



IZENERGY



IZMİR METROPOLITAN MUNICIPALITY

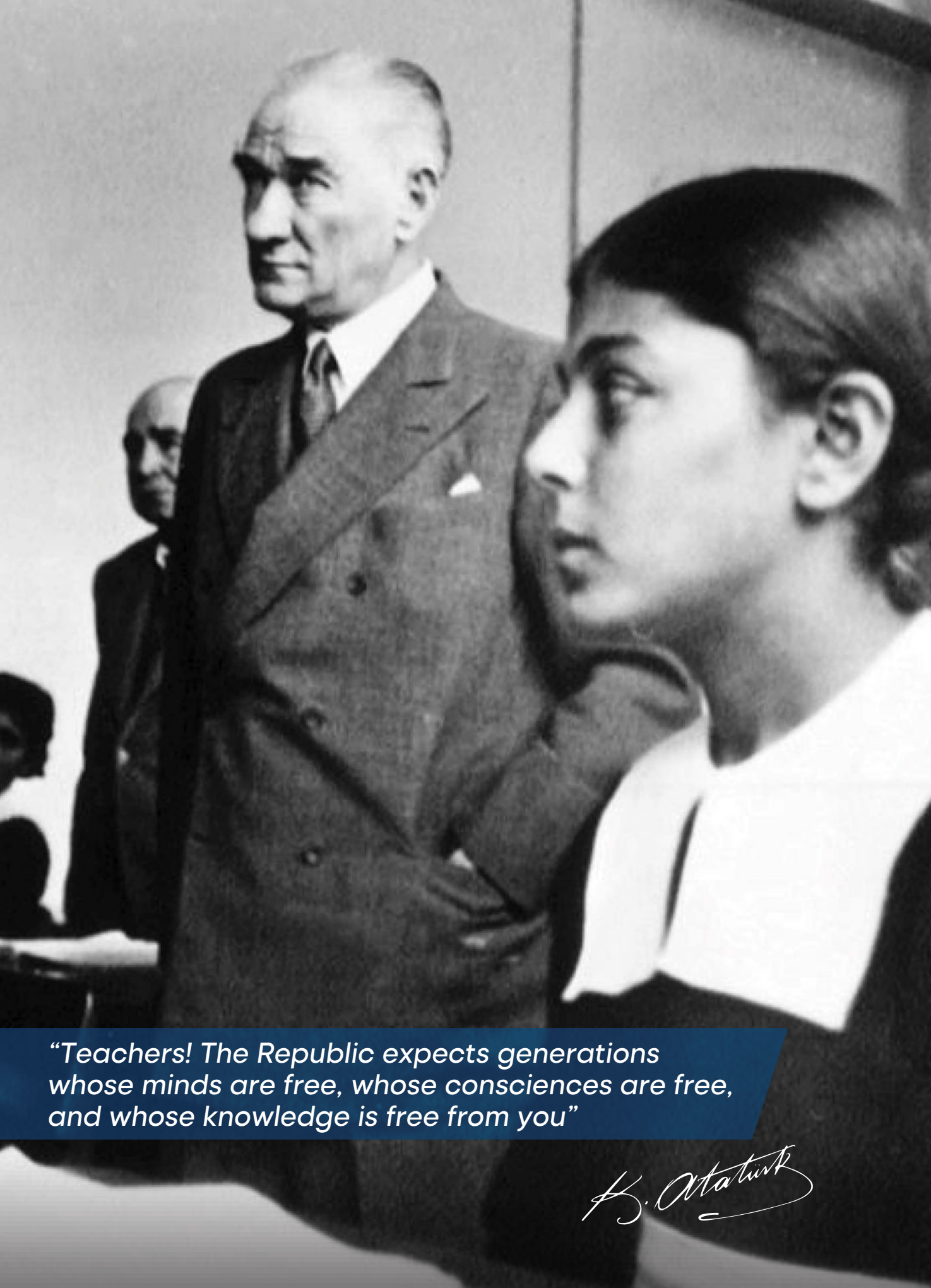
IZMİR METROPOLITAN MUNICIPALITY - IZENERGY INC. PUBLICATION ● DEC'22-JAN'23 ● Issue : 9 ● Free of charge



Continued Struggle for an Equal and Free Life Against Violence and Harassment
Specialist Dr. Arzu CERKEZOGLU - DISK President

The Importance of Geothermal Energy and Its Role in the Future of the City of Izmir
Prof. Dr. Alper BABA - Vice Rector of Izmir Institute of Technology

Cool Up Takes on Climate and Ozone Protection with Sustainable Cooling
Jessica Weir - High Expert, Neşen SURMELI ANAC - Asst. Director, Cool Up Prog. Manager Guidehouse



“Teachers! The Republic expects generations whose minds are free, whose consciences are free, and whose knowledge is free from you”

K. Atatürk

Tunc SOYER

Mayor of Izmir Metropolitan Municipality



Dear Readers,

I am honored to be here before you with the 9th issue of IZENERGY, one of the subsidiaries of our municipality, which includes the activities and projects of IZENERGY as well as valuable academicians and esteemed names of the sector.

We continue our work focusing on the concept of sustainability, which is at the forefront of our development criteria.

IZENERGY INC. continues to fulfill the missions it has undertaken with the same determination. Our company expands its sphere of influence by continuing its efforts in the fields of renewable energy and combating the climate crisis.

The company was selected for the Climate Neutral Cities EU Mission and the 60 CrAFt Cities platform within this mission, and we started our work in this direction. In this framework, we are

working towards our goal of becoming a "Climate Neutral City" with our qualified staff. We are moving forward decisively with our effective process management. We carry out this entire process together with our city stakeholders; NGOs, professional chambers, academics, national and international financial institutions, and mobilize all cooperation opportunities.

As the capital of harmony and cooperation, Izmir is becoming the center of change and development while doing its part on climate change. In line with our goal of becoming a cleaner, more resilient city that respects nature more, we continue to protect the right to life of all living things.

We are accelerating and developing this change through our ongoing cooperation with world cities in every field. We continue to work with all our strength on behalf of the people of Izmir for a stronger city. All our units and subsidiary companies continue their visionary work in their own fields for the future of the city.

We continue to experience this pride with the ancient culture of Izmir and every resident of Izmir who contributes to this culture.

I would like to thank all my colleagues for their efforts and extend my respect and love to our readers.

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Engineer Msc. A. Ercan TURKOGLU

Chairman of the Board
of Directors of IZENERGY INC.

Dear Izmir Residents;

Izenergy Sectoral Magazine has now reached its 9th issue.

In line with the vision of Mr. Tunc Soyer, Mayor of Izmir Metropolitan Municipality, Izenergy Inc. is tasked with developing policies and practices centered on renewable energy aimed at reducing and eliminating climate change and carbon emissions.

The Izenergy Magazine also brings together political and academic experts, sectoral associations, chambers and non-governmental organizations and all stakeholders. Izenergy Magazine is developing with the aim of becoming a source of up-to-date sectoral information.

In this issue's Political Perspective section, there is an article on the International Day for the Elimination of Violence against Women by DISK President Specialist, Dr. Arzu CERKEZOGLU.

In our magazine, Izmir Metropolitan Municipality Department of Foreign Relations and Tourism Department of Urban Economy and Innovative Industries Branch Directorate Entrepreneurship Center Responsible Ms. Selen TRAK DURAK shares her work with us with the article titled "Green Entrepreneurship For An Innovative City".

Prof. Dr. Alper BABA, Vice Rector of Izmir Institute of Technology, talks about the importance of geothermal energy and its place in the future of Izmir.

In the text co-authored by Jessica Weir, High Expert from Guide House,



and Nesen Surmeli ANAC, Associate Director and Cool Up Program Manager, they discuss the Cool Up Sustainable Cooling program in detail.

In addition to our Metropolitan Municipality, the climate change resilience efforts of our district municipalities are also included in our magazine.

The report prepared by IMM Department of Environmental Protection and Control:

- Sustainable Energy and Climate Action Plan
- Green City Action Plan
- Izmir's Strategy for Living in Harmony with Nature

Booklets are published in sections of our magazine and shared with our readers.

With the dedication and efforts of all its staff, IZENERGY INC. is expanding its network.

IZARITMA (Izmir Treatment Technologies Inc.), which was recently established in partnership with IZDOGA, is rapidly developing the organization of our company and preparing to take responsibility for the construction and operation of treatment plants.

Our Energy and Water Resources Research and Application Centers have undertaken three separate engineering and consultancy projects and continue to develop their consultancy work.

In the European Commission's Climate Neutral and Smart Cities Mission, we have earned Izmir the title of Leading City. Carried out under the leadership of Izmir Municipality with the cooperation of all institutions, chambers, associations, NGOs, and other stakeholders representing the people of our city, Izmir will be a pioneer among European cities that best manages the process of reducing and eliminating the carbon footprint.

We participated in the 27th United Nations Climate Change Conference (COP27) and explained our work and all our other services within the scope of Climate Neutral and Smart Cities Mission.

Our European Union Projects Steering Group continues to work continuously with the European Commission, our local and foreign stakeholders.

Until next issue, together with Izmir residents, here's to clean, sunny, bright and healthy days ahead...

Specialist
Dr. Arzu CERKEZOGLU

DISK General President

AGAINST VIOLENCE AND HARASSMENT, CONTINUE THE STRUGGLE FOR AN EQUALITY AND A FREE LIFE!

On November 25, International Day for the Elimination of Violence against Women, women all over the world raise their voices against violence. Women's struggle today carries on the revolt and memory of the Mirabel sisters, who were brutally murdered by a dictator in the Dominican Republic on November 25, 1960, exactly 62 years ago. The memory of the Mirabel sisters lives on in the struggles of women around the world against violence, war, exploitation and discrimination.

The source of violence against women is inequality, sexism and discrimination. At a time when inequality, sexism and discrimination are on the rise in our country and around the world, violence against women is also escalating. Women are subjected to various forms of violence and harassment at home, at work, on the street and in all areas of life. Approximately one third of women around the world have been subjected to sexual or physical violence at least once in their lives, meanwhile in Türkiye, at least 900



women have been killed by men in the last three years alone. Women face physical, sexual, psychological, economic violence and harassment in homes, workplaces, streets, schools, hospitals and in every field of life because of gender inequality and patriarchal order.

Gender inequality is reproduced every day within the patriarchal order. Every discourse and practice that supports gender inequality increases violence against women, harassment and femicides. Despite women's struggle and resistance, male violence against women is trivialized, ignored and legitimized under the name of "family privacy".

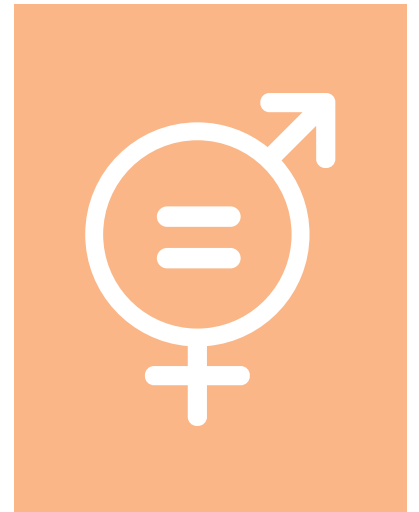
Attacks on women's rights persist. The government, with its decision to withdraw from the Istanbul Convention, fails to effectively implement Law No. 6284, and its covetousness of our acquired rights, leaves women unprotected against male violence.

It Must Be Emphasized That We Have Not And Will Not Give Up On The Istanbul Convention!

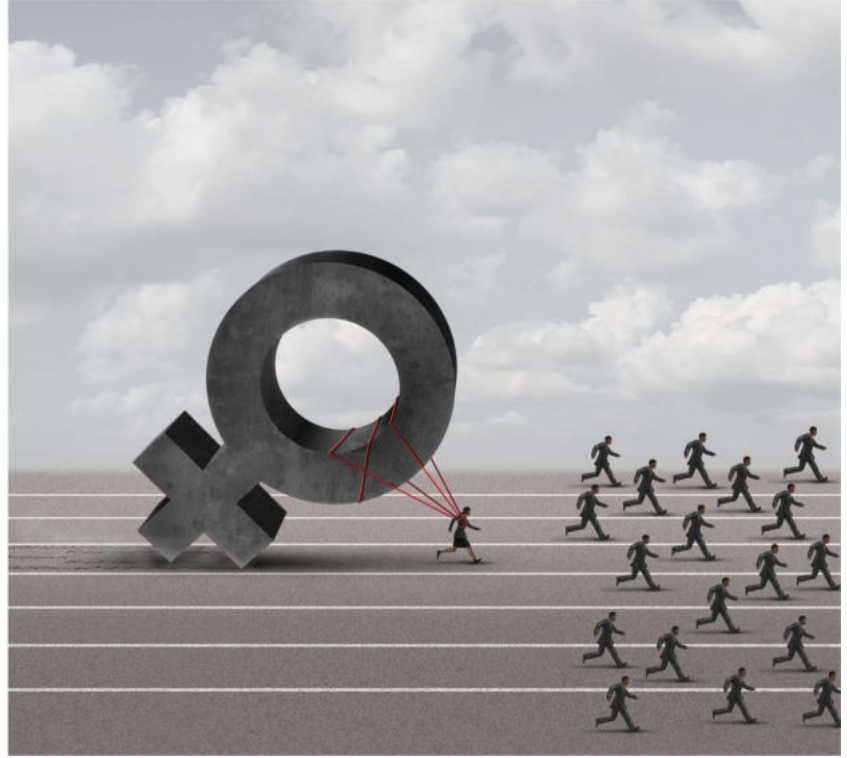
As we continue our struggle for the Istanbul Convention, we demand that measures be taken against violence and harassment in working life. The International Labor Organization (ILO) Convention No. 190 on the prevention of violence and harassment at work has been ratified by many countries. Our country, on the other hand, has still not ratified the convention, which includes gender - based, violence-based protection and prevention policies.

We continue our struggle for Türkiye's ratification of ILO convention 190 on violence and harassment!

