

# Solid Waste Management in Turkey

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The increase in solid waste production has started to become one of the major environmental problems in parallel with the rapid population increase, developing industrialization and changes in the social and economic status of society and unplanned urbanization in Turkey.

Today, solid waste is one of the most significant environmental problems that many settlement units, whether major or minor, encounter. These problems are increasing even more, especially in large cities and touristic regions in Turkey. This waste should be put to good use and disposed of without harming the environment. These problems can be solved with an integrated solid waste management system carried out by municipalities.

The authorities and responsible parties in the field of waste management are distributed among several institutions and organizations, making cooperation and coordination among them important. However, in practice, there is not sufficient cooperation and coordination between the institutions and organizations, especially the municipalities, which are responsible for providing technical and financial support, monitoring and follow-up, issuing permits and licenses and ensuring coordination in the field of waste management. Thus, effective and steady provision of such services in accordance with certain standards and in a way that does not harm the environment has not been possible.

However, legal arrangements and other national plans and programs that have been adopted recently prepared a sound basis for waste management strategy in Turkey; especially in parallel with the growth of environmental consciousness in Turkey and awareness in terms of environmental protection and establishment of sustainable waste management.

This article will review the general legal rules concerning solid waste management in Turkey, and the recent legal developments in legislation.

## What is Solid Waste and its Management?

Solid waste refers to sewage sludge and solid goods that are intended by the producers for disposal, and that need to be disposed of regularly for the sake of human and environmental health. Solid waste can be

classified briefly as shown below;

- Household solid waste (garbage)
- Large solid waste
- Sewage sludge
- Specific waste (medical waste, such as the ashes of incineration plants)
- Street sweepings
- Construction and excavation waste
- Industrial and commercial establishment solid waste

The system of encouraging limited waste production, reuse of solid waste for raw material or other purposes, realization of disposal without harming the air, water and soil environment and living creatures therein; and all collection, transportation, recycling and disposal transactions within this system are called solid waste management.

## General Rules Regarding Solid Waste Management in Turkey

In Turkey, there is no shortcoming in solid waste management legislation. Many laws and technical regulations exist regarding this matter. The most significant ones are summarized below.

### Constitution of the Republic of Turkey

Article 56 of the Turkish Constitution states, "Everyone has the right to live in a healthy, balanced environment. It is the duty of the state and citizens

to improve the natural environment and to prevent environmental pollution. To ensure that everyone leads their lives in conditions of physical and mental health and to secure cooperation in terms of human and material resources through the economy and increased productivity, the state shall regulate central planning and functioning of the health services. The state shall fulfill this task by utilizing and supervising the health and social assistance institutions, in both the public and private sectors.”

According to Article 56 of the Turkish Constitution, both the state and citizens have a duty to preserve and not to pollute the environment. Therefore, it is required that the citizens in the homes and workplaces where waste is formed should make an effort not to pollute the environment, and municipalities that collect and dispose waste should also design disposal systems for protecting and not polluting the environment.

#### Environment Law no. 2872

This law aims to regulate the protection and restoration of the environment for all citizens’ common wealth; the usage and protection of lands and natural resources in rural and urban areas in the most appropriate way; protection of flora and fauna as well as natural and historical assets; the regulations which are to be made and the measures to be taken to improve and ensure the level of current and future generations’ health, civilization and life in accordance with economic and social development goals.

According to Article 8 of the law, it is forbidden to store, transport, remove and dispose of all kinds of waste and leftovers in a manner that harms, directly or indirectly, the environment or contradictory to the standards and methods stated in relevant regulations or to perform similar acts. In the event that there is a chance of pollution, those who are concerned are obliged to prevent it. If pollution occurs, the polluter is obliged to take the necessary measures to stop the pollution and remove or decrease the effects of the pollution.

