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Climate change and environmental degradation have become global issues that threaten all aspects of life, affecting our country and Antalya just as they do the rest of the world. With this awareness, we continue to take decisive steps in the arenas of environmental protection, combating climate change and adaptation. As the Mayor of Antalya Metropolitan Municipality, it's a great pleasure for me to share our experiences and exemplary initiatives related to environmental and climate change in this book.

With our expert team and goal of becoming an environmentally and nature-friendly municipality, we have carried out projects in various areas, including renewable energy, sustainable water management, green infrastructure, nature-based solutions, zero waste, marine pollution control, good agricultural practices, eco-tourism, and environmentally friendly transportation. We've made a difference with some of our pioneering initiatives in Türkiye, and have been honoured with 21 national and international environment awards.

Through the projects we've implemented and those that currently ongoing, along with the strategies we've developed to build a climate resilient city, we continue to plan the future of our city. Together, we will continue to work towards a healthier and more sustainable future.

During all of this work, I would like to thank all of our stakeholders and our valued citizens for their support and contributions, and I offer my love and respect.





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ENVIRONMENT AWARDS

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# ORGANISATIONAL STRUCTURE ARRANGEMENTS AND LOCAL POLICIES



# INTERNATIONAL CITTASLOW SLOW CITY NETWORK

Cittaslow, or 'Slow City' movement, was born in Italy in 1999 and is an international association of municipalities aiming to increase the quality of life by protecting local culture and to spread the understanding of urbanism in harmony with nature. Antalya Metropolitan Municipality is the Turkish Coordinator of this growing network with 28 members and 24 candidate cities in Turkey.

Antalya Metropolitan Municipality Mayor Muhittin Böcek was elected as Cittaslow Türkiye Coordinator on 13 July 2024 and then as Cittaslow International Vice President on 25 October 2024. Antalya Metropolitan Municipality has established a central structure to guide all member and candidate cities in Turkey by establishing the Cittaslow Türkiye Office in Antalya. Antalya continues its efforts to protect environmental, cultural and social values by pioneering the spread of the 'slow city' concept.











### **ENVIRONMENT BOARD**

The Environment Board, which was implemented by the Antalya Metropolitan Municipality Assembly decision dated 14.07.2020 and numbered 352, was established to contribute to the solution of environmental problems and to produce sustainable solutions. Under the coordination of Antalya Metropolitan Municipality, various institutions, organisations, professional chambers, representatives of non-governmental organisations and experts working on the environment are exchanging views on the work that can be done to protect the environment.



# **BOĞAÇAYI SCIENCE BOARD**

Under the leadership of Antalya Metropolitan Municipality, the Boğaçayı Science Board, consisting of academics, professional chambers, non-governmental organisations and experts in the field, carries out important studies on Boğaçayı, one of the lifeblood of our city. This board comes together to evaluate the projects carried out for the protection and development of Boğaçayı and to produce sustainable solutions to support the ecological balance of the city.



# **CLIMATE FRIENDLY ORGANISATION CERTIFICATE**



Antalya Metropolitan Municipality aims to make the city a climate-friendly city by offering low carbon intensity and a high quality of life to Antalya residents. In this direction, the municipality has achieved the success of being the first public institution and municipality to receive the 'Climate Friendly Organisation Certificate' by TSE. In 2022, in our municipal service building and 2023 in our ASAT main service building, our Municipality, which has been entitled to receive the Climate Friendly Organisation Certificate by realising the Neutral Carbon target, carries out the necessary work for the renewal of the certificate within the scope of environmentally friendly studies.



### ISO 50001:2018 ENERGY MANAGEMENT SYSTEM

Antalya Metropolitan Municipality has taken an important step in increasing energy efficiency and optimising energy management, becoming the first municipality in Antalya to implement the ISO 50001 Energy Management System, a globally approved standard. Thanks to this system, we continuously monitor the energy performance of our municipality and ASAT main service buildings and ensure more efficient energy use by making regular improvements. These decisive steps towards optimising energy management continue to contribute to Antalya's sustainable development goals.



# **INTEGRATED WASTE MANAGEMENT PLAN**

As the first municipality in Turkey to produce and store its energy, we are pioneering clean energy. Kızıllı Integrated Waste Recycling and Disposal Facility produces environmentally friendly clean energy by converting domestic waste collected from 13 districts into biogas every day, and makes a significant contribution to a sustainable future with this process. While this innovative facility plays an important role in meeting Antalya's energy needs, it also creates a model where waste is utilised without harming the environment. In this way, both energy efficiency is increased and the future of Antalya is made greener with environmentally friendly practices.



## **INTEGRATED URBAN WATER MANAGEMENT PLAN**



Within the framework of the Integrated Water Management Plan, it is aimed to ensure sustainable access to drinking and potable water for the public, taking into account the effects of global warming and climate change. In this context, the focus is on important issues such as efficient use of water, reuse of treated wastewater, solid waste management and rainwater harvesting. All these activities are meticulously carried out in line with the Integrated Water Management Plan and aim to protect and efficiently use Antalya's water resources. The plan aims to provide environmental and social benefits for the future while taking the necessary steps for sustainable water management.

#### **RAINWATER MASTER PLAN**

With the works to be carried out, measures to be taken, and projects to be developed in order to prevent flooding, we aim to create a resilient infrastructure against future water disasters and to produce sustainable solutions. In this direction, under the leadership of ASAT and with the participation of representatives of relevant institutions and organisations, we continue to prepare a Stormwater Master Plan. The plan aims to provide a comprehensive road map to make the city more resilient against possible flood disasters and to make significant contributions to strengthening Antalya's infrastructure.



#### 2024 ANTALYA SUSTAINABLE URBAN TRANSPORT MASTER PLAN

Antalya Sustainable Urban Transport Master Plan study aims to analyse and regulate the current state of urban transport in coordination with the city's upper and lower scale plan decisions for the targeted year. In this process, it is aimed to develop permanent solutions to transport and traffic problems by giving priority to public transport systems and environmentally friendly transport options. The plan aims to make Antalya's transport system more efficient, accessible and environmentally friendly by establishing a sustainable transport infrastructure.

### DISASTER RISK REDUCTION AND CLIMATE ADAPTATION ACTION PLAN

Antalya has been selected as a pilot province within the scope of 'Technical Assistance Project for Increasing the Capacity of AFAD on Mitigation of Disaster Risks Arising from Climate Change and Adaptation in Turkey'. In this project, actions to reduce disaster risks arising from climate change have been determined in line with the joint decisions made with the relevant stakeholders. With this important project, Antalya is taking strategic steps to become more resilient against disasters and aims to set an exemplary model in combating climate change.

# **ENERGY MANAGEMENT**



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### **SOLAR POWER PLANTS**

Antalya Metropolitan Municipality continues to establish solar power plants to provide environmentally friendly energy production and cost savings. Our municipality has 17 SPPs with a total installed capacity of 12.67 MWp. These power plants produce 20,870 MWh/year of energy, equivalent to the annual consumption of 7250 households. Thanks to the clean energy produced, 9,183 tonnes of CO2e emissions are reduced annually. In addition, the construction of our 18th SPP facility started in 2024 and is planned to start production in 2025. These projects play an important role in achieving Antalya's sustainable energy targets.



# **BIOMASS-BIOGAS POWER PLANTS**

The Municipality has 4 biogas power plants, 2 integrated plants, 2 landfill facilities, 9 transfer stations and 1 Waste Heat to Energy Plant (WHR), with a total installed capacity of 40.36 MWe.

In 2024, a total of 937,228 tonnes of domestic solid waste were disposed of by the biomethanisation method at the Kızıllı Integrated Waste Treatment, Recycling and Disposal Plant. In addition, 164,500 tonnes of waste were disposed of in Manavgat Solid Waste Landfill.