While those who turn a blind eye to violence and prevent the effective implementation of laws with sexist penalty reductions, we see that the violence against us as women is not isolated, on the contrary, it is the result of gender inequality as a structural problem. We know that violence against women is political and cannot be separated from the struggle for freedom, democracy and rights, and we do not give up our rights.



As women of DISK, in an environment where attacks on our acquired rights are increasing, we state that we will continue to struggle with determination for the development of policies to ensure gender equality in all aspects and we reiterate our demands:



- The Istanbul Convention and Law No. 6284 must be effectively implemented!
- ILO Convention No. 190 on Violence and Harassment, which entered into force on June 25, 2022, must be ratified and effectively implemented!

- Sexist practices such as good conduct and provocation discounts in gender-based crimes and femicides must be abolished!
- Full-time and secure employment opportunities must be created for

women instead of the flexible and precarious forms of work proposed in the government's policies to increase women's employment.

- It is imperative that public policies are put in place to address domestic responsibilities, which are seen as women's responsibility and one of the biggest obstacles to women's participation in the labor force. Especially public institutions and local governments should open centers such as day care centers, kindergartens, sick and elderly care homes, and these should be defined as a right that everyone can benefit from free of charge.

- Parents working in the fields of compulsory service and production, regardless of public-private discrimination, should be given paid leave on a rotating and equal basis.

We salute the rebellion of our Iranian sisters who, on the occasion of November 25th, stood up for their rights and freedoms by launching a great resistance. Let no power forget that the women's struggle is the most integral part of the social struggle: Woman is life, life is resistance!

LONG LIVE WOMEN'S SOLIDARITY!

LONG LIVE THE ORGANIZED STRUGGLE OF WOMEN!



Izmir Metropolitan Municipality Izmir Sustainable Energy And Climate Action Plan

The following parts is an excerpted verbatim from the Sustainable Energy and Climate Action Plan (SECAP), which includes actions for greenhouse gas mitigation and adaptation to the impacts of climate change, funded by the European Union and supported by the European Bank for Reconstruction and Development (EBRD), which is one of the works carried out by Izmir Metropolitan Municipality to leave a cleaner and livable city for future generations, regarding the issue of energy and resource consumption for Izmir's urban sustainability and combating the climate crisis;

Physical and Social Characteristics

As a rapidly growing population centre, Izmir has become one of the most densely populated cities in Turkey with an estimated 360 inhabitants per km² in 2019. This is reflected in the 2020 population statistics, which shows that Izmir is currently home to 4.4 million people with the expectation that this will rise 6.9 million by 2050.²³

A 2017 spatiotemporal study of the impact of the temperature trends of the urban heat island effect in Izmir, produced the map portrayed in Figure 9, which demonstrates the extent of artificial surfaces across the province²⁴.

The city also has relatively little green infrastructure, especially within the central districts, with a low number of

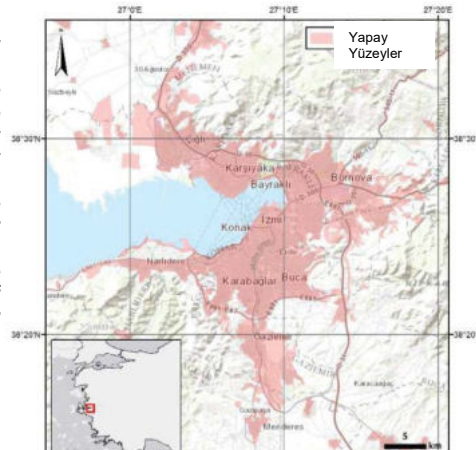


Figure 9: The artificial surface area of Izmir.2017²⁴.

open spaces and limited vegetation for shading and passive natural cooling. In combination with the large areas of hard artificial surfaces, this contributes significantly to the urban heat island effect as materials such as asphalt and concrete store heat longer, gradually releasing it back into the air at night causing higher than average night-time temperatures.

This is also exacerbated by Izmir's current building stock, nearly 50% of which was constructed before 1990 with poor energy performance and low levels of insulation, alongside a number of informal settlements with limited connectivity to basic infrastructure. In

order to maintain an adequate ambient temperature, cooling is required within the buildings in the form air conditioning units. Feeding warm air into the urban streets, air conditioning creates a feedback loop of rising heat which can result in serious health implications for Izmir's vulnerable population groups.

Izmir's population is made up of a number of different vulnerable groups, such as; the elderly, infirm, informal settlement residents, migrants and the homeless. As demonstrated in Table 5, the number of people above the age 65 has risen by 1.6% in just over 4 years, from 9.7% of the total population to 10.9%.

Up until 2019 it was reported that nearly 4 million refugees had entered Turkey, over 98% of whom are believed to be living in urban or semi-urban areas in informal or temporary settlements. Over 1.4 million of these refugees are believed to be under the age of 15. With Izmir being a predominant location for people from Syria, Iraq and Afghanistan, both as a place of residence but also as a stopping point for their journey into Europe, they form a key aspect of the city's most vulnerable people.

As highlighted in the 2015 data from the Izmir Potable Water Master Plan²⁷, 66% of the provinces water supply comes from groundwater resources such as the alluvial aquifers, with 34% from surface water - predominantly the Gediz Basin, Kuzey Ege Basin and KucukMenderes Basin²⁸ The alluvial aquifers of the Gediz river are an important groundwater resource for the center of the province, however they face increasing threats from pollution from chemicals, bacteriological and heavy metals as the river drains surrounding agricultural and urban areas.

SOURCE: ²³http://www.tuik.gov.tr/PreTablo.do?alt_id=1059

²⁴Doğukan Doğu Yavaşlı, Spatiotemporal Trends of Urban Heat Island on Surface Temperature in Izmir Turkey... American Journal of Remote Sensing.

Vol. 5, No. 3, 2017, pp. 24-29. doi: 10.11648/j.ajrs.20170503.11

²⁵http://www.tuik.gov.tr/PreTablo.do?alt_id=1059 - ²⁶<https://reliefweb.int/report/turkey/unhcr-turkey-fact-sheet-july-2019>

²⁷İZSU İçme Suyu Master Planı, 2017 - ²⁸Kucuksezgin, F. (2011) The Water Quality of Izmir Bay: A Case Study.

Table 5: Demographic breakdown of Izmir's population²⁵

| Year | Total Population | Age Group | | | |
|------|------------------|-----------|---------|-----------|---------|
| | | 0-14 | 15-24 | 25-64 | 65+ |
| 2014 | 4.113.072 | 786.917 | 596.171 | 1.383.088 | 399.294 |
| 2015 | 4.168.415 | 792.879 | 595.101 | 1.387.980 | 419.031 |
| 2016 | 4.223.545 | 799.921 | 591.821 | 1.391.742 | 432.681 |
| 2017 | 4.279.677 | 808.490 | 589.597 | 1.398.087 | 450.925 |
| 2018 | 4.320.519 | 814.280 | 581.396 | 1.395.676 | 470.098 |

Izmir province also has 6 surface water storage facilities with a total capacity of 156 hm³/ year in order to supply the province. Izmir's water distribution network extends around 201,525 m in length, supplying 98% of its population with potable water.²⁹ Water quality is monitored through monthly measures at 80 locations throughout the network by the Provincial Directorate of Public Health and IZSU, with 100% of all water samples a year complying with national potable water quality standards. A study in 2018 by the World Bank demonstrates the distribution of groundwater and surface water use across activities within Izmir province for 2013. Portrayed in Figure 10, this shows that 558 million m³ of water is used in total, 57% of which was used for agriculture, with drinking water consuming only 16%. (Figure 10)

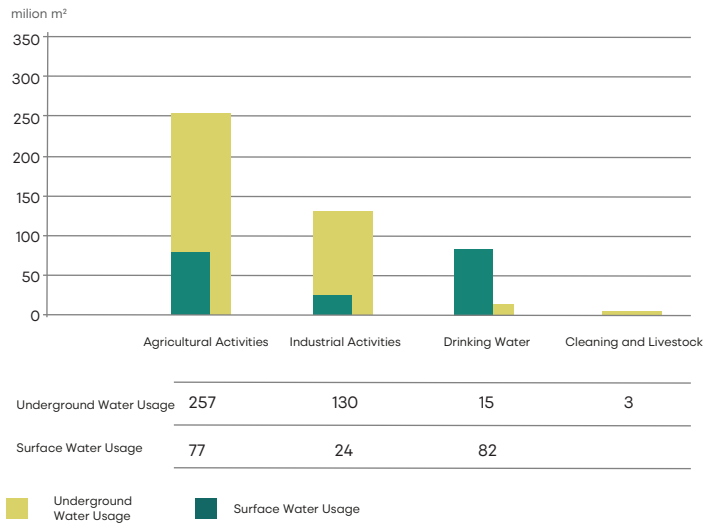


Figure 10: Distribution and annual use of groundwater and surface water in Izmir provinces (million m³/year)³⁰



Cigli Wastewater Treatment Plant

SOURCE: ²⁹IZSU Potable Water Master Plan
³⁰Izmir Mevcut Durum Analizi 2013, İZKA. <https://www.izka.org.tr/docs/strateji-analiz/mevcutdurumanalizi.pdf>



For the first time in Turkey, the European Bank for Reconstruction and Development (EBRD) provided a grant of €300,000 to Izmir to prepare a "Green City Action Plan". All stakeholders of the city were involved in the preparation of the Green City Action Plan. The following section is a verbatim excerpt from the Izmir Green City Action Plan, which was prepared with the contribution of more than 100 participants from Izmir Metropolitan Municipality units, public institutions, non-governmental organizations, universities and professional chambers, and approved by the parliament on 16 December 2020;

4. Actions for a Green Izmir

This section comprises of 47 actions that span 21 different "baskets", covering 9 different sectors. Of the 47 actions displayed, 28 of these have been broken down into detailed business cases, the remaining 19 are described at a high-level with the opportunity for IBB to develop at a later stage. Each action has also been aligned with an appropriate IBB Strategic Plan Objective 2020 - 2024 that articulates the municipality's specific aims for the coming years.

While actions for the GCAP have been developed collaboratively with IBB, EBRD and a range of stakeholders, as well as being in coordination with the IBB Strategic Plan and Izmir SECAP, they remain to be proposals only at this stage. **Although some can be implemented quickly, most will require additional detailed feasibility studies, funding or statutory approvals before implementation could commence.**

i. Types of actions

The actions included within the GCAP fall under the following categories:

-Capital projects: Infrastructure investments that IBB will undertake either using municipal funds or with support from donor agencies.

-Policy measures: New legislation or policy enacted to drive more environmentally friendly activities.

-Plans and strategies: Provide a more detailed roadmap for improving performance in a specific sector or area (e.g. a Climate Adaptation Plan).

-Behavioral measures: specifically seeking to shift behavior of a cohort in a targeted direction (e.g. towards

more public transport use). While policy measures may also have a behavioral component, actions in this category focus specifically on behavior-change, such as awareness campaigns.

-Training: Actions seeking to increase capacity through knowledge exchange.

-Enforcement: Measures seeking to improve compliance with policies and regulations, typically through monitoring and potential penalties.

ii. Action I.D / Sectors

Each action produced for the GCAP was allocated an I.D. based on the sector that they address. For the GCAP actions, this is as follows (Table 7).

The sector(s) within which the actions fall, have been highlighted within an orange box at the beginning of each basket. A full summary of all actions presented within the GCAP by Sector can be found in Appendix A.

The action I.D's were assigned when the initial long list of actions was developed and were retained throughout the prioritization, merging and stakeholder engagement process. As a result, the actions I.D's presented in this final report are not numbered consecutively and may have two presented for the same action, with I.D's not having been re-organized post prioritization for administrative purposes and to enable the tracking of actions through the prioritization process if required.

Table 7: Action I.D per sector for GCAP and SECAP actions.

| GCAP Sectors | Abbreviation for I.D |
|---|----------------------|
| Buildings | B |
| Energy Supply | ES |
| Industries | I |
| Land-use | LU |
| Solid Waste | SW |
| Transport | T |
| Water Cycle Management | WCM |
| Public Health | PH |
| Administrative Organisational Structure | AOS |

iii. Business Case Development
















Of the 47 actions presented, 28 have been selected for a business case to be developed. A business case provides more detailed information around the action, including (but not limited to); action owner, key stakeholders, steps for implementation and economic costing.

Where a business case has not been selected, a less detailed summary box has been produced. This provides; an action description, a prescriptive impact, action owner, timeframe and financing options.

iv. Environmental Value Logos

Each business case developed for an action includes a symbol that depicts the environmental values that have been positively affected. These are portrayed in Table 8 below.

Table 8: Legend for "Environmental Values" used in action business case development.

| State indicators | GCAP sectors |
|---|--|
| Air quality  | Buildings  |
| Biodiversity  | Energy supply  |
| Climate risk and adaptation  | Industries  |
| GHG Emissions  | Land use  |
| Green spaces  | Solid waste  |
| Soil quality  | Transport  |
| Water quality/availability  | Water cycle management  |
| Marine Biology  | |

v. Priority Environmental Challenges and Impact Level of the Action

In order to understand the main driver behind the action, the priority environmental challenges (as detailed in section 3.3.1) that each action address has been outlined. In addition to this, a scale of impact has also been

applied to each action, which demonstrates the assumed level of impact that the action will have in addressing the priority environmental challenges (Table 9).

vi. Benefits Assessment

In order to provide a greater level of detail around the potential benefits that could be achieved by the actions, criteria were developed which outlines descriptions for the following benefit categories:

-Health & Wellbeing: This covers public health improvement from more active lifestyles, reduced pollution and workplace safety.

-Social Inclusion: This covers access to basic services, skills development, social equity, and social fabric.

-Economic Development: This addresses economic growth, employment creation, economic efficiency, revenue saving / generation and avoided damages.

