

# CITIES AND SUSTAINABILITY

*Cities play a crucial role in the successful implementation of sustainable development policies. The Metropolitan Mayor of Istanbul outlines the steps taken to render this important city more environment-friendly – from protection of water resources to energy conservation. Besides pointing out the responsibilities of local governments in protecting cultural heritage and developing skills relevant to urban living and productivity, the Mayor underlines the importance of local governments for global concerns, such as climate change.*

**Kadir Topbaş\***



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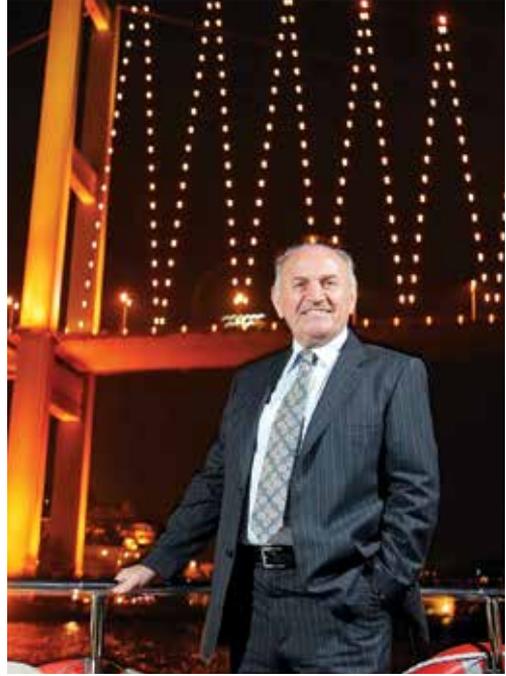
**S**ustainability relates to the planning of the present and the future by striking a balance between the needs of people and the environment, enabling development without depleting natural resources, in order to satisfy the needs of future generations. Sustainability is a notion with social, ecological, economic, spatial and cultural dimensions.

The most convenient living area that is capable of offering the greatest contribution to such planning is, in fact, cities. Cities act not only as the center of social life, but are also the driving force of the economy and the guardian of cultural heritage. In this modern world, cities are the main centers of production, employment, investment, trade and culture, a meeting point for people of different cultural backgrounds and points of view. For this reason, cities attract a high number of people, which in turn creates a dense population and pressure.

Today more than three billion people worldwide live in cities, and this figure is expected to reach five billion by 2030. This number shows the importance of the function that cities are expected to perform for sustainable development policies to be successfully implemented.

Because of industrial development, for decades mankind has been witnessing the pollution of water resources such as oceans, lakes and rivers all over the world. It has become essential for local governments to give priority to the protection of these resources for the sake of sustainability.

With such an aim, our metropolitan municipality developed a special "Environmental Regulation Plan" for Istanbul, designed for the absolute protection of drinkable water resources, as well as agricultural and forest land. We have opted for the micro tunnel type waste water collectors which allowed us to protect our water resources from pollution. We have raised the sewage treatment rate to 85 percent of all water in Istanbul. By the end of the construction of the treatment facilities, this rate will have



increased to 97 percent. In addition to this, we have launched the stage of “Advanced Biological Treatment” and prepared the necessary infrastructure to provide drinkable water until 2060. We also have renewed 99 percent of the drinkable water network.

Furthermore, we have cleaned up our seas in order to make them safe for swimming; 57 thousand cubic meters of waste is collected from the sea each year. Fuel is produced from petroleum and petroleum-derived waste generated by ships. By cleaning up some 160 kilometers of the total 234 kilometer-long coastline, we have reached the world standards of quality for swimming in the sea. We have also cleaned up some 280 kilometers of a total of 603 kilometers of streams in Istanbul.

*"Our metropolitan municipality developed a special 'Environmental Regulation Plan' for Istanbul"*

As the Istanbul Metropolitan Municipality, we have developed an internationally recognized solid waste management system for a cleaner environment. For the well-being of future generations, we –the local governments– must invest in the protection of our natural treasures such as air, soil and habitats of rare species, in addition to seas and underground water reserves.

However, cities around the world not only consume 75 percent of the natural resource reserves but also produce waste at the same rate. This extensive consumption combined with waste production cannot lead to a sustainable natural balance. We, as the local governments, must create a sustainable balance through a brand new vision and an innovative approach.

To that end, we, as the Istanbul Metropolitan Municipality, work to process the collected wastes. Thus, we produce compost fertilizer from the collected waste, purify seepage water from garbage, recycle packaging wastes and dispose of batteries which do significant harm to the environment. We attain energy from the gases of collected wastes. For instance, we obtain 24 megawatts of electric energy from methane gas. That means a reduction of 350,000 tons in emissions.

Furthermore, we have initiated the harnessing of wind and solar energy for traffic monitoring cameras, detectors and warning flashlights. We have decreased energy costs from 1.3 million dollars to 170,000 dollars. We have achieved energy savings of 87 percent.

