the issues mentioned above and declares that it is going to take the necessary steps in order to implement the actions specified in accordance with these objectives.

#### **2. MAIN GOAL AND OBJECTIVE**

The Strategy Document has been constituted with the purpose of defining the responsibilities of administrative and academic management units regarding sustainable energy and environment management and establishing a political set which has concrete result-based objectives. All academic and administrative units are responsible for implementing the actions defined in this document, taking precautions and evaluating the results, and coordination between the units is to be provided by the “Green Campus Coordination Committee” (GCCC) appointed by the President of the Campus.

“GCCC” is entitled to constitute collectively organized commission, committee, team or work groups, to monitor and supervise the actions concerning the green campus policy.

### The Strategy Document;

- Supports and enhances the energy related parts of the objective of “Using and managing the financial resources efficiently and effectively” under the title of “The Establishment of a Sustainable and Strong Financial Structure” of METU Northern Cyprus Campus 2009-2014 Strategic Plan.
- Has the potential to support the objectives of “Determining the Business Processes on Campus” under the title of “Establishing the Management Information System” and “Creating a dynamic Campus atmosphere which is open to diversity and in which the students participate in social, cultural and sports activities as spectators, executors and decision-makers” under the title of “Creating a Learning and Innovative Campus Atmosphere” of METU Northern Cyprus Campus 2009-2014 Strategic Plan.

Strategy Document is in principle a social responsibility initiative; it is going to be updated and its continuity is going to be ensured within the frame of developing and changing values as long as METU Northern Cyprus Campus maintains its fundamental activities. The activities and actions which are to be carried out in order to reach the strategic goals and objectives presented in this strategy document are going to be planned as short-, medium- and long-term; and the outcomes of the actions are going to be evaluated within the scope of the following basic performance indicators which are used for “Carbon Footprint” calculations:

- The level of CO<sub>2</sub> emission indoors,
- CO<sub>2</sub> emission produced per unit indoor area per capita,
- Energy consumption per capita and square meter,
- The amount of water consumption per capita ,
- The amount of domestic solid waste-recycling per capita per indoor area,
- The amount of utility water delivered for usage through waste water treatment,
- The outdoor noise level on Campus during morning, afternoon and night hours,
- The noise level inside the buildings on Campus
- The ratio of composting kitchen and garden wastes.

In the short-term, work will be carried out regarding the establishment of the organizational substructure, the setting of the process and systems, the completion of the necessary inventory and survey studies, the measurements in order to determine the basic performance indicators and the quantification of the performance indicators; longer-term

objectives and actions regarding those objectives will be identified by evaluating the quantitative results which will be driven by the actions to be taken in the middle-term.

### **3. STRATEGIC GOALS , OBJECTIVES, AND ACTIONS:**

#### **3.1. GENERAL:**

**STRATEGIC GOAL – 1: To form the institutional structure in accordance with the main policy, goals and objectives of this strategy document.**

**Strategic Objective – 1:** To complete the substructure activities in order to establish ISO 14001 Environment Management and ISO 50001 Energy Management Systems based on TS EN 9001:2000 Quality Management System.

**Action-1:** Management models to address the needs will be inquired and necessary steps will be taken to form the convenient model.

**Action-2:** In order to form the management system, firstly the support of academic staff of the campus will be required, when necessary the consultancy service will be taken from outside.

**Strategic Objective – 2:** To do labor planning and to provide employment when necessary in order to actualize (realize) the quality management, environmental management and energy management models.

**Action-1:** Regarding the employment of academic and administrative staff, possible arrangements will be made in terms of prioritizing applicants who have experience in sustainable environment and energy issues.

**Action-2:** By collaborating with the program coordinators of the related fields, actions to offer new courses under the titles of sustainable environment and energy and to employ at least one academican who can work as a thesis/project supervisor will be supported.

**Action-3:** The prioritization of research support concerning CRP projects related to the Green Campus Strategy Document will be encouraged.