Each business case developed across the suite of actions provides reference to the criteria that has the ability to directly influence. The full matrix of criteria for the benefits assessment can be found in Appendix D.

vii. Economic Costing

Indicative economic costing has only been calculated for the 28 actions that have been selected for business case development by IMM. Calculated in Euros, the relevant assumptions made for the cost ranges calculated can be found in Appendix F. The costs estimated cover the following aspects where applicable to each action:

- CAPEX: Capital expenditure
- OPEX: Operation expenditure
- Design / Development: Other costs such as scoping / feasibility study.

viii. Learning from others

Where possible, at the beginning of each basket, a case study from another city or country across the globe has been developed and summarized within a green box. These case studies aim to provide inspiration about the benefits that can be achieved when a city makes a strong commitment to action around environmental sustainability.

ix. Other

In each detailed business case provided, "risk and / or vulnerabilities addressed" and "expected reduction in emissions" have been outlined where possible. Both elements refer to Izmir's SECAP 2020, where more detail can be found in the following appendices of the SECAP report:

-- 'Appendix E Risk & Vulnerability Assessment': A list of all climate change risks and vulnerabilities identified for the province of Izmir, across the twelve sectors identified.

- "Appendix H Summary of Mitigation Actions": A list of all mitigation actions, and the calculated emission reductions (tCO₂e) anticipated during implementation.

Tablo 9: Önceliklere göre eylemlerin etki düzeyini gösteren lejant

| Impact Rating | Description |
|---------------|--|
| High | Investment |
| Medium / High | Feasibility Study that will lead to feasibility investment |
| Medium / Low | Strategy and Policy Development |
| Low | Awareness raising |

IZMIR'S STRATEGY FOR LIVING IN HARMONY WITH NATURE

Excerpted verbatim from Izmir's Strategy for Living in Harmony with Nature.

IMM and its subsidiaries have developed plans and strategies with different focal points. These documents include agreements with different organizations and international partnerships. Plans and strategies projects change sustainable and integrate nature-focused solutions for Izmir's resilience and sustainable development. The content of the documents and their relationship with the GCAP and SECAP are set out in the table below (Table 5.1).

The content of the documents and their relationship with the GCAP and SECAP are set out in the table below (Table 5.1).

| Plan or Project | Timescale | Explanation | Relationship to GCAP and SECAP |
|---|-----------|---|---|
| IMM Strategic Plan 2020-2024 | 2020-2024 | Izmir's strategies are founded on the vision of being a city that rises on its historical heritage, strives to strengthen the bonds of Eastern and Western society, and shapes the future on the basis of environmentally friendly habits and social justice. The main goal of the strategy is to make Izmir one of the world's leading cities and to strengthen the city's natural wealth. | Priorities have been set in line with the IMM administration and the city's development. Environmental issues have been recognised. Attention has been given to prioritised and problematised actions. |
| IZSU Strategic Plan | 2020-2024 | The IZSU vision is to be a pioneering organization, integrated into the Izmir identity that prioritises science and up to date technology in managing the water ecosystem and seeks to pass on the natural wealth of the past to future generations in a way that does not harm nature and leaves behind a liveable future. | Actions are being developed in parallel with the Izmir Strategic Plan to increase sustainability in Izmir. |
| The Izmir Sustainable Energy Action Plan (SEEP) 2016 | 2016-2020 | This was prepared as an extension of the Compact of Mayors (CoM) under the auspices of the European Commission. The aim of the plan is to reduce Izmir's greenhouse emissions by 2023 by at least 20%, with close attention to internationally embraced standards and procedures. | It enables the determination of sustainable green city actions such as protecting and increasing important green areas under threat of climate change and natural disasters. Relevant actions and measures are formulated according to the problems identified in the plan. |
| A Framework for Climate Change Resistant Cities: the Green-Focused Adaptation Guide | 2019 | The aim of the project, in which the Landscape Research Association is a co-beneficiary, is to use, develop, and support the potential of the green infrastructure to create an urban space that is resilient vis-a-vis climate change. | The measures developed and problem areas identified by the project are reviewed and reflected in the recommended principal actions. |
| The Izmir Green Infrastructure Strategy | 2017 | This strategic document was prepared to reinforce and integrate with the IBB's in sustainable environmental investments and actions to create a sustainable transportation infrastructure, next generation parks and recreational areas, and harmonisation with the sustainable energy action plan and actions to reduce the impact of climate change. | These form the basis of water management and green infrastructure areas. |

| | | | |
|---|-------------|---|--|
| The Izmir Integrated Solid Waste Management Plan | 2018 | This plan was prepared to enable mid- to long term sustainable waste management and the formation of an appropriately funded integrated system. | This supports the proposals in the strategic plan related to solid waste management (such as adopting the most appropriate method in each district for the disposal of waste). |
| The EBRD & IFC Pilot Climate Change Adaptation Market Research Study-Turkey | 2013 | This study was carried out in order to better understand the needs of the Turkish private sector in creating resilience to climate change. It was financed by the EBRD and IFC and prepared as a partnership between the Turkish Association of Chambers and Exchanges (TOBB) and the Ministry of Environmental and Urban Affairs (CSB). | It references market -based mechanisms indicating solutions such as smart buildings to combat climate change and taking the necessary steps required to increase the efficiency of water resources. |
| The IMM Covid19 Resilience Action Plan | June 2020 | This report explains the actions commenced and precautions taken by the IMM in its new working model of "crisis municipalism". I) The preventative services offered at the moment of crisis by the Izmir Metropolitan Municipality. Ii) The current work being carried out in combating the pandemic. Iii) The monitoring and adaptation activities to be carried out during the normalisation period in the aftermath of the pandemic. | Aside from the opportunity to benefit from a green, more resilient return to health, the parallels to be drawn and lessons to be learned from the struggle against Covid 19 were noted. |
| The Izmir Transportation Master Plan (2017) | 2015 - 2030 | The plan contains the long-term planning, decisions and principles aimed at dealing with the current and anticipated issues. in line with the zoning plans and with priority given to public transport. | Orientations and priorities such as transport actions, the development of the public transport system, reducing the use of private vehicles, increasing the number of electric vehicles, and increasing the use of bicycles commuting are kept in the forefront. |
| The IZSU Drinking Water Master Plan (2017) | 2050 | The aim of this document is to develop a program to ensure a thorough examination of Izmir's drinking water procurement and distribution systems and determine the necessary systematic improvements to meet the current and future demand. This report is included within the IZSU Strategic Plan for 2015- 2019 and 2020-2024. | By forming a basis for Izmir's future water management plans, it forms the foundation for water management under the GCAP-SECAP. |
| The Little Menderes Basin Flooding Management Plan | 2019 | This plan has been prepared to assess the flooding risk in the Little Menderes Basin, and to reduce the negative impacts of flooding on human health, the environment, cultural heritage, and economic activity. | The plan will be beneficial with regard to water supply, wastewater, and drainage. |
| The UPI Cycling and Pedestrian Action Plan | 2017- 2030 | The action plan aims for Izmir to become a pioneer city in the field of motorless transportation. The plan includes goals such as increasing the use of bicycles among residents and tourists, creating safe, central areas for pedestrian use, and reducing greenhouse emissions from transportation. | Transport actions such as increasing the use of bicycles in commuting are emphasized in this plan. |
| The Sustainable Logistics Plan for the Historical City Centre | 2030 | This plan has been prepared to provide sustainability and enable the planning of logistic activities in the city centre, while preserving the historical atmosphere and character of the market area. | This plan will be beneficial with regard to reducing carbon emissions and making a safe, comfortable environment for increased pedestrian traffic. |
| The Sustainable Logistics Plan for the Historical City Centre | 2030 | This plan has been prepared to provide sustainability and enable the planning of logistic activities in the city centre, while preserving the historical atmosphere and character of the market area. | This plan will be beneficial with regard to reducing carbon emissions and making a safe, comfortable environment for increased pedestrian traffic. |
| UrbanGreenUP | 2017 | This is a project prepared with EU support under the aegis of the Horizon 2020 Program. Its aims are to develop, implement, and approve a methodology for reorienting urban planning towards nature and, in line with this, to reduce the impact of climate change, improve air quality and water management, and increase the sustainability of the city through the adoption of nature-based solutions. The project is currently being implemented in three pilot cities: Izmir, Liverpool, and Valladolid. | This will form a basis in the areas of climate change, air quality, water management, and green infrastructure. |

Izmir Metropolitan Municipality From IBB's Action Plans

Izmir joined the "Plastic Waste-Free Cities Network" initiated by WWF worldwide and involving 36 countries in December 2019 with the signing of the declaration of intent by Mr. Tunc Soyer, Mayor of IMM, and Izmir became the second city in the Mediterranean after Nice to commit to becoming a plastic waste-free city by 2030.

In this direction, we present you, our esteemed readers, the "Plastic Waste-Free City Action Plan" (excerpted verbatim) prepared as a result of the pilot applications initiated in Cesme.

1. Introduction

1.1 Main Idea and Purpose of the Izmir Plastic Action Plan

In 2019, Izmir Metropolitan Municipality took an important step in preventing plastic pollution by pledging full compliance with WWF's 'No Plastic in Nature' campaign. On October 4, 2019, Izmir joined the Plastic Waste Free Cities Network when Mayor Tunc Soyer signed the Declaration of Intent on board the WWF sailboat Blue Panda. Thus, it was announced that Izmir will gradually become a plastic waste-free city by 2030 at the latest.

In 2020, Cesme district was also selected as a pilot district within the

scope of the Plastic Smart Cities protocol signed between WWF-Türkiye (World Wildlife Fund for Nature) and Izmir Metropolitan Municipality, which committed to reduce plastic pollution by 30% by July 2022.

The purpose of the Izmir Plastic Waste-Free City Action Plan is to set out how and through which activities the city will achieve its goal of becoming plastic waste-free.

1.2 Plastic Action Plan Process

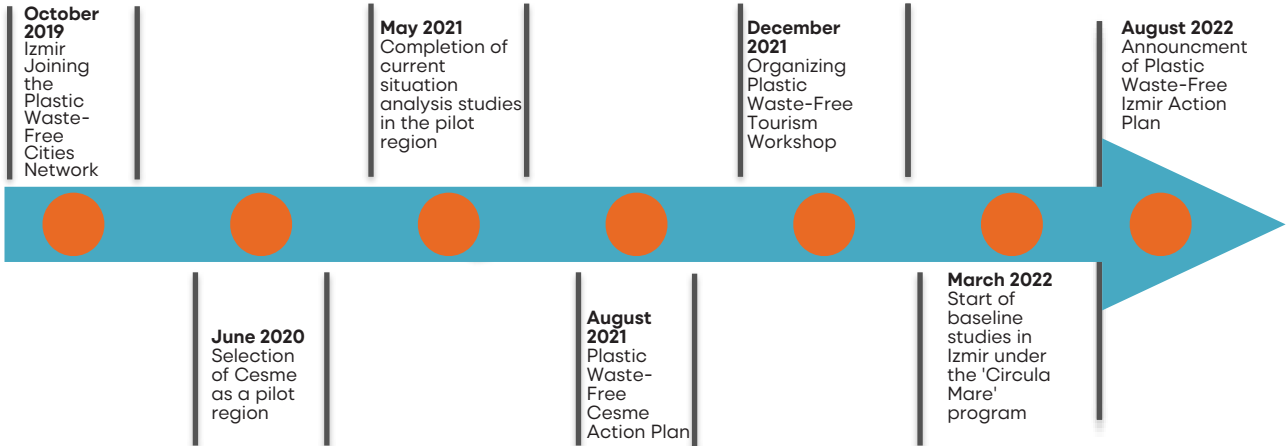
The Plastics Action Plan process follows a consistent methodology used by all cities preparing and implementing a Plastics Action Area. The methodology includes five main steps: (1) Plastic Waste Free Cities Statement of Intent, (2) Baseline Assessment, (3) Preparation of the Plastic Action Plan, (4) (5) Monitoring and Evaluation

After Izmir joined the Plastic Waste-Free Cities Network, Cesme was selected as the pilot district in June 2020. Since then, the studies have been carried out in parallel, primarily in Cesme District and in coordination at the scale of Izmir Province. In May 2021, the current situation assessment studies were completed in the pilot district and the

Final Report of Cesme Solid Waste Characterization Determination Study was prepared. On August 13, 2021, the 'Plastic Waste-Free Cesme Action Plan' was announced at the organization where the WWF sailboat Blue Panda visited Cesme. With this plan, Cesme laid out how it would fulfill its commitment to reduce plastic pollution by 30% by July 2022. Stakeholder engagement, which is an important part of the process, has been of primary importance in all of the work carried out, and a workshop was organized on 21 December 2021 in Cesme to bring together tourism businesses, NGOs, opinion leaders and other relevant stakeholders to discuss the actions to be taken to reduce plastic waste from tourism businesses and to create mechanisms to encourage waste reduction.

As a starting point, Izmir Metropolitan Municipality has started to work towards becoming a 'Plastic Waste Free Organization'. The 'Izmir Metropolitan Municipality Plastic Action Plan', which includes actions focused on reducing plastic both as a resource and as waste, and especially on preventing non-recyclable single-use plastics, was prepared and announced to departments and subsidiary companies.

The current situation assessment was obtained as a result of the work carried out within the scope of the 'CirculaMare' program. The CirculaMare program is a joint effort between the Alliance to End Plastic Waste (AEPW) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (German Society for International Cooperation) to combat the negative effects of the rapidly increasing amount of plastic waste in the Mediterranean, and aims to reduce the amount of plastic waste and pollution in the Mediterranean. Within the scope of the program, we cooperated with ISTAC Inc. to conduct a detailed baseline study on plastic waste flows and current plastic waste management practices in Izmir, and the studies that form the basis of this action plan were carried out in Cesme, Dikili, Selcuk, Konak, Karsiyaka and Cigli Districts.



1.3 City of Izmir

Izmir is located at the western end of Anatolia. As of 2018, it is a Metropolitan Municipality, home to a total population of 4,320,519. According to the Turkish Statistical Institute, Izmir is the third most populous province in Türkiye and the second largest metropolitan area in the Aegean Sea after Athens.