Within the scope of Integrated Waste Management, 220,813 tonnes of municipal solid waste were disposed of in 2024 at the Alanya Integrated Solid Waste Treatment and Disposal Facility, where municipal solid waste from our eastern districts (Alanya, Gazipaşa, Gündoğmuş, Akseki, İbradı) is disposed of. These studies reflect the importance Antalya attaches to sustainable waste management and environmentally friendly practices.

#### WE PRODUCE ENERGY FROM WASTE AT OUR BIOMASS FACILITIES

We generate electricity equivalent to the electricity energy needs of 137,300 households per month with a total of 4 biomass energy production facilities with an installed capacity of 40.36 MWe 597,500 tonnes of carbon dioxide emission reduction with 1,427,000 carbon sink tree equivalents.







# **ENERGY PRODUCTION WITH GAS BALLOON UNITS**

At the Kızıllı Integrated Waste Treatment, Recycling and Disposal Facility, a new 3rd gas balloon worth \$345,000 was added to the system as of 2024. With this addition, the methane gas generated in the landfill was collected by the collector system, stored more stably and fed into the system. This improvement contributed to the efficient operation of the plant by increasing the electricity generation efficiency. Thanks to the 3rd gas balloon, which was commissioned in November 2024, an average energy production increase of 1.5 MWh was achieved. This innovative step further strengthened the power generation capacity of the plant.



# TREATMENT SLUDGE INCINERATION AND ENERGY RECOVERY PLANT



Work has been initiated for the 'Hurma Treatment Sludge Incineration and Energy Recovery Plant', which is of great importance for the future of the city. With this project, which is shaped according to Antalya's 2070 projections, sludge from 29 treatment plants of ASAT General Directorate will be incinerated and converted into energy. For the project, a loan facility agreement was signed between ASAT and the French Development Agency with a budget of 59 million 850 thousand Euros and without treasury guarantee. With this innovative project, approximately 180 thousand tonnes of treatment sludge will be disposed of by incineration annually and a significant energy recovery will be achieved.





#### **ENERGY STUDIES**

Energy study reports are prepared to contribute to environmental sustainability, reduce carbon emissions and help our municipality to comply with legal regulations. Our municipality reduces costs and prevents unnecessary energy consumption by increasing energy efficiency with the energy audit report prepared for our main service building. Thanks to these practices, not only are municipal services rendered efficient, but also an example is set for society.

#### **ENERGY EFFICIENCY TRAINING ACTIVITIES**

As Antalya Metropolitan Municipality, we are aware of how precious energy is and we emphasise at every opportunity that it should not be wasted. With this awareness, we frequently repeat our messages on energy efficiency in the information meetings we organise for both our citizens and our staff and on important days. We aim to popularise energy saving and use our resources most efficiently for a sustainable future.





## **OUR FUEL STATIONS**

With the 'We Use Our Own Station' project we implemented, we provided fuel to 2200 vehicles belonging to our municipality from our stations in 2024. In this way, while reducing the density of vehicles in traffic, we achieved significant savings in terms of both time and cost.

In addition to 4 fixed stations, we also deliver fuel to our vehicles working in the field with 3 mobile and 1 tanker station. By following the fuel discount periods, we fill our tanks at discounted prices and thus increase the amount of savings even more.

# CARBON EMISSION REDUCTION PRACTICES IN TRANSPORT



# **SMART INTERSECTION SYSTEMS**

With a total of 148 smart intersection systems in the centre and districts of Antalya, we are trying to provide less fuel and faster transportation within the scope of the transportation master plan and sustainable transportation.



#### **TRAFFIC CONTROL CENTRE**

Antalya Metropolitan Municipality has implemented a smart intersection system in order to increase efficiency in transportation and protect the environment. This system works in integration with our traffic control centre, minimising unnecessary waiting times at red lights and saving time and fuel. In addition, the system's reduction in carbon emissions contributes significantly to the protection of the environment. In case of possible problems, traffic confusion is prevented with the possibility of remote intervention and an orderly transport is provided. This innovative approach is an important step in creating a sustainable transport infrastructure.







#### **BICYCLE CARRYING APPARATUS FOR PUBLIC BUSES**

Antalya Metropolitan Municipality continues its activities in the field of bicycle-friendly transport with the 'Cycling for Municipalities Idea and Project Implementation Competition' within the scope of the European Mobility Week, of which the Union of Municipalities of Turkey is the national coordinator. In this context, the bicycle transport apparatus used in public transport vehicles has been successfully implemented. In addition, thanks to the ChipBIS mobile application, sensors are integrated into buses with bicycle carrying apparatus, and bicycle users are instantly informed via the mobile application whether the apparatus is full or empty. This innovative application makes cycling more efficient and user-friendly.



#### **EXPANSION OF RAIL SYSTEM NETWORK**



Antalya Metropolitan Municipality carries out important projects in order to expand fast, comfortable and environmentally friendly transportation throughout the city with modern public transport vehicles. In this context, a big step was taken in transportation with the 3rd Stage rail system project, which was commissioned in 2021. Now, the tender for the construction of the 18 km long 4th Stage Konyaaltı-Varsak line has been completed and the line is planned to be put into service on 15 February 2028.

The 5.5 km section of this line will be underground, 6 multi-storey intersections and 14 pedestrian overpasses will be constructed. The traffic at Falez Hotel - Antalyaspor intersection will be underground and this area will be pedestrianised.

In addition, preliminary approvals have been obtained for the 22 km long Konyaaltı-Lara-Kundu line of Stage 5 and the implementation projects are under preparation. These projects aim to create an environmentally friendly and sustainable transport system by strengthening the transport infrastructure in Antalya.



# **INCREASING BICYCLE ROUTES**

Antalya Metropolitan Municipality has successfully completed the construction of a 12 km long bicycle path between Alanya and Gazipaşa. This project has been implemented in order to encourage our citizens to adopt a healthy and sustainable lifestyle. Within the framework of the investment programmes, the construction of bicycle roads will continue and the possibilities of cycling will be further expanded. In this way, it is aimed to increase environmentally friendly transport options.

# **CYCLING TRAININGS**

Antalya Metropolitan Municipality continues to promote people-oriented transport in order to achieve the vision of carbon neutral Antalya in line with its efforts to combat the environment and climate change. In this context, it aims to promote the use of bicycles in order to reduce carbon gas exhaust fumes pollution and increase sustainable transport. In this context, cycling trainings are organised at 2 central points to encourage environmentally friendly transportation. With these trainings, our citizens are informed about safe and conscious cycling and cycling is made widespread.





# **ELECTRIC VEHICLE CHARGING STATIONS**

It is aimed to increase the usage rates of electric vehicles and to create a sustainable transport system by ensuring integration between types. In this way, transport will be relieved, fuel use will be reduced and environmentally friendly transport systems with less emissions will be encouraged. Taking a big step towards reducing air pollution, reducing carbon emissions and increasing energy efficiency, we increased the number of electric vehicle charging stations from 25 to 35 by 2024. This step contributes to sustainable transport solutions and helps to create an environmentally friendly city infrastructure.



## ELECTRIC PUBLIC TRANSPORT VEHICLES, MOTORS AND SCOOTERS

By adding environmentally friendly vehicles to the municipal fleet, we are one step closer to our sustainable transport goals. We have added 1 electric car, 2 electric buses, 25 electric motorbikes and 30 electric scooters to our fleet. These vehicles are both environmentally friendly and energy efficient. We continue our efforts to further increase our environmentally friendly transport solutions in the future.



# WATER MANAGEMENT PRACTICES

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# MAINTENANCE AND RENOVATION OF DEEP SEA DISCHARGE LINES

Antalya Metropolitan Municipality strengthens environmental protection measures by discharging the treated effluent from wastewater treatment plants to our seas in a controlled manner. 18 wastewater treatment plants have deep sea discharge lines, and 80% of the treated wastewater is discharged into our seas through a total of 48 kilometres of Deep Sea Line. This system aims to minimise environmental impacts while contributing to the protection of the ecosystem of our seas.

