



A recycling revolution?

Alon Ron

Hiriya. The new face of waste-disposal in the country.

The Environmental Protection Ministry has made some major strides in reducing waste collection and treatment in the country, but is running into snags when it comes to creating the sorting and recycling facilities

By Zafir Rinat

The last place one would think to go to enjoy a cup of coffee is probably the Hiriya landfill (Ayalon Park). However, as of a few months ago, the site has a cafe where you can sit next to a pleasant pool, surrounded by abundant greenery, adjacent to a new visitors center.

The Hiriya center and the adjacent pool – designed to illustrate the process of purification of liquids emitted during waste treatment – are the new face of the waste-disposal and recycling industry in Israel. Instead of reeking, smoking piles of trash, there is aesthetic proof of technological innovation, and the public is invited to see it and witness the challenges facing the staff at the landfill, located outside Tel Aviv.

In the case of Hiriya, the public both experiences what has changed, but also what has not. Recently, several families arrived at the visitors center there, where they saw an exhibition on recycling projects and the huge pit to which the waste of Gush Dan is still brought, before being transferred to landfill sites in the Negev. The visitors gazed in amazement at the huge quantity of items and at the wasted, leftover food, and realized to what extent the garbage they produce is still a blight instead of a resource, just as it has been for years.

After years in which Israel resembled a developing country in this realm, the Environmental Protection Ministry is ratcheting up its efforts to turn waste into a resource, from which recycled products and agricultural fertilizers are produced, and energy is created. Decades ago, garbage piled up untreated on the outskirts of the major cities, polluting the ground water and emitting toxins and greenhouse gases into the air – not to mention the clouds of stench.

At present the situation here is still a far cry from that in other countries, but progress has been so significant in recent years that the government has come up with far-reaching, European-style objectives. Recently, for example, the Environmental Protection and Finance Ministries announced that by the end of the present decade, Israel will basically no longer use landfills for waste disposal, in keeping with policy in European countries. Only residual wastes for which there are no alternative solutions will be brought to the landfill sites. Furthermore, the ministries are discussing means for recycling, production of energy by burning waste, and implementation of biological processes for using waste to produce energy.

Closing the landfills

The government hopes the revolution in the country's waste-treatment industry will attract investments and provide an impetus for technological innovation. Millions of shekels are required to build treatment facilities, and to establish others for processing, recycling and making profitable products from waste.

Among those currently investing in such local enterprises are international corporations such as the French-based Veolia company, which has expertise in dealing with hazardous waste, garbage collection and disposal. However, some people in the industry are fearful that Veolia will become a monopoly (more below).

Meanwhile, the first step taken by the Environmental Protection Ministry, as part of the policy it

adopted two decades ago, was to close old landfill sites. In the course of a few years, hundreds were indeed closed, so that today, fewer than 20 remain in the country. The largest of them, in the Negev, integrate modern waste-disposal methods and feature mechanisms that prevent leakage of pollutants in their vicinity.

Meanwhile, Hiriya was to all intents and purposes closed, and the Dan Region Association of Towns for Sewage and Environmental Issues, which runs it, is working to make it one large recycling park. At present there are still small facilities at Hiriya that sort waste, and via biological processes convert it into energy. These facilities were created and are monitored by Arrow Ecology, a Haifa-based international company. Recently Arrow achieved a marketing breakthrough: Using technology it developed, it's now operating a similar facility in Australia.

In addition, gases created and emitted by the closed landfill mound at Hiriya are being exploited for useful purposes today.

"We now supply methane gas coming from the mountain of waste here to a nearby textile plant, which uses it as a source of energy," says Doron Sapir, CEO of the Dan Region Association. "The plant was in danger of closing because they were using polluting fuel, and now it can continue to operate using clean energy."

The possibilities for profitable exploitation of waste have also multiplied as a result of international agreements for treating greenhouse-gas emissions. The Dan association struck such an agreement with European countries, and receives payment for reduction of such emissions while the partners abroad also profit from the initiative.

Despite the progress, however, Israel is still almost entirely dependent on landfill sites, which

are a waste of land and an environmental blight. Perhaps the most significant step undertaken recently by the Environmental Protection Ministry was pushing through legislation in the Knesset, levying taxes for use of landfills. At present local authorities pay a tax of NIS 44 per ton of waste to the operators of the sites, in addition to the basic fees for transporting the waste there.

The money that is collected is transferred to the Maintenance of Cleanliness Fund, for which the ministry is responsible. The fund is used to cover the expenses of sorting and recycling waste.

"This year we will have a sum of NIS 160 million in the fund," said ministry director general Dr. Yossi Inbar, who spoke at a conference a month ago at Hiriya. "Later on we're planning to raise the tax," added Inbar.