Izmir Province consists of a total of 30 districts. In the past, the central district of Konak was recognized as 'Izmir Municipality'. Subsequently, the boundaries of the metropolitan area were extended to include not only the surrounding urban areas, but also the entire provincial boundaries.

By 2022, Izmir's 11 central districts (Guzelbahce, Narlidere, Balcova, Karabaglar, Gaziemir, Buca, Konak, Bornova, Bayrakli, Karsiyaka and Cigli) constitute the third largest city in Türkiye with an urban population of

2,972,900. Izmir's 19 districts are divided into rural/agricultural areas: Aliaga, Bayindir, Bergama, Beydag, Cesme, Dikili, Foca, Karaburun, Kemalpaşa, Kınık, Kiraz, Menderes, Menemen, Odemis, Seferihisar, Selcuk, Tire, Torbalı and Urla. In 2019, the total population of rural areas was 1,394,351.

As of 2019, 31.85% of the population is between the ages of 0-29, 51.58% is between the ages of 30-64 and 16.57% is 65 years and over. 19.07% of the population are university or college graduates; 70.48% of the population leaves the education system after graduating from high school. The remaining 10.44% of the population drop out before completing high school, have no formal education or their status is unknown.

As of 2018, Izmir has 8 universities, 138 University Research and Application Centres, 13 Industrial Zones, 4 technology parks, 34 research and development centres and 4 design centres. Exporting goods to 191 countries and importing goods from 160 countries, Izmir's trade volume in 2018 was USD 17 billion. Izmir has the second highest number of foreign investment companies and foreign trade volume in Türkiye and ranks third in terms of skilled labor force (25% of the workforce has higher education) and production volume. Izmir is also a growing attraction center for foreign investors.

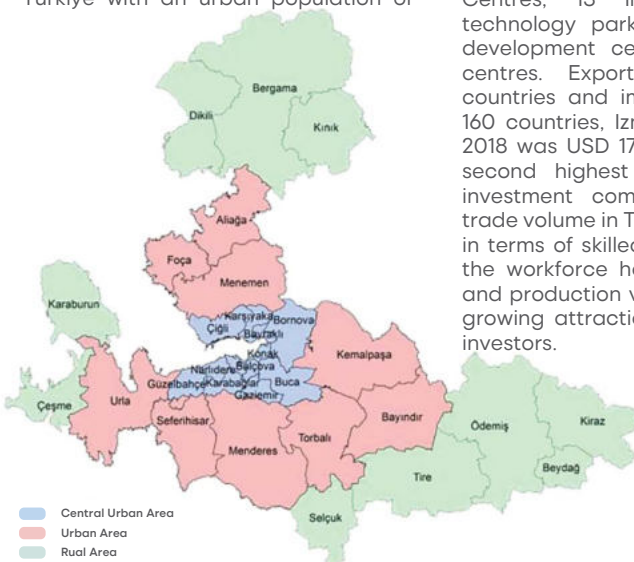
As of 2018, there are 2,595 foreign-owned enterprises in Izmir. In terms of overall employment, the share of those working in the services and industrial sectors is higher, while the share of those working in agriculture is lower. The main sectors in the city include weaving and textiles, food and beverages, beer and tobacco products, iron and steel, petrochemicals, automotive, cement, olive oil, fertilizer, agricultural machinery, ceramics and construction raw materials.

1.4 Izmir Metropolitan Municipality

Izmir is a port city founded in the 11th century BC. This characteristic has shaped the city's key development strategies. Izmir's strategies are built on the city's historical heritage, striving to strengthen the ties between eastern and western societies, and shaping its future with justice and environmentally friendly habits.

IMM's vision is to be a city that draws its strength from the harmonious coexistence of differences, a city that learns from and inspires the world, a city where prosperity, justice and harmony with nature are integrated into every aspect of life. Its mission is to provide an innovative municipal service that utilizes the power it receives from the people in a way that takes into account the common interests and sustainable development of the city.

Izmir Metropolitan Municipality has already identified plans and strategies that aim to provide residents with a high quality of life, ensure economic vitality and protect the environment. IMM and its subsidiaries are action owners and stakeholders in this action plan, which has been developed in line with these plans. The list of subsidiary companies and their fields of activity are given in the table below.



Map of Izmir Province, demonstrating urban and rural area locations.

Map of Izmir Province, demonstrating urban and rural area locations.

Table 1: Municipal Companies of IMM

| Company Name | Area of Activity | Website |
|---|---|---|
| IZFAS - Izmir Fair Organisations, Art and Culture Services Company | Organisation of culture, fairs, educational, artistic, sportive and other activities and participating in related activities. | http://www.izfas.com.tr |
| EGE SEHIR PLANLAMA INC. - Aegean Urban Planning Company | Urban planning, transportation master planning, collective and trade centre constructions, preparation of architectural and engineering projects, monitoring and consultancy services. | http://www.egesehirplanlama.com.tr |
| IZDENIZ INC. - Izmir Maritime Enterprises, Transportation and Tourism Company | Maritime public transport services, preparation, organisation and management of maritime transportation potentials. | http://www.izdeniz.com.tr |
| IZMIR METRO INC. - IMM Subway Administration, Transportation and Construction Company | Operation and management of every kind of railed underground and aboveground urban transport services. | http://www.izmirmetro.com.tr |
| IZDOGA INC. - Environmental Protection, Rehabilitation, Consultancy and Project Services Company | Protection and rehabilitation of the environment, protection of land and natural resources in metropolitan and rural areas, protection of water, earth and air against pollution, services for health urbanization. Surveying, consultancy, project design, facility construction for urban potable water supply and for the reclamation of ground and surface water. | https://www.izdogacom.tr/ |
| UNIBEL INC. - Special Education and Information Technologies, Culture, Publicity and Publishing | Data processing and related works for private and legal companies and public institutions. | http://www.unibel.com.tr |
| IZELMAN INC. - General Service Car Parks, Special Education, Fire Brigade and Health Services Company | Recruitment, portorage, cleaning and maintenance and engineering staff recruitment services for companies, public institutions, banks, hotels, restaurants and tourism facilities. Organization of parks, gardens, recreational areas and their lighting, maintenance and repairing works, and consultancy services. Search and rescue services after disasters. | http://www.izelman.com.tr |
| IZULAS INC. - IMM Izmir Transport Services and Machinery Company | Preparation, organization, management and tendering of the management works for public transport services in Izmir metropolitan area. | http://www.izulas.com.tr |
| IZBETON INC. - IMM Concrete, Asphalt, Energy Generation, Distribution Facilities, Water and Sewage Company | Construction of new roads, boulevards and bridges, paving existing roads, stormwater drainage systems and sewage systems. Alongside the production of road materials, construction and maintenance of parks, construction of sports fields, infrastructure, superstructure and engineering structures for settlement areas and related services for urban infrastructure. | http://www.izbeton.com.tr |
| GRAND PLAZA GIDA TURIZM INC. - IMM Grand Plaza Food, Hotel Management and Tourism Company | Constructing and establishing tourism facilities throughout Turkey, investing in tourism facilities and operating them. | http://www.grandplaza.com.tr |
| IZENERGY INC. - Human Resources Recruitment, Maintenance, Repair, Energy, Security Services and Disinfection Company | Extraction of thermal groundwater and geothermal energy resources, recruitment, cleaning and maintenance services for companies, public institutions, banks, hotels, restaurants and tourism facilities. | http://www.izenerji.com.tr |
| BAYSAN INC. - Izmir Bayindir Province Industrial | Founded in the Bayindir district in collaboration with the government, NGO's and citizens. Olive oil and brick factories were established by the company. Currently, the aim is to establish research centers, educational institutions, and facilities for creating brands and markets, with the mission of sustainable agriculture and healthy food. | |

2. Actions

2.1 Compliance with Existing Plans

In 2020, Izmir Metropolitan Municipality prepared the 'Izmir Green City Action Plan' and 'Sustainable Energy and Climate Action Plan', which comprehensively address urban environmental issues and identify actions for solutions.

The Izmir Green City Action Plan (GCAP), together with the Izmir Sustainable Energy Action Plan (Izmir SECAP), constitutes Izmir's roadmap on environment and climate change. The GCAP and SECAP reports are complementary to each other. A total of 61 actions are carried out together in both plans, covering land use, waste management, buildings, environment and biodiversity, energy, public health, civil defense and emergency, water management, agriculture and forestry, tourism and transportation sectors.



GCAP (Green City Action Plan)

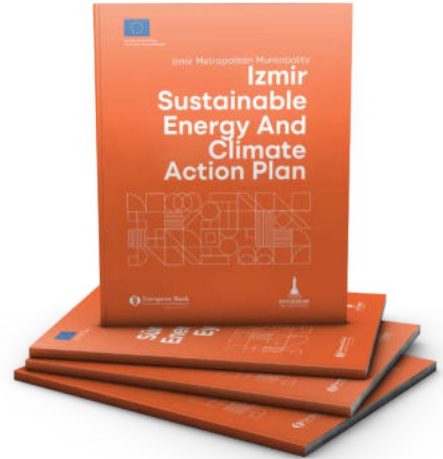
The purpose of the Green City Action Plan (GCAP) for Izmir is to identify environmental challenges, as well as the most urgent ones that need to be addressed, create a vision, and develop projects that will enable a greener future for Izmir. The Izmir Green City Action Plan was prepared in line with the Izmir Metropolitan Municipality Strategic Plan

(2020-2024) with the contributions of more than 100 participants over a period of 18 months. The plan was approved and entered into force with the Assembly Decision dated December 16, 2020.

SECAP (Sustainable Energy and Climate Action Plan)

Izmir Metropolitan Municipality signed the Covenant of Mayors in 2015 and committed to reduce greenhouse gas emissions by 20% by 2020. Within the scope of combating climate change, Izmir Metropolitan Municipality reviewed its greenhouse gas reduction and climate adaptation targets in line with European Union strategies and renewed its commitment to the Covenant of Mayors with the Assembly Decision dated 05.08.2019 and numbered 05.628 to reduce greenhouse gas emissions by 40% by 2030 and to increase the resilience of our city by adapting to the effects of climate change.

Within the scope of this commitment, the Izmir Sustainable Energy and



and professional chambers in accordance with the methodology of the Covenant of Mayors with the support of the European Bank for Reconstruction and Development (EBRD), financed by the European Union through the Instrument for Pre-Accession Assistance (IPA) Component 1.

Izmir Plastic Action Plan (PEP)

The actions of the Izmir Plastics Action Plan are aligned with the strategic objectives set out in the IMM Strategic Plan 2020 - 2024, and with the GCAP and SECAP. The actions covered by the Plastics Action Plan are organized under three themes. In cases where the actions specified in each PAP theme overlap with the actions defined in the GCAP and SECAP, the actions in the GCAP and SECAP are also given under the relevant theme heading. The actions in the respective SECAP, GCAP and PAP are shown in blue. The actions specific to the PAP are shown in orange. There are 21 actions in the Izmir Plastics Action Plan, 14 of which are specific to this plan.



Climate Action Plan, which includes urban and institutional greenhouse gas inventory, risk and vulnerability assessment, greenhouse gas mitigation and climate adaptation actions, has been prepared with the participation of our municipality's units, affiliated institutions / organizations and companies, relevant public institutions, NGOs, universities

Lesser Kestrel



Alper TUYDES

The lesser kestrel is a predator that lives as a colony in villages, ruins and rock crevices.

WHAT IS CARBON FOOTPRINT?

A carbon footprint is the total greenhouse gas emissions caused by a product, expressed as "carbon dioxide equivalent" (CO₂e). This unit expresses the global warming effect caused by the same amount of CO₂.

Carbon footprint analyses measure the amount of greenhouse gases emitted over the entire life cycle, including materials, production, transportation and end-of-life disposal.



TIPS ON REDUCING YOUR CARBON FOOTPRINT

Responsible, sustainable and circular consumption
adopt, avoid single-use
products and recycle.

Be aware of the importance of
reducing our carbon footprint
and share your
awareness with others.

Reduce food waste,
eat less meat
Choose local,
sustainable production.



Travel in more sustainable ways,
such as public transport,
cycling or walking, and
choose environmentally
friendly vehicles.

Improve
the energy efficiency of
our home.
Boost your energy efficiency:
get low-energy appliances
and avoid wasting energy.

Opt for renewable energy and
install solar panels
in our home or in your apartments.

THE IMPORTANCE OF GEOTHERMAL ENERGY AND ITS ROLE IN THE FUTURE OF THE CITY OF İZMİR

Energy is among the foremost challenges for all countries of the world today. The main reasons for this are population growth, industrialization and rising living standards. A large part of the rapidly increasing energy demand all over the world can only be met by fossil fuels and hydraulic energy for the time being. It is expected that the diminishing reserves of fossil fuels will be exhausted in a short period of time and that they will be replaced by new energy sources. In recent years, all countries attach importance to the development of new energy sources and the most important of these energies are renewable energy sources.

The use of geothermal energy for thermal purposes has been known since ancient times, but its use as an energy source started for the first time in 1904 with the establishment of a small-scale power plant in the Larderello dry steam geothermal field in Italy. Afterwards, the use of geothermal energy for different purposes (such as residential heating, greenhouses, thermal tourism, fishing, road heating) has become widespread in many countries. For this reason, in recent years, the use of geothermal energy has been increasing rapidly over the world as well as all our country. Geological investigations carried out for the exploration of geothermal resources have revealed that this resource is extremely important for the national economy. The resources in geothermal systems, which have developed due to diversity in geological structure, feeding and discharge conditions, geological elements and geodynamic processes, are distributed all over Türkiye in close relation with young tectonism and volcanism (Figure 1). Most of the existing resources in Türkiye are located in Western Anatolia. However, given the activity and distribution of active faults and volcanism, there is a geothermal - related resource in almost every region of Turkey. Therefore, fault and fracture systems and volcanic activity are geological elements that directly affect the formation mechanisms of geothermal resources.