As of 2024, Gazipaşa Deep Sea Discharge Line was also commissioned, enabling more efficient management of wastewater in the region. This important step reinforced our commitment to protect the cleanliness and health of our seas.



#### REVISION AND CAPACITY INCREASE OF WASTEWATER TREATMENT PLANTS

Antalya Metropolitan Municipality continues to strengthen its wastewater treatment plants with more efficient and modern technologies. Rehabilitation works were carried out and capacity was increased in Serik, Kemer, Konakli, Okurcalar and Lara central treatment plants. In this way, the efficiency of our facilities has been increased to serve a larger population. In addition, the Continuous Flow Package Wastewater Treatment Plant in Akseki was commissioned to effectively treat wastewater in the region.

#### **REUSE OF TREATMENT EFFLUENT IN AGRICULTURE**

Antalya Metropolitan Municipality has implemented an important project in Beğiş Susuzu Neighbourhood of Korkuteli district, where agriculture cannot be done due to lack of water and migration. With the use of Class A treatment water discharged from the Korkuteli Wastewater Treatment Plant for agricultural irrigation, 2 thousand decares of land in the Beğiş Plain met with water for the first time. In this way, farmers in the region found the opportunity to make irrigated agriculture and arid lands started to turn green rapidly.

### GARBAGE LEACHATE TREATMENT

Antalya Metropolitan Municipality has taken an important step for the treatment of landfill leachate, which is one of the biggest problems encountered in municipal solid waste disposal in Turkey. In the comprehensive revision works carried out at the Kızıllı and Alanya Integrated Waste Disposal Plants, the existing landfill leachate treatment systems were restructured in three stages: physical, chemical and biological. In addition, screw presses have been added for the first time in Turkey to be used in these facilities in order to increase the treatment efficiency of leachate with high pollution loads generated as a result of the biomethanisation process in which the organic part of the waste is processed and converted into gas to produce clean energy.





#### **EXPANSION OF SEWERAGE INFRASTRUCTURE NETWORK**

Antalya Metropolitan Municipality continues its comprehensive works to eliminate the deficiencies of sewerage infrastructure throughout the province. We have built 516 km of sewerage lines in Aksu, Alanya, Demre, Dösemealtı, Elmalı, Finike, Gazipaşa, Kaş, Kemer, Kepez, Konyaaltı, Korkuteli, Manavgat, Muratpaşa and Serik districts to solve the infrastructure problems of neighbourhoods without sewerage infrastructure and we continue our works.

In 2024, we completed a total of 134.4 km of sewerage network construction, 77.3 km in the centre of Antalya and 57.1 km in the districts, and put it into the use of our citizens. In addition, we completed the preventive maintenance and cleaning of 440 km of sewerage network lines to ensure the efficient operation of the existing infrastructure. These projects aim to create a healthy and sustainable environment by improving the infrastructure quality of our city.

#### **RAIN WATER LINE WORKS**

As of 2024, we completed a total of 6.1 km of stormwater lines in Antalya centre and districts and put them into the service of our citizens. In addition, we carried out preventive maintenance and cleaning works on 148 km of stormwater lines in order to ensure the efficient operation of stormwater infrastructure. In this process, 1,610 stormwater covers and crenellations were maintained and repaired, 1,238 stormwater manholes and gratings were cleaned, and 155 stormwater boreholes were cleaned.

In 2024, we also completed the cleaning of Düden Right and Left Bank irrigation canals and agricultural irrigation canals with a total length of 233 km. We ensured the regular passage of irrigation water to these cleaned canals. In addition, we completed the cleaning of 381 km of existing stormwater lines and irrigation canals. In relation to the regular cleaning of stormwater canals, a cleaning process of around 200 km is carried out every year, and in 2024, we continued 65 km of stormwater line manufacturing, maintenance and repair works.

These works aim to make the infrastructure of our Antalya more robust and sustainable by strengthening our measures taken against extreme precipitation and storm water floods caused by climate change.





#### **SCADA SYSTEM REVISION**

Antalya Metropolitan Municipality has broken new ground in Turkey by implementing a system that allows remote control and monitoring of the drinking water network and enables instant monitoring and control in terms of water quality. While this system ensures effective management of the drinking water network, it also contributes greatly to the protection of water quality. In addition, our active physical leak detection teams continue to work on a 24/7 basis to detect faults, preventing water losses and ensuring efficient use of the network.

#### SUBSCRIBER AND ASSET MANAGEMENT

This exemplary information system built by ASAT subsidiary Aldas has achieved a rare success in the public and private sectors. All functions of the institution have been integrated and gathered under a single structure in this high-tech and completely domestic system. This corporate information system, which was developed by using public resources efficiently and without any licence or copyright dependency on foreign countries and organisations, has taken a big step forward as a value belonging to our Antalya and Turkey. In this way, transaction times have been significantly shortened and field operations have gained speed. In addition, 1,256 electricity contracts with 5 Solar Power Plants were integrated into the system, and all electricity generation and consumption were instantly monitored and controlled through the system.



#### WATER LEVEL MONITORING MANAGEMENT

In order to manage water resources more efficiently and sustainably, Antalya Metropolitan Municipality has installed a water level monitoring system in our drinking water wells in our 5 Central District water production. Thanks to this system, any unfavourable conditions that may occur in water levels can be monitored instantly and necessary measures are taken quickly. This practice is of great importance for the protection of water resources and more effective water management.







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#### **DRINKING WATER NETWORK RENEWAL**

We are trying to prevent leakage of water by renewing drinking water network systems.

Total Drinking Water Main Line (km)

Implemented between 2019–2024 (km) 3.754



# WATER TANK RENOVATIONS

A total of 547 drinking water tanks were renovated between 2019–2024.

122 prefabricated drinking water tanks were provided.



#### **GRADUAL TARIFF FOR DRINKING WATER SUBSCRIBERS**

In order to encourage the sustainable use of water resources, Antalya Metropolitan Municipality applies a discounted tariff to residential subscribers who consume 5 tonnes of water per month within the scope of human right to use. This application is charged at the normal tariff for use between 1 tonne and 20 tonnes, and at the excessive consumption tariff for use over 40 tonnes to prevent water waste. With the gradual pricing model, saving in water use is encouraged and our citizens are ensured to consume water consciously. This method is an important step in terms of efficient use of water and prevention of waste.

#### **ABSOLUTE PROTECTION AREAS**



Antalya Metropolitan Municipality continues its comprehensive efforts to protect underground water sources from which drinking water is supplied. The 242 water sources in Akseki, Kaş, İbradı, Kemer, Demre, Finike, Elmalı, Kumluca, Korkuteli, Gündoğmuş, Gazipaşa and Manavgat districts have been physically protected by fencing. These works continue to cover all districts.

Of the 83 sources identified as priority drinking water sources throughout the province and hydrogeological surveys completed, 6 group source protection areas have been started. In these areas, water quality monitoring studies for wet and dry periods and geological, hydrogeological and geophysical field studies are carried out in coordination with State Hydraulic Works (DSI).

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# SUSTAINABLE WASTE MANAGEMENT PRACTICES

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**WE ARE PROUD OF OUR SENSITIVITY** To the Environment

## SOLID WASTE TRANSFER STATIONS

Antalya Metropolitan Municipality has taken another important step in waste management and increased the number of transfer stations from 7 to 9 and started to serve in Demre and Kaş districts. With this expansion, a total of 227,928 MWh of energy was obtained from the solid waste transferred. Throughout 2024, uninterrupted transfer activities were carried out in our districts with 130 personnel and 60 vehicles, and a significant success was achieved in sustainable energy generation and waste management. These activities contribute to increasing environmentally friendly approaches and energy efficiency.



# **EXCAVATION DIGITAL TRACKING SYSTEM**

Excavation Management Information System (HYBS) is an automation system supervised by Antalya Metropolitan Municipality within the scope of the Regulation on Control of Excavated Soil, Construction and Demolition Wastes dated 18 March 2004 and numbered 25406. This system serves as a platform where Aksu, Döşemealtı, Kepez, Konyaaltı and Muratpaşa Municipalities are integrated, excavation companies, waste generators and the activities carried out by these companies are recorded.