**Strategic Objective – 3:** To establish a technological data acquisition substructure and informatics substructure concerning the sustainability of the management systems.

**Action-1:** The necessary survey and feasibility studies, which are aimed at establishing data acquisition systems concerning the formation of environment and energy inventories and informatics systems to maintain the sustainability of the data

acquisition system, will be made and necessary actions will be started in accordance with the decisions given after the survey and feasibility studies,

**Action-2:** The necessary actions to find the best possible solution will be taken by completing the necessary feasibility and survey studies regarding the establishment of the management information system.

**STRATEGIC GOAL – 2: To improve external financing opportunities, to strengthen collaborations, to increase awareness activities aimed at shareholders in accordance with the main policy, purposes and objectives of this strategy document,**

**Strategic Objective – 1:** To create externally financed projects at national and international level with new collaborations.

**Action-1:** Applications will be made for TR and EU projects in collaboration with the non-governmental organizations around the vicinity. (Wind and PV, cogeneration pilot implementations, waste management pilot implementations, etc.)

**Action-2:** The necessary steps will be taken in accordance with the main policy, purposes and objectives of the strategy document to establish a common work model and communication network by communicating with related institutions and establishments at national level.

**Strategic Objective – 2:** To increase consciousness among internal and external shareholders and to raise awareness in accordance with the main policy, goals and objectives.

**Action-1:** A communication plan will be prepared regarding the awareness-raising activities on Campus and at international level (conferences, workshops, seminars etc.) and the activities will be conducted in accordance to this plan.

**Action-2:** Actions will be taken aimed at contributing to raising awareness and promotion by organizing competitions at national and international level.

**Action-3:** On-campus consciousness-raising activities will be continued; these activities will be monitored and evaluated within the framework of “Consciousness Indexes” developed on national and international arenas.

**STRATEGIC GOAL – 3: To hold an internationally recognized certificate related to the issue and assure its sustainability as a result indicator of the actions taken in order to reach the main policy, goals and objectives specified in this strategy document,**

**Strategic Objective - 1:** To hold an internationally recognized certificate related to the issue.

**Action-1:** Internationally recognized certification systems will be searched and the most convenient sustainable certification system will be chosen by taking the Campus data into consideration as well.

**Action-2:** The necessary requirements for the chosen certification system will be determined and the necessary technic, survey and feasibility studies will be completed.

**Action-3:** The necessary applications will be made and the necessary precautions will be taken to maintain the sustainability of the certification in the event of deciding upon the implementation of the certification as a result of the conducted survey and feasibility studies.

### **3.2. SUSTAINABLE ENERGY MANAGEMENT:**

**STRATEGIC GOAL – 1: To decrease energy consumption and loss, to increase energy utilization efficiency,**

**Strategic Objective – 1:** To reach the energy consumption levels pre-defined in the performance indicators.

**Action-1:** The methods and precautions to be applied concerning energy efficiency and saving will be determined. With this goal, firstly energy efficiency and saving potential surveys will be made and an inventory will be created. These studies will be repeated in necessary periods.

**Action-2:** The necessary actions will be taken regarding the establishment of ISO 50001 Energy Management System, the administrative structure will be reviewed within the frame of the requirements of this system, arrangements will be made; the energy manager will be appointed and necessary actions will be taken so that the manager will receive the required education.

**Action-3:** Upon the completion of the energy efficiency and saving surveys, the implementation methods (Efficiency Enhancement Projects-EEP, Energy Saving Projects – (ESP) and their investment cost and payback periods will be determined by foreseeing the efficiency increasing and saving potential.

**Action-4:** Necessary resources within the bound of possibility will be reserved in order to actualize the applications accepted as “EEP” and “ESP”. The projects will be taken into consideration as short, mid- and long-term. The short and mid-term projects as well as initiatives will be started at once within the scope of budget opportunities; projects, researches and preliminary preparation work as such will be done concerning the long-term projects.

