

# SUSTAINABILITY REPORT 2024









## PREFACE



At Manisa Celal Bayar University, we regard sustainability not merely as a goal but as a fundamental principle at the core of all our activities. Across our expansive campus areas, we implement environmentally conscious, energy-efficient, and socially beneficial practices, taking significant steps toward a more sustainable future.

This report covers the sustainability efforts carried out across all our campuses, with a primary focus on Şehit Prof. Dr. İlhan Varank Campus. The projects we have implemented in campus infrastructure, energy management, water and waste management, accessibility, and sustainable education are conducted by the Sustainable Campuses Coordination Office in alignment with the United Nations Sustainable Development Goals (SDGs). In particular, the clean energy we produce with our solar power plants, the reuse of treated water, and the energy savings we achieve across the campus are detailed in this report.

The certificate of achievement awarded to our university by the Ministry of Energy and Natural Resources is a testament to our commitment to sustainability. Our eco-friendly transportation options, provided by electric buses, the efficient water management at our biological treatment plant, and the recycling of waste further strengthen Manisa Celal Bayar University's determination to become a green campus.

The numerous accessibilities award we have received from the Council of Higher Education (YÖK) reflect our leadership in both physical and educational accessibility. Our rainwater harvesting projects and the use of smart automation systems throughout the campus are clear indicators that sustainability has become a way of life at our university.

With this report, we are proud to share the steps we are taking to ensure a more sustainable world for future generations, and we will continue to advance with a strong sense of responsibility in sustainability, guided by the work of the Sustainable Campuses Coordination Office.

Sincerely,

**Prof. Dr. Rana KİBAR**

Rector of Manisa Celal Bayar University

## REPORT PREPARERS

1. **Prof. Dr. Ali Demir**  
*Sustainable Campuses Coordinator*
2. **Prof. Dr. Nuket Tirtom**  
*Chairperson of the Environmental Commission*
3. **Assoc. Prof. Dr. M. Erkan Turan**  
*Assistant Coordinator of Sustainable Campuses*
4. **Assoc. Prof. Dr. Tuna Can Güleç**  
*Assistant Coordinator of Sustainable Campuses*
5. **Assoc. Prof. Dr. Kıvanç Başaran**  
*Chairperson of the Energy Commission*
6. **Assoc. Prof. Dr. Ahmet A. Kumanlıoğlu**  
*Chairperson of the Water Management Commission*
7. **Assist. Prof. Dr. A. Bilgen Aksoy**  
*Member of the Energy Commission*
8. **Assist. Prof. Dr. Begüm Y. Dağlı**  
*Member of the Water Management Commission*
9. **Assist. Prof. Dr. Dilay Yıldırım Uncu**  
*Chairperson of the Transportation Commission*
10. **Assist. Prof. Dr. M. Sinan Yıldırım**  
*Member of the Transportation Commission*
11. **Assist. Prof. Dr. Gülbın Kıyıcı**  
*Chairperson of the Education Commission*
12. **Res. Assist. Ecem Tuncer Uysal**  
*Member of the Water Management Commission*
13. **Res. Assist. Adem Özer**  
*Member of the Transportation Commission*
14. **Eyub Serhan Güven**  
*Head of Department of Construction and Technical Affairs*

## CONTRIBUTORS TO THE REPORT

1. **Prof. Dr. Osman Çulha**  
*Chairperson of University-Industry Cooperation*
2. **Prof. Dr. Kadir Yıldız**  
*Chairperson of the Sustainable Living Commission*
3. **Assoc. Prof. Dilek Oskay**  
*Biology Department - MCBU Campus Plants*
4. **Assist. Prof. Dr. Tuğçe Yağcı**  
*Member of University-Industry Cooperation*
5. **Assist. Prof. Dr. H. Erdem Yalkın**  
*Member of University-Industry Cooperation*
6. **Assist. Prof. Dr. Hatice Gürgen Şimşek**  
*Member of the Sustainable Living Commission*
7. **Dr. Gonca Babadağ**  
*Member of the Education Commission*
8. **Kemal Kaplan**  
*Department of Construction and Technical Affairs*
9. **Zafer Şen**  
*Department of Construction and Technical Affairs*
10. **Münevver Erol Şahindoğan**  
*Department of Construction and Technical Affairs*
11. **Selin Senan Demirci**  
*Directorate of Protocol, Press, and Public Relations*
12. **Murat Altınordu**  
*Directorate of Protocol, Press, and Public Relations*
13. **Ahmet Semerci**  
*Directorate of Protocol, Press, and Public Relations*

Translated by **Assist. Prof. Dr. Emre Çakar**



## CONTENTS

1. INTRODUCTION.....	2
2. ENVIRONMENT AND INFRASTRUCTURE .....	5
2.1. Main Campus - Şehit Prof. Dr. İlhan Varank Campus.....	7
2.2. Health Campus .....	12
2.3. Şehzadeler Campus.....	13
2.4. Sports Facilities in Şehit Prof. Dr. İlhan Varank Campus.....	15
2.5. Security Services at Şehit Prof. Dr. İlhan Varank Campus .....	17
2.6. On-site Access Services Provided at Şehit Prof. Dr. İlhan Varank Campus.....	19
2.7. Health Facilities in Şehit Prof. Dr. İlhan Varank Campus .....	23
2.8. Sustainability Budget .....	25
2.9. Nursery Service Provided at Şehit Prof. Dr. İlhan Varank Campus.....	26
2.10. Fire and Natural Disaster Response in Şehit Prof. Dr. İlhan Varank Campus.....	28
2.11. Plant Flora and Animal Fauna of Şehit Prof. Dr. İlhan Varank Campus .....	29
3. ENERGY .....	35
4. WASTE .....	46
5. WATER.....	54
6. TRANSPORTATION .....	66
7. EDUCATION.....	73



# 1.Introduction

Sustainability, one of today's most critical global issues, aims to protect the long-term well-being of humanity and the health of the planet with its environmental, economic and social aspects. Sustainability has an important place in today's university campuses; in addition to education and research processes, issues such as energy consumption, waste management and general environmental impacts of campuses are also evaluated in this context. As Manisa Celal Bayar University, we will discuss our commitment to sustainable campuses and our practices in detail in this report.

The understanding of sustainability has been broadly framed by the Sustainable Development Goals (SDGs) established and adopted by the United Nations in 2015. These goals provide a universal roadmap for environmental protection, social equality and economic development. In particular, SDG 7 (Affordable and Clean Energy) and SDG 11 (Sustainable Cities and Communities) are critical to the sustainability efforts of university campuses. The integration of renewable energy sources and green campus practices are key elements in achieving these goals.

Green campus practices are a reflection of the efforts of universities to reduce their environmental impact and operate in harmony with ecosystems. These practices cover areas such as energy efficiency, waste minimisation, water management and biodiversity. In particular, energy efficiency and the use of renewable energy play an important role in reducing the carbon footprint of campuses. As Manisa Celal Bayar University, we have developed and implemented various strategies to achieve these goals.

Renewable energy is an important component for a sustainable future. The use of fossil fuels leads to greenhouse gas emissions, accelerating global warming and causing environmental degradation. In this context, the integration of solar energy, wind energy and other renewable energy sources is important in terms of reducing environmental impacts and reducing energy costs. The projects we implement at our university to use these resources and ensure energy efficiency support our environmental sustainability goals and improve the environmental performance of our campus.

In this context, international sustainability metrics such as GreenMetric World University Ranking provide important tools to assess and compare the environmental



performance of universities. GreenMetric measures universities' sustainability efforts and environmental performance based on criteria such as energy consumption, waste management, water consumption and green areas. This index provides the opportunity to evaluate the sustainability practices of universities according to international standards, enabling the sharing and promotion of best practices. Manisa Celal Bayar University aims to comply with the criteria of this index and to be recognised on a global scale with its achievements in the GreenMetric ranking and sustainability projects. In our sustainability report, the projects, strategies and results achieved in line with the sustainable campus goals of our university will be presented in detail. The compliance of these projects with the United Nations Sustainable Development Goals will reveal to what extent our understanding of sustainability overlaps with international standards and how we contribute to these goals. The sustainability journey of our university aims not only to minimise environmental impacts but also to promote social and economic sustainability.

It is expected that this report will further deepen the understanding of the sustainability of our university and demonstrate exemplary practices on sustainable campuses. In addition, it is thought that the report will contribute to the dissemination of knowledge and experience in this field by sharing our approaches to sustainability with other educational institutions and relevant stakeholders.







## 2.Environment and Infrastructure

Manisa Celal Bayar University, named after Celal Bayar, who was Atatürk's comrade-in-arms during the National Struggle and served as Saruhan MP in the Last Ottoman Parliament, has opened research centres that will respond to the social and cultural expectations and needs of the region and made these centres functional. Today, Manisa Celal Bayar University, which continues its education and training with a total of 66 units including 15 faculties, 2 colleges, 15 vocational schools, 1 institute, 32 research centres and 1 research and application hospital (Hafsa Sultan Hospital), is one of the 3 largest universities in the Aegean Region with 1912 academic staff, 2324 administrative staff and 44,816 students.

Manisa, one of the provinces with the richest historical and cultural texture in Türkiye and the Aegean Region, will be at the forefront with the scientific studies and research of Manisa Celal Bayar University and will be known as a university city in the future. Our university, which has chosen the Manisa Tulip as a symbol, aims to carry love, knowledge and development from the past to the future with this symbol, which sheds light on an important period of our history and is a part of not only the past but also our present and future.



Figure 2.1 Logo of Manisa Celal Bayar University and Manisa Tulip

Manisa Celal Bayar University consists of 3 large campuses and various units located in 14 districts. These are Yunusemre Şehit Prof. Dr. İlhan Varank Campus, Yunusemre Health Campus, Şehzadeler Campus, Ahmetli Vocational School, Akhisar Vocational School, Alaşehir Vocational School, Demirci Faculty of Education Campus,

Demirci Vocational School, Gördes Vocational School, Kırkağaç Vocational School, Köprübaşı Vocational School, Kula Vocational School, Salihli Faculty of Economics and Administrative Sciences, Salihli Vocational School, Sarıgöl Vocational School, Saruhanlı Vocational School, Soma Vocational School, Turgutlu Hasan Ferdi Technology Faculty and Turgutlu Vocational School. Manisa Celal Bayar University consists of three major campuses, namely Şehit Prof. Dr. İlhan Varank Campus, Health Campus and Şehzadeler Campus. The main campus of the university is the Şehit Prof. Dr. İlhan Varank Campus.



## 2.1. Main Campus - Şehit Prof. Dr. İlhan Varank Campus

Şehit Prof. Dr. İlhan Varank Campus, located in Muradiye, is the main campus where the rectorate building is located and where the density of students and academicians is the highest. Located in a rural area with forest cover, this campus includes the Faculty of Engineering and Natural Sciences, Faculty of Economics and Administrative Sciences, Faculty of Humanities and Social Sciences, Faculty of Informatics, Faculty of Applied Sciences, Faculty of Business Administration, Faculty of Communication, Vocational School of Technical Sciences, Rectorate Building, Graduate Education Institute, Student Centres, Shopping Centres, Student Dormitories, Kindergarten, Laboratories, Technocity, Water Tank and Treatment Systems, Congress Centre, Sports Fields and Indoor Swimming Pool. Şehit Prof. Dr. İlhan Varank Campus has an area of 1,201,262 m<sup>2</sup> and its perimeter is 5.46 km (Figure 2.2, Figure 2.3 and Figure 2.4). According to the data obtained from the General Directorate of Land Registry and Cadastre (TKGM) (<https://parselsorgu.tkgm.gov.tr/>), the main campus is located on three different parcels 221/5, 221/6 and 221/8. The area of 221/5 is 111,154.36 m<sup>2</sup>, 221/6 is 1,023,275.38 m<sup>2</sup> and 221/8 is 66,832.16 m<sup>2</sup>. The total main campus area is 1,201,262 m<sup>2</sup>.