HYBS enables the activities to be monitored in an organised manner and allows the relevant documents to be produced in digital environment. Thanks to this system, it is aimed to manage excavation wastes without harming the environment and to carry out activities in a transparent and controlled manner.

# ECO-FRIENDLY FARMER CARD (PESTICIDE PACKAGING WASTE MANAGEMENT)

Antalya Metropolitan Municipality has achieved a significant success with the 'Environmentally Friendly Farmer Card Project' initiated to protect environmental health in our province where agricultural activities are intensive. In 2022, the project, which was first implemented in Kumluca District, where agricultural production is intensive, was extended to Finike and Demre districts as the 2nd stage. In 2024, the purchase of 15 vending machines was completed and these vending machines will be placed in the eastern districts of Antalya.

Within the scope of the project, 4,673 farmers were reached by 2024 and 3,363.75 kg of pesticide packaging waste was collected separately from other wastes and recycled into the economy. In this way, an environmentally sensitive approach was adopted by ensuring the proper disposal of hazardous wastes used in agriculture.

The 'Eco-Friendly Farmer Card Project' was deemed worthy of the Urban Governance Award at the International Urban Innovation Awards held in Guangzhou, China in 2023. As one of the exemplary projects that won this award in 2024, the project was visited by the Guangzhou Urban Innovation Delegation in Kumluca for on-site inspection. This award has enabled Antalya to be recognised internationally for its environmentally friendly projects.



# SOLID WASTE UTILISATION AND DISPOSAL FACILITIES

In line with solid waste management, which constitutes an important problem on a global scale, and sustainable environmental understanding, Antalya Metropolitan Municipality has implemented the Integrated Waste Management project. With this project, it is aimed to dispose of domestic solid wastes in the districts of Muratpaşa, Kepez, Konyaaltı, Aksu, Döşemealtı, Kemer, Serik, Korkuteli, Elmalı, Demre, Kumluca, Finike and Kaş with today's technologies.

With the commissioning of our Kızıllı Integrated Waste Treatment, Recycling and Disposal Facility, municipal solid wastes generated in 13 districts are disposed of using advanced technologies without harming the environment. In addition, the biomass energy obtained from this facility is converted into electrical energy as a renewable energy source, thus providing economic contribution to our Municipality.

With this project, it is aimed that Antalya will become an exemplary model in solid waste management by providing both environmental sustainability and economic benefits.



# **RECYCLING PRACTICES**



# **ZERO WASTE DOCUMENTS**

Within the framework of the 'Zero Waste Regulation', which entered into force after being published in the Official Gazette dated 12/09/2019 and numbered 30829, Antalya Metropolitan Municipality Main Service Building was entitled to receive Zero Waste Certificate with TS/7/B/2/185 document number on 03/06/2020. This document is continuously updated and improved within the scope of the relevant legislation in order to ensure, improve and develop the document requirements.

In this context, a total of 6 more units, including the Main Service Building, received Zero Waste Certificates by 2024, bringing the total number of certificates to 13. This success reinforces our municipality's determination to achieve its sustainability goals and its commitment to environmentally friendly practices.



# RECYCLING BOTTLE CAPS (KEYCHAIN, COASTER, BADGE, FLOWER POT ETC.)

Upcycling of plastic is of great importance in terms of reducing environmental pollution and protecting natural resources. Our municipality carries out comprehensive studies on the upcycling of plastic within the scope of the zero waste project and aims to separate plastic wastes at source and to activate the upcycling processes.

Within this framework, the infrastructure required for the upcycling of plastic waste at the Environmental Training and Innovation Centre has been strengthened. Equipment such as Plastic Injection Machine (1 unit), Plastic Crushing Machine (1 unit), Compressor (1 unit), Fixture Unit (1 unit) and Mould (2 units) were procured and put into use at the Centre. These investments accelerate the processes of recycling plastic and transforming it into reusable products and contribute to producing environmentally friendly solutions.



# **WE UTILISE OUR GREENHOUSE WASTES**

Wastes containing pesticide residues are uncontrolledly disposed of in the environment and mixed with surface waters, groundwater and soil, and cause major environmental and health problems by burning from time to time. In this context, 10,120 tonnes of waste disposed in 2024 consists of greenhouses and park garden wastes in Kemer, Kumluca, Demre and Kepez Districts.





# WE MAKE FLOORS FOR OUR PARKS FROM OLIVE PITS

Our municipality prefers the 'Olive Core Floor' application, which is an innovative and environmentally friendly alternative applied for the first time in the Mediterranean Region, on the floor of the playgrounds. Olive seed, which is a natural and biologically recyclable material against traditional floor applications, prevents possible injuries, especially with its shock absorbing feature, and stands out with its durability and aesthetic appearance.

Furthermore, during the landscaping works carried out by our municipality, it was observed that the natural mystical odour of olive pits prevents stray animals from using these areas as toilets. This feature not only ensures that the playgrounds remain hygienic, but also offers protection against zoonotic diseases. This innovative approach is one of the sustainable projects of our municipality, which aims to create both an environmentally friendly and healthy living space.



# WE REUSE OUR DAMAGED WOODEN MATERIALS AND FALLEN TREES



Trees that are damaged, destroyed or felled due to climatic conditions are used as timber with an environmentally friendly approach and processed in the workshops of our municipality. These trees are utilised in the production of urban furniture (benches, picnic tables, camellias, etc.), ensuring efficient use of natural resources and providing aesthetic contributions to the city.



#### WE USE OUR WASTE MATERIALS IN LANDSCAPING AREAS (PHAETON, CORRUGATED PIPES)

In Konyaaltı Coastal Area, Aspendos Boulevard and Kemer regions, recycled corrugated pipes were used to create bowls at the base of trees, thus providing maximum benefit with minimum water consumption. This sustainable approach aims both to use water resources efficiently and to promote environmentally friendly practices.

In addition, after the phaetons, which had been used in urban transport around Kalekapı for years, ceased to operate, the idle phaetons were renewed within the scope of recycling activities. The phaetons were repaired in the workshops of our municipality, painted in different colours and decorated with live flowers and used as landscape elements in different attraction points of our city (intersection, square, central refuge).



# **AGRICULTURAL PRACTICES**





#### **LIQUID-SOLID FERTILISER R&D STUDIES**



In line with the Zero Waste approach, within the scope of Integrated Waste Management, trials and licence studies are ongoing for the use of solid and liquid fermented products obtained through the fermentation process as soil improvers. This process is an important step in terms of waste recovery and dissemination of environmentally friendly practices, and contributes to the development of sustainable agricultural methods.

# SOIL ANALYSIS SUPPORT

As Antalya Metropolitan Municipality, fertilisation recipes suitable for product varieties are created with the analyses made on soil samples taken from 19 districts. In this way, it is aimed to obtain the highest yield from each unit area. By preventing unnecessary and excessive fertilisation, production inputs are reduced and conscious production methods are developed. In addition, samples taken from the greenhouses and gardens of our producers are evaluated in the soil analysis laboratory and special fertilisation recipes are prepared and shared with the producers.





#### **PASTURE IMPROVEMENT WORKS**

As Antalya Metropolitan Municipality, we aimed to increase grass yield and quality with the pasture improvement works we carried out in Korkuteli District. Thanks to these works, we contributed to the increase of green areas and supported animal husbandry.

# **CLOSED CIRCUIT IRRIGATION FACILITIES**

Efficient use and continuity of water is of great importance in combating climate change. In Turkey, 73% of fresh water consumption is realised in agriculture, 11% in industry and 16% in domestic use.

Wild irrigation has been abandoned in 43,000 decares of land, resulting in savings of 60% in water use and 55% in yield. In addition, 26 closed circuit irrigation systems have been established and 4663 farmer households benefit from these facilities.