Today taxes are levied on "residual waste" – meaning everything that is unsuitable for recycling, and which contains organic waste of up to 5 percent of its weight. However, because the residual waste is created in processes related to recycling, it was decided that the tax for sending it to the landfills would be only 10 percent of the full fee.

In the waste-disposal industry today there are complaints that certain companies are artificially inflating the amounts of residual waste they produce in order to pay a reduced levy. Other sources claim that there is improper sorting of waste, and some of it cannot be classified as "residual." The Environmental Protection Ministry conducts samplings to ensure that substances meet the legal

definition of residual waste, but these checks have apparently not solved the problem.

Recently the ministry initiated new legislation, which is subject to Knesset approval, that will complement the landfill tax, in the form of the proposed Packaging Law. If the bill is approved, by 2014 the government will require manufacturers of different types of packaging (with a few exceptions) to collect and recycle at least half of their products; furthermore, all transfer and disposal of packaging materials at landfills must cease by decade's end. Because the law was prepared in coordination with the powerful Manufacturers' Association, it is expected to gain Knesset approval relatively quickly.

"Our goal is to reach a situation of zero landfill by the end of the decade," declared Ilan Nissim, head of the solid waste department of the Environmental Protection Ministry, at the conference in Hiriya. "In addition to the prohibition against landfill packaging, we will also forbid transfer there of rotting organic waste (wet waste, which is composed mainly of residual domestic food waste). Only residual waste that cannot be treated any other way will be allowed to reach the landfills; all the rest will be recycled, or will be incinerated in some kind of furnace."

In order to reach that point, experts say, there will have to be a revolutionary change in dependence on what are called end-use facilities – the sorting and recycling plants, of which there are very few at present. The ministry also believes that local households will have to separate their waste into wet (leftover food) and dry (plastic and paper), to facilitate recycling.

According to a report prepared by the [Samuel Neaman Institute](#) at the Technion – Israel Institute of Technology in Haifa about half a

year ago, the annual budget of the local authorities for treating waste is a very steep NIS 1.7 billion. There is apparently an insufficient level of privatization and not enough decentralization of waste-collection and processing today. Thus, in the three largest cities, the vast majority of such services are provided by the municipalities, at a very high cost compared to what a private contractor would demand.

Big development

There are many companies involved in Israel's waste-disposal market today, some of them veteran firms that began as small family businesses that dealt mostly with garbage collection, but then branched out as the market developed. Nowadays some 10 large companies, such as Chen Hamakom and Ben Ari, are involved not only in collecting waste but also in constructing and operating transfer points from which it is transported to landfills. These companies are also interested in becoming partners in constructing and operating end-use facilities. These 10 firms that dominate the market are by and large profitable, with a business turnover of tens of millions of shekels annually.

"The competition among them is quite tough and there are definitely cases when the companies lower the price significantly in order to win tenders," notes a source who is knowledgeable in this sector.

Some of the firms involved in transporting and treating waste

have joined forces in recent years, to act as a lobby vis-a-vis the government and to push for measures that they feel will benefit the market. This is especially blatant in the area of collecting and recycling building waste, over which there is fierce competition between the owners of organized landfills and the owners of illegal sites.

"Until recently the processing of waste in Israel took place under primitive conditions, and in many senses this is still the case," says Avi Zakai, who is in charge of the waste-transfer station in Hiriya. "For years many companies used to find loopholes in the law in order to make a profit. There was no proper thinking about how to sort and recycle waste. The government, which is the regulator, didn't intervene or prevent the situation that has arisen, whereby one company collected the waste, was responsible for the sorting facility or the transfer point, and was also in charge of the landfill site, which could cause a conflict of interest."

"The companies in this market, like other Israeli companies, are capable of introducing changes quickly, and therefore they will be able to prepare very quickly for [any change stipulated by] the Environmental Protection Ministry's programs," adds Avi Novick, an adviser on solid-waste management and a member of a professional forum organized under the sponsorship of the ministry.

"But until they see that someone is going to pay for the schemes the ministry is proposing, they won't invest in projects such as preparing for the separation of



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wet and dry wastes. End-use facilities designed for recycling or for producing energy from waste are actually beyond the [the companies'] horizon. At the moment they're happy with the situation, because it gives them control. For example, it's convenient for them to operate transfer stations, because there they can control the waste and the way it is used in a way that also pays off for them."

One of the more significant developments in this realm in recent years has been the expanded activity in Israel of the giant corporation Veolia. According to the above-mentioned Technion report, Veolia has established a dominant presence here that allows it to determine policies and methods involving the processing of waste in Israel. The report bases this claim on the fact that Veolia does not focus only on collection, but also controls partly or totally most of the remaining large landfills, and operates stations for transporting and sorting waste. According to the report, after the anticipated closing of the Jerusalem landfill

(over which Veolia does not have control), the company will own over 60 percent of all landfill volume in the country.