Figure 2.2 Şehit Prof. Dr. İlhan Varank Campus Boundaries



Figure 2.3 Images of the buildings in Şehit Prof. Dr. İlhan Varank Campus

C.B.O. MURADİYE KAMPUSU  
REVİZYON VE PEYZAJ MASTER PLANI

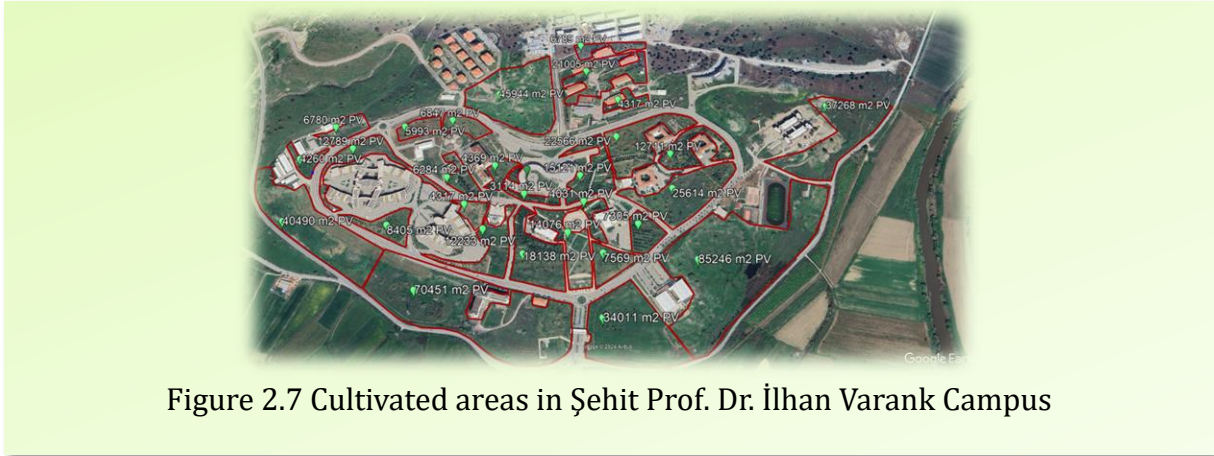
30  
29  
28  
27  
26  
25  
24  
23  
22  
21  
20  
19  
18  
17  
16  
15  
14  
13  
12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1

1. İLHAN VARANK ANITLIĞI  
2. İLHAN VARANK ANITLIĞI  
3. İLHAN VARANK ANITLIĞI  
4. İLHAN VARANK ANITLIĞI  
5. İLHAN VARANK ANITLIĞI  
6. İLHAN VARANK ANITLIĞI  
7. İLHAN VARANK ANITLIĞI  
8. İLHAN VARANK ANITLIĞI  
9. İLHAN VARANK ANITLIĞI  
10. İLHAN VARANK ANITLIĞI  
11. İLHAN VARANK ANITLIĞI  
12. İLHAN VARANK ANITLIĞI  
13. İLHAN VARANK ANITLIĞI  
14. İLHAN VARANK ANITLIĞI  
15. İLHAN VARANK ANITLIĞI  
16. İLHAN VARANK ANITLIĞI  
17. İLHAN VARANK ANITLIĞI  
18. İLHAN VARANK ANITLIĞI  
19. İLHAN VARANK ANITLIĞI  
20. İLHAN VARANK ANITLIĞI  
21. İLHAN VARANK ANITLIĞI  
22. İLHAN VARANK ANITLIĞI  
23. İLHAN VARANK ANITLIĞI  
24. İLHAN VARANK ANITLIĞI  
25. İLHAN VARANK ANITLIĞI  
26. İLHAN VARANK ANITLIĞI  
27. İLHAN VARANK ANITLIĞI  
28. İLHAN VARANK ANITLIĞI  
29. İLHAN VARANK ANITLIĞI  
30. İLHAN VARANK ANITLIĞI

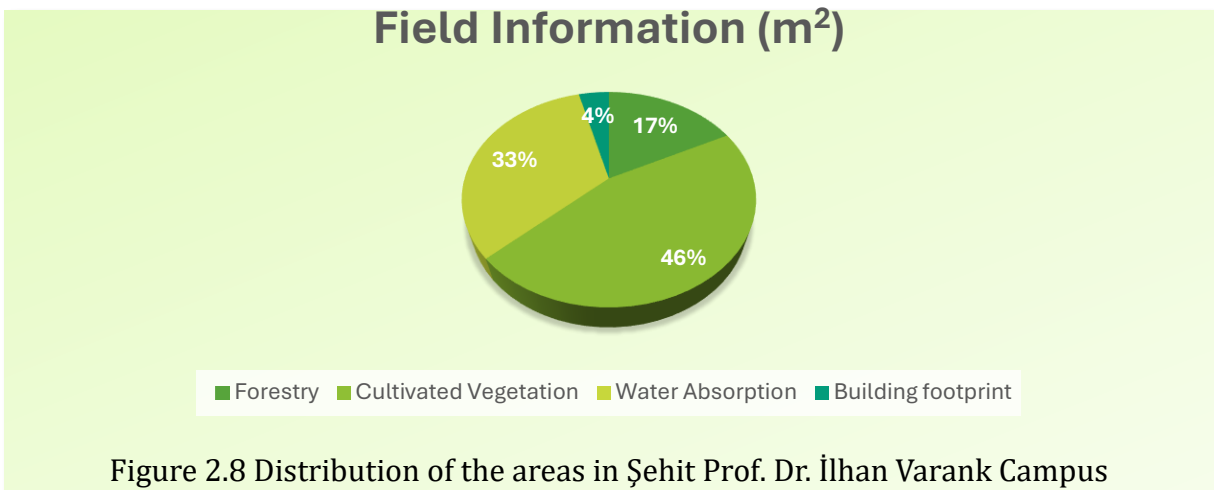
[illegible]

Figure 2.6 Forest areas in Şehit Prof. Dr. İlhan Varank Campus





The total covered area of the buildings on the main campus is 157,955 m<sup>2</sup>, while the indoor areas on the ground floor, such as seating areas, cover 47,902 m<sup>2</sup>. The total area of open spaces is 1,153,360 m<sup>2</sup>. The forested area on the campus is 210,662 m<sup>2</sup>, the cultivated vegetation is 549,071 m<sup>2</sup> and the remaining area for water absorption is 393,627 m<sup>2</sup>. The percentage distribution of these areas is shown in Figure 2.8.



The total number of students studying at Şehit Prof. Dr. İlhan Varank Campus is 21,254. The number of students studying online at the undergraduate and graduate level is 321. The number of administrative staff working at Şehit Prof. Dr. İlhan Varank Campus is 647 and the number of academic staff is 648. Some images of the Şehit Prof. Dr. İlhan Varank Campus are shown in Figure 2.9.



Figure 2.9 Images from the Şehit Prof. Dr. İlhan Varank Campus

The artificial pond planned to be built on the Şehit Prof. Dr. İlhan Varank Campus is shown in Figure 2.10. A European Union project has been prepared to finance the pond



and the results are expected to be announced soon. This pond will be located at the lowest elevation of the campus and will be fed by rainwater.



Figure 2.10 Artificial pond planned to be built in Şehit Prof. Dr. İlhan Varank Campus

## 2.2. Health Campus

The Health Campus is located in Yunusemre district (Figure 2.11). Unlike Şehit Prof. Dr. İlhan Varank Campus, it is closer to the urban settlement. Hafsa Sultan Hospital, Faculty of Medicine, Faculty of Medicine, Faculty of Health Sciences, Vocational School of Health Services, Oncology Hospital, Polyclinic Buildings, Nursery and Congress Centre are located within the campus boundaries. The Health Campus has an area of 136,216.66 m<sup>2</sup> and its perimeter is 1.75 km. The total closed area of the buildings on the campus is 105,380 m<sup>2</sup>. Images from the Health Campus are presented in Figure 2.12.



Figure 2.11 Margins and building areas of the Health Campus



Figure 2.12 Images from the Health Campus



### 2.3. Şehzadeler Campus

Şehzadeler Campus is located in Şehzadeler district (Figure 2.13). Like the Health Campus, it is in the city center. Within the borders of the campus, there are the Faculty of Sports Sciences, Faculty of Fine Arts, Faculty of Theology, Healthy Living Centre, Sports Halls and School of Foreign Languages (Figure 2.14). Şehzadeler Campus has an area of 97,824.30 m<sup>2</sup> and its perimeter is 1.75 km. The total closed area of the buildings on the campus is 33,076 m<sup>2</sup>. Images of the Şehzadeler Campus are presented in Figure 2.15.

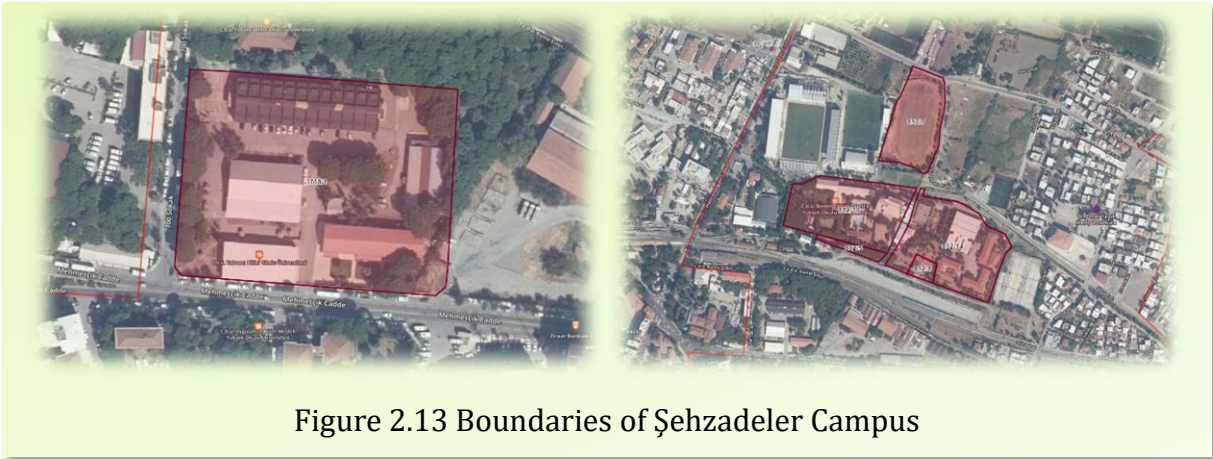


Figure 2.13 Boundaries of Şehzadeler Campus

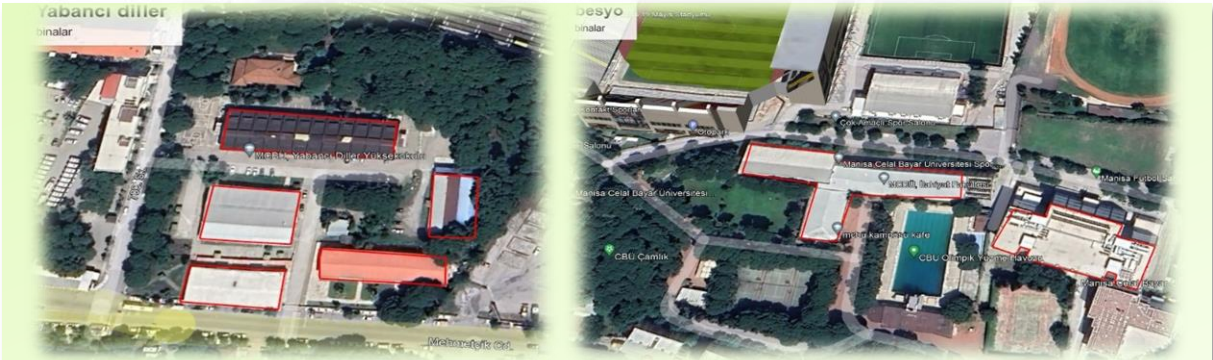


Figure 2.14 Buildings in Şehzadeler Campus





Figure 2.15 Images from Şehzadeler Campus



## 2.4. Sports Facilities in Şehit Prof. Dr. İlhan Varank Campus

---

Promoting sport among university students and staff has an impact on improving physical and mental health. Healthy individuals have higher levels of academic achievement, motivation and engagement, contributing to a sustainable learning and working environment across the campus. Sustainable operation of sports facilities supports the well-being of the university community in the long term, helping to improve social sustainability. Sport is an important tool for strengthening social bonds between individuals. Sports events and activities organised across the campus increase interaction between students and staff, creating a strong sense of community. This social integration can be considered one of the cornerstones of sustainable campus life.

The design and operation of sports facilities in accordance with environmental sustainability principles such as energy efficiency and water conservation play an important role in reducing the carbon footprint of the campus. For example, the use of water recovery systems or energy-efficient heating and cooling technologies in our indoor sports facilities minimises resource consumption. Similarly, the use of energy-efficient devices in fitness centres and sustainable building practices improve the overall sustainability performance of the campus by reducing environmental impacts.

Sports activities contribute to the development of environmental awareness by encouraging participants to interact with nature. Outdoor sports activities and nature-themed sports activities allow students to establish a closer relationship with the environment. This situation prepares the ground for increasing sustainability awareness and adopting environmentally friendly behaviours.