#### **RENEWABLE ENERGY SUPPORT TO FARMERS**

Our Department of Agricultural Services has successfully completed the construction of 26 open and closed system irrigation facilities. 4663 farmer households benefit from these facilities and approximately 43,000 decares of land is irrigated. Since 2019, a total of 266 million Turkish Liras worth of energy support has been provided to 16,254 farmer families and 53 agricultural irrigation cooperatives. These activities provide significant economic contributions to our farmers by supporting sustainable agricultural practices and increase agricultural production efficiency.

#### SMART AGRICULTURE APPLICATIONS

The adoption of digital agricultural technologies by producers is of great importance in terms of obtaining healthy and quality products as well as preventing unconscious use of pesticides, fertilisers and water. In this direction, digital monitoring systems have started to be implemented in Elmalı-Çukurelma Irrigation, Kumluca Agricultural Development Cooperative, Kumluca Mavikent-Yenicepinar Irrigation Cooperative, Kaş District Kınık Neighbourhood, Demre Beymelek Irrigation Cooperative, Aksu District Kurşunlu Neighbourhood and Serik District Şatırlı Neighbourhood.

Thanks to this system:

- Greenhouse data can be monitored instantly.
- Soil temperature, humidity, electrical production data can be reported on daily, weekly, monthly, seasonal and annual basis and can be archived by analysing in graphical and Excel environment.
- Alerts can be received with the alarm system; producers will be informed via SMS and e-mail and will be able to take the necessary actions on time.


### **ALTERNATIVE CROP SUPPORT**

In order to increase sustainability in regional crop cultivation due to climate change, seedlings, saplings and seeds are provided to local people and trainings are organised. In addition, in order to contribute to the development of beekeeping in the region, trainings on modern beekeeping techniques approved by the Ministry of National Education are provided. In order to increase productivity in production, hive and bee grass supports are provided and it is aimed to strengthen the beekeeping sector.



### **BIOLOGICAL AND BIOTECHNICAL CONTROL**



### **BEEHIVE SUPPORT**

Our municipality takes important steps to encourage beekeeping. Beekeepers who have completed National Education approved beekeeping courses have been supported in this field by distributing hives, clothes and gloves. In addition, we have contributed to the development of beekeeping by targeting local development in Antalya provinces and districts. In this context, 9,500 langstroth type beehives were provided to producers and 3,770 beekeepers were provided with hive support. As a result, 142,500 kg of honey was produced, contributing to the local economy and supporting the sustainability of beekeeping.



In order to enable our producers to produce more efficiently and sustainably, we



### TRAINING SUPPORT TO OUR PRODUCERS

Antalya Metropolitan Municipality not only provides financial support to farmers, but also supports them by sharing agricultural knowledge and experience. Our municipality contributes to the spread of sustainable agricultural practices by ensuring that farmers are informed about the latest agricultural techniques and efficient production methods through agricultural trainings. In this way, our producers are enabled to increase their productivity and produce with more modern methods.

### EQUIPMENT SUPPORT TO OUR FARMERS (PIPE, VALVE, ETC.)

Since 2019, Antalya Metropolitan Municipality has made a great contribution to increasing the efficiency of agricultural production with the irrigation infrastructure works carried out in 102 neighbourhoods. With the support of 548,639 metres of pipe, 316 irrigation valves, 7 motopumps and 86 irrigation hydrants, 10,358 farmers' families were provided with the opportunity to irrigate a total of 130,700 decares of agricultural land.

While 20 per cent of these works were used for the repair and renovation of old irrigation systems, 80 per cent was spent on the conversion of open arc or canal irrigation systems into closed irrigation systems. In this way, irrigation efficiency was increased and water was utilised more efficiently and economically.

# GREEN INFRASTRUCTURE AND NATURE-BASED SOLUTION APPLICATIONS

🗱 ANTALYA METROPOLITAN MUNICIPALITY

### WE BRING LIFE INTO OUR CITY WITH **OUR GREEN INFRASTRUCTURE AND**

Nature-Based Applications

### **SPONGE CITY ANTALYA APPLICATION**

The sponge city concept represents an approach developed to reduce the impact of grey infrastructure (buildings and hard surfaces) on environmental pollution, using natural drainage systems to minimise urban flooding, water scarcity and the urban heat island effect, accelerated by climate change.

It is planned to implement the Sponge City concept in order to reduce the increasing flood risk due to excessive rainfall with the effects of climate change in our city and to build sustainable cities.



In this context, we have implemented the first implementation of our project with the 'Sponge City Antalya Symposium' held on 1-2 November 2024. This symposium has been an important platform to ensure the applicability of this innovative concept in our city and to take an important step towards sustainable urbanisation.

### **ZEYTİN PARK**

Located on an area of 2,630 decares, important works are being carried out for the protection and development of the Foundation Farm. The aim is to improve the largest green area in the city centre of Antalya and make it available for public use, and to present all the artistic, cultural and ecological values of the city to visitors through various recreational activities. In addition, scientific and artistic workshops will be established to enable young people and children to learn in nature, and joint projects will be implemented in cooperation with universities and the Ministry of National Education when necessary. Various activities are also planned to support agriculture and increase the diversity of agricultural products. With this project, it is aimed both to contribute to tourism and to promote sustainable agriculture.



### EXPANDING OUR ARID LANDSCAPING PRACTICES

In order to combat global climate change, we realise arid landscaping works in Antalya by adopting the principle of using water in the most efficient way and protecting water resources. The arid landscaping applications carried out at different points in the city are concrete examples of this principle.

As of 2024, we are setting an example for public institutions and organisations by making arid landscaping arrangements on an area of 26,000  $m^2$ . Thanks to these arrangements made with arid plants, it is aimed to save 50% in water and electricity consumption. In addition, we aim to save 30% in labour, pesticide and fertiliser use.



### REDUCING THE URBAN HEAT ISLAND EFFECT (PRUNING)

In order to reduce the impact of Antalya's summer temperatures of 40°C and above, we increase the shade area of our pavement trees by shaping them horizontally across the city. This method helps to reduce the urban heat island effect, while at the same time demonstrating an environmentally sensitive approach.

We carry out our tree pruning works and sustainable landscape design in order to contribute to reducing the urban heat island effect. In this way, we both offer environmentally friendly solutions and improve the quality of life in our city.

### HOT CLIMATE GRASS SEEDLING PRODUCTION

Most of the water consumption in municipalities is used for irrigation of green areas. As Antalya Metropolitan Municipality, we aim to reduce the annual consumption of 2,500,000 tonnes of water and 321,719,614 kW/h electricity by 50%, and maintenance labour, fertiliser (10,000 kg per year) and pesticide (750 litres per year) expenses by 30%. For this purpose, we have started the production of warm climate grass and plant species since 2020 and started to expand arid landscaping practices in intersections, refuges and parks in the city centre.



### AFFORESTATION PRACTICES

While fighting against natural disasters such as forest fires and floods due to increasing global temperatures caused by climate change, we are also increasing our environmental sensitivity day by day. In this context, we have expanded our green areas by planting and distributing 2 million 398 thousand 198 saplings to date. In addition, by planting 3,150 tree species resistant to thirst and salinity in different parts of the city, we aimed to create a green area network that is both environmentally friendly and resistant to climate change. With these efforts, we aim to leave a more sustainable Antalya for the future.





### WE ARE MAKING ENVIRONMENTALLY FRIENDLY PLAYGROUND EQUIPMENT

In the playgrounds designed by adopting an environmentally friendly approach, studies have been initiated to use wooden materials in line with the 'Minimum Plastic Policy'. With this project, while the natural structure of the playgrounds will create an aesthetic in harmony with the environment, the safety of children will also be prioritised. The use of wooden materials will increase environmental awareness and make playgrounds safer both aesthetically and functionally. These designs aim to offer a play experience intertwined with nature.