We have also reduced carbon emissions with our public transportation solutions. We have developed a public transportation system throughout the city, with a rail system at its center, which is quite efficient. Thanks to this system, increasingly public transport vehicles are being preferred to private cars. The fact that owners of 80,000 private cars now prefer not to get stuck in traffic and to instead use “Metrobüs” (Bus Rapid Transit System), is a striking example of this. Furthermore, this helps us to reduce emissions by 613 tons and save 242,000 liters of fuel per day.

*“We have stopped the unplanned growth that had been taking place in Istanbul for the past 60 years.”*

In two years, we will achieve significant goals in terms of recycling. For instance, through the recycling of paper, we will prevent 11.2 million trees from being cut down. Through the recycling of glass, we will save 4.5 million liters of oil. Through the recycling of metals, we will save 21,000 tons of raw materials. With the recycle of plastics, we will save 1.5 million megawatts of energy.

In addition to all this, we have increased the overall capacity of our facilities which derive energy from waste gases to produce 46 megawatts of energy per year. In time, this capacity will be fully utilized to reduce 1.2 million tons of emission per day.

We all face challenges caused by global warming and other environmental issues. To this end, it is an imperative for local governments to increase the number of forests around urban areas, parks and green spaces in cities. Istanbul Metropolitan Municipality gives priority to this matter. We are increasing the number of green spaces in order to breathe life into the city. We are constructing smart buildings that are environment friendly. We are also transforming roofs into garden terraces.

In the last eight years, we have added 20 million square meters of green space to the city. This corresponds to 6.08 square meters of green space per person. For this purpose, we have planted 1.11 million trees, leading to a 1.11 million tons decrease in emissions. In addition, fuels consumed in the city were transformed from coal to natural gas with 97 percent of our inhabitants, currently using this type of fuel. Thus, the carbon dioxide level dropped from 219 mg in 1992 to six mg in 2011, making Istanbul one of the cities with the best clean air quality in Europe.

For sustainability, planned urban growth should be one of the key priorities of local governments. This is crucial in maintaining a certain standard of living in cities. We

need to create multi-centered cities and make sure that they grow in a planned manner in all respects, including infrastructure, transportation, and cultural facilities.

In this respect, we have stopped the unplanned growth that had been taking place in Istanbul for the past 60 years. In the Istanbul Metropolitan Planning Center we have planned each district of Istanbul with a holistic approach and we keep up our efforts with this mindset. In planning Istanbul we also take into account the surrounding cities.

We have initiated work to build a transportation network integrating the road, maritime and railway systems in the city with an investment of 14 billion dollars. In this framework, we will build a railway system 641 kilometers long to make sure that traffic is no longer a problem for transportation in Istanbul

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and to prevent the environmental pollution caused by cars. We will have completed 230 kilometers of this line by 2014 and thus will have implemented an important project in terms of urban sustainability.

Another major contribution that local governments can make for a sustainable world is to protect the historical and cultural heritage of cities. We are carrying out a number of projects to protect the cultural heritage of Istanbul, which has served as a capital for three great empires.

In addition to these points, it is a matter of urgency to free cities from the pressure of industry. In spite of all the advancements in technology, the concentration of industry in certain regions causes both environmental pollution and population pressure. For this reason, local governments should engage in multi-center city planning and phase out industry. To this end, we, Istanbul Metropolitan Municipality, have taken the necessary steps to free the city from being an industrial center. We have attached new functions to our city such as being a tourism, finance, sports, trade, and culture/arts center.

We know that the most important aspect of ensuring a sustainable city is an urbanized population capable of sustaining city life. Otherwise, it is an indisputable fact that the social tensions will cause sustainability projects to fail. For this reason, local governments have important responsibilities to improve the social development of inhabitants and to increase their welfare. We must provide

sufficient common-use facilities for education, culture and sports activities to meet public demand.

There are many benefits both for our countries and our world in protecting underprivileged and disabled people and in providing means and opportunities to this group of citizens. Istanbul Metropolitan Municipality is educating and training our citizens, especially housewives, through our vocational training institutions. We help citizens acquire a profession and participate meaningfully in public life. Our vocational training institutions have evolved into what we may call a “public university”. Approximately 1.4 million citizens have graduated from these institutions over a period of 20 years, most of them in the last eight years. As a result of these courses, many of our citizens have established their own businesses or have become employed. Additionally, we provide care and treatment services to the poor, elderly and especially women. Similarly we successfully carry out rehabilitation and vocational training of homeless children.

It is a reality that 90 percent of factors causing unsustainability in the world are man-made, and global warming is the leading factor among them. This shows that it is up to us, the people, to prevent this man-made disaster. This can only be achieved through local governments which are the closest to citizens and which are the most familiar with their problems and expectations. For this reason, the leaders of all cities worldwide should convene around the goal of sustainability. We, the local leaders, should keep in mind that we will entrust this world to our children, so we must concentrate our efforts to ensure a sustainable world for them.