The promotion of sport contributes to the goal of 'Health and Quality of Life' (SDG 3) in particular, in accordance with the Sustainable Development Goals (SDGs) of the United Nations. The promotion of healthy lifestyles and the development of sustainable sports policies within the university constitute an important step in the realisation of these goals. As a result, the impact of sport on sustainable campuses plays a central role in sustainable development processes, encompassing not only individual health and well-being but also the principles of social and environmental sustainability. The main campus has indoor and outdoor sports facilities. The outdoor facilities include a football pitch,

basketball court, tennis court and volleyball court, while the indoor sports facilities include an indoor sports hall, swimming pool and fitness centre (Figure 2.16).



Figure 2.16 Indoor and outdoor sports facilities in Şehit Prof. Dr. İlhan Varank Campus



## 2.5. Security Services at Şehit Prof. Dr. İlhan Varank Campus

---

As Manisa Celal Bayar University, we believe that creating a safe campus environment that supports our sustainability goals is one of our primary objectives. In this context, security activities and the role of our security personnel are of critical importance to improve the quality of campus life and ensure the safety of our students and staff. By constantly updating and improving our security activities on our campus, we ensure that every individual feels safe. Our security measures, supported by technological infrastructure including surveillance cameras, advanced lighting, and emergency response systems, contribute to the prevention of any unfortunate situation.

At the entrance of the campus, the vehicles of students and all staff are controlled through a license plate recognition system, thus ensuring that only authorised vehicles can enter the campus. Detailed security checks at the entrance gate stand out as a serious practice to increase security on our campus. In addition, regular security drills ensure that all campus components are prepared for emergencies.

Our professional security personnel, who ensure the security of our campus, serve 24 hours a day. Our trained and experienced staff meticulously implement security protocols and intervene quickly when necessary. Aiming to support our students, academic and administrative staff, our security personnel prioritise the safety of everyone by creating a friendly communication environment on campus.

Our campus security aims to create a safe learning and working environment, both physically and socially, in accordance with our sustainability goals. In this context, our security efforts and the devoted efforts of our staff play an important role in the sustainable future of Manisa Celal Bayar University.



Figure 2.17 Security services at Şehit Prof. Dr. İlhan Varank Campus



## 2.6. On-site Access Services Provided at Şehit Prof. Dr. İlhan Varank Campus

The opportunities offered by Manisa Celal Bayar University to individuals with disabilities support social sustainability by increasing inclusion and accessibility in line with the Sustainable Development Goals (SDGs). The presence of ramps for individuals with disabilities in the entire campus area of the university ensures spatial equality by facilitating the access of disabled individuals to all areas within the campus. These practices have contributed to the university being awarded the 'Access in Space' and 'Access in Education' certificates by the Council of Higher Education (YÖK). These documents reflect Manisa Celal Bayar University's commitment to maximising accessibility and contribute directly to SDG 10 (Reducing Inequalities). Equal access to education and university services for all individuals, regardless of physical disabilities, reinforces social equality and lays the foundation for building a sustainable society.

Practices such as toilets for individuals with disabilities, Braille signs and specially designed road markings for the disabled on campus constitute an important step in the development of accessible and inclusive infrastructure within the scope of SDG 9 (Industry, Innovation and Infrastructure). In addition, the 'Barrier-Free Programme Order' awarded by the Council of Higher Education (YÖK) is an indication of the importance of these infrastructure solutions in terms of accessibility. Such arrangements enable people with disabilities to move safely and independently on the campus while enabling them to actively participate in social life.

Improving access opportunities across the campus also contributes to the realisation of SDG 4 (Quality Education) by increasing participation in educational processes. Facilitating access to educational services for students with physical disabilities creates an inclusive and equitable educational environment. Manisa Celal Bayar University's success in this area has been recognised with the 'Access to Education' certificate from the Council of Higher Education. This document demonstrates that the university strengthens its commitment to providing quality education for all and supports the educational rights of people with disabilities.

This infrastructure and services for people with disabilities aim to create an inclusive and sustainable community within the campus, following the goals of SDG 11

(Sustainable Cities and Communities). Providing people with disabilities with more say over physical environments and increasing their access to public spaces strengthens social inclusion and reinforces social sustainability. Documents such as 'Access in Space' and 'Barrier-Free Programme Order' awarded by YÖK can be considered concrete indicators of these goals.

As a result, these privileges offered by Manisa Celal Bayar University to individuals with disabilities and the documents such as 'Access in Space', 'Access in Education' and 'Barrier-Free Programme Order' contribute to the creation of a sustainable social structure by promoting social equality and building an accessible infrastructure in harmony with sustainable development goals.

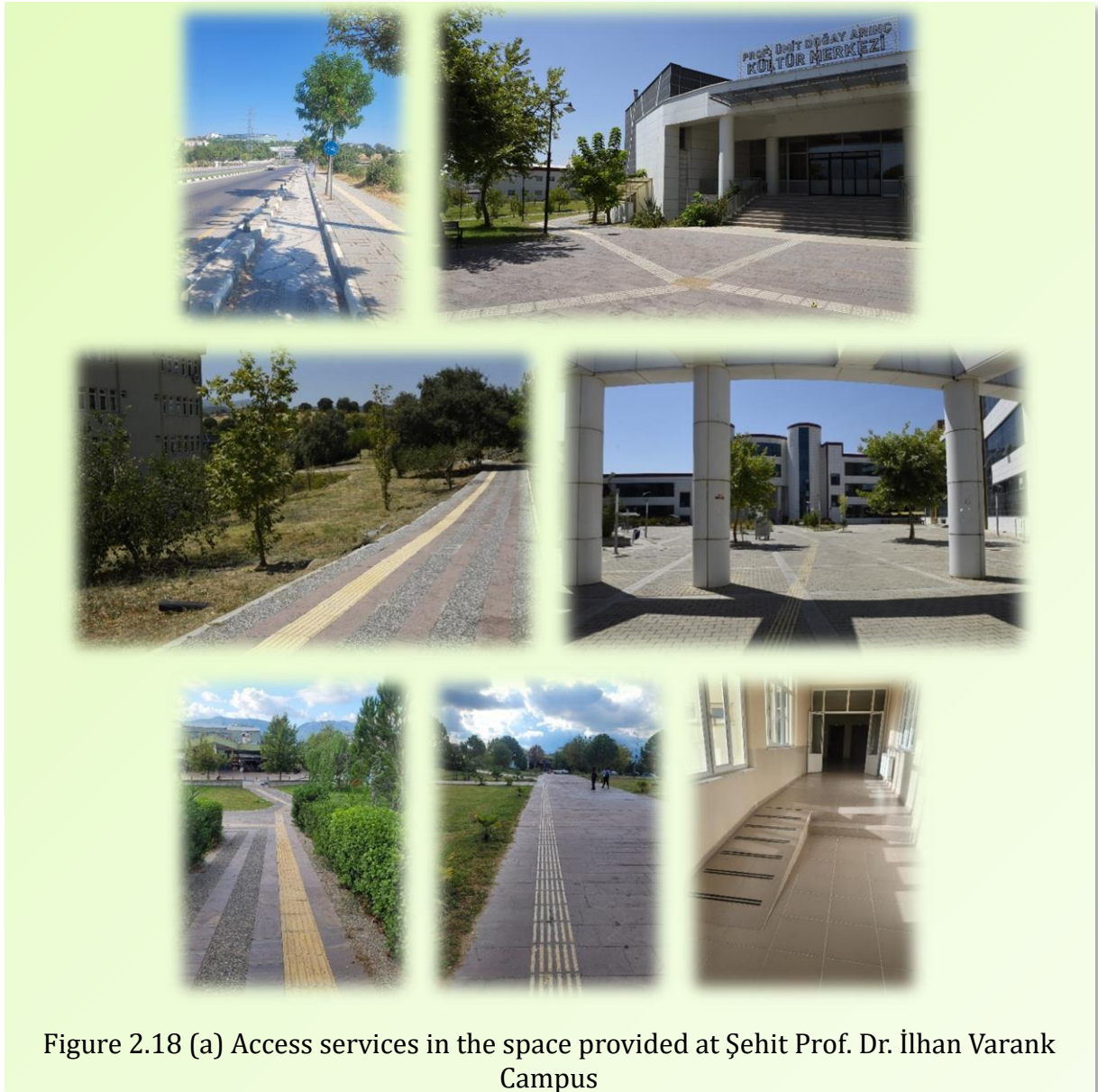


Figure 2.18 (a) Access services in the space provided at Şehit Prof. Dr. İlhan Varank Campus



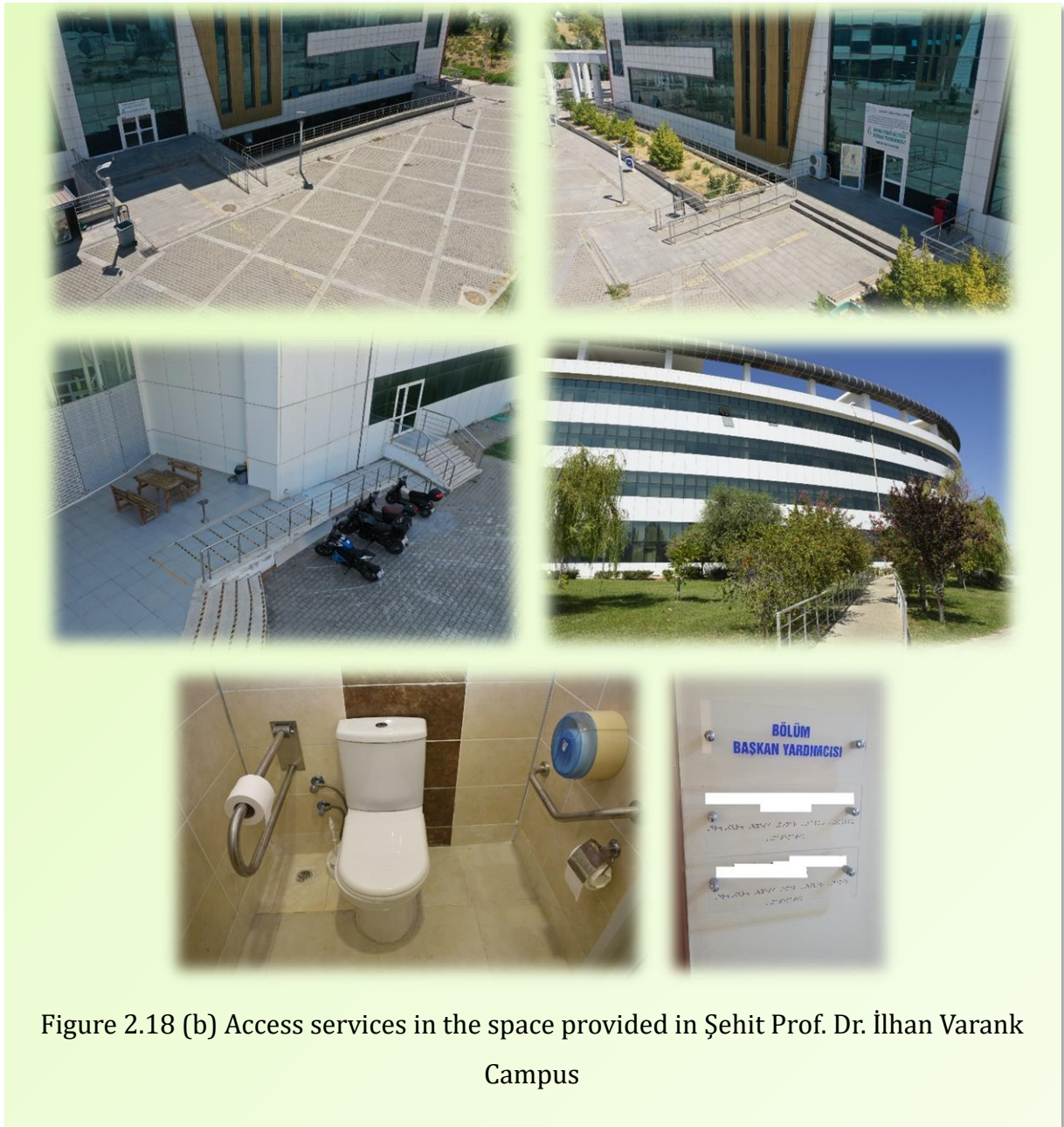


Figure 2.18 (b) Access services in the space provided in Şehit Prof. Dr. İlhan Varank Campus



Figure 2.19 Documents of the Barrier-Free University Award



## 2.7. Health Facilities in Şehit Prof. Dr. İlhan Varank Campus

---

Manisa Celal Bayar University takes important steps to improve health services by prioritising student and staff health. In this context, Hafsa Sultan Hospital, which serves within our university, operates to meet the health needs of not only our university but also all of Manisa. It supports public health by providing comprehensive health services with its modern infrastructure and expert staff. Hafsa Sultan Hospital has obtained a health tourism authorisation certificate to serve both domestic and international patients. In this way, it meets the needs of patients from different countries by providing health services at international standards. The hospital is equipped with advanced medical devices to provide various health services from emergency services to polyclinic services in a quality manner.