**Action-5:** Research will be done regarding the financing of the “EEP”s and “ESP”s, from external sources and necessary actions will be taken.

**Action-6:** In purchasing energy consuming products and services and constructing buildings nationally or internationally accepted minimum efficiency criteria will be considered and with this objective possible changes will be made concerning the technical specifications aimed at newly constructed buildings.

**Action-7:** Feasibility and survey studies, which are aimed at the gradual replacement of all kinds of equipment, machines and means which have completed their economic life regarding energy efficiency with the ones which are more compatible with the environment and has high efficiency, will be completed and necessary actions will be taken in accordance with the decisions made as a result of the survey and feasibility studies.

**Strategic Objective – 2:** To provide the current Campus facilities with national and international energy performance standards and to adopt systems with high energy efficiency.

**Action-1:** “Turkish Energy Performance Regulation for Buildings, BEP” and ASHRAE 189-1 High Performance Building Standards will be taken as a basis for the new facilities which are going to be built.

**Action-2:** The necessary survey and feasibility studies aimed at the regulation of the “Energy Performance Certificate” for the current facility buildings are going to be done on the basis of “Turkey Energy Performance Regulations for Buildings”, the necessary actions will be taken in the event of deciding upon certification as a result of the survey and feasibility studies that have been carried out.

**Action-3:** One building with zero emission which will be used for education and research purposes and whose closed space will not exceed 200 m<sup>2</sup> will be designed, and the necessary actions will be taken in order to enable its construction by providing at least 50% of the resource needs externally.

**STRATEGIC GOAL – 2: To extend the usage of renewable energy resources for current buildings and to prioritize renewable energy systems in the buildings to be built newly,**

**Strategic Objective – 1:** To increase the ratio of renewable energy systems usage on the current Campus buildings.

**Action-1:** Academic “Scientific Research Projects” aimed at researching renewable energy resources will be given prominence and supported.

**Action-2:** Detailed and data-based potential surveys will be completed concerning the conversion of wind and solar energy into electricity on and around the Campus.

**Action-3:** Attempts will be made towards obtaining exemption and incentives to be granted following the formation of regulations mentioned in the TRNC “Renewable Energy Law”.

**STRATEGIC GOAL – 3: To increase efficiency in energy production (generators), transmission, and distribution and to reduce energy loss within the infrastructure of electricity production and distribution.**

**Strategic Objective – 1:** To improve the productivity of the medium-voltage transmission lines and campus transformers.

**Action-1:** The surveys and feasibility studies necessary for the establishment of an energy auditing system, the related necessary adjustments to the medium-voltage transformers, and the replacement of electric meters with the electronically the traceable ones will be conducted. After the conducted surveys and feasibility studies, if it is decided to establish these systems, the necessary actions will be taken.

**Action-2:** It will be researched how the current automation system can be utilized towards this aim. Furthermore, necessary actions will be taken for any necessary additional adjustments.

### **3.3. SUSTAINABLE ENVIRONMENTAL MANAGEMENT**

**STRATEGIC GOAL – 1: To reach international standards in the quality of indoor and outdoor air.**

**Strategic Objective – 1:** To ensure the complete transfer to a suitable location or rehabilitation of the dump site in the Güzelyurt region.

**Action-1:** Close contact will be established with the necessary foundations and institutions and actions towards transfer or rehabilitation will be intensified.

**Action-2:** Steps will be taken with the necessary foundations and institutions to prevent the burning of waste and ensure immediate extinguishment.

**Strategic Objective – 2:** To reach the pre-set performance indicators for CO<sub>2</sub> emissions within both indoor and outdoor venues on campus.

**Action-1:** Action will be taken towards the establishment of monitoring and maintenance programs for the investigation of the sufficiency of indoor ventilation systems.

**Action-2:** To establish an air quality measurement station and to integrate it with the national database. The necessary surveys and feasibility studies for continual measurements and the establishment of a campus-wide air quality warning system will be conducted. If, after the conducted surveys and feasibility studies, it is decided to establish these systems, the necessary actions will be taken.