#### Metropolitan Municipalities Law no. 5216

Article 7(i) of the Metropolitan Municipalities Law, which states the duties, authorizations and responsibilities of metropolitan municipalities, includes “providing the protection of the environment, agricultural areas and water basins in accordance with the sustainable development principle; forestation; designating storage areas for excavated land, rubble, sand

and pebbles and sales and storage areas for coal and wood; taking measures that will not cause pollution when transporting; making the plans of metropolitan solid waste management or having them made; performing the services regarding reuse, storage and disposal of solid waste and excavation except for assembling solid waste at the source and shipping it to transfer point, establishing facilities for this purpose or having them established, operating or having them operated; carrying out services regarding industrial and medical waste, establishing the necessary facilities for this or having them established, operating or having them operated; collecting the waste of sea vehicles, having it collected, purifying and making necessary arrangements concerning this matter.”

#### Municipalities Law no. 5393

Under Article 14(i) with the title “Duties and Responsibilities,” a municipality “performs services for the environment and environmental health, hygiene and solid waste or has them performed.”

In Article 15 of the Municipalities Law, a “municipality’s authorizations and concessions” are stated. Article 15(3) provides that a “municipality can transfer the services set out in subparagraphs (e), (f) and (g), by way of granting concession, provided that its duration does not exceed forty-nine (49) years, with the opinion of the Council of State and decision of the Ministry of Internal Affairs; can carry out public transportation services by way of licensing without granting concession or monopoly, and it can lease out public transportation routes or perform these services by purchasing services in accordance with the terms stated in Article 67 as well.” A municipality is obliged to perform all services regarding collection, transportation, separation, recycling, disposal and storage or have them performed. In parallel with these articles, municipalities within the borders of a metropolitan municipality are responsible for collecting and transporting solid waste. Municipalities which are not located within the area adjacent to a metropolitan municipality are responsible for the collecting, transporting and disposal of solid waste.

#### Regulation on Environmental Impact Evaluation (“EIE”)

This regulation includes issues concerning technical and administrative principles that are to be complied with during the process of environmental impact evaluations when the facilities are still in the project phase and which types of activities and for which regions the EIE Report, EIE Pre-Research Control List

and Evaluation Chart that are prepared in accordance with these principles will be requested, which subjects they will comprise, the basics to be complied with during examination and evaluation, agencies authorized for monitoring/auditing and work procedures of the Examination-Evaluation Commission.

#### Packages and Packaging Waste Control Regulation

This regulation aims to designate technical and administrative standards for packaging waste management and principles, policies and programs as well as legal, administrative and technical rules for production of packages that have certain criteria, fundamental conditions and properties in terms of the environment, preventing the disposal of packaging waste damaging to the environment in a receiver area directly or indirectly, initial prevention of creation of packaging waste, reduction of the amount of packaging waste, and recycling, disposal and reuse of packaging waste that can not be prevented.

The scope of this regulation includes all packages and packaging waste that enter the market in Turkey regardless of the material used (plastic, metal, glass, paper/cardboard, composite etc.) and the source (household, industrial, commercial, business place etc.).

#### Solid Waste Control Regulation

The most significant regulation regarding solid waste management is the Solid Waste Control Regulation. Under this regulation, technical and administrative principles are designated regarding the issues concerning collection, transportation, recycling and disposal of household solid waste, selection, construction and operation of regular storage areas all over the country. The regulation has three (3) fundamental principles that dominate waste management; a) production of less waste, b) reuse and recycling of waste and c) disposal of waste without harming the environment.

The regulation was issued to improve the principles and procedures concerning all kinds of waste and leftovers; preventing the disposal of waste and leftovers in a receiver area in a way that harms the environment directly or indirectly; regulating storage, transportation and removal as well as prohibition of similar acts; and the prevention of pollutants that cause permanent effects to air, water and soil from damaging animal and plant generations, natural wealth and ecological balance by handling the management of consumer goods that can adversely

affect the environment. The regulation sets out the principles regarding the collection, transportation, recycling, reuse, disposal and rendering harmless of household solid waste, plant waste discarded from parks, gardens and green areas, large solid waste, industrial waste that has household waste characteristics and is not hazardous, sewage sludge discarded from household sewer water facilities, industrial sewage sludge which cannot be classified as hazardous waste, excavation soil and construction rubbish.

The matters that can be included within the scope of the regulation can be classified in the following categories: recycling and reuse, regular storage, composting, burning, sewage sludge, administrative matters.