It also contributes to raising public health awareness by organising various health campaigns and educational programmes. Located on our main campus, Mediko, as a smaller-scale health institution, provides continuous service to all students and staff on the campus. Providing support in many areas such as emergency intervention, general health checks and counselling services, Mediko provides continuous service to meet health needs. Our health services team aims to provide qualified and accessible health services by placing a priority on student health and wellness.

Manisa Celal Bayar University aims to provide individuals with easy access to health services and raise healthy individuals following the Sustainable Development Goals with the opportunities it offers in the field of health services. Hafsa Sultan Hospital and Mediko play an important role for both our university and Manisa as important building blocks in line with this goal.



Figure 2.20 Health services provided at our university



## 2.8. Sustainability Budget

Manisa Celal Bayar University attaches great importance to sustainability studies. In the process of realising its environmental, social and economic sustainability goals, our university allocates a wide range of budgets from infrastructure and maintenance and repair activities to scientific research projects. This budgeting policy demonstrates our commitment to the long-term and effective realisation of sustainability goals. In particular, infrastructure investments are made to minimize the environmental footprint of the campus, improve energy efficiency and support the sustainable use of natural resources. Likewise, maintenance and repair activities are supported by the sustainability of existing structures and the integration of innovative technologies. Our university also encourages the development of innovative solutions in the field of sustainability with the funds it provides for scientific research.

These studies display Manisa Celal Bayar University’s sensitivity to sustainability and its academic leadership in this field and embody the goal of leaving a more livable world to future generations. Table 2.1 below shows the budgets and ratios allocated from the university budget for sustainability studies in the last 3 years.

Table 2.1 Amounts allocated from the university budget for sustainability studies (in US Dollars)

Period	Sustainability Budget	Sustainability Budget/Total Budget	3 Year Average
2022	6.455.850,00	%17.11	%12.49
2023	8.187.600,00	%13.49	
2024 (October)	8.030.794,00	%6.88	

## **2.9. Nursery Service Provided at Şehit Prof. Dr. İlhan Varank Campus**

---

Within Manisa Celal Bayar University, 2 kindergartens serving both university staff and the local community aim to support the development of children. Our nurseries offer a variety of educational programmes that encourage children's social, emotional and mental development in a safe and supportive environment. In this way, children are provided with quality education at an early age. University staff can easily benefit from nursery services and closely follow the development of their children in a safe environment. Our kindergartens have a strong educational infrastructure with experienced teachers and aim to provide children with various skills and increase their social interactions.

In addition, the education programmes implemented in kindergartens are aimed at developing children's creativity, problem-solving skills and communication skills. In this way, we contribute to raising healthy and well-equipped individuals of the future. In harmony with our sustainability approach, the nurseries within Manisa Celal Bayar University aim to both improve the quality of education and create a sense of social responsibility in society. Our nursery services contribute not only to the future of our university but also to the future of Manisa.





Figure 2.21 Nursery service provided at Şehit Prof. Dr. İlhan Varank Campus

## 2.10. Fire and Natural Disaster Response in Şehit Prof. Dr. İlhan Varank Campus

The fire brigade, located at Manisa Celal Bayar University Şehit Prof. Dr. İlhan Varank Campus, provides fast and effective response to fires and natural disasters. The fire service is based not only on modern equipment but also on a team of specialised, trained and experienced personnel. Professional firefighters who have received special training in the use of fire trucks and fire intervention are on duty. These personnel are subjected to regularly updated training on fire safety, rescue operations and disaster management. They also have the competence to respond to non-fire emergencies (e.g. natural disasters).

This team, deployed at strategic points, ensures an effective response by reaching the scene as soon as possible when a fire or disaster occurs on campus.

This is critical for the safety of students and academic and administrative staff. The qualified response capacity of our fire brigade contributes to the creation of a safe and sustainable living space throughout the campus. Thus, it is aimed to minimise fire and disaster risks and the safety of our students and staff is kept at the highest level. As Manisa Celal Bayar University, our efforts to continuously improve our fire safety and emergency response capacity on campus continue.



Figure 2.22 Fire Truck used for Fire and Natural Disaster Response in Şehit Prof. Dr. İlhan Varank Campus



### **2.11. Plant Flora and Animal Fauna of Şehit Prof. Dr. İlhan Varank Campus**

---

Biodiversity is a wealth and its conservation is a responsibility towards life, not only for researchers or nature lovers, but for every individual. Increasing awareness of biodiversity is possible only by raising awareness on this issue. People who become aware can assume responsibility in this field. Awareness is a crucial concept in this regard because human beings tend to be indifferent to what they do not know or recognise. This study aims to introduce plants, which are a part of their environment, to everyone interested in plants, especially the youth of our university, to make them visible and ultimately to raise awareness about biodiversity.

In this context, the plants distributed within the borders of the campus were photographed in the field collected and turned into herbarium material. They were identified following relevant botanical literature, especially the Flora of Turkey. Photographs of some of these species were reserved to be exhibited in certain areas within the campus.



Figure 2.23 Examples of plant flora in Şehit Prof. Dr. İlhan Varank Campus





Figure 2.24 Some examples of animal diversity in Şehit Prof. Dr. İlhan Varank Campus



Figure 2.25 Nests for birds at our campuses



Figure 2.26 Shelters for our dog friends on our campuses

An incubation company operating within Manisa Teknokent has established the facility shown below within the campus boundaries. This facility is an eco-friendly greenhouse that powered by solar and wind energy. The most important feature of the greenhouse is that it enables soilless agriculture and offers a sustainable agriculture opportunity with 95% less water consumption. To date, lettuce, salad, rocket, spinach, strawberry and saffron have been produced in this greenhouse. Following the successful outcomes, the company has started to establish a much larger facility.





Figure 2.27 Hydroponic and soilless agriculture practices on Şehit Prof. Dr. İlhan Varank Campus







### 3.ENERGY

Manisa Celal Bayar University meticulously fulfils its duties in protecting the environment and combating climate change. By prioritising the use of renewable energy sources and energy efficiency, efforts to minimize the carbon footprint are continued and new plans are made in this direction. To reduce total energy consumption, the University uses energy-efficient devices such as LED lamps in indoor and outdoor lighting, lighting fixtures with sensors, air conditioners with inverter technology, central air conditioning systems and A++ class household appliances. In Figure 3.1, photos of some devices with low energy consumption are presented.

In Manisa Celal Bayar University campus, the ratio of energy-efficient appliances to appliances with conventional energy consumption is 75.7%. In Table 3.1, the total number of appliances used and the ratio of energy-efficient appliances to conventional energy-consuming appliances are presented.

Table 3.1 Information on conventional and energy-efficient appliances.

Appliance	Total Number	Total number energy Efficient appliances	Percentage
LED Lamp (Exterior)	250	220	%88
LED Lamp (Interior)	8432	4357	%51.7
Inverter technology and A-Plus air conditioning	549	447	%81.4
Energy Star-certified computers	7521	6042	%80.3
Jointly used energy- efficient printers	113	87	%77
		Average Percentage	%75.7

On-campus led lightings



Central air conditioning devices



Motion Sensor Lamps



Shared printers



### 3.1 Examples of the use of energy-efficient appliances



The lighting devices used on campus are replaced with LED lamps every maintenance cycle. In this way, 220 of the 250 lamps used in outdoor lighting and 4357 of the 8432 lamps used in indoor lighting are LED lamps. Currently, the proportion of LED lamps used in outdoor lighting is around 88% and 52% in indoor lighting. In the next few years, it is planned to replace all of the lamps in outdoor lighting with LED lamps and to increase the proportion of LED lamps used in indoor lighting to at least 75%. In order to increase energy efficiency on campus, sensor lamps, common printers, air conditioners with inverter technology and central air conditioning systems are used, and their ratio is between 77%-80%. Care is taken to ensure that all new computers to be purchased have Energy Star certificates, and utmost attention is paid to energy efficiency in all other new equipment purchases. To minimise energy consumption, in addition to replacing individual devices used in buildings with efficient devices, it is of great importance that all buildings have smart building systems. In this context, buildings equipped with Building Automation System (BAS) and Building Management System (BMS) have features such as burglar alarm, fire extinguishing, video monitoring, automatic monitoring and logging of energy and water consumption. There are also sustainability practices such as monitoring environmental parameters related to thermo-hygrometric comfort, using high-efficiency luminaires and using passive systems for natural light. Within Şehit Prof. Dr. İlhan Varank Campus of Manisa Celal Bayar University, 8 buildings are included in the scope of smart building applications. Smart buildings are shown in Figure 3.2.

Manisa Celal Bayar University; Student Centre



Manisa Celal Bayar University; Library



Manisa Celal Bayar University; Faculty of Business Administration



Manisa Celal Bayar University; Faculty of Engineering



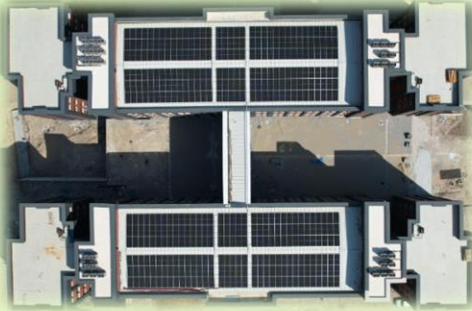
Manisa Celal Bayar University; Faculty of Economics



Manisa Celal Bayar University; Teknokent



Manisa Celal Bayar University; Central Classrooms



Manisa Celal Bayar University; Rectorate



Faculty of Art and Sciences Natural Lighting



Faculty of Business Natural Lighting



Automated Air conditioning



Automated Ventilation



Automation System



Automated Plumbing System

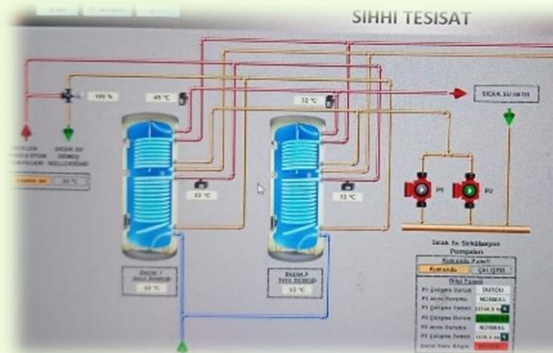


Figure 3.2 (a) Smart Building Applications



### Automation Depot and Hydrophore



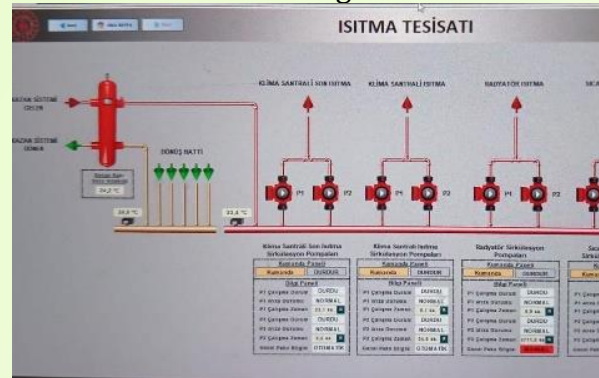
### Automated Fire Pump Room



### Automated Heating Installation



### Automated Heating Installation



### Automated Exhaust Fans



### Automated Aerobic Gymnastics



### Automated Air Handling Units



Figure 3.2 (b) Smart Building Applications

The buildings on the university campus, shown in Figure 3.1, fulfil the required criteria in terms of automation, security, energy, water, indoor air quality and lighting. The total area of smart buildings on the campus is 107851 m<sup>2</sup>. Accordingly, the area of smart buildings constitutes 68.2% of the total area of all buildings on the campus.

In Manisa Celal Bayar University Campus, in addition to smart building applications, renewable energy sources are also used to provide energy needs from non-polluting sources. Solar power plants with a power of 334.8 kWp were installed on the roof of the Faculty of Engineering building, 222.6 kWp on the roof of the Central Classrooms building, 273.9 kWp on the roof of the Teknokent building and 30 kWp on the roof of the Köprübaşı Vocational School building. The total solar power plant power is 861.3 kWp and 1,162,350 kWh of energy is produced annually from solar energy. In addition, there are solar collectors for hot water supply in sports facilities, dormitories and various buildings. With these collectors, hot water is provided in summer and winter.