### WE PRUNE OUR PLANTS WE REUSE WHAT WE PRUNE

New rooted plants are obtained in our rooting greenhouses by taking cuttings from the pruning residues resulting from routine annual maintenance of trees and shrubs in the green areas under our maintenance responsibility. This practice provides an environmentally friendly solution by reducing plant waste and at the same time meets some of our municipality's need for plants used in landscaping.

The economic utilisation of pruning residues provides cost savings for our municipality and contributes to keeping the environment clean.



#### WE PAY ATTENTION TO WATER SAVING IN OUR ORNAMENTAL POOLS

The 146 ornamental pools in various parts of the city under the responsibility of our municipality can be deformed over time due to environmental factors and chemicals used in pool cleaning. Since these pools make an important contribution to the aesthetic appearance of the city, there is a need for renovation in construction, mechanical and electrical areas.

In order to use the available water resources more efficiently and effectively and to prevent water loss, various improvement works are carried out in order to eliminate the insulation weaknesses that occur over time.

### SMART IRRIGATION SYSTEMS

With Smart Irrigation Systems, irrigation processes are carried out in a controlled and regular manner by using sprinkler and drip irrigation methods in 2,700,000 m<sup>2</sup> green areas in our areas of responsibility. Thanks to these systems, approximately 70% water saving is achieved compared to uncontrolled irrigation.

# **OUR BIODIVERSITY PRACTICES**

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### **PROTECTION IN ITS NATURAL HABITAT (SAND LILIES)**

An important step has been taken to protect the sand lilies, which are under the threat of extinction in their natural habitat on Lara Beach. For this purpose, written warning signs were placed along the coast to prevent the plucking and destruction of sand lilies. In addition, studies will be initiated to recreate natural landscape areas by ensuring the production of these rare plants through seeds. Thus, contribution will be made both to the protection of nature and to the maintenance of the ecological balance of the region.





### **FLOWER BULB PRODUCTION**

As Antalya Metropolitan Municipality, an important step has been taken to provide alternative sources of income for local farmers and to support production in line with local development targets. In this context, tulip bulb production areas were established in the district and training programmes were organised for farmers. Thus, it is aimed both to increase local production and to contribute to the economic development of farmers.

### MEDICINAL AROMATIC PLANT PRODUCTION

In order to support producers and increase the sustainability of local agriculture, thyme (Origanum onites), lavender (Lavandula angustifolia), sage (Salvia officinalis) and rosemary (Rosmarinus sp.) were produced in our Gürsu facilities in line with the demands of Agricultural Development Cooperatives. The seedlings produced were distributed to the local farmers and the production of these aromatic plants was encouraged. Thus, both the income of the farmers was increased and the agricultural diversity of the region was supported.



### PROTECTION OF BEES IN CITRUS GROVES

With the production of citrus honey in citrus groves, care is taken to protect the bee presence in this region. In order to draw attention to the importance of bees, warning signs have been placed in citrus groves. With this practice, both farmers carrying out agricultural spraying and municipal teams carrying out vector control spraying have been ensured to be sensitive to the presence of bees.

### CITRUS SMELLING CITY PROJECT

As an important step reflecting Antalya's identity and natural richness, the planting of citrus trees, which have become the symbol of our city, started on Portakal Çiçeği Avenue. This project, which then continued on Dumlupınar Boulevard, is planned to spread throughout the city over time. While these works increase the aesthetic values of our city, they also contribute to creating a green area suitable for the nature of Antalya.

### **TURKEY PROJECT**

Within the scope of the Turkey Project carried out in the Eynif Pasture of Ibradı District, the grasshopper pest, which nests under the soil and emerges from under the soil in spring and damages the vegetation in the pasture and the products of the producer, was fought. In this struggle, biological and biotechnical methods were preferred instead of spraying to reduce environmental impacts. Thus, air, water and soil were protected, contributing to sustainable agriculture and ecosystem health.



# OUR APPLICATIONS FOR MARINE POLLUTION AND CONTROL

ANTALYA BÜYÜKŞEHİR BELEDİYESI ELEKTRONİK GEMİ DENETİM MERKEZİ

🗱 ANTALYA METROPOLITAN MUNICIPALITY

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### ANTALYA BAY ELECTRONIC SHIP INSPECTION SYSTEM

Antalya Metropolitan Municipality continues to make use of advanced technologies in the fight against marine pollution in order to protect the deep blue sea of the Mediterranean in Antalya, the capital of tourism. The Electronic Ship Inspection System (EGDS), which we have implemented to prevent ship-borne marine pollution, offers the most effective solutions in line with sustainable global climate policies and principles. Within the scope of this system, thanks to the EGDS, which is supported by 20 high-resolution PTZ cameras, 20 night vision thermal cameras, 90 nautical mile range overwater radar and Automatic Ship Identification System (ASIS), a total of 103 million 363 thousand 641 TL administrative fines were imposed on 83 ships found to have polluted the sea in 2024.



In addition, 1 drone, which makes a great technological contribution to the inspection of ships and marine vehicles, can land and take off in the water and has a waterproof feature, is used effectively in sea conditions. With these activities, we continue to protect the environment and fight against marine pollution by keeping Antalya's sea clean.



### **OUR MARINE INSPECTION BOATS**

Antalya Metropolitan Municipality, which attaches great importance to the cleanliness of the Mediterranean, continues its efforts to combat marine pollution with determination. In this context, it has 5 inspection craft/boats together with an inspection boat with night vision and radar system in order to detect marine vessels causing pollution in the Mediterranean and to intervene quickly in emergencies. Thanks to this equipment, inspections are carried out effectively to prevent pollution in the seas and environmental protection targets are achieved.

### **SEA SWEEPER**

Antalya Metropolitan Municipality took an important step in cleaning the seas and streams and started cleaning works with the sea sweeper, which it put into service for the first time in Antalya at Konyaaltı Beach and Boğaçayı. As of 2024, a total of 650 kg of marine litter was collected and disposed of as a result of the work carried out with the sea broom. With this project, it is aimed to protect both the seas and the environment, and the natural beauties of Antalya are passed on to future generations.



### **SEA WATER AND QUALITY MONITORING**

Within the scope of the Antalya Bay Sea Water Quality Monitoring Programme carried out by Antalya Metropolitan Municipality, microbiological sea water samples are taken every 15 days from 81 different points and monitored meticulously at the ASAT General Directorate Laboratory. This programme is of great importance for protecting public health and ensuring environmental sustainability by ensuring continuous monitoring of seawater quality.







### **WASTE TRAPS**

Antalya Metropolitan Municipality has taken another important step in the fight against marine pollution and collected the wastes in the waters flowing into the sea from the mouths of Arapsuyu 1 and 2 streams before they meet the sea with specially placed nets. The nets used in these closure systems were manufactured by recycling the ghost nets we collected from the sea. In 2024, 3604 kg of waste was collected in total, contributing to the protection of the marine ecosystem. With this project, both environmental pollution was prevented and recycled back into nature.

### FIGHT AGAINST GHOST NETS

As Antalya Metropolitan Municipality, we pay great attention to our sustainable projects. Within the scope of the "Don't Net Our Seas" project, we ensure the collection of ghost nets that pollute our seas with containers placed in Antalya, Alanya, Demre, Finike, Kaş and Kalkan Fishing Shelters. In projects such as Boğaçayı cleaning, we demonstrate an environmentally sensitive approach by reusing the waste from the containers. We contribute to the protection of natural resources by reusing materials such as waste traps, fishing crates and buoys. As of 2024, we have made a significant contribution to the cleanliness of our seas by collecting a total of 1025 kg of ghost nets. With such sustainable projects, we continue to raise environmental awareness.



### **COMBATING FOREIGN INVASIVE SPECIES**

Antalya Metropolitan Municipality continues to organise various campaigns and events to combat invasive species in our seas and to raise awareness on this issue. In this context, the competitions organised to combat invasive species such as lionfish and puffer fish, which harm the marine ecosystem, contribute greatly to raising public awareness. Such activities, which are organised both to protect marine life and to raise environmental awareness, ensure that important steps are taken towards the healthy protection of Antalya's marine ecosystem.