Prof. Dr. Alper BABA

Vice Rector of Izmir Institute of Technology



Izmir Province, located in the west of Türkiye, is situated in the Mediterranean earthquake zone, between the African and Eurasian plates, within complex deformations formed as a result of continental collisions. Young volcanic structures and seismic belts are located along these plate boundaries. Within these zones, there are active faults that allow both fluid and heat circulation. The distribution of geothermal resources in Izmir generally coincides with the distribution of fault systems, young volcanic structures and

Izmir province is one of the rare places where both fresh fruits and vegetables grow abundantly and geothermal resources are available. Data show that the potential for dried fruits and vegetables is high in Izmir (Figure 2).

One of the best examples of geothermal district heating in Turkey is the Balçova - Narlıdere geothermal

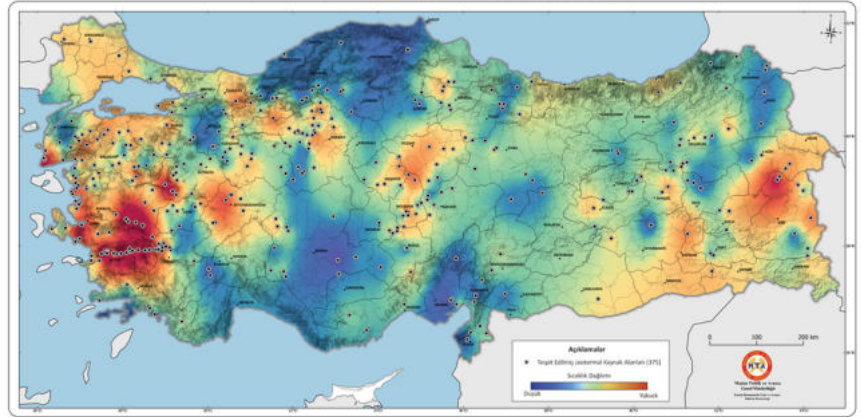


Figure 1: Geothermal resource areas and temperature distribution in Turkey (MTA, 2019).

hydrothermally altered areas. Within the borders of Izmir province, there are areas with low and high geothermal energy potential due to their geological and tectonic formations. Geothermal resources in these areas are utilized in different fields such as electricity generation, heating, cooling, greenhouse cultivation, drying, and thermal tourism. Some of the best examples of geothermal resources for greenhouse cultivation (Dikili Geothermal field) and urban heating (Balçova-Narlıdere Geothermal field) in the world are within the borders of Izmir province. Effective utilization of these resources will have a serious impact on the development of Izmir and will provide serious input to the national economy.

field. In this field, 38.460 K.E. heating is provided. Izmir Geothermal Energy Ind. and Trdg. INC.'s geothermal district heating in Balçova-Narlıdere prevents greenhouse gas emissions of approximately 78,920 tons of CO₂ annually compared to the current use of natural gas.

Izmir is a city of thermal tourism and Agamemnon, Allianoi, Asklepion, Karakoc, Cesme-Sifne (Reisdere), etc. since ancient times, the share of thermal tourism sector in the tourism sector is gradually increasing. Similarly, Dikili, Seferihisar and Foca are also thermal tourism centers.

According to the data obtained, the following can be realized: Thermal tourism, health tourism, heating and cooling in the Peninsula, heating, greenhouses, thermal tourism and electricity generation in the Bakircay system, greenhouse and drying in the Kucuk Menderes Basin system, heating and solar cooling in the Izmir Bay system, greenhouse and drying in the Gediz Basin system, thermal tourism, greenhouse, solar drying and electricity generation can be realized in the Cumaovasi Basin system. However, in the implementation projects, it is necessary to revise the existing information on geology for geothermal resource exploration, to plan, implement and evaluate geophysical studies in line with the information collected, and to carry out additional geophysical studies in some areas, especially for structural elements. In some of the sites examined, there is data on indicators such as hydrothermal alteration, volcanism and tectonic control that can be interpreted as geothermal resources, geothermal resource formation on the surface. Therefore, one of the most important issues is determining the presence, geometry and depth of the heat source that will strengthen the possibility of high temperature capture. In order to test such a possibility, geophysics-MT study, utilized in the evaluation of the heat source, which is one of the most important components of geothermal systems, and used to determine the depth and geometry of the heat source. Thus, should be tried together with seismic measurements. Evaluation of the results of these methods together with geological and hydrogeological data will facilitate the interpretation and reduce the risk.

In order to manage the geothermal systems in Izmir province in a sustainable and environmentally friendly manner, the system should be investigated, operated and protected with a holistic assessment. The development of basin and system-based management systems is also very important for the efficient use of the resource and the health and control of the enterprises.

In order to sustain the geothermal resources in the province with a holistic approach, it is important to establish the necessary infrastructures for collecting, updating and monitoring data.

In addition, informing and raising awareness about geothermal in Izmir province, learning innovative methods, identifying mistakes will minimize

problems and eliminating the lack of communication. Therefore, approaches to improve, reduce and/or eliminate the current situation are presented below.

Firstly, plans should be made for establishing a training center in Izmir province, if possible, in Balçova-Narlıdere Geothermal field, the whole public should be informed about beneficial examples (such as heating, cooling, thermal tourism). In addition, it is of utmost importance to create areas for the public to see and receive information on greenhouse cultivation in Dikili geothermal field and on electrical energy in Seferihisar geothermal field.

As an interdisciplinary field, geothermal energy has no basic training. Graduates of engineering and geosciences fields can only receive education in geothermal energy in their graduate education. Therefore, trained manpower in the sector is not sufficient. Especially municipalities have very limited employment of engineers and technical staff trained in this field. With the establishment of a "Geothermal Energy Institute" in Izmir, training and implementation projects can be developed at various levels.

As a result of the surveys measuring the concerns of local people and their level of knowledge about geothermal, it has become possible to provide them with more information and eliminate their concerns with the determined communication strategy.

Again, it is important for companies to give priority to such surveys at the beginning of investments in order to measure the current level of concerns

and knowledge of the public and to analyze their need for information. If the need for information is identified and the problem is caused by information pollution (specific to each problematic settlement), it will be possible to solve the problem through systematic and regular communication.

Since social attitudes towards geothermal technologies vary over time and from place to place, stakeholders' opinions need to be continuously and widely evaluated. It would be better to have databases and case studies on this issue.

In terms of raising public awareness and preventing information pollution, it is important that the Geothermal Research and Application Centers of the universities in the province, with the support of Izmir Governorship and Izmir Metropolitan Municipality, provide regular training to the supervisory public institutions and transfer international good practices. In line with a "Communication Strategy Plan" created jointly with local public institutions and organizations, including facility owners, it is important to position a communication unit in settlements such as villages/neighborhoods and districts where farmers can be informed or receive assistance.

Organizing in-house training programs by experts in the field and people involved in the implementation processes for technical personnel working in the private sector involved in the exploration, operation, monitoring, protection and sustainability of geothermal resources will be beneficial.

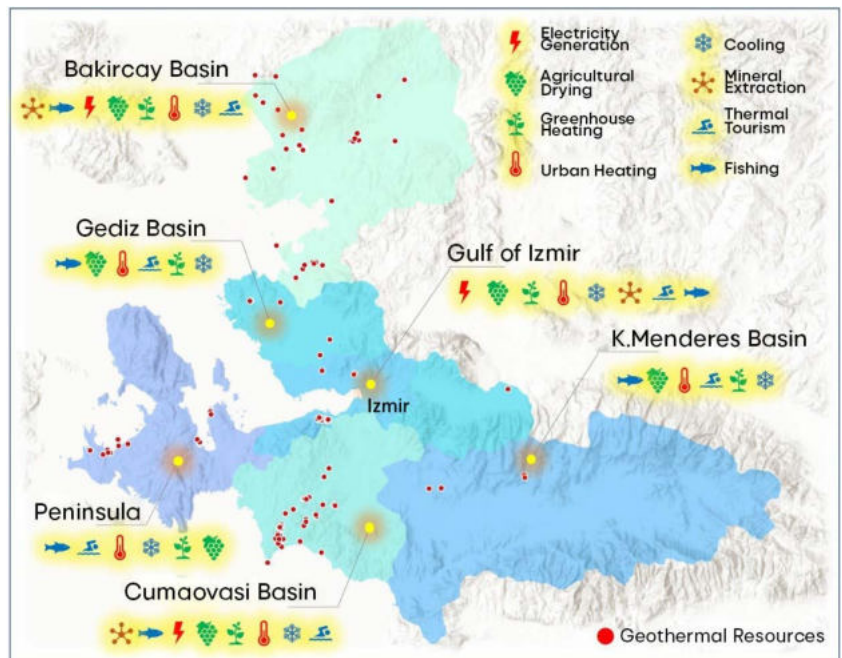


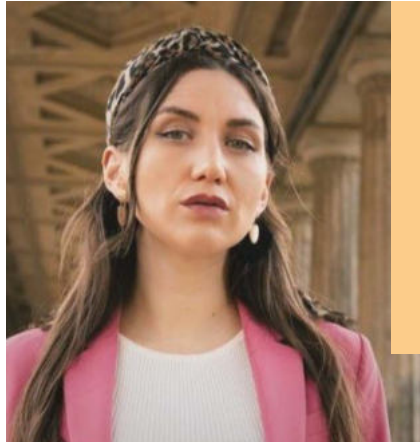
Figure 2: Basin-based utilization area assessment of geothermal fields in Izmir (Baba et al., 2022).

COOL UP TAKES ON CLIMATE AND OZONE PROTECTION WITH SUSTAINABLE COOLING

1. Cooling difficulty

Our planet is rapidly warming and rising temperatures will heighten the cooling demand. This situation becomes more important with the increasing population, urbanization, and higher living standards. As the cooling demand rises, indirect greenhouse gas emissions caused by electricity consumption will also increase. Considering the direct emissions from refrigerants with high ozone depletion and global warming potential, the impact on the climate becomes even greater. Such refrigerants are still used in most of today's air conditioners and refrigerators, although alternatives are available. The challenge in the field of refrigeration is to break this vicious cycle, overcome the increasing demand for cooling, while reducing its negative effects on the ozone layer without compromising the international climate targets set in the Paris Agreement and the Montreal Protocol and the Kigali Amendment.

A large-scale program is being implemented to support the Turkish government and the refrigeration industry to address the refrigeration problem in Türkiye. Since its inception in 2021, the Cool Up: Accelerating Sustainable Cooling program is in full swing and looks forward to an exciting year in 2023. The program supports Türkiye, Egypt, Jordan, and Lebanon in adopting sustainable cooling technologies and using natural refrigerants. Thanks to this accelerated technological change, Cool Up aims to reduce cooling demand and ensure early implementation of the Paris Agreement and the Montreal Protocol Kigali Amendment, thereby stimulating both global climate and ozone



Jessica Weir

High Specialist,
Guidehouse

Nesen Surmeli ANAC

Assistant Director,
Cool Up Program Manager,
Guidehouse



agendas in the MENA region and Türkiye. The program, funded by Germany's International Climate Initiative and implemented by a consortium of various specialist organizations led by the global consulting company Guidehouse, enables the exchange of technology and knowledge at an international level. Guidehouse works in close cooperation with UNDP Turkey and Istanbul Aydın University for the implementation of the program in Türkiye. Program activities in Türkiye are carried out by UNDP Türkiye.

2. Beating the heat with natural refrigerants

The evolution of refrigeration has entered a full cycle. Natural refrigerants such as carbon dioxide and hydrocarbons, popular in the 1800s, were once considered dangerous due to safety concerns, which led to the invention of new solutions in the 1930s: chlorofluorocarbons

(CFOs). When it was discovered in the 1980s that CFCs depleted the ozone layer, new technologies such as hydrochlorofluorocarbons (HCFOs) and hydrofluorocarbons (HFCs) were created. However, while HFOCs and HFCs do not harm the ozone layer, they turned out to be harmful to the environment as they have a higher global warming potential than even CO². Now, thanks to better and safer cooling technology, natural refrigerants can be reused and reduce the effects of climate change. Safety standards and cooling technologies have come a long way since the 1800s, making the use of both carbon dioxide and hydrocarbons completely safe. The use of proven natural refrigerants in place of HCFCs and HFCs can prevent an increase in global temperature rise by as much as 0.4°C (0.7°C) by the end of the 21st century, while also enabling countries to meet their Kigali Amendment and Nationally Determined Contributions commitments. [1]

Such sustainable cooling solutions are needed globally, but warmer regions are particularly vulnerable to the effects of climate change and Türkiye is no exception. Both energy consumption for cooling and regional temperatures have increased over the past decades and this increase is expected to continue if the same cooling path is followed. The Cool Up program addresses these rising temperatures by combining natural refrigerants, energy efficiency measures, modern passive cooling measures and more, creating an equitable, low-energy, low-impact cooling sector in the region.

3. Think globally, act locally

Türkiye has made progress in meeting its commitments to the Montreal Protocol and has implemented various relevant programs, laws and other policy tools. Türkiye is a party to the Montreal Protocol and ratified the Kigali Amendment on 11 November 2021. The country's Intended Nationally Determined Contribution (INDC) specifically highlights the country's 2018 National Energy Efficiency Action Plan (NEEAP) and refers to cooling. Turkey has adopted a regulation to support the phasing out of ozone depleting substances (ODS) and has issued a regulation on fluorinated gases in line with EU policy. Türkiye has also aligned its energy efficiency regulations, standards and labels for the building, appliance, and equipment sectors with the EU Energy Efficiency Framework. Türkiye's efforts to phase out OTIMs highlight why it is an important and emerging actor for the European and Middle Eastern HVAC markets [2].

While Cool Up provides a platform for Turkey to showcase this progress towards international climate and ozone targets, it also provides the participation of actors from the international level to the local level. Recognizing Opportunities for Sustainable Cooling, Cool Up's first regional conference, ignited knowledge sharing among stakeholders in September 2022. From Türkiye, Egypt, Jordan, Lebanon, Germany, UK and MENA region around 200 representatives met in Istanbul for two days to discuss how to incorporate sustainable cooling solutions into their climate agenda. At the conference,

Deputy Chairman of the Climate Change Presidency of the Ministry of Environment, Urbanization and Climate Change of Turkey, Dr. Albulkadir Bektas made the opening speech of the plenary session. Many representatives from Turkey participated in the panel discussions to highlight their importance for Turkey, including financing sustainable cooling technologies, promoting energy efficient and passive cooling technologies, establishing a sustainable cooling service sector, and regional opportunities in sustainable cooling.