A Biodiesel Pilot Plant has also been established within the Waste Oil Evaluation Laboratory (AYDEL) at our university. The production reactor has a volume of 180 L and a maximum of 2x180 L biodiesel can be produced daily. With the biodiesel obtained, 10 kWh energy is produced daily. The biodiesel produced is used as generator fuel, as diesel fuel in diesel vehicles and as fuel in radiators. Figure 3.3 shows the renewable energy sources on the campus.







Roof Mounted Solar Panel Example  
(MCBÜ Teknokent, Manisa)



Roof Mounted Solar Panel Example (MCBÜ  
Köprübaşı Vocational School, Manisa)



Solar Collector Example - For hot water supply (MCBU Sports Hall, MCBU Girls  
Dormitory Manisa)



MCBU AYDEL (Waste Oil Evaluation Laboratory) Biodiesel Pilot Plant

Figure 3.3 (b) Renewable Energy Resources on Campus

The carbon footprint for Manisa Celal Bayar University Campus is calculated as 5932.8 metric tons of CO<sub>2</sub> according to the method presented in the UI GreenMetric guide on the GreenMetric (2022) website. The total number of academic staff, administrative staff and students on campus is 22549. Therefore, per capita carbon emissions are calculated as 0.26 metric tons of CO<sub>2</sub> (CO<sub>2</sub>/person). This calculation takes into account

CO<sub>2</sub> emissions in the transportation sector, including annual electricity use and the number of shuttles, cars and motorbikes entering the university.

Manisa Celal Bayar University implements various programmes to reduce Scope 1, Scope 2 and Scope 3 greenhouse gas (GHG) emissions. To reduce Scope 2 emissions, fossil fuel-based electricity consumption is reduced by using solar panels and solar collectors. For Scope 3 emissions, individual commuting is reduced by providing shuttle services to students and academic/administrative staff. Within the framework of the cooperation with Manisa Municipality, the electric buses running between the city centre and the campus are preferred. In addition, bicycles are encouraged on campus to reduce the use of fossil-fueled vehicles. In order to reduce the number of private vehicles, sticker payments for unlabelled vehicles and parking fees have been increased. Examples of greenhouse gas mitigation programmes under Scope 3 are given in Figure 3.4.







Bicycle paths between dormitories and campus



Free on-campus shuttles

Figure 3.4 (b) Examples of greenhouse gas mitigation programmes





## 4. WASTE

At Manisa Celal Bayar University, wastes are classified as organic, inorganic, hazardous and electronic and each waste is separated at its source and recycled. Faculties, vocational schools and the central campus of our university have established a waste management system in accordance with the zero waste regulation and have been awarded the basic zero waste certificate (Figure 4.1).



Figure 4.1 Zero Waste Documents of some units of our university.



Figure 4.2 Waste collection bins

Wastes are collected separately as glass, plastic, paper, battery and medical waste in the corridors of all faculties (Figure 4.3).

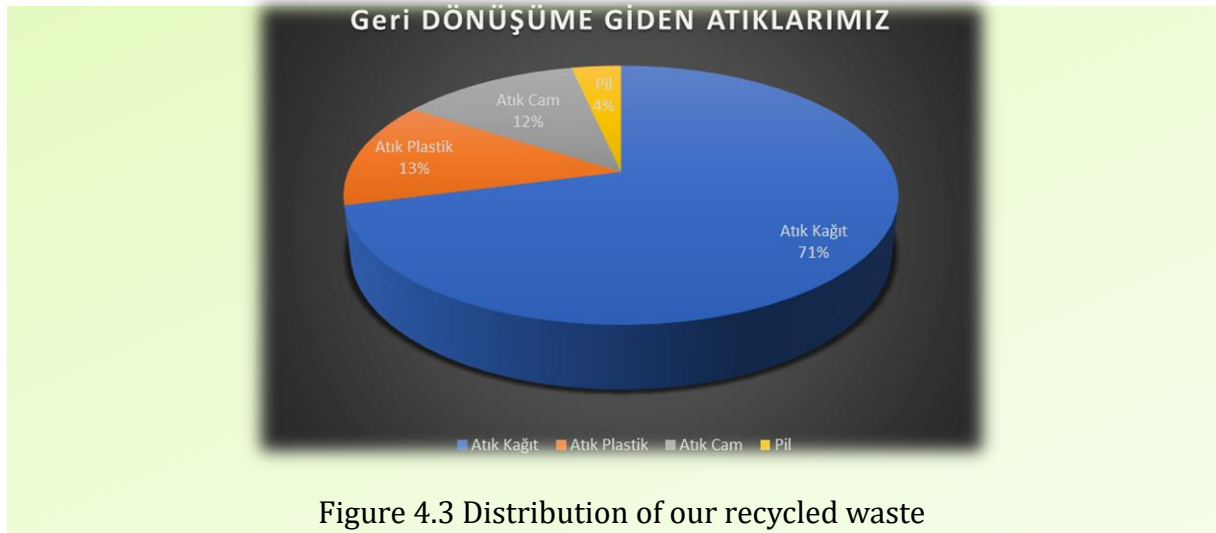


Figure 4.3 Distribution of our recycled waste

All wastes separated at the source are kept in general collection areas to be collected by the municipality. On certain days of the week, Yunusemre Municipality vehicles pick up these wastes and send them to the relevant centres for recycling through a private company. In this way, almost all waste is recycled at Manisa Celal Bayar University. In the one-year period between July 2023 and July 2024, 10,752 kg of waste



paper, 2,021 kg of plastic, 1,872 kg of glass, 520 kg of batteries and 650 kg of oil were delivered to the relevant companies for recycling.



Figure 4.4 Waste collection points in campus areas.

In Manisa Celal Bayar University Central Campus, a special collection area for metal wastes has been established as shown in Figure 4.5. Metal wastes accumulated within the university are first collected in the area created for these wastes and then collected by the Mechanical and Chemical Industry (MKE) for reuse. This year, a total of 83,000 kg (83 tonnes) of metal waste material was received by MKE for recycling.



Figure 4.5 Metal waste collection point

The amount of hazardous waste given to the relevant company for disposal from Uncubozköy Campus, where Manisa Celal Bayar University Hospital is located, was recorded as 361,654 kg (361.6 tonnes). Waste oil from organic waste collected at the university restaurant is periodically collected by the HABITAT recycling company every month. The university restaurant does not generate more food waste than necessary as it serves meals for people with reservations. The food left on people's plates is used to feed the cats and dogs on campus. Therefore, the amount of organic waste in the campus environment is quite low.

In addition, in the biodiesel production laboratory established as a pilot plant, waste oil collected from schools as part of a social responsibility project is converted into biodiesel (Figure 4.6). 100 L of biodiesel is obtained from 100 L of waste oil. In this process, 20% of the oil is used as methanol and glycerin is obtained as a by-product as much as the methanol used. The glycerin obtained as a by-product can be used in soap and cream production.



Figure 4.6 Biodiesel production plant



Official correspondence is conducted electronically through the Electronic Document Management System (EBYS), thus minimising paper waste. Thanks to the EBYS system, a total of 1,636,551 pages of electronically signed documents have been created since 2015. As a result, 1,268.16 trees were cut down, 357,874 kg (or 357.8 metric tons) of CO2 emission, 6,315,421 litres of water consumption and 25,262 kg of waste generation were prevented. With the academic incentive programme developed by the academic staff of our university, which will enter into force this year, it is planned to reduce paper and ink waste to a great extent (Figure 4.7). In 2023, 554 academics applied for academic incentives at our university and approximately 140,800 sheets of paper were used. With the introduction of this programme, it is anticipated that significant paper savings will be achieved next year.

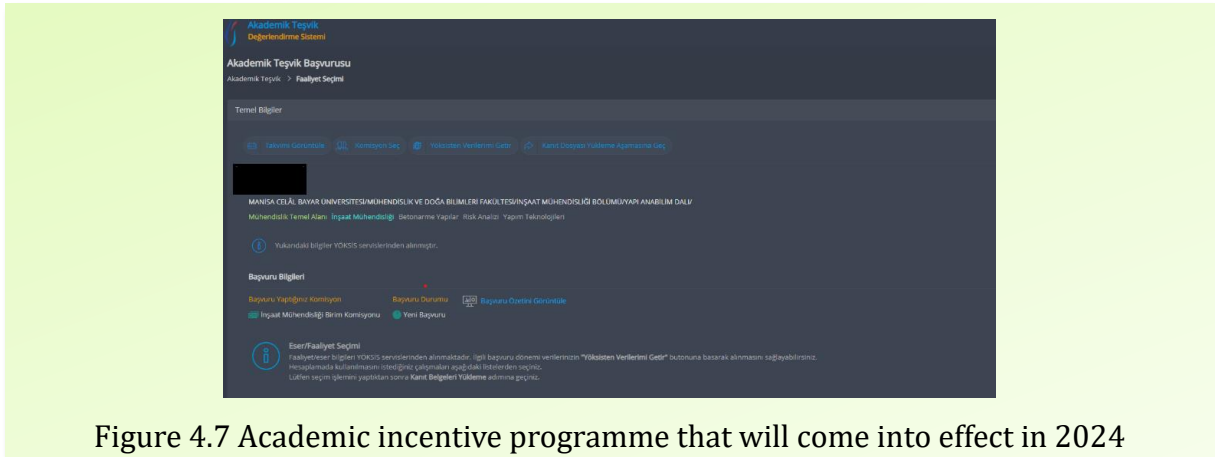


Figure 4.7 Academic incentive programme that will come into effect in 2024

Printers are allocated for common use on the floors and prints are taken as double-sided. Since the pens used by faculty members in lectures are refillable with ink, the amount of waste is also reduced in this area. Various student societies are active at Manisa Celal Bayar University. One of them, the Plogging community, provides students with physical exercise and raises awareness about waste by collecting garbage from nature from time to time.



Figure 4.8 Garbage collection activities by student societies.

The wastewater of Manisa Celal Bayar University is treated by using physical and activated sludge systems in the Biological Treatment System located on the main campus and discharged to the sewerage system. In the coming years, it is aimed to add another step to this system and use the treated water for irrigation of trees and lawns.





Figure 4.9 Biological Treatment System at the main campus







## 5. WATER

Manisa Celal Bayar University attaches great importance to the effective use of water resources within the framework of sustainable environmental policies. All of the water used on the campus is supplied by treating groundwater extracted from on-campus boreholes. This practice contributes to the protection of natural water resources and prevents water waste by adopting an environmentally friendly approach. In particular, the treatment of groundwater and its use as both drinking water and irrigation water shows that the university has created a successful model that prioritises sustainability in water management.



Figure 5.1 Landscaping works using mulch.



Figure 5.2 Borehole pump and borehole.

The water extracted from 2 boreholes located at Çullu Farm in Şehit Prof. Dr. İlhan Varank Campus is treated and used in the drinking water treatment plant with an average daily production capacity of 1000-1200 m<sup>3</sup>. 100% of the water extracted from the wells is



transmitted to the treatment plant and the water from the treatment is distributed to all buildings on the campus.



Figure 5.3 Manisa Celal Bayar University drinking water treatment plant.