### **SHIP WASTE RECEPTION STATIONS**

Antalya Metropolitan Municipality continues its effective struggle for the protection of the sea and coasts. In addition to the waste reception stations in 21 coastal facilities in Antalya, our municipality has commissioned waste reception stations in 8 different regions. As of 2024, a new waste reception station has been commissioned in Aksu Stream, and a new waste reception station to serve the boats in Belek Acısu is under construction.

### **AQUATIC PLANT CUTTING BOAT**

Antalya Metropolitan Municipality carries out an effective fight against environmental pollution, odour and fly problems caused by aquatic plants and surface garbage in Boğaçayı. In order to solve these problems, which increase with the summer season, 160 thousand kg of algae was cleaned with 2 aquatic plant cutting boats throughout 2024. These works are of great importance to protect the ecological balance of Boğaçayı, as well as to minimise environmental pollution and improve the quality of life of the people of the region.





#### **BLUE FLAG**



The 'Blue Flag' application, which is an important milestone in terms of eco-labels in the tourism sector, is of great importance as an international standard that increases environmental awareness and enables communication with consumers. Of the 567 Blue Flag beaches in Turkey, 233 of them are located on Antalya beaches, and Antalya also has 5 Blue Flag marinas and 15 Blue Flag boats. This success makes Antalya a centre of attraction for many countries with its environmentally sensitive management and tourism promoting features. With its clean beaches, Antalya has the title of being the city with the highest number of Blue Flag Awards in the world.

### **PLASTIC-FREE COASTS, PLASTIC-FREE WATERS**

The second phase of our 'Plastic-Free Coasts, Plastic-Free Waters' project, launched in 2023, was held at Konyaaltı EKDAĞ Social Facilities, Lara TURAŞ Facilities and Belek TURAŞ Facilities. 452 children, 982 adults and 30 volunteers participated in the activities organised in 2024, and important steps were taken to raise environmental awareness. With the aim of protecting our coasts and waters from plastic pollution, this project has succeeded in raising great awareness with the active support of the participants.



### LIFEGUARD ROBOTS

The unmanned lifeguard vehicle, which is the first of its kind in Turkey, has the capacity to carry a load of 200 kilograms by staying on the water surface for 45 minutes. Equipped with camera and lighting systems, this robot lifeguard is also equipped with a sound system to communicate with the case. This technology, which effectively serves at Sarısu Public Beach, Boğaçayı Ekdağ Public Beach and Varyant ABB Social Facility Ekdağ beaches, minimises the risks in the seas by increasing safety in lifeguard services.

## **OUR APPLICATIONS ON ENVIRONMENTAL EDUCATION AND AWARENESS**



ANTALYA METROPOLITAN MUNICIPALITY

### ENVIRONMENTAL TRAINING AND INNOVATION CENTRE WORKSHOPS AND ACTIVITIES

Antalya Metropolitan Municipality opened the Environmental Training and Innovation Centre on 07.06.2022 in order to raise awareness on important environmental issues such as renewable energy, zero waste, combating climate change, alternative agriculture, grey water and rainwater recycling by adopting a sustainable environment and development approach. This centre makes a great contribution to the work carried out in line with the principles of protection of environmental and ecological values, efficient use of natural resources and sustainability. A total of 429 events (workshops, interviews, virtual glasses-vr experience) have been held at the centre so far and 3856 people have been reached. The centre, which also has an exhibition area where workshop and competition outputs are exhibited, is open to visitors every day.

As of 2024, 1344 people participated in 192 events held at the centre. Apart from the registered events, 1244 local and foreign visitors visited the centre and explored the opportunities offered by this important environmental centre. In addition, our centre, which cooperates with international projects such as European Union projects and Erasmus+, continues to raise awareness on the environment and sustainability. These activities contribute to the development of an environmentally sensitive approach by all citizens, especially children.



### **MARINE TRAINING CENTRE**

Antalya Metropolitan Municipality continues its extensive work to improve the physical arrangements and exhibition areas at the Marine Science Training Research Centre, formerly known as the "Marine Biology Museum", located in Kaleiçi. These works are designed to raise awareness about marine sciences and to provide visitors with a better quality educational experience.





### **BIRDWATCHING ACTIVITIES**

Antalya Metropolitan Municipality continues birdwatching activities in the Science Village established in Boğazkent, Serik district. The Science Village, which opens its doors to students during the school holidays, organises various activities to draw attention to the protection of birds' natural habitats and to provide information about the long journey of migratory birds. These activities aim to instil in children a love of nature and raise environmental awareness.



### **MINI URBAN ORCHARDS**

The Environmental Training and Innovation Centre, located in Karaalioğlu Park, has implemented a special project that offers city dwellers the opportunity to be in touch with nature. In this project, 2 square metre orchard areas were created and allocated to citizens who live close to the area and who like to work with the soil. This project, which was implemented as a pilot region, has provided city dwellers who want to get away from the intensity of urban life with the opportunity to both strengthen their ties with nature and consume the natural products they grow themselves. These orchard areas contribute to increasing the awareness of natural life both as a hobby and by supporting the understanding of sustainable agriculture.



### AWARENESS RAISING ACTIVITIES ON NATIONAL AND INTERNATIONAL ENVIRONMENTAL DAYS

Various trainings, awareness raising activities, competitions and interviews were organised for different target groups on special environmental days such as World Water Day, World Environment Day, European Mobility Week, Forestry Week and World Biodiversity Day, which are of great national and international importance. Through these activities, the meaning and importance of these special days were conveyed to both our citizens and our staff. These activities have made a great contribution to raising environmental awareness and making the participants more sensitive about the environment and increased their awareness. In this way, an important step has been taken to promote a sustainable environmental understanding.



### **ZERO WASTE TRAININGS**

Throughout 2024, Antalya Metropolitan Municipality carried out comprehensive training and awareness-raising activities for corporate zero waste studies. In this context, waste collection equipment in accordance with the zero waste regulation was determined in our municipal units and these equipment were provided. In addition, in line with corporate zero waste practices and external demands, 4 training and awareness-raising activities were carried out for official institutions, 14 for municipal employees, 5 for schools, 5 for private enterprises and non-governmental organisations. A total of 28 training and awareness-raising activities were organised in 2024 and a total of 1158 people were reached with informative brochures and posters. These activities have been a big step towards promoting zero waste awareness and strengthening sustainable environmental practices.



### **TRAININGS FOR THE PREVENTION OF FOREST FIRES**



Within the scope of the cooperation protocol with the Turkish Foresters Association, an important step was taken to protect and increase our forest areas. Accordingly, trainings were organised for forest villagers in Dösemealtı, Alanya, Kumluca and Manavgat districts and informative documents were delivered to the target groups. By adopting a nature-friendly approach, this cooperation contributes to the development of long-term solutions to protect and increase forest areas.

## OUR ENVIRONMENTAL AND PUBLIC HEALTH PRACTICES





### **OUR EFFORTS TO COMBAT AIR POLLUTION**

Antalya Metropolitan Municipality has taken an important step to protect air quality by increasing coal inspections with the winter season. Our teams meticulously inspected 6,567 tonnes of coal entering our city and took 135 tonnes of coal that did not meet the criteria out of the city. In this way, our efforts to protect Antalya's air quality continue with determination.



### **VECTOR CONTROL DIGITAL TRACKING SYSTEM**



As Antalya Metropolitan Municipality, we have implemented a digital tracking system to monitor the use of personnel, vehicles and chemicals. This system, which is a first in Turkey, enables the tracking of complaints, fuel consumption and other important processes to be kept under control. As of 2024, we have created an exemplary model in the sector with our application features by serving with 202 vehicles and 1593 personnel in 914 neighbourhoods in 19 districts. Thanks to this system, both efficiency increases and resources are used more effectively.