The Solid Waste Control Regulation assigned the following obligations to institutions, corporations and persons:

- Persons and corporations producing solid waste are obliged to choose the technology that produces the least solid waste and decrease the solid waste amount in the present production.
- Pursuant to Article 5 of this regulation, municipalities and persons and corporations to whom municipalities transfer their authorizations are obliged to take the necessary measures to prevent air and noise pollution and damage to the physical and spiritual health of humankind, animal health, natural vegetation, green areas or buildings, public order and security, and underground and terrestrial water areas and reservoir fields.
- Pursuant to Article 6 of this regulation, the Ministry of Environment and Forestry, the highest administrative authority of a place and municipalities are to execute the necessary training regarding solid waste disposal for relevant people to ensure limited solid waste production in homes and business places, prevent these places from disposing of hazardous waste, and ensure the participation in the training for reuse of solid waste and material recycling.
- Pursuant to Article 8 of this regulation, it is forbidden for hospitals, medical clinics, laboratories and similar institutions that produce waste which requires separate disposal to throw away their infectious and contagious chemical, radiological and dangerous waste, used accumulators and batteries of consumers and medical waste with household waste.

## Regulation on Principles and Procedures in Determining Tariffs of Sewer Water Infrastructure and Household Waste Disposal Facilities

This regulation's purpose is to provide for the sustainability of environmental infrastructure services by establishing, maintaining, renovating, operating, closing and monitoring sewer water infrastructure facilities and household waste disposal facilities and implementing and arranging of complete cost tariffs that meet all services given in relation to these facilities by the sewer water infrastructure administrations, metropolitan municipalities and municipalities. Pursuant to Article 18 of the regulation; in charging for household solid waste services, the principles of "complete cost" and "the polluter will pay" are taken into account. The details of the implementation of these principles and procedures that can be applied to determine complete cost tariffs are published on the Ministry of Environment and Forestry's website under the name "Handbook on Determining Tariffs of Household Solid Waste."

According to the same article, the amount of waste produced by the waste producer considered while designating charges belonging to household solid waste services, can be determined by using one or more of the following items:

- Weight of waste,
- Number of containers, volume of a container, capacity of a container, waste collection frequency,
- Number of waste collection vehicles, volume of vehicles, capacity of vehicles and waste collection frequency,
- Number of people in houses, number of beds in hospitals, number of students in schools or similar constant values for waste production that can be determined according to specific characteristics.

### Conclusion

As in the whole world, rapid urbanization and population growth in parallel with technological developments and industrialization is increasing the pressure of human activities on the environment in Turkey. While growth in production and marketing during this process makes excessive use of natural resources in-

evitable, waste produced due to the increasing trend of consumption has reached threatening levels due to its quantity and hazardous contents. Therefore, in parallel with the environmental consciousness rising all over the world, the protection of the environment has become one of the major priority policies of countries and waste management has taken a major role among the environmental protection policies of all countries. Aiming to prevent rapid consumption of natural resources and to solve the problem of waste resulting from production, marketing and consumption activities by converting them into an economic asset, waste management strategies form the basis of the "sustainable development" approach that has been gradually adopted all over the world as a prioritized policy objective.

In Turkey, waste management has been the subject of a number of legal arrangements starting from the 1930s. Since then, the number of institutions assuming a role in the environmental field has increased. However, the fields of authority and responsibility of the existing institutions were not changed when new ones were established, and this has resulted in overlapping powers. Moreover, the lack of effective coordination and cooperation among relevant institutions has weakened the operability of the system. With the effects of such factors as weak financing support and inadequate knowledge and equipment, it has not yet been possible to establish a sound waste management system. Turkey has gained acceleration in improving the legal infrastructure for waste management system policies and enacted all the necessary laws and regulations, especially like the Municipality Law and Solid Waste Control Regulation and Regulation on Principles and Procedures in Determining Tariffs of Sewer Water Infrastructure and Household Waste Disposal Facilities.

Therefore it is believed that there will be a sound and effective waste management system in Turkey soon, considering the central administration approach of the Ministry of Environment and Forestry as the authority that determines waste management policies and strategies, which will serve to develop the coordination and cooperation among the relevant municipalities' public or private institutions and organizations, guide and lead them when necessary and ensure the establishment of many solid waste management facilities in the future.