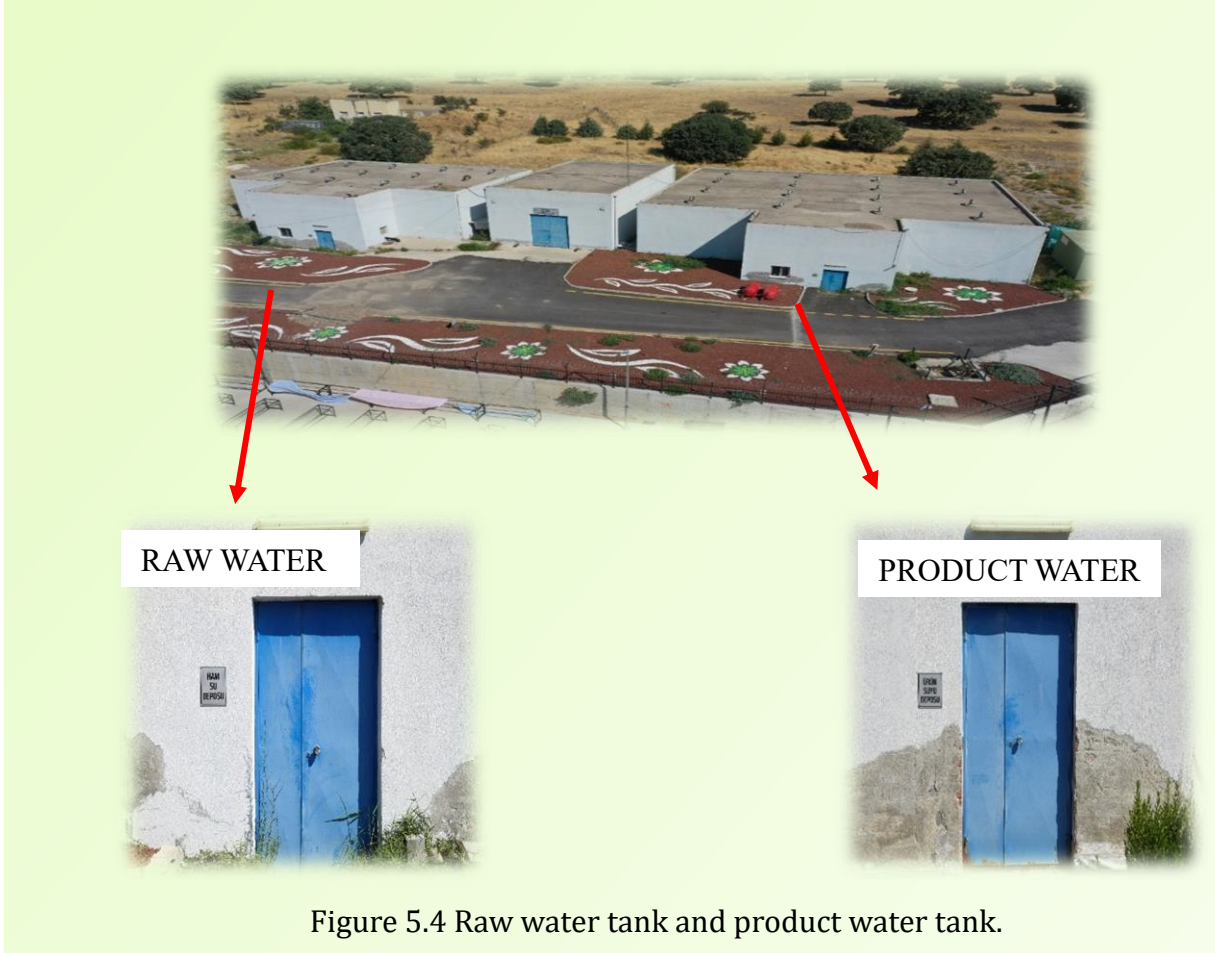


Figure 5.4 Raw water tank and product water tank.

Some of the water supplied from boreholes is passed through a reverse osmosis system where harmful components and solid particles are filtered. This system has the capacity to process 200-220 m<sup>3</sup> of raw water and produce 120-140 m<sup>3</sup> of clean water. The water treated with reverse osmosis is used as garden irrigation water.



Figure 5.5 Reverse osmosis system.

Şehit Prof. Dr. İlhan Varank Campus has a separate sewerage system for wastewater and rainwater.



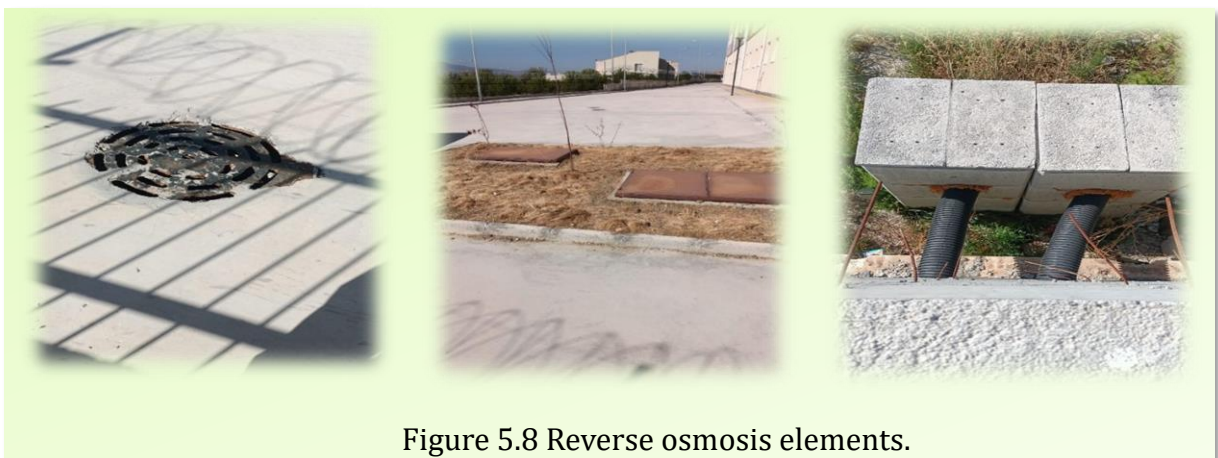
Figure 5.6 Rainwater harvesting system.

Wastewater undergoes physical/pre-treatment and aerobic and anaerobic primary treatment processes in the biological treatment plant with a daily capacity of 1800 m<sup>3</sup> located on the campus. As a result of these processes, wastewater is discharged into the Gediz River without changing its physical, chemical, bacteriological and ecological characteristics. Our university plans to use wastewater as irrigation and toilet flushing water by adding additional units to the biological treatment system in the future.





Faculty buildings on the Şehit Prof. Dr. İlhan Varank Campus and dormitory buildings on the campus have rainwater harvesting systems. In the following years, studies are underway to collect this rainwater in storage systems and use it as garden irrigation water.



At Manisa Celal Bayar University, all taps have been fitted with aerators to save water and reduce water consumption. Traditional devices in administrative staff toilets



have started to be replaced with water-saving devices such as sensor taps, sensor urinals and dual-stage cisterns. The average rate of water-saving devices used in the university is calculated as 4.23% and this rate is expected to increase soon.



Figure 5.9 Sensor urinal and tap.



Figure 5.10 Double-stage reservoir.

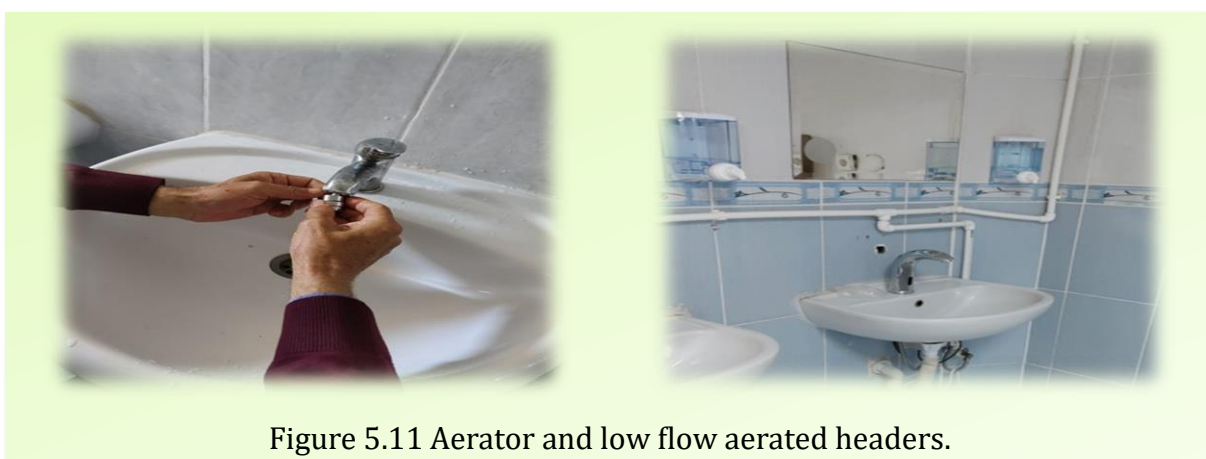
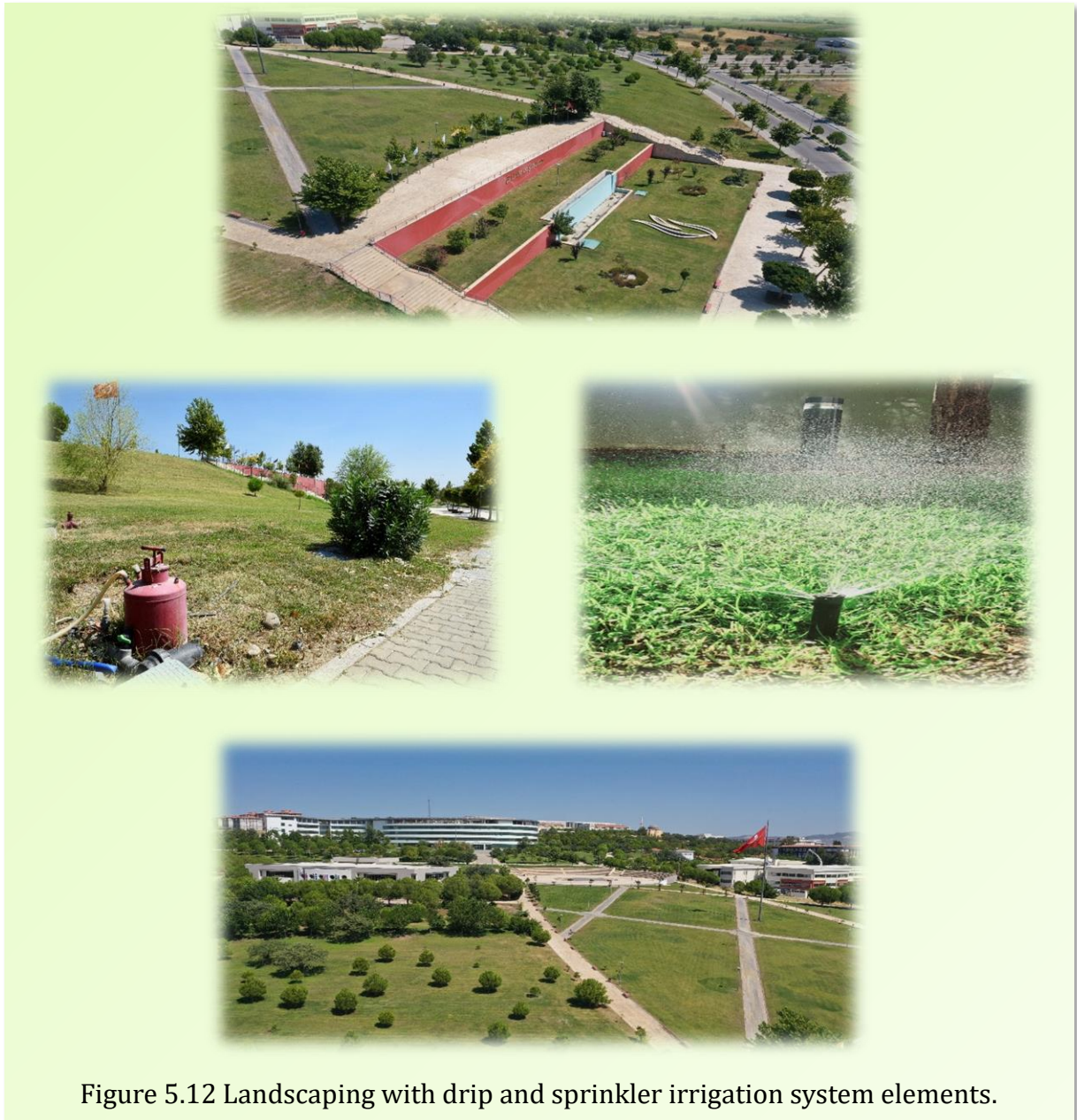


Figure 5.11 Aerator and low flow aerated headers.

Landscape irrigation water is provided by sprinkler and drip irrigation systems. Automatic irrigation with smart garden irrigation systems is carried out in the morning and evening hours when evaporation is at a minimum.



Purified water dispensers on the campuses provide students with easy access to fresh drinking water they need between classes and during peak study hours.





Figure 5.13 Water dispensers with treatment.

To raise awareness of water conservation, instructional videos were prepared and shared with academic and administrative staff. In addition, social responsibility projects that encourage water saving are also implemented.