### CREATION OF SOURCE-BASED STRATEGIC NOISE MAPS PROJECT

Antalya Metropolitan Municipality has left behind an important stage in the process of creating strategic noise maps in order to evaluate the harmful effects of environmental noise levels on health and prevent noise pollution. Within the scope of this project, a database has been created to prepare action plans for noise prevention and mitigation, and the work has reached the final stage. Thus, effective steps will be taken to minimise the effects of noise pollution in our city and protect public health.



# **ECO TOURISM APPLICATIONS**

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ANTALYA METROPOLITAN MUNICIPALITY



### **MONUMENT TREE REGISTRATION**

As Antalya Metropolitan Municipality, we continue to protect our monumental trees in order to raise awareness of nature and the environment. We registered the 500-year-old juniper tree located in Gökçam, Konyaaltı District, by applying to the Ministry of Environment and Urbanisation. This monumental juniper tree, which is 13 metres tall and 110 cm in diameter, draws attention with its growth at sea level. In order for visitors to get information about the tree, an information signboard has been placed in front of it, and this magnificent natural asset has been presented to visitors for nature and environment lovers. In addition, the 700-year-old Eastern Sycamore was registered in Muratpaşa District. Within the scope of the Cittaslow Project, the registration of olive trees within the borders of Yeşilbayır Neighbourhood of Dösemealtı District is in progress. These works are of great importance for the protection of nature and transferring it to future generations.



### CARAVANPARKS

As Antalya Metropolitan Municipality, we continue to offer a comfortable and safe caravan experience with a sustainable tourism approach. We have previously opened a caravan park in accordance with international standards with a capacity of 50 caravans on an area of 4,144 m<sup>2</sup>, 200 metres from Konyaaltı beach. Now we are providing a solution to the uncontrolled caravan problem in the Lara region by opening another caravan park with a capacity of 130 vehicles in accordance with international standards. This park offers a safe, hygienic and comfortable environment for visitors and is an excellent alternative for caravanners who want to explore the natural beauties of Antalya.

### YEŞİLÇAM NATURE HIKING TRAIL AND CYCLING TRAIL WITHOUT A GUIDE

As Antalya Metropolitan Municipality, we have implemented a 38 km long hiking and cycling route called Yeşilçam Trail in order to encourage a life intertwined with nature. This special route, which covers Sarısu, Gökdere, Gedeller, Hacısekiler, Akdamlar, Gökçam and Doyran, consists of a 2-stage bicycle path and a 4-stage hiking trail. Yeşilçam Road has been planned as an area that enables the people of Antalya and local and foreign visitors to participate in nature trips without paying a guide or any fee. This route aims to offer an unforgettable experience to those who want to discover the unique beauties of nature while opening the doors to a healthy life.

### DIGITAL ANTALYA PROJECT IN TOURISM

Digital tourism is gaining more and more importance as a trend that blends the real world with digital content to offer tourists an innovative and interactive experience. With this project, it is aimed to draw attention to the unique natural and cultural values of Antalya and to offer tourists coming to the region a holiday experience intertwined with nature and culture. From the centre of Antalya to its districts, all data from places to visit to events, restaurants and hotels are introduced to the world through digital platforms and the visibility of alternative tourism opportunities is increased. In this way, Antalya aims to attract tourists not only with its natural beauties but also with digital innovations.



# WORKSHOPS SYMPOSIUMS FAIRS EVENTS

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### **CLIMATE CHANGE SUMMIT**

Antalya Metropolitan Municipality organised a 'Climate Change Summit' within the scope of the protocol in cooperation with Antalya Industrialists' and Businessmen's Association (ANSIAD) with its awareness raising activities on combating and adapting to climate change.



### **COP29**

Antalya Metropolitan Municipality participated in the COP29 meeting, known as the Conference of the Parties, which is of great importance in terms of raising awareness and ensuring global co-operation, where policies on climate change, which is the common problem of our world, are discussed in Baku, Azerbaijan, and we made important negotiations for international co-operation by sharing Antalya's goals and projects against climate change.

### SPONGE CITY ANTALYA SYMPOSIUM

At the 'Sponge City Antalya' Symposium, organised in cooperation with Antalya Metropolitan Municipality and Antalya Branch of the Chamber of Landscape Architects, theoretical information, application examples and field applications of sponge city designs aiming to combat urban floods and protect green areas by improving water management in cities were discussed.







### WORLD ENVIRONMENT WEEK FAIR

Antalya Metropolitan Municipality, which attracts attention with its environment and nature friendly works, shared the projects implemented in this regard at the Environmentfest events held in



### LET'S TALK BEFORE FORESTS BURN

Within the scope of our cooperation protocol with the Turkish Foresters Association, the causes, effects and measures to be taken to prevent forest fires were discussed and evaluated with the participation of expert academicians from different universities.

### **ANTALYA SCIENCE FORUM**



The 2nd Antalya International Science Forum, organized in cooperation with Antalya Metropolitan Municipality and Akdeniz University between 6-8 November 2024, was held with the theme "Climate Change, Environmental Crisis and Migration".



### **FROM WASTE TO ART**

In order to achieve the zero waste target and to improve the management of waste materials, a competition was organized for students studying at Vocational and Fine Arts High Schools in Antalya to create works of art from waste objects.







### **EUROPEAN MOBILITY WEEK**

European Mobility Week was celebrated with various activities in Antalya between September 16-22 with the theme "Shared Public Space" and the slogan "Let's Live the City Together in Shared Public Spaces". During the week, which aims to encourage cities and local governments to use sustainable transportation methods, citizens were informed about what can be done to reduce carbon emissions. Cycling trainings, bicycle tours and various competitions were organized in schools.



### LIONFISH AND PUFFER FISH HUNTING COMPETITION

Antalya Metropolitan Municipality organized a lionfish and puffer fish hunting competition to raise awareness by organizing various campaigns and events to combat invasive species in the seas.



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### SEA AND COASTAL CLEANING ACTIVITIES

Antalya Metropolitan Municipality, which carries out important projects on environmental health, organized sea and coastal cleaning activities in cooperation with many associations, foundations, schools, institutions and organizations.





### **SPECIES COUNT EVENT**

Antalya Metropolitan Municipality, Nature Conservation Center Foundation (DKM) and Akdeniz University organized the first Species Count event. A biodiversity identification study was carried out and awareness was raised on the subject. With the participation of 36 nature lovers, 1049 observations were made. 76 experts, including amateurs and scientists, recorded 209 species and the Species-Say Antalya Report was published.

# NATIONAL AND INTERNATIONAL GRANT PROJECTS, CREDITS AND SUPPORTS





CLIMAAX; Strategies to Mitigate the Urban Heat Island Effect in Antalya: Integrating High Resolution Local Data for Enhanced Climate Resilience (MUHIR)



**Local Climate Action Change Action Plans** 



Micro–Mobility Grid Solutions: Modular and Cyclic Battery and Light Electric Vehicle Systems (MiGriS Project)



Positive Energy Zones Initiatives for Neutral Mediterranean Cities (POSEIDON Project)



**CERMONI Scenario-Based Decision Support Tool in Public Transportation** 



Solar School (Solar Energy School)



**Green and the Future of Cities Project** 



EU for the Energy Transition: Convention of Mayors in the Western Balkans and Turkey



Technical Assistance for Capacity Building of AFAD on Mitigation of Disaster Risks Arising from Climate Change and Adaptation in Turkey (iDAY)



Nakopa– Digital Applications to Fight Climate Change More Effectively in Antalya



The Role of Waste in Forest Fires: Community–Based Awareness and Solution Strategies



Google Environmental Insights Explorer (EIE)



CAFI – Vocational Training of Firefighters for Determining the Causes of Fire Outbreak in Fire Service



URBANWISE – Urban Renewal and Administrative Capacity Building for Sustainable Development and Emission Reduction

### "HEALTHY LIFE IS POSSIBLE WITH A HEALTHY ENVIRONMENT."

S. Atatierk

"Without a doubt, Antalya is the most beautiful place in the world."

S. Ataturk





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