**Action-3:** The necessary precautions to protect indoor air quality will be taken by limiting the use of construction and decoration materials containing volatile organic matter.

**Action-4:** The necessary actions will be taken to ensure the use of environmentally friendly cleaning materials throughout the campus.

**Action-5:** Surveys and feasibility studies will be carried out to establish and initiate air purification systems in all laboratories using chemical materials. After the conducted surveys and feasibility studies, if it is decided to establish these systems, the necessary actions will be taken.

**Action-6:** The necessary actions will be taken to establish an Integrated Insect Management system in order to prevent the proliferation of insects, and thus; limit the amount of pesticide usage.

**Action-7:** The contribution to air pollution of campus facilities which burn fossil fuels will be investigated. The necessary surveys and feasibility studies on measures which could improve this situation will be carried out. After the conducted surveys and feasibility studies, if it is decided to establish these systems, the necessary actions will be taken.

**Action-8:** The necessary actions will be taken to investigate and monitor the quality of used fossil fuels.

**Action-9:** To improve the air quality by actively participating in national forestation movements and continuing with on-campus forestation activities.

**Strategic Objective – 3:** To raise public awareness about an environmentally-friendly energy-efficient transportation system.

**Action-1:** A master plan for an environmentally-friendly energy-efficient transportation system will be prepared and proposed to related institutions.

**Action-2:** Projects on alternative public transportation systems and the improvement of the traffic system will be prepared and proposed to the community.

**Action-3:** Research projects on increasing the mixture ratio of biomass and synthetic fuels in fossil fuel oils will be supported.

**Action-4:** Methods for increasing the use of bicycles and electrical vehicles on campus will be identified and actions will be taken towards establishing the necessary physical layout.

**Action-5:** To lower the CO<sub>2</sub> emissions of current vehicles which are over the limit. The necessary actions will be taken to monitor fuel usage (a vehicle monitoring system). The necessary regulations will be made to the current legislation to allow low emission vehicles to be chosen during vehicle renewal periods.



**STRATEGIC GOAL – 2: To prevent and control environmental noise.**

**Strategic Objective – 1:** To bring the level of daytime environmental noise on campus to the level indicated by performance indicators.

**Action-1:** On-campus noise maps will be drawn. If necessary, the required surveys and feasibility studies on lowering the level of noise will be conducted. If, after the conducted surveys and feasibility studies, it is decided to establish these systems, the necessary actions will be taken.

**Action-2:** Means of measurement will be developed to ensure monitoring at the determined standards. Thus, monitoring will be enabled within this framework.

**Action-3:** Motorized vehicles without mufflers will not be allowed to enter the campus. Rudiments for the unnecessary use of motorized vehicle horns (or any other noise producing apparatus on the vehicle) and the use of radio, television, music sets on mass-transit vehicles will be established and implemented.

**Strategic Objective – 2:** To bring the level of interior noise within on-campus buildings to the level indicated by performance indicators.

**Action-1:** The current levels of interior noise within on-campus buildings will be measured. The necessary surveys and feasibility studies on possible technical adjustments for noise insulation will be carried out. If, after the conducted surveys and feasibility studies, it is decided to establish these systems, the necessary actions will be taken.

**Action-2:** On-campus awareness-raising and educational events will be organized.

**STRATEGIC GOAL – 3: To establish an efficient waste and recycling systems.**

**Strategic Objective – 1:** To establish a waste management system for the campus and to ensure continuity of this system.

**Action-1:** Actions will be taken to draw up (complete?!) a waste inventory.

**Action-2:** The necessary surveys and feasibility studies on collecting, storing, and establishing recycling systems (through cooperation with private- or state-run projects) for hazardous waste, waste oil, and waste batteries or storage batteries will be carried out. After the conducted surveys and feasibility studies, if it is decided to establish these systems, the necessary actions will be taken.