Metropolitan Municipality and Izenergy are directing their efforts towards the Izmir Sustainable Energy and Climate Change Action Plan. Given that cooling is one of the areas of high energy demand in Izmir and the Aegean region, Cool Up aims to connect country and city level efforts in Izmir to accelerate the transition to a sustainable cooling market. This transition will strengthen both the city's resilience in line with the Climate Action Plan and the economy of one of the most dominant sectors in the region.

The Cool Up program action plan includes developing new business



Izenergy Chairman of the Board of Directors Ercan Turkoglu with Cool Up Program Manager Nesen Surmeli-ANAC at COP27

Connecting with Turkish stakeholders and decision makers was also a priority for Cool Up at the 27th session (COP27) of the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties held in Sharm El Sheikh, Egypt in November 2022. Cool Up program participated in 8 side events at COP27, 2 of which were in the Turkish pavilion.

Izmir plays a leading role in sustainable city and urban development in Türkiye. Izmir Metropolitan, having been awarded as one of the selected cities in the European Commission's Climate Neutral and Smart Cities Mission, Izmir

models for sustainable cooling through 2023, demonstrating successful implementation of natural refrigerants and energy efficient cooling, identifying and acting on the most impactful areas in collaboration with the refrigeration and cooling sector, educational institutions, research and development, funding institutes, as well as national and local government bodies. In this context, Izmir plays an important role as a showcase for its ongoing commitment to becoming a climate neutral city.

For more information, visit the Cool Up website and follow us on LinkedIn, Twitter and YouTube. You can also sign up for our newsletter.

GREEN ENTREPRENEURSHIP FOR AN INNOVATIVE CITY



Selen Trak DURAK

IMM Entrepreneurship
Center Izmir Unit Responsible

The theme of 2021 ; "Agricultural Entrepreneurship"

In line with the vision of "Another Agriculture is Possible" of Tunc Soyer, our Izmir Metropolitan Mayor, the theme of the first year was determined as "Agricultural Entrepreneurship". With this program, which has been carried out since June 2021, it is aimed to develop innovative solutions for the problems experienced in the fields of food supply, agricultural production, marketing and rural development in Izmir.

In line with these goals; Izmir Metropolitan Municipality Entrepreneurship Center With the Agricultural Entrepreneurship Program, which is the first entrepreneurship program of Izmir; It was aimed to produce innovative ideas and solutions in the fields of "crop and animal production", "agricultural logistics, marketing and branding", "information and technology in agriculture", "rural development, cooperatives".

Within the scope of the Agricultural Entrepreneurship Program carried out with the technical support of universities in Izmir, a total of 52 hours of basic entrepreneurship training was given to 27 teams consisting of 69 entrepreneurs. On the other hand, 14 teams (54 entrepreneurs) who successfully completed these trainings went to the next stage and were entitled to receive 47 hours of advanced agriculture and food entrepreneurship training and to develop their projects with the support of the program mentors.

Having completed these stages, our entrepreneurial teams attended the investor presentation day on December 17, 2021. Biopols, the project of our Entrepreneur team, which is the first of this program, is a company that acts with concerns about environmental problems. Its product line revolves around

Due to the increasing climate crisis and limited natural resource problem from past to present; It has become an important issue to come up with new ideas to build a sustainable future that produces innovative solutions to the problems faced by our world and the global society.

For this reason, ideas that can produce environmentally, socially, and economically sustainable solutions in the light of an innovative approach to the climate crisis have more repercussions in the entrepreneurship ecosystem. Environmentally conscious green entrepreneurs, while turning these problems into an opportunity rather than seeing the negative situation as an obstacle, offer environmentally beneficial, high value-added and sustainable businesses and seek more innovative and sustainable ways to have a green ecosystem.

Izmir, a city always susceptible to the environment and climate crisis, has shown its contribution to global planning and studies as the first city to be included in the Green Cities Program with the "Izmir Green City Action Plan". Being an important part of this program, Izmir works to contribute to the program with firm steps by making important regulations and decisions in this area.

Within the scope of Izmir Metropolitan Municipality Strategic Plan; To ensure that Izmir has a vibrant economy as a result of a series of activities carried out in accordance with the Izmir Green City Action Plan, while attracting investors and innovations from different parts of the world; Entrepreneurship Center Izmir opened its doors to entrepreneurs in 2021 with the aim of building an urban climate in

which innovative ideas, thoughts, technology and industry emerge in order for Izmir to be a city that produces innovation at the same time.

The Entrepreneurship Center Izmir, which is in line with the definition of Sustainable Development defined in the UN 1987 Brundtland Report, has been integrated with the Izmir Green City Action Plan within the scope of the Izmir Metropolitan Municipality Strategic Plan; It carries out thematic programs that carry out studies to meet regional and sectoral needs with an entrepreneurial perspective in thematic areas determined every year, taking into account the strategic priorities of the city.

About the Entrepreneurship Center Izmir

The Entrepreneurship Center Izmir, which we, as Izmir Metropolitan Municipality, have realized in cooperation with TUSIAD, continues on its way with the technical support of universities, which are private sector partnerships, connections of entrepreneurs in the entrepreneurship ecosystem. It is an incubation center that will enable it to strengthen the economy and carry out studies to meet regional and sectoral needs with an entrepreneurial perspective in thematic areas determined every year, considering the strategic priorities of our city.

Within the framework of the program, entrepreneurs; work area, the opportunity to work with industry - experienced mentors, training/events suitable for the program content, support packages and opportunities to establish business contacts are provided. A follow-up mechanism has been established to meet the business ideas of entrepreneurs who have completed the program with investors.

bio-based polymers and all-natural molecules produced from plants. The company's ultimate goal is to replace non-biodegradable synthetic materials with natural eco-friendly ones.

Biopols develops packaging technologies to reduce the carbon footprint of the non-biodegradable and non-recyclable packaging industry, while reducing toxic polymeric molecules that accumulate in the human body. Our first product, Biopols Paper, consisting of a bio-based polymeric composite material enriched with natural molecules, exhibits antibacterial and antioxidant effects and is a strong candidate to replace commercial butcher paper as well as petrochemical polymeric packaging materials in the long run. The aim is to reduce the negative environmental effects of non-composite polymers while increasing the shelf life of meat products.

"Agriculture is among the main sectors of Izmir with a total production value of 8.1 billion TL. Izmir Metropolitan Municipality, which aims to grow the city's economy by protecting nature; The municipality predicts that Izmir is already experiencing the effects of drought and this will increase with climate change. In Strategic Goal 5 under the title of Nature - climate, in line with Strategic Goal 5.2 to "make Izmir one of the world's exemplary cities of living in harmony with nature", "action will be taken in all fields, especially agriculture and energy, in order to adapt to climate change and its effects." making plans. Within the scope of these plans, comprehensive ideas and studies that will increase the resilience of agriculture and forestry against drought and reduce the effects of factors that worsen the situation created by industry are of great importance."

The theme of the year 2022; "Smart and Sustainable Transportation"

The theme of the center, which aims to initiate an innovative transformation in their cities with the motivation of entrepreneurs to realize their business ideas, has been determined as Smart and Sustainable Transportation. The increase in population density in cities and the development of different urban transportation systems increase the importance of the program, as



smart and sustainable transportation has an important place in city services. From a broad perspective, the Izmir Transportation Plan includes supporting the use of sustainable transportation vehicles and reducing emissions in existing transportation vehicles. The fact that Izmir is a commercial center and an important port city shows that the transportation sector is the second largest emission source with a rate of 37%.

In this context, the Entrepreneurship Center Izmir determined the theme of 2022 as Smart and Sustainable Transportation, based on the strategic priorities of the city. To provide maximum benefit within the scope of the determined theme, the "Smart and Sustainable Transportation" theme was organized into 2 programs. The first of these; Ford Otosan was the "Develop Your City" program with the partnership of WRI Turkey.

The Improve Your City competition is based on the theme of "Zero Emission Zones". Within the scope of the competition, teams and individuals at the application stage were expected to apply with a solution suitable for the theme of the competition. Within the scope of the Develop Your City competition, which highlights smart mobility; Collection It is aimed to produce innovative ideas and solutions in the fields of Urban Logistics (Next generation cargo distribution), Active Transportation & Micro Mobility, Fair (Democratic) Transportation, Motor Vehicle Restriction, New Use Scenarios for Smart, Connected and Electric Vehicles, AUS Technologies (such as system installation, audit, tracking), Data Collection, Organizing and Sharing, Business Models (Stakeholder participation and cooperation).

To closely support the transformation in the field of Smart Mobility, based on the sub-sectors of Smart Transportation, Energy Efficiency in Transportation, Transportation and Environment, Urban Logistics, Micro/Shared Mobility,

Urban Logistics, Micro/Shared Mobility, Travel/Passenger Behaviors."Smart and Sustainable Transportation" 2nd Program, carried out by the Entrepreneurship Center Izmir in cooperation with İnci Holding, in order to help idea owners in their entrepreneurial adventures and to implement solutions that will contribute to the transportation of nature-friendly people and cargo; Within the framework of the Izmir Transportation Master Plan (UPI 2030) Vision, it effectively provides the mobility needs of current and future residents, workplaces, employees and visitors, maintains and improves the quality of life, economy, characteristics of the people living in the region and business zones, protects the environment, is safe and creating a transport system accessible from all parts of the region; Within the framework of the Izmir

Transportation Master Plan (UPI 2030) Mission; Without jeopardizing the ability of future generations to meet their own needs, in a way that will make the most contribution to the economic, social and cultural development of the city, region and country, socially just, economically efficient, without wasting the country's resources and without harming the environment, it is effective and highest for passengers and cargo. A multi-modal transport system is planned, which will provide a level of mobility and access, coordinated with appropriate land use plans.

Entrepreneurship Center Izmir, by directing the entrepreneurship transformation of Izmir with the thematic programs it has been running since 2021; It carries out activities in order to strengthen the socio-economic structure of the city with innovative ideas, to develop the culture of thinking, work and production together, and to increase the welfare level of all Izmir residents with the projects of entrepreneurial Izmir residents. In this direction, it can carry out its activities; integrated with nature, environmentally friendly, will increase the socio-economic added value of the city; It will continue to host its entrepreneurs in the coming periods within the scope of the dream of creating a sustainable climate and the themes that return to renewable energies.

KOCACAY SUSTAINABLE URBAN DESIGN AREA LAUNCHED



laid the foundation of KOCACAY Sustainable Urban Design Area, which will increase the Life quality of Seferihisar, Türkiye's first Cittaslow. The project, which will be built on an area of 136 thousand square meters with a resource of 88.5 million lira, will be the new attraction center of the district as well as stream improvement. It was held with the participation of Mayor Tunc Soyer and his wife Neptun Soyer, as well as Seferihisar Mayor Ismail Yetiskin, political party representatives, council members, headmen, heads of cooperatives, representatives of non-governmental organizations and many people from Seferihisar.

President Soyer said that the investments will continue in Seferihisar at the groundbreaking ceremony of the project he attended, gave messages of rail system and agro tourism. This area that we will create here will increase the quality of Seferihisar and increase its added value. We will create a beautiful space in Seferihisar where people can spend peaceful time with their children and loved ones." Expressing that the impoverishment and polarization in Türkiye is not destiny, President Soyer repeated his messages of hope and said, "Somethings will change, everything will change. Very soon." Izmir Metropolitan Municipality



PRESIDENT SOYER "WE DID SAY WE'RE BRINGING THE METRO TO BUCA"



President Soyer said that it was a historical day for Izmir and added, "We are proud and excited to launch the biggest investment in Izmir's history under perhaps the most difficult conditions Türkiye has been going through. From the very beginning, we announced, 'We will build the Bucametro,'" as construction began. metro," as construction began.

President Tunc Soyer added, "As of today, a metro work with a cost of over 1 billion Euros, 13 and a half kilometers and 11 stations is starting. In an environment where the economic crisis is deepening, it will be repaid with a syndication loan by forming a consortium of 490 million Euros. Therefore, we are making perhaps one

of the most productive investments in history because the 4-year grace period corresponds to the construction period. Once the construction is completed, the refund will begin when the subway opens. Therefore, the business will continue its way by self-financing without any money leaving anyone's pocket."

REGIONAL COOPERATION AND FIGHTING THE CLIMATE CRISIS HIGHLIGHTED



The 13th General Assembly of the Euro-Mediterranean Regional and Local Assembly (ARLEM), which was established to encourage the cooperation of local governments in the north and south of the Mediterranean, was hosted by the Izmir Metropolitan Municipality. At the 13th General Assembly of the Euro-Mediterranean Regional and Local Assembly, regional cooperation, new projects and efforts to combat the climate crisis came to the fore. The call for the "Cyclic Cultural Cities Alliance" for the COP 27 held in Egypt, which was voiced by Izmir Metropolitan Mayor Tunc Soyer in the plenary session, received great support at the general assembly.

20th EUROPEAN REGIONS AND CITIES WEEK

Izmir Metropolitan Municipality Mayor, Social Democratic Municipalities Association (SODEM) President and Sustainable Cities Union (ICLEI) Global Management Committee Member Tunc Soyer is in Brussels, where he went as part of the "20th European Regions and Cities Week", the biggest event of the year that brings European cities together. He made important visits to strengthen the relations between Izmir and the European Union. Mr. Soyer spoke at the high-level session at the 20th European Week of Regions and Cities, where the policies and practices that will guide the food practices of European Union cities will be determined. President Soyer talked about the food strategies created with the vision of Another Agriculture is Possible in Izmir in the session titled "Farm to Table Food Supply for Resistant Regions".