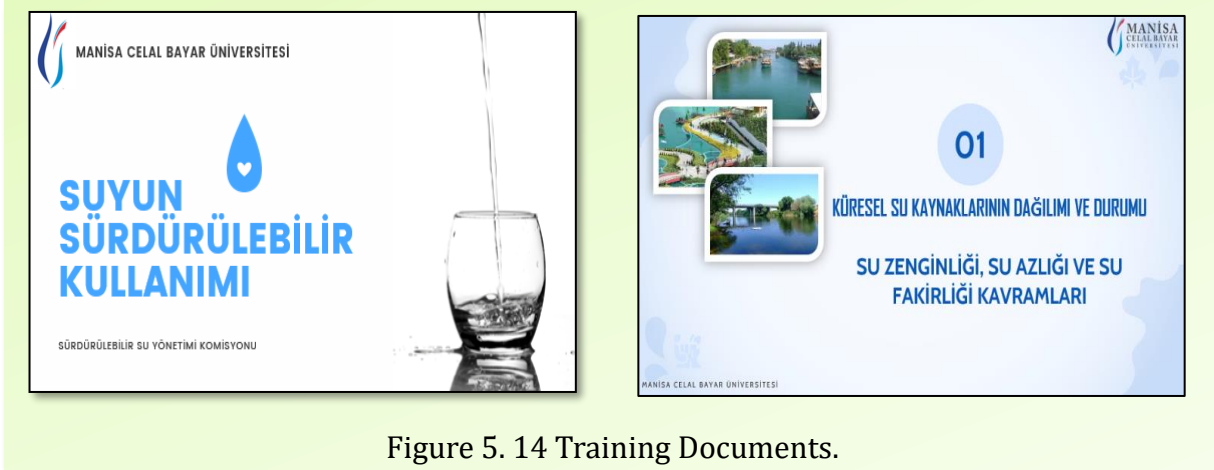


Figure 5. 14 Training Documents.



Figure 5. 15 Water saving seminar for students of Manisa Yunusemre TOKİ Primary School.

Recognising that water is a critical resource for sustaining life in the future, to protect existing water resources and manage them in a way to meet future needs, 'On the Trail of Water: Sustainability Community' was established.

Wastewater is regularly sampled from the biological treatment plant on the campus, wastewater analysis is carried out and the wastewater is discharged in a way that does not harm the environment by meeting the standards under the Urban Wastewater Treatment Regulation determined by the Ministry of Environment, Urbanisation and Climate Change of the Republic of Turkey. In all units of the university, waste is collected separately as plastic, paper, glass and medical waste. Disposal of plastic wastes at appropriate waste collection points prevents them from reaching waterways and prevents their accumulation in water bodies. At the Experimental Science Application and Research Centre (DEFAM), solid and liquid chemical wastes and medical wastes are collected and disposed of in separate units. In this way, especially liquid chemical wastes are prevented from mixing with water resources and water pollution is kept under control.

Seminars and trainings are organised and social responsibility projects are carried out to raise awareness about water pollution and the problems it may cause.



Figure 5.16 Awareness seminar and social responsibility project.

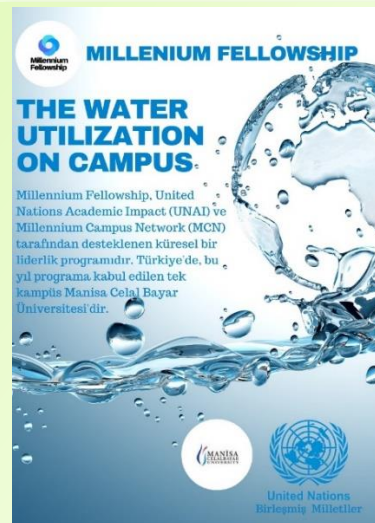


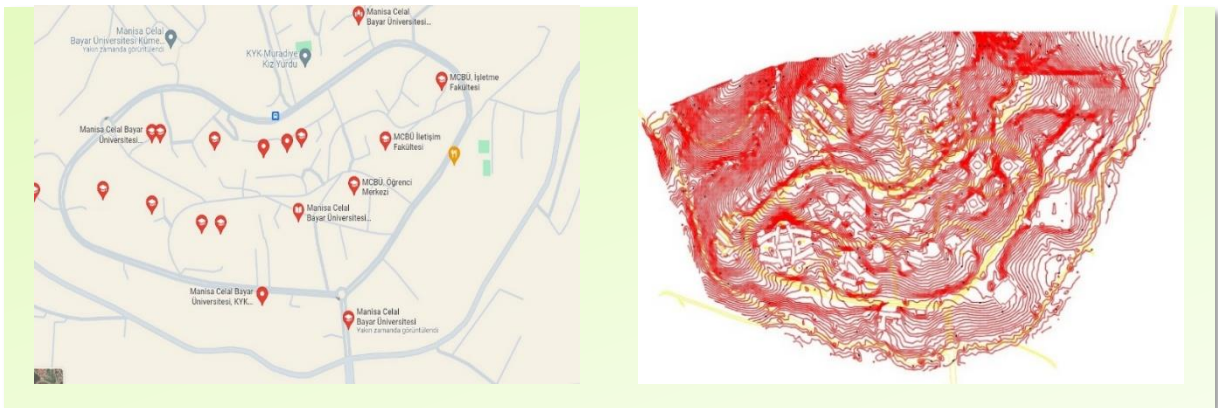
Figure 5.17 The "Water Utilization on Campus" project at Manisa Celal Bayar University, the only water conservation project supported by the United Nations in Turkey



The "Water Utilization on Campus" project at Manisa Celal Bayar University is a global leadership initiative supported by the United Nations Academic Impact (UNAI) and the Millennium Campus Network (MCN). This project focuses on sustainable water management practices, aiming to optimize water usage on campus and raise awareness about water conservation. The program provides a platform for students and academic institutions to collaborate on addressing critical global challenges, such as water efficiency and environmental sustainability.

As the only university from Turkey accepted into the Millennium Fellowship program this year, Manisa Celal Bayar University plays a pioneering role in water conservation (Link: <https://www.millenniumfellows.org/class-of-2024-fellows>). Through data-driven strategies and educational campaigns, the university seeks to reduce water waste, promote efficient usage, and serve as a model for other institutions. This initiative not only contributes to environmental sustainability but also aligns with the United Nations' Sustainable Development Goal 6: "Clean Water and Sanitation." The project aspires to create lasting and positive changes in water resource management through collective action and innovative solutions.

A 6-step Water Conservation Program has been developed by the Sustainable Water Management Commission of Manisa Celal Bayar University, covering the evaluation of current water usage, the determination of goals and objectives, the development of a water conservation plan, ensuring stakeholder participation, promoting water conservation, and monitoring and reporting processes. Geographic Information Systems (GIS) technology is being used to map water resources and infrastructure. In this way, the effective creation of water management plans is ensured.



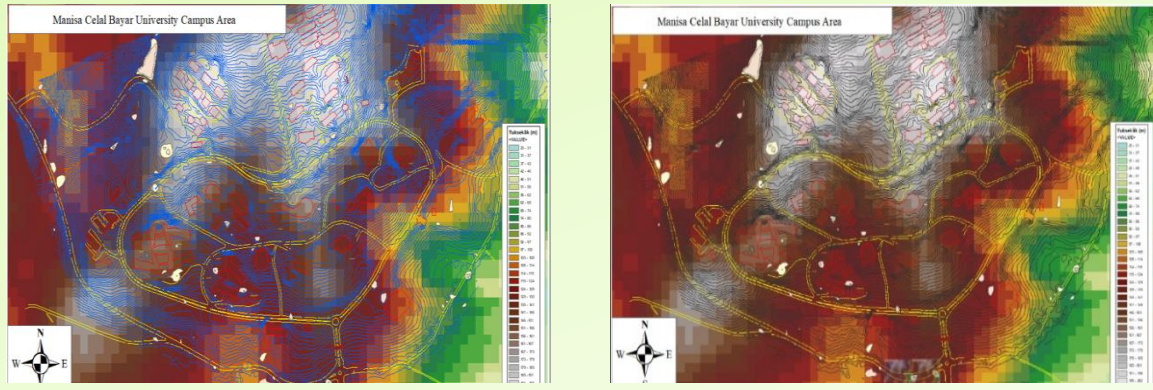


Figure 5.18 Water management with geographic information systems technology.

A water monitoring system is in place in the buildings located at the Şehit Prof. Dr. İlhan Varank Campus. Meters are used to monitor water usage. This system, which was installed in certain units within the campus in 2017, has been expanded campus-wide through improvements made as part of the water management plans.

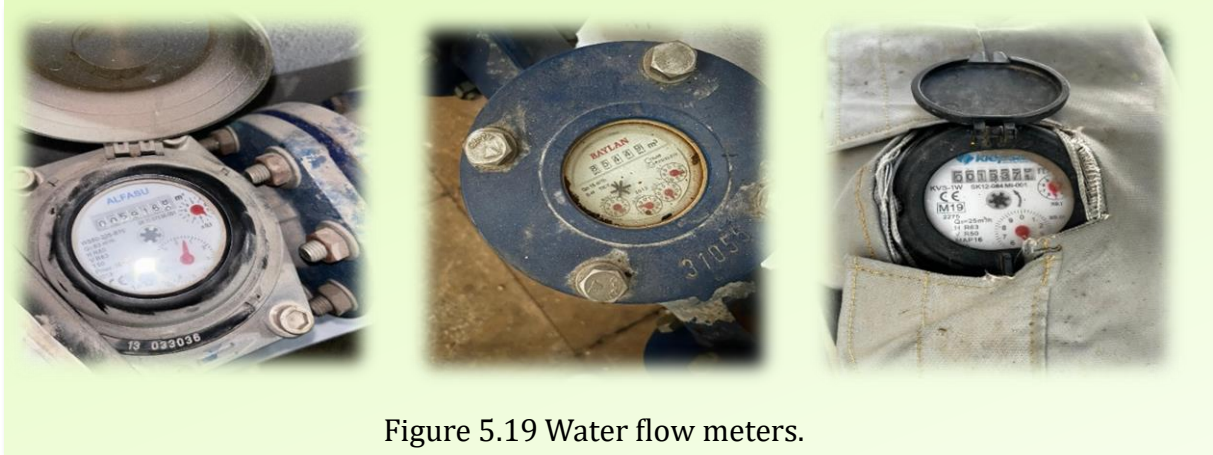


Figure 5.19 Water flow meters.

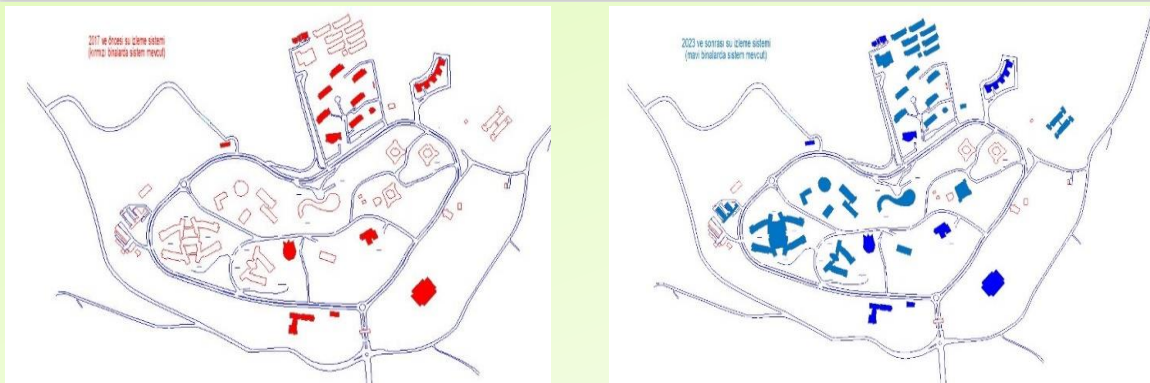


Figure 5.20 Water monitoring systems (Comparison of 2017 and 2024)

Additionally, there are well-tank control and pump monitoring systems that monitor the water levels between boreholes and tanks. These systems automatically stop the pumps in the borehole when the tank reaches a certain level, cutting off the water flow,



and when the water level drops, they automatically restart the pumps and resume the flow.

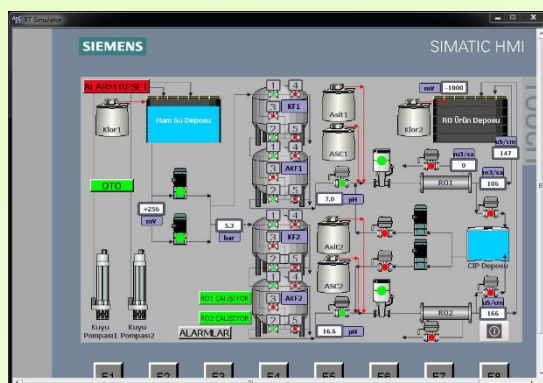


Figure 5.21 Water monitoring systems.

In the coming years, it is planned to conduct water cycle simulations using ICT (Information and Communication Technologies). These simulations will make significant contributions to optimizing water usage and sustainably managing water resources.





