



AFFORDABLE AND CLEAN ENERGY

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UNIVERSITY MEASURES TOWARDS AFFORDABLE AND CLEAN ENERGY

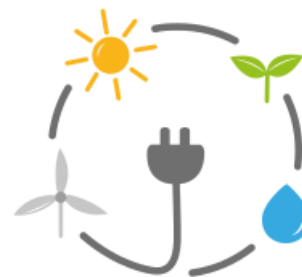
Our university has the policy to ensure all renovations / new builds are following energy efficiency standards. The construction works section carries out works involving smart building features to provide energy efficiency in every renovation or new building work carried out on the campus. Some of these efforts are mentioned in Sakarya University's greenmetric report. All new buildings in Sakarya University are equipped with energy-efficient devices. In the renovation works of existing buildings, energy-saving devices are used completely, and products that are due for renovation are replaced with energy-saving products. The use of energy-saving devices at Sakarya University is recorded and monitored by the building works unit. No purchases are made for devices that are not energy efficient. Care is taken to include natural lighting and natural ventilation systems in building constructions. All of the new buildings have an energy management unit, and the buildings are equipped with sensor devices (door, lighting, reservoir, faucet, etc.).

Our university has plans to upgrade existing buildings to higher energy efficiency. All technological devices are renewed with energy-saving models when the devices at Sakarya University fail or when it is time to renew the products. Even if the devices and buildings are not renewed, the building works unit regularly maintains the buildings every year. The devices to be changed during these maintenance works are renewed with electricity-saving models. 32% of the buildings in Sakarya University have the characteristics of smart buildings. There are building management systems, warning and alarm systems against fire and flood, energy management and monitoring panels, natural heating, ventilation, lighting applications, LED, sensor, and natural light areas. New buildings and laboratories are planned to produce the energy it needs. Sakarya University has renewable energy sources. Solar panels in new buildings meet the energy needs of the buildings significantly. Also, the energy obtained by wind turbines is used in laboratories. Sakarya University campus renewal is made in terms of reaching smarter and greener buildings. For now, 80% of the buildings are designed to take advantage of natural daylighting. 85% of the buildings have energy management centers and related staff for controlling and monitoring.

Our university has a process for carbon management and reducing carbon dioxide emissions. At Sakarya University, there are various practices and measures to measure and reduce

carbon dioxide emissions within the scope of carbon management. There are four different transportation initiatives to decrease private vehicles on campus. The first one is the busses which are serving as shuttles inside the campus. Instead of busses, people may use minibusses which are serving as shuttles inside the campus. Sakarya University is served by local buses and minibusses run by the Sakarya Metropolitan Municipality. These busses serve as a shuttle in the campus area. They do not take any charge from the individuals, and they are free for the people who get into the bus after the bus entered the campus area. This is also the same for the minibusses. There is no need for shuttle services instead. People may rent bicycles for free for transportation inside the campus. At Sakarya University, zero-emission vehicles are available and provided by the university for free. The students and staff can use the bicycles by giving their institutional ID cards to the officer. Also, there are bike parking areas in all parking areas and several buildings where there is any car parking area, but there is a bike parking area. These efforts aim to create awareness about the advantages of using bicycles. The last initiative is charging high banderole fees for vehicles and extra expensive banderole fee for the second vehicle of the same person

Our university has an energy efficiency plan in place to reduce overall energy consumption. Sakarya University follows several policies for energy saving and efficient use of energy in general. In this context, processes, and values regarding the use of energy-efficient devices, building smart buildings and equipping existing buildings with intelligent systems, increasing renewable energy resources, reducing annual electricity consumption, green building practices and carbon footprint measurement, and the processes and values related to reducing your carbon emissions. Our total electricity consumption is published comparatively in the Greenmetric report. The comparison of years shows that use of energy-efficient appliances enabled a significant in the electricity usage per month and also the total has been decreased.



Our university undergoes energy reviews to identify areas where energy wastage is highest. There is an energy management request in smart buildings at Sakarya University. These systems record and report the energy consumption of the units. Also, building-based energy consumption is monitored monthly. Units with high energy use are examined by construction works and equipped with energy-saving devices to reduce energy consumption.

Our university has a policy on divesting investments from carbon-intensive energy industries, especially coal and oil. Sakarya University makes all of its energy investments in renewable energy resources. Energy-efficient products are at the forefront in both on-campus equipment investments and investments in R&D projects. There are more than thirty research centers and more than ten niche R&D laboratories at Sakarya University. In these laboratories, researches on the production of solar vehicles and rechargeable battery technologies are carried out. Also, a large investment is made in renewable energy resources at Sakarya University, and efforts are made to design or renew laboratories and new buildings to produce their own energy needs. In this context, there are applications of solar and wind energy systems.

ENERGY USE DENSITY

Total energy used	36.170GJ
University floor space	82.560m²

ENERGY AND THE COMMUNITY

Our university provides programs for the local community to learn about the importance of energy efficiency, and clean energy. Sakarya University works to inform the public about energy efficiency and clean energy. Some of these studies are seminars and training organized within the university and open to the public. In addition to these, our student communities also have activities to inform the public about energy efficiency and saving. In the Sakarya region, the use of coal has been replaced by natural gas in recent years. Many seminars were held informing the public about the importance of using clean energy resources for clean air. Our faculty members have academic studies on sources that cause air pollution and methods to prevent them.

Our university promotes a pledge toward 100% renewable energy. Briefing panels, seminars, and conferences on renewable energy resources are held at Sakarya University. Also, research centers are supported with new devices and financial resources in order to work in the field of renewable energy resources. There are guidance and support provided by the scientific research project commission for our students and faculty members to conduct R&D studies in the field of renewable energy. Sakarya University values the Greenmetric index and the energy efficiency title followed within the scope of this index. Sakarya University, according to its energy and climate change efforts, is ranked ninth in Turkey.

Our university provides direct services to local industries aimed at improving energy efficiency and clean energy. Sakarya University carries out its laboratory investments and project planning by prioritizing renewable energy sources' diversification or making them more efficient. One of the areas where Sakarya University's R&D centers and research teams are strongest is renewable energy resources. Research on solar panels and batteries for automobiles and vehicle production studies that consume renewable energy sources have achieved international success.

Our university informs and supports the government in clean energy and energy-efficient technology policy development. Sakarya University makes local, regional, national, and global reports on clean energy and energy efficiency issues and shares its reports with decision-makers. Our faculty members are involved in local and regional strategy development policies and decision processes. There are also studies under the heading of energy in the strategic plan of Sakarya Province, and the coordination of this plan belongs to the faculty member of Sakarya University. Also, regional, national and global projects and publications are produced.

Our university provides assistance for start-ups that foster and support a low-carbon economy/technology. Some companies and entrepreneurs conduct research and produce projects on energy efficiency in the incubation center and Teknokent at Sakarya University. Sakarya University supports these entrepreneurs financially and also through project mentoring programs. Material, laboratory, or research support is provided for the project needs of companies and entrepreneurs.