The domination of a single company in this market is not an uncommon phenomenon worldwide, but the report claims that in developed countries, there are usually established mechanisms for regulation. In Israel, however, the government has not established appropriate criteria for waste treatment, and therefore has no way to fight off a monopolistic company.

"With the anticipated closing of landfills in the north, Veolia will end up being a partner in the main landfills that will absorb most of the waste," says the Environmental Protection Ministry, in response to the Technion report. "This means the creation of a monopoly that is liable to undermine competition and to come at the expense of the quality of the company's waste-processing activities. If a monopoly is created, the ministry will be pushed to try to increase supervision over the process. The regulatory activities in this field are the responsibility of the Antitrust Authority; a party that is harmed by changes in competitive conditions in the market has to submit a request for investigation by that authority."

Veolia spokesmen claim in response that they have no idea what the Technion used as a basis for its report and conclusions.

"A proper recycling market still does not actually exist [in Israel], and only a quarter of the garbage-collection market has been privatized," notes the company. "Five large contractors are competing for this small percentage, and Veolia's share is equivalent to that of its competitors."

Furthermore, according to Veolia, the transfer and sorting sites are operated by various contractors. It fully controls operations at only one sorting point out of five, and two transfer points out of 26, and therefore does not have a monopolistic share.

"In the landfill market, the company is a partial partner in three landfills. In two of them it owns only minority rights, and it also owns rights to operate the Tovlan landfill [in the Jordan Valley], which is not operative at present," says the company. "The competing companies have a similar volume of activity in this field. Our company is the only one in Israel that has invested significant sums of money to encourage recycling. For the past three years it has been carrying out a project in Dimona to separate waste; now it has such projects in Kiryat Gat and Kiryat Malakhi as well."

A story that illustrates the intensity of competition in the waste-disposal market, and the fear of Veolia's increasing influence in it, involves the large project at Hiriya for sorting and exploiting waste as a source of energy. The objective of the project, promoted by the Dan Region Association that oversees the site, is to build a large facility that will sort about half the waste of Gush Dan, and use it for producing energy or recycling purposes. A main source of profit resulting from such activity will come from large quantities of residual waste resulting from it.

In order to promote its initiative, the association decided that since the Neshet cement factory is the only supplier in the country of the materials that will be used in the facility where the incineration of waste will take place, according to the law it can establish the project without a tender. It was agreed with Neshet that it would build the project and operate it for a period of 25 years, to offset its anticipated initial investment of about NIS 200 million. Neshet chose Veolia to build and operate this facility.

"Veolia is a company with a lot

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of experience, knowledge and capability in this field," says Dr. Azriel Pillersdorf, environmental affairs manager at Neshet.

Should this plan come to fruition, Veolia will treat half the waste of Gush Dan, although at present the Ben Ari company is supposed to be responsible for collection and transferring waste to landfills, based on a tender it won.

"In our opinion, the construction of any type of facility for recycling waste, including refuse-derived fuel (RDF), by a public entity such as the Dan Region Association, requires issuing a tender," says Avi Zakai of Ben Ari. "There are enough companies in Israel that can carry out such activity, including ours; they can acquire the required knowledge and technology. Therefore, in the name of proper procedure, a tender should have been offered to give all the companies an equal opportunity."

Chen Hamakom, which treats waste, has submitted an appeal against the association's move at the Tel Aviv District Court, claiming the problem is not the need to transfer waste for incineration to the Neshet plant, but rather the permission the Dan Region Association gave Neshet and Veolia to build a facility to produce RDF on its property, without a tender. Chen Hamakom claims that there are other groups – itself included – that would be capable of building this facility, which should have competed for the tender.

For its part, the association claims that it carried out a proper investigation by means of an expert, who confirmed that Neshet is the only supplier of the materials required for building the plant and thus fully justified not issuing a tender.

In the coming weeks Judge Esther Covo is supposed to rule on the appeal; based on previous statements, she clearly considers the absence of a tender to be problematic. Her ruling, therefore, is likely to affect the most important project in the recycling revolution being spearheaded by the Environmental Protection Ministry.

Meanwhile, the Dan Region Association and Neshet have made it clear that if Neshet is not involved in building the facility and also overseeing the process of producing RDF – the entire project will not get off the ground.

"The RDF facility is part of Neshet's manufacturing systems, and the company needs total control over the facility and all its production lines, too," said Neshet in response to the appeal. "This is an environmental project of tremendous importance to all the residents of the Dan region, and is supposed to provide a proper solution for half the waste in the region. Cancelling it would constitute serious, unjustified harm to the public."