## 6. TRANSPORTATION

Manisa Celal Bayar University, in line with its goal of creating a sustainable campus, aims to limit the number of motor vehicles and minimize its carbon footprint by promoting the use of buses and bicycles. In this context, various efforts are carried out to limit student motor vehicle parking areas, encourage students to use bicycles, and provide regular shuttle services for both staff and students.

As a first step, a license plate recognition system has been installed at the campus entrance to determine the daily number of vehicles (cars and motorcycles) entering the campus, with the ratio of these vehicles to the total campus population calculated at 0.047. This ratio forms the basis for steps to be taken towards limiting the use of motor vehicles.

A total of 10 free shuttle services are provided for academic and administrative staff commuting to the campus from the central districts of Manisa, Şehzadeler and Yunusemre (Table 6.1). These shuttles operate twice daily, facilitating morning and evening commutes. Additionally, frequent municipal buses provide regular transport to the campus. Some of these buses are eco-friendly, running on 100% electricity, and contribute significantly to sustainable transportation solutions (Figure 6.1).

These initiatives are important steps toward reducing the carbon footprint of the university and achieving the goal of creating an environmentally friendly campus."

Table 6.1 Staff Shuttle Routes

No	Departure Time	Routes
Route number 1	07.30	Necatibey Primary School - In front of A 101 Market - Eski Garaj - Across Müftülük - In front of Sultan Mosque - In front of Karaköy Hamam - In front of Dış Mahalle Şeyhfenari Mosque - In front of Akmescit Hollywood Cinema - Lale Square - Savaşır Market - Against Ford Plaza - Muradiye Station Stop

<b>Route number 2</b>	07.25	Toki 3 Inside - In front of Nurlupark Pharmacy - Market (Gendarmerie) - Mental Health Hospital Traffic Lights - BIM Across Merkez Komutanlığı - Manisa High School Intersection - In front of Thursday Market - Yayla Market - Altın Çukur Mosque Lights - Şehzadeler Primary School - Across Polmar stop - Grand Medikal 1 - Grandmedikal 2 - Muradiye Station Stop
<b>Route number 3</b>	07.35	In front of Çatal Zabita - Alaybey Meydan Arçelik Stop - In front of Hükümet - Şehitler Secondary School - Old Birth House - Station Stop
<b>Route number 4</b>	07.35	In front of Yeni Santral Garaj - Oreko Hotel - Across Total - Next to JetPet - Across Şoförler Cemiyeti - Across İş-Kur - Magnesia - Saruhan Hotel - Yapek - ETV
<b>Route number 5</b>	07.30	Ticaret High School Lights (In front of Yayla Dairy ) - Tyre Shop Stop across Faber - Muradiye Market Place Stop - Muradiye Station Stop
<b>Route number 6</b>	07.35	Next to A101 Market (opposite 8 Eylül İÖO) - Tek Çam Stop (in front of Kipa Express) - Gül Büfe (Lale Square) - PTT - ETV - Trafo - Şelale Corner - Toki 1 - Cem Büfe - Toki 2 - Yapinet Stop - Muradiye Station Stop
<b>Route number 7</b>	07.30	Across Uncubozköy Children's Department (around Dilek Market) - 2000 Market - Uncubozköy Mosque - In front of İİBF - ING Bank - Dov Hotel - Ayakkabıcılar Sitesi - Olympic Pool - Göçmen Konutları
<b>Route number 8</b>	07.30	Foreign Languages - Station - Garaj - Saruhan Hotel - Şelale Plaza - Cem Büfe
<b>Route number 9</b>	07.30	In front of Sultan Mosque - Across Karaköy Hamam - In front of Dış Mahalle Şeyhfenari Mosque - In front of Akmesic Hollywood Cinema - In front of Lale Square Square - Savaşır Market - In front of Ford Plaza stop. Return: The last destination will be in front of Necatibey Primary School.
<b>Route number 10</b>	07.30	Government Front - Beyazfil - Akbank - Cafe Sera - Malta across Halil Yurtseven - Mahmut Yücel Taxi - Çakra - Çetmen Furniture





### Figure 6.1. 100% Electric Buses

Frequent public transportation services are provided to the university campus. The public transportation service is provided by the Manisa Metropolitan Municipality. Through the Manisa Card Mobile Application (Figure 6.2), users can check the schedules of public transportation lines, track real-time bus locations on a map, view the route and stop information, and top up their Manisa Card balance. These conveniences offered by the mobile application make public transportation more efficient and encourage users to opt for public transportation over private vehicles.



Figure 6.2. Manisa Card Mobile Application

In alignment with zero-carbon emission goals, 450 bicycles are available for student use to promote cycling. There is a bike path starting from the dormitories at the beginning of the campus road, and extending to the campus (Figure 6.3). This bike path encourages students to use bicycles for commuting to the campus. Additionally, there are bicycle-sharing stations located within the campus (Figure 6.4). Various bicycle events have been organized within the university, and these events continue (Figure 6.5).

Furthermore, electric vehicle charging stations have been installed on campus (Figure 6.6). The free shuttle service provided by the Manisa Metropolitan Municipality also offers students transportation within the campus (Figure 6.7).

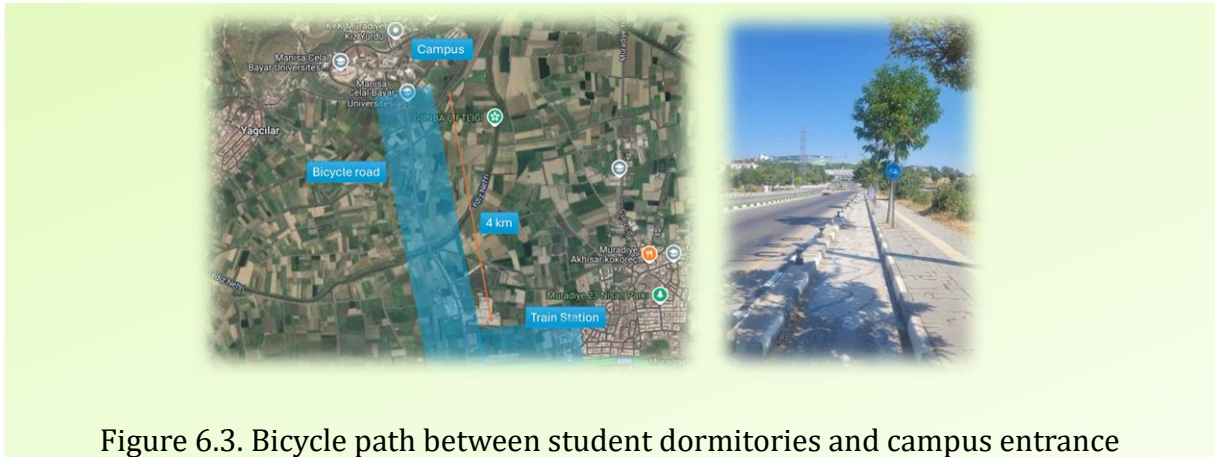


Figure 6.3. Bicycle path between student dormitories and campus entrance



Figure 6.4. Bicycle sharing station



Figure 6.5. Bicycle events





Figure 6.6. Electric vehicle charging stations



Figure 6.7. Free campus shuttle service

In order to reduce private vehicle use and encourage individuals to use public transportation, parking areas have been limited, and free vehicle access has been restricted by introducing paid parking (Figure 6.8). The ratio of total parking space to the campus area is as low as 2.2%. Additionally, to control the number of vehicles within the campus, vehicle access to the TOKİ residences has been separated from the campus traffic by creating an independent entrance road (Figure 6.9).

These regulations are significant steps toward promoting sustainable transportation and reducing vehicle traffic within the university campus.



Figure 6.8. Paid parking in campus parking lots



Figure 6.9. TOKİ entrance road







## 7. EDUCATION

The importance that Manisa Celal Bayar University (MCBÜ) places on sustainability is clearly evident in all its activities in the fields of education and research. In particular, activities in the field of education have been increasing each year. In the 2023-2024 academic year, 263 courses related to the Sustainable Development Goals (SDGs) have been offered to our students in the faculties, schools, and vocational schools of our university. The total number of courses at our university is 2419, and the ratio of courses expected to support the SDGs to the total number of courses is 11%. It is believed that raising the sustainability awareness of our graduates is closely linked to increasing this ratio.

The awareness that can be raised through education is supported by events and services offered within the university, encouraging individuals to develop themselves in this area. It is observed that the approach of university administrators to this issue gains even more significance as it resonates with academics, other staff, and students.

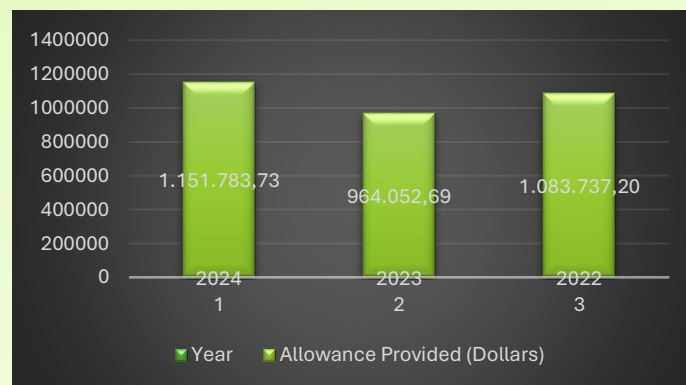


Figure 7.1 Funds allocated to SDG-related projects

As seen in Figure 7.1, the funds allocated to projects related to the Sustainable Development Goals (SDGs) in 2022, 2023, and 2024 are substantial. In addition to courses related to sustainability, Manisa Celal Bayar University (MCBÜ) prioritizes grants for individuals conducting research in this field. In this context, MCBÜ has adopted the Sustainable Development Goals and conducts various research projects in line with these goals, encouraging its staff to engage in such projects. The 283 academic publications



produced by MCBŮ personnel in 2022, 2023, and 2024 can be seen as evidence of this encouragement.

It is clear that this emphasis in the academic field will also have a noticeable impact on students. To further strengthen this interaction, various events on different sustainability topics are organized. The posters in Figure 7.2 represent both the academic activities and events held for students at our university.



Figure 7.2 Examples of activities on sustainability and environment



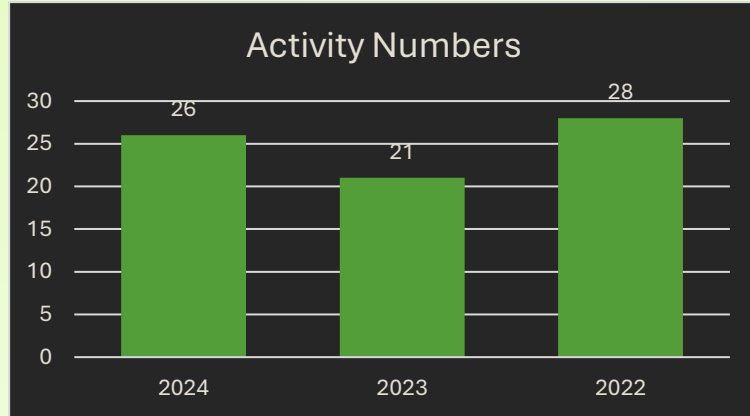


Figure 7.3 Distribution of sustainability/environmental activities by year

In Figure 7.3, the distribution of sustainability and environment-related events by year is shown. The increase in the number of such events at Manisa Celal Bayar University (MCBÜ) over the years is an indicator of the growing awareness within the university. These events are organized with contributions from various student communities and academic units within the university, and the goal is to continue holding these events regularly.

When talking about sustainability, it is impossible to overlook the culture of a society. Cultural elements play a crucial role in the creation of a sustainable society. In Figure 7.4, posters from sustainability and environment-themed events organized by our student clubs are presented.



Figure 7.4 (a) Examples of cultural events organised at MCBU





Figure 7.4 (b) Examples of cultural events organised at MCBU



Figure 7.4 (c) Examples of cultural events organised at MCBU

In addition to the cultural activities carried out at our university, the number and content of the projects carried out within the scope of Community Service Practices courses and voluntarily are also remarkable. The 252 social responsibility projects carried out in the last three years cover important topics such as blood and organ donation, environmentally friendly activities, children's education, health and quality of life, book-friendly activities, a greener world and projects for stray animals. These projects emphasise the value of creating a sustainable culture.

As a result, many improvements are being made in the fields of education and research, and with these developments, we aim to contribute to sustainability in our country and worldwide. We will continue our work with the understanding that 'a drop of



water becomes a lake' and with the awareness that even the smallest activity in the cultural and academic fields will contribute to the goal of sustainability.







[surdurulebilirlik.mcbu.edu.tr](http://surdurulebilirlik.mcbu.edu.tr)