**Action-3:** The necessary surveys and feasibility studies on converting kitchen and garden waste to compost at levels determined by performance indicators will be carried out. After the conducted surveys and feasibility studies, if it is decided to establish these systems, the necessary actions will be taken.

**Action-4:** The necessary surveys and feasibility studies on recycling paper, glass, and metal waste with economical value (through cooperation with private- and state-run projects) will be carried out. After the conducted surveys and feasibility studies, if it is decided to establish these systems, the necessary actions will be taken.

**Action-5:** Educational events, seminars, and competitions will be organized to develop projects on and raise awareness of topics such as waste-prevention and recycling.

**STRATEGIC GOAL – 4: To ensure land use, water management, and the conservation of natural resources.**

**Strategic Objective – 1:** To carry out the land planning of natural areas within the campus and to plan water management, ensure water conservation and sustainability, and reduce water usage.

**Action-1:** The fertility and potential of the natural resources within the campus will be examined through the necessary analyses and measurements. The sentence does not make any sense.

**Action-2:** A master plan of the campus' water requirement and resources.

**Action-3:** Water consumption statistics will be compiled by collecting the necessary data.

**Action-4:** The necessary surveys and feasibility studies on reducing per capita water consumption will be carried out. After the conducted surveys and feasibility studies, if it is decided to establish a water consumption reduction system, the necessary actions will be taken.

**Action-5:** The necessary surveys and feasibility studies on reducing the amount of irrigation water consumption per meter square will be carried out. After the conducted surveys and feasibility studies, if it is decided to establish an irrigation water reduction system (these systems), the necessary actions will be taken.

**Action-6:** Recycling projects such as using the treated water obtained from the wastewater treatment plant for agricultural and environmental irrigation and collecting, storing and using rain water will be investigated. The results of these studies will be included in the master plan.

**Action-7:** Institutional cooperation will be developed and scientific research projects will be initiated to develop regional water resources.

**Strategic Objective – 2:** To enable the use of the campus' natural areas for educational and research projects.

**Action-1:** Requests to use the campus' natural areas for educational and research s will be considered and evaluated within the framework of the current campus master plan.

**Action-2:** A land management plan including fire and vegetation management plans will be prepared for the campus.

**Strategic Objective – 3:** To establish a system to monitor the pollution of regional.

**Action-1:** The necessary surveys and feasibility studies on establishing a monitoring system to monitor the potential pollution of regional water resources as compared to international standards will be carried out. If, after the conducted surveys and feasibility studies, it is decided to establish these systems, the necessary actions will be taken.

**Strategic Objective – 4:** To raise on-campus and regional awareness of water saving.

**Action-1:** Educational and seminar programs will be organized and conducted with the active participation of student clubs.

**Action-2:** Events will be organized with the cooperation of related institutions to raise regional awareness.

### 3.4 GREEN PURCHASING MANAGEMENT

**STRATEGIC GOAL – 1:** To establish an environment-energy based management system encompassing purchasing, conversion, and logistical affairs (doings).

**Strategic Objective – 1:** To conduct purchases within this framework as much as campus legislation permits.

**Action-1:** Educational events and seminars will be organized to raise awareness of green purchasing amongst regional suppliers.

**Action-2:** When considering suppliers, suppliers which are conscious of the environment and energy will be chosen. To this end, suppliers will be asked to provide certificates such as the ISO 14025 Environmental Product Declaration, Ecolabel, and Energy Star. The necessary steps will be taken to ensure the principal of Life Long Cost during purchasing is included in the legislation.

**Action-3:** The principles for the campus' logistical doings will be determined and the necessary steps will be taken. To that end, the legislation will be examined within this framework and feasible steps will be taken.

**Action-4:** The principles for the campus' logistical doings during purchasing (such as less transportation, transportation from a central location, short routes, etc.) will be determined and the necessary steps will be taken.