THE FUTURE YOU BUILT IS ENTRUSTED TO US



On the 84th anniversary of the 84th anniversary of Ataturk's death, thousands of people of Izmir kept the vigil with torches on the "1930" symbol during the Respect for Ataturk Vigil, which started at Cumhuriyet Square at 21.05 on November 9, organized by Izmir Metropolitan Municipality. On November 10 at 09.05, time stood still. Accompanied by sirens and horns, people of Izmir stood in silence for two minutes, honoring Ataturk and reflecting their longing for him. After a minute of silence, the official commemoration program was held in Cumhuriyet Square.

İZMİRİM CARDS STAY IN THE POCKET



was introduced to the press at the meeting held at the meeting held by Izmir Metropolitan Municipality at the Meeting of the History of the Application History, developed by Izmir Technology and Innovation Company (IZTEK) and Asis Elektronik INC. and implemented with the slogan "Beautiful Izmir's Smart Card". Actor Mert Firat hosted the meeting. The Mayor of Izmir Metropolitan Municipality Tunc Soyer, as well as Karaburun Mayor İlçay Girgin Erdoğan, Izmir Metropolitan Municipality Deputy Mayor Mustafa Özulu, Izmir Metropolitan Municipality Deputy Secretary General Barış Karıcı, Bureaucrats of Izmir Metropolitan Municipality, managers of the subsidiaries, chambers, associations and union heads attended the meeting.

Izmir Metropolitan Municipality reflected the possibilities of digital technology in the public transport system. Passengers who upload the

digital Izmir card application free mobile devices will be able to ride public transport by reading the square code on their devices. The application

OSCAR AWARD OF TOURISM TO İZMİR METROPOLITAN MUNICIPALITY



Izmir Metropolitan Municipality, which supports tourism activities by preserving the historical and cultural values of Izmir, was awarded internationally in the field. The International Federation of Tourism Journalists and Writers (FIJET) gave the "Golden Apple Award", which is known as the "World Tourism Oscar" to Izmir Metropolitan Municipality, which supports the historical and cultural values of the city this year. Izmir Metropolitan Municipality Mayor Tunc Soyer received the award from Tijani Haddad, President of the World Tourism Journalists and Writers. Speaking at the ceremony at the Historical Gas Factory, President Tunc Soyer expressed their great honor and happiness.

NATIONAL PRIDE ON OCTOBER 29

The first address of the 99th anniversary of the establishment of the Republic of Turkey in Izmir was Izmir Governorship. In the ceremony, Izmir Governor Yavuz Selim Kosger, Aegean Army and Garrison Commander Lieutenant General Kemal Yeni and Izmir Metropolitan Mayor Tunc Soyer accepted the greetings.

October 29 Republic Day enthusiasm Zeybek show, lantern procession and concerts continued. Izmir Mayor Tunc Soyer danced in the presence of 200 Zeybek with 9 districts in Cumhuriyet Square. Mayor Soyer, who marched from Kordonboyu to Kulturpark with the lantern regiment where the 350 -meter Turkish flag was moved, celebrated the feast of Izmir residents who gathered for the concert in the grass area.



VIENNA GREEN CITIES CONFERENCE

Izmir Metropolitan President Tunc Soyer attended the European Conference of Green Cities between 20-21 October in Vienna. Speaking in the "Capital Markets" session, where the managers of the cities involved in EBRD Green Cities Program came together for the first time, President Soyer stated that Izmir is the first city that prepares the Green City Action Plan in Turkey.

Soyer stated, "We live on a sick planet because of a climate crisis. Therefore, we need to change our perspective on the world. As we move away from nature and act against the laws of



nature, inequalities increase. Our success criterion in the projects we have implemented in Izmir was to do things in harmony with the nature and people of the city. Our living parks

project, which brings together Izmir residents with nature, is also a part of this understanding that we support products that will reduce water consumption in agriculture."

PREPARATIONS FOR THE ECONOMIC CONGRESS OF THE SECOND CENTURY CONTINUE

Stakeholder meetings for the Congress of the Second Century, which will be held in February 2023 with the slogan "We are building the Türkiye of the Future", continue. Izmir Metropolitan Mayor Tunc Soyer announced the final declaration after the third workers' meeting. Soyer said, "In today's political climate, regulations that will determine the economic policies of Türkiye's future and protect the rights of labor and the rights of workers have been decided."



PROMOTION AT IZENERGY AND COLLECTIVE AGREEMENT JOY AT IZFAS



"Promotion is the right of the worker," said Izmir Metropolitan Municipality Mayor Tunc Soyer, who signed two protocols that made workers happy simultaneously with the Workers' Meeting within the scope of the Second Century Economic Congress. Two protocols concerning the 11 thousand IZENERGY employees and 192 employees of IZFAS are signed. In the 11 thousand IZENERGY personnel salary payment protocol, the contract was signed with Is Bankasi, which submitted the highest bid. According to the agreement, 24 thousand TL per person will be paid for a 3-year protocol. The ceremony also witnessed the joy of İZFAS's collective contract and the collective agreement protocol concerning its employees was also signed. According to the new collective agreement, employees' salaries were increased by an average of 73 percent.

WE WILL CREATE A MORE BEAUTIFUL İZMİR BY JOINING FORCES

Izmir Metropolitan Municipality, which has become a member of the World Tourism Cities Federation as part of Izmir Metropolitan Municipality Mayor Tunc Soyer's aim to turn Izmir into a world city, signed a cooperation and solidarity protocol with the World City Izmir Association (DIDER) to contribute to the promotion of the city in the international arena. Speaking at the signing ceremony, Mayor Soyer said that when the city was compared to Vienna, Berlin and Paris a hundred years ago, it was described as a city ahead of them in many respects. Stating that they are not dreaming when they say "Izmir, the world city", Mayor Tunc Soyer also added, "We are talking about a treasure whose trunk has been cut off but whose roots still exist. What I am trying to do the most is to break the shells of this city and integrate it with the world. We have tried to do many things since the first day we arrived."



SAVING 1 MILLION LIRAS IN A SINGLE ITEM



IZSU, which continues its investments in the districts that came under the responsibility of Izmir Metropolitan Municipality with the Law No. 6360, which entered into force in 2014, has resorted to a new practice to alleviate the burden on the institution's budget caused by the aggravating economic conditions. IZSU will now carry out the construction of package drinking water treatment plants with its own facilities and personnel, with the first application being made in Tire. In this context, the new package drinking water treatment plant will provide potable, clean water to the Yemisler and Ortakoy neighborhoods.

"OSCAR" AWARD FOR İZMİR'S 9 SEPTEMBER



The most spectacular September 9 celebrations in history, organized by Izmir Metropolitan Municipality in honor of the 100th anniversary of the city's liberation, received an honorary award at ACE of M.I.C.E., known as the Oscars of the meetings and events industry. Izmir Metropolitan Municipality, which made history with an unforgettable September 9 celebration on the 100th anniversary of the liberation of Izmir, was deemed worthy of the Meetings, Incentives, Conferences and Events (ACE of M.I.C.E.) award, the largest organization in the event and tourism industry.

Food service started at Izmir Democracy and Bakircay Universities



Izmir Metropolitan Municipality increased the hot meal support points to 6 students. Food distribution has also started around Izmir Democracy University and Bakircay University.

President Soyer visited the youth camp with the theme "Youth is Talking About Water"



Izmir Metropolitan Municipality Mayor Tunc Soyer visited the youth camp held in Olivelo Living Park. Pointing out that water resources are being depleted rapidly, President Soyer said, "This business is no joke. We must protect it now and together. Every citizen should bear this sensitivity and do what is necessary."

Exemplary cooperation from the Metropolitan to increase the employment of women and youth



Izmir Metropolitan Municipality signed a protocol with Izmir Concept Vocational School to create women and youth employment in the field of visual and audio media.

7.5 million savings from IZDENİZ in 2022



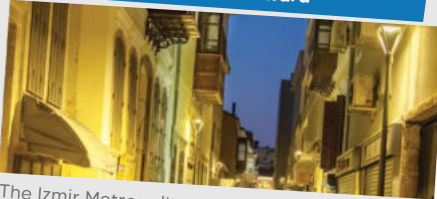
Increasing the service quality and frequency of voyages in sea transportation, IZDENİZ INC. is now repairing its ships in Izmir, which had to be sent to Istanbul for maintenance and repair in previous years. Thus, IZDENİZ INC. saved 7.5 million TL.

Healthy Environment Award to IZSU from Turkish Healthy Cities Association



The green transformation project of Izmir Metropolitan Municipality IZSU General Directorate, which will reduce electricity consumption in obtaining drinking water, was awarded in the "Healthy Cities Best Practice Contest".

Kemeraltı's lighting project received an award



The Izmir Metropolitan Municipality's Kemeraltı lighting project was awarded the first prize in the "Cities and Lighting Competition" organized by the International City Lighting Union. Mayor Tunc Soyer said that the history of the project will increase the quality of life in the city center.

Future sailors are raising in IZDENİZ



Izmir Metropolitan Municipality IZDENİZ General Directorate continues to train the seafarers of the future. From the last year of maritime high school's 27 students in IZDENİZ will be taught during the winter season with applied and theoretical training.

Two new stations are being built on the IZBAN line



Two more stations are being added to IZBAN, one of the important links of the urban rail system in Izmir. Izmir Metropolitan Municipality will connect Lale stations to Konak station and Katip Celebistations to Cigli station in order to facilitate passengers' access to IZBAN.

President Soyer Celebrated World Champion Kerem Kamal



Izmir Metropolitan Municipality Youth and Sports Club wrestler Kerem Kamal, who made history by winning the gold medal at the Under-23 World Wrestling Championship held in Spain, visited Izmir Metropolitan Municipality Mayor Tunc Soyer.

President Soyer attended the European Council meeting in Strasbourg



Izmir Metropolitan Mayor Tunc Soyer attended the 43rd General Assembly meeting of the Council of Europe Local and Regional Administrations Congress on October 25-27 in Strasbourg.



IZMİR METROPOLITAN MUNICIPALITY

IZENERGY CONTINUES TO BRING TOGETHER IZMIR'S STAKEHOLDERS FOR "CLIMATE NEUTRALITY"



In order to realize this radical and innovative transformation in Izmir's climate-neutral journey, IZENERGY will engage all stakeholders of the city and continues to establish dialogue for this transformation.

On October 20, a meeting was held with academics from public and private universities in Izmir, followed by a meeting with professional organizations on October 27 and a meeting with non-governmental organizations focusing on climate, environment and sustainability on November 3. The last meeting held as part of the event plan was an awareness-raising meeting on November 17 with sector representatives such as Izmir Development Agency, Izmir Chamber of Commerce, Aegean Exporters' Associations.

During the meetings, an overview of the Climate Neutrality and Smart Cities Mission process was provided, while emphasizing a fair, inclusive and transparent urban alliance towards the goal of climate neutrality.

With Izmir's Universities:

Academics from Ege University, Izmir Institute of Technology, Izmir Institute of Technology, University of Economics, Yasar University, Izmir Katip Celebi University, Bakircay and Democracy Universities came together to represent their universities. Participants from universities shared that they would be pleased to act together to be a part of this transformation, which will be based on scientific foundations based on demonstrable knowledge.

With Professional Organizations:

Participants from the professional chambers of UCTEA and Izmir Branch of the Turkish Chamber of Medicine attended the meeting representing professional organizations. It was emphasized that professional chambers have significant experience in many sectors such as energy, transportation and buildings, and that it is important to use this experience in this radical transformation. In addition, it was shared that a climate-neutral future means a cleaner, noiseless city, and therefore will have an important contribution to public health studies.

With Civil Society Organizations:

The importance of civil society in building a strong urban alliance in the fight against climate change was emphasized. Representatives from DİDER, Environmentalist Energy Association, Social Climate Association IZIKAD, SUGEP, Izmir Sustainable Urban Development Network, TURCEV (Turkish Environment and Education Foundation) Izmir Historical Kemeraltı Trades Association, Izmir City Council Youth Assembly participated in the meeting, with a focus on organizations focusing on ecology, climate and sustainability themes in Izmir.

With Sector Representatives:

An awareness-raising meeting was held with relevant organizations in Izmir to ensure green transformation, an important step towards the goal of a climate - neutral city. Representatives

from Izmir Development Agency (IZKA), Izmir Chamber of Commerce (IZTO), Aegean Region Chamber of Industry (EBSO), Aegean Exporters' Associations, Energy Industrialists' and Businessmen's Association (ENSIA), IZBAS Izmir Free Zone, Federation of Western Anatolian Industrialists' and Business Associations (BASIFED), Izmir Industrialists' and Businessmen's Association (IZSIAD) attended the meeting. After the presentation, many representatives from the sector stated that the different, unique and innovative structure of the map presented by the Climate Neutral and Smart Cities Mission is exciting and that they will be pleased to take part in the work as a part of this transformation.

IZENERGY Met with Mission Advisors:

Mission Advisors were appointed to Mission Cities to provide international support on the journey to achieve climate neutrality. With Mission Advisors, international coordination will be ensured on the obstacles and opportunities awaiting cities to achieve their climate goals.

City consultants Ed Synnott and Keira Webster, who have expertise in developing strategies for sustainable climate resilient cities on international platforms and have worked in many important positions in this field, became the City Consultants appointed for Izmir. At the introductory meeting, Izmir's work on climate change so far and its potential were shared. A productive meeting was held by evaluating possible city matches and the steps to be followed for the climate neutral target.

October 29th Republic Day Enthusiasm



On the 99th anniversary of the founding of the Republic of Turkey, which was entrusted to us by Gazi Mustafa Kemal Atatürk, we, as Izmir Metropolitan Municipality and Izenergy INC., participated in the celebrations organized in Izmir to protect the Republic. After the Zeybek show of 200 Efes, we carried out a lighthouse procession with a 350-meter Turkish flag. We experienced the enthusiasm of the republic together in a way befitting the 29th October Republic Day. This enthusiasm is for all of us, and The Republic is entrusted to us!

Izenergyat Occupational Health and Safety Symposium

As Izenergy INC., we opened our stand with our large staff of expert workplace physicians, occupational safety specialists and other health personnel in order to share experience and knowledge by presenting occupational health and safety practices, legislation and standards, problems experienced in practice, solution suggestions, good practice examples in our country and in public and local governments in particular, at the Occupational Health and Safety Symposium in Local Governments held between November 16-18 at Izmir Fair. We gave examples from our own practices to the visitors attending the fair.



Management in Different Cultures Interview



For more than 20 years, Izenergy Chairman of the Board of Directors Ali Ercan Turkoglu, who has worked as a manager in many countries of the world and in many different cultures participated as a speaker in the "Management in Different Cultures" interview within the scope of the Business Mentoring Program organized by JCI Izmir, Young Leaders and Entrepreneurs Association. He shared his experiences on productivity, efficiency, profit optimization, operational and financial project development, planning, audit and management in companies with young people.

CLEAN ENERGY SECTOR VISIT TO DENMARK

Within the scope of the BEST FOR ENERGY PROJECT, which aims to develop a competitive cluster in the clean energy and clean technology sector in Türkiye, carried out by IZKA with the initiative of ENSIA, institutions and organizations operating in the field of clean energy in Denmark were visited. Ali Ercan Turkoglu, Chairman of the Board of Directors of Izenerji, visited Denmark with the Izmir Delegation to convey the activities of Izmir Metropolitan Municipality and our company Izenergyon renewable energy.



IZENERGY AT MARENTECH EXPO



Alper Kalayci, chairman of the board of directors of the Energy Industrialists' and Business People's Association, stated that many of its 85 corporate members attended the Marentech Expo and that both its members closely follow the developments in the sector and the current production of developing offshore energy technologies. Izenergysaid that it has started to take the necessary steps to utilize its capabilities in offshore energy technologies. As Izenergy INC., we opened a booth at the fair to explain the Climate Neutral and Smart Cities Mission, renewable energy, energy efficiency and IZETAS activities.

MARENTECH EXPO - Offshore Energy Technologies Fair and Conference, which was attended by many innovative companies from the energy sector, opened to visitors on 26.10.2022. Ali Ercan Turkoglu, Chairman of the Board of Directors of Izenergy INC., delivered the opening speech on behalf of IMM President Tunc Soyer.

At Marantech Expo, which hosts Türkiye's and the region's offshore energy sector, more than 300 manufacturers from a wide range of products including wind turbine suppliers, turbine base suppliers, solar panel manufacturers, wave energy equipment suppliers, current, energy equipment suppliers, engineering companies, marine transportation companies, shipyards, marina equipment companies met directly with buyers and investors.



27TH UNITED NATIONS CONFERENCE ON CLIMATE CHANGE (COP27)



Our Chairman of the Board of Directors Ercan Turkoglu met with Mr. Eyyup Karahan, General Director of Environmental Management of the Ministry of Environment, Urbanization and Climate Change of the Republic of Türkiye. We informed Mr. Karahan, who inspects IZSU treatment plants on behalf of the Ministry regarding our work on the Cigli Waste Water Treatment Plant.



Eyyup Karahan - General Director of Environmental Management of the Ministry of Environment, Urbanization and Climate Change

Fatma Sahin - Mayor of Gaziantep Metropolitan Municipality

The Mayor of Gaziantep Metropolitan Municipality, Ms. Fatma Sahin and IZETAS discussed the work of our company and the Climate Neutral Cities Mission. It was decided to continue exchanging information on the electricity trade.



Hailemariam Desalegn - Former Prime Minister of Ethiopia

A meeting on the energy sector was held with Mr. Hailemariam Desalegn, former Prime Minister of Ethiopia, who currently has a say in the country's administration as the Special Representative of the Prime Minister.

ICLEI & President Presentation

The 27th United Nations Climate Change Conference (COP27) was held in Sharm El-Sheikh, Egypt between 6-18 November this year.

Izmir, which made a commitment to be climate neutral by 2030 by qualifying for the European Union Climate Neutral and Smart Cities Mission, was represented at COP27 with the participation of the Izmir Delegation, including IZENERGY INC.



Andy Kerr - Climate Neutral and Smart Cities Mission Platform NetZeroCities consortium leader and Climate-KIC CSO

In the panel titled 'Circular Agriculture for Climate Emergencies', our Mayor Tunc Soyer addressed the participants online with his work on circular economy and another agriculture is possible. Izmir Metropolitan Municipality Deputy Secretary General Sukran Nurlu and Mayor Advisor Guven Eken presented our municipality's agricultural practices for food production that reduce carbon emissions and provide sustainable water management.

Mr. Ercan Turkoglu, Chairman of the Board of Directors of IZENERGY INC., met with Andy Kerr, Climate-KIC CSO and NetZeroCities consortium leader of the Climate Neutral and Smart Cities Mission Platform NetZeroCities, about the projects and mission governance model for Izmir's goal of becoming climate neutral by 2030.

Kubilay Kavak - TSKB / Escarus Sustainability Consultancy Inc. - General Manager

Kubilay Kavak - TSKB / Escarus Sustainability Consultancy Inc. - General Manager With Dr. Kubilay Kavak, General Manager of Escarus, IZENERGY INC. activities carried out so far were evaluated and ideas were exchanged about potential collaborations.

Discussions at COP27

Mahir Polat & Murat Bakan

We met with our MPs Mr. Mahir Polat and Mr. Murat Bakan. They were informed about COP27 and the Climate Neutral and Smart Cities Mission.

Aysen Erdincler - Istanbul Metropolitan Municipality - Head of Environmental Protection and Control Department

With Ms. Aysen Erdincler, Head of Environmental Protection and Control Department of Istanbul Metropolitan Municipality, who leads the actions of Istanbul, which has been selected for the Climate Neutral and Smart Cities Mission, coordination of both cities' actions and mutual experience sharing was made.



Clean Energy for a Clean Future Conference



The "Clean Energy for a Clean Future" conference was held in Izmir on November 8 to introduce the clean energy and clean technologies future strategy, inform our stakeholders, present the demand analysis studies conducted with 223 international companies operating in the field of clean energy and technology, and share good practice examples from around the world. Projects and investments that will increase the competitiveness of the sector were discussed in the Izmir and Clean Future session, where our Chairman of the Board of Directors Ali Ercan TURKOGLU participated as a panelist.

Izenergyis in Ensia New Term Board of Directors

The Energy Industrialists and Business People's Association (ENSIA), which continues its activities to provide technology and project development support for renewable and clean energy, of which we are a member as IZENERGY INC., said hello to a new era after the 4th Ordinary General Assembly. In the general assembly with a single list, the list of the current Chairman of the Board of Directors Alper Kalaycı was elected unanimously. Ali Ercan Turkoglu, Chairman of the Board of Directors of IzenergyINC., was elected as a full member of the new board of directors of ENSIA. We wish success to the new board of ENSIA.



TOTAL QUALITY MANAGEMENT SYSTEM DIRECTORATE

One of the most important subsidiaries of Izmir Metropolitan Municipality, Izenergy INC. continues to serve our beautiful Izmir with increasing quality day by day. Human resources procurement and project services, which are our main fields of activity, are growing. As the growth continues, the management system studies have started and the Total Quality Management Systems Directorate has been established so that the increasing number of personnel and workload can be monitored and improved.

As the Total Quality Management Systems Department, we planned that our quality journey, which started with the ISO 9001 Quality Management System, will become a culture in our company. In this planning, we ensure to comply with national and international standards and regulations in our corporate activities, to carry out all stages of our activities

in a healthy and safe working environment, to continuously improve our service quality, energy, and environmental performance with the participation of all our employees, with our policies created within the scope of management systems and announced on our corporate website, we have received.

Our quality studies have continued with ISO 45001:2018 Occupational Health and Safety Management System, ISO 14001:2015 Environmental Management System, ISO 50001:2018 Energy Management System and have received the certificates of four standards, ISO 27001 Information Security Management System audits have been successfully completed and ISO 14064 - 1:2018 Greenhouse Gases - Part 1: Our work on the calculation and reporting of greenhouse gas emissions and removals at the enterprise level continues.

Although the Total Quality Management Systems Directorate is the newest directorate of IzenergyINC.,

thanks to its determination in its work. It has become a corporate culture and all departments have started to work in an integrated manner. Quality has become an indispensable part of our company thanks to our increased service quality with these integrated studies.

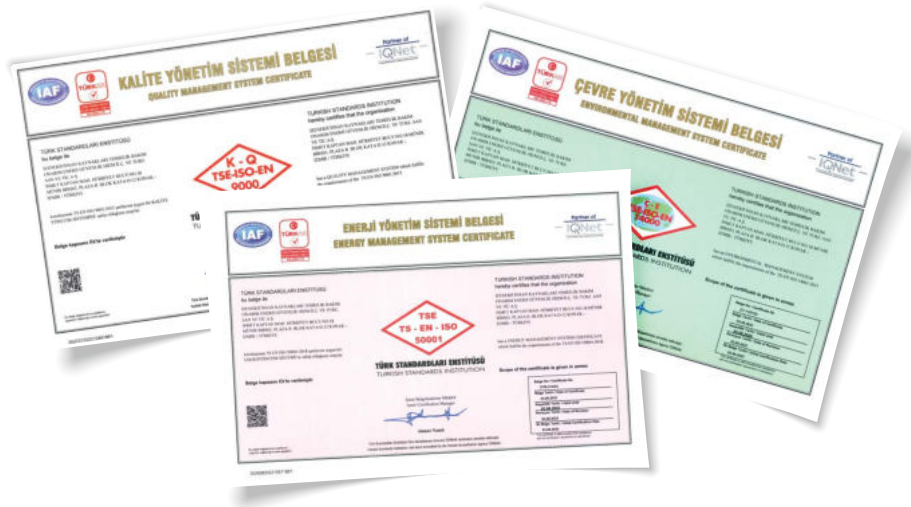
The quality work we do in order to always evaluate the opportunities for continuous improvement has become part of our company culture. The importance of our work continues to increase day by day.



WE HAVE SUCCESSFULLY COMPLETED OUR ISO 27001 INFORMATION SECURITY MANAGEMENT SYSTEM AUDITS

In our General Directorate, we have successfully completed our ISO 27001 Information Security Management System audits with our ongoing work within the scope of the decision to establish ISO Management Systems in our company to bring the disciplines that will ensure the creation, continuity, and development of quality to the company culture. By completing it, we have taken another step on our way to quality. Together with the studies we have carried out, Total Quality Management has become an indispensable part of our corporate identity.

We are taking more important steps day by day thanks to our teammates who ensure that our service quality is increased day by day. With the determination of these steps we have taken and the support of senior management, the quality system studies continue with ongoing improvement.

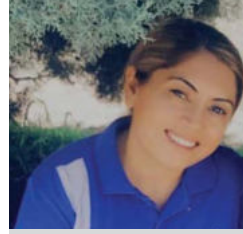


IZENERGY INC. EMPLOYEES



Sefika Cagla GUNDOGAN

In 2004, I won the Department of Chemical Engineering at Ege University and after my undergraduate degree, I started my master's degree in IYTE Energy Engineering Department in 2011. My doctoral studies continue. After working as a research assistant at IYTE for 9 years, I started working at Izenergy Energy Unit in 2021. I am very happy to be in the Izenergy Family.



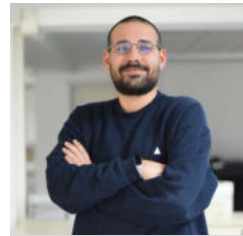
Seher KAYGUSUZ

I joined IzenergyINC. family in 2019. I work as a broom worker in the Solid Waste Department. While doing my job on the streets and avenues, I am proud of my work as I receive positive reactions from our citizens. I am happy to be a staff member of IzmirMetropolitan Municipality and IzenergyINC. that gives priority to women's employment.



Ummu IRMAK

I am Ummu Irmak. I graduated from Adnan Menderes University, Department of Elderly and Patient Care in 2014. In June 2017, I started to work at Izmir Metropolitan Municipality Nursing Home Branch. Taking care of people and helping them makes me happy. I am happy to be in Izmir Metropolitan Municipality and in the Izenergy family.



Baki Omer FURAT

I completed my undergraduate and graduate studies in KTU Geological Engineering Department. In addition, I have been continuing my doctoral education since 2017. I am very happy to be working in the Water Resources Research and Application Center since August 2021, developing and producing with our friends in a multidisciplinary working environment.



Nuran AYGUN

Hello, I'm Nuran AYGUN. I am 40 years old. I have a daughter, I am single. Since 2015, Izenergy INC. I work as a cleaner in the Nursing Home Branch Office. I do my job with love and acceptance. We have a very nice working environment at work, I love my job. I would like to thank Izmir Metropolitan Municipality and Izenergy family.



Fatma DUNDAR

I am Fatma DUNDAR. I am 50 years old; I have 2 children. I work as a sick elderly care staff in the IBB Nursing Home Branch Office, and I am the chief representative of the workplace. I have been working in the Izenergy family for 7 years. I am very happy to work in solidarity and tolerance with my colleagues and management and to be a member of the IZENERGY family.



Sema ERDEM

I'm Sema Erdem, I have 3 sons. I graduated from the Department of Turkish Language and Literature Teaching and Elderly and Patient Care. In April 2021, I started to work at Izmir Metropolitan Municipality Nursing Home Branch. I have a big family with my job. I make a great request to my job. I am honored and happy to work in IBB and Izenergy.



Aysegul KUZUCU

I completed my undergraduate education at Dokuz Eylul University Civil Engineering in 2012 and my master's degree in 2016. I am continuing my doctoral studies. In planning and basin master plan studies in the private sector; I worked on modelling, flood and drought analysis in the TUBITAK project. I have been working at the Water Resources Research and Application Center since 2021.

“ We need to build a life in harmony with nature. ”

Tunc SOYER
Mayor of Izmir Metropolitan Municipality



“ We are not merely dreaming when we say "the global city of Izmir",
we are talking about a treasure which still exists in our roots. ”

Tunc SOYER
Mayor of Izmir Metropolitan Municipality

📍 Sarpıcık Lighthouse / Karaburun



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