



State Comptroller of Israel | Annual Report 71C | 2021

Ministry of Environmental Protection

Handling of construction waste



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Background

The construction sector in Israel is one of the largest and most important sector in the economy. Construction waste stems from the remnants of materials used during new construction, from renovations of existing buildings and from the development of infrastructure. It is also a by-product of building and infrastructure demolitions. Construction waste is comprised of various materials, such as cinder blocks, concrete, asphalt, tar and its by-products, bricks, floor tiles, ceramic tiles, plaster, glass and insulation panels. These materials are largely inert (substances that are chemically inactive), but some are hazardous, toxic and flammable. By law, construction waste is transported to an authorized disposal site for burial or recycling into construction materials. According to the Ministry of Environmental Protection's estimate, approximately one third of the construction waste is not treated in compliance with the law and is being dumped in open areas.



Key figures

6.2 million tons

The quantity of construction waste in Israel in 2019.

70%

The construction waste recycling target set by the EU for 2020.

55.4%

The construction waste recycling ratio in Israel in 2019.

NIS 127 million

The estimated annual savings from recycling all construction waste in Israel.

2.19 million tons

The quantity of construction waste dumped in open areas in 2019.

approximately 180,000

Trucks dump construction waste in open areas throughout Israel each year (more than 500 trucks per day)¹.

260

The number of fines issued in 2019 for dumping of construction waste in the public domain.

NIS 5 billion

The Ministry of Environmental Protection's 2011 estimate of the cost for clearing 100 million tons of construction waste from open areas.

Audit actions



From January to October 2020, the Office of the State Comptroller audited aspects of construction waste treatment. The audit was performed in the Ministry of Environmental Protection. Supplementary audits were performed and additional information obtained in the Israel Land Authority, in the Ministry of Energy, in the Government Companies Authority, in the Planning Administration in the Ministry of Interior and in the Nature and Parks Authority. The audit focused on the regulations construction waste treatment, on existing data in this regard that are designed for input during decision-making, on the recycling of construction waste and on the enforcement measures taken against construction waste offenders by the Ministry of Environmental Protection in conjunction with the Israel Police and other authorities. The audit emphasized the status of findings

¹ According to the Ministry of Environmental Protection's estimate.



cited by the Office of the State Comptroller in four previous audits published in this regard.

Key findings

-  **Regulating construction waste treatment through legislation** – In 2003, the government instructed the Ministry of Environmental Protection to regulate this issue, but the ministry has still not completed its task. Two draft bills that it did submit were not passed. The arrangements defined in this regard within the framework of planning and construction proceedings are outdated and do not address all scenarios that generate construction waste.
-  **Construction waste estimates** – The Ministry of Environmental Protection disseminated a procedure in 2016 that instructs the local planning and building committees to obligate holders of building permits to issue a construction waste agreement. Nevertheless there is, no uniformity: some local authorities (such as Rishon LeZion and Netivot) have adopted the procedure's updated standard – 20 tons of construction waste per 100 m² of residential construction. Other local authorities (such as Jerusalem and Katzrin) still operated in December 2020 according to the standard from 2002 – i.e., 10 tons of construction waste per 100 m² of residential construction. The standard adopted by the ministry in 2016 is based on a study that was published 16 years ago, in 2004. The study used a model that sampled only ten projects. The study authors noted that the standard must be verified and further developed.
-  **Computerized information system** – Formulating a computerized information system to be used by sites handling construction waste, which the State Comptroller had recommended in 2013, has still not been completed in November 2020. The Ministry of Environmental Protection completed the establishment of a database and a reporting and control system for construction waste, but only approximately one third of the sites handling construction waste that were supposed to be connected to the system have actually being connected. According to the ministry, the rest of the sites are expected to be connected by the end of 2021.
-  **Recommendations for encouraging the use of recycled materials** – Over the years, various authorities have issued detailed recommendations encouraging the use of recycled construction materials and implementation methods; however, the audit found that decisions have not been made about whether or not to implement most of these recommendations.



Implementation of government resolutions regarding the use of recycled construction materials

– The government resolutions of 2003 and 2008 regarding the use of recycled materials by government companies have not been fully implemented. The activities of the team formed for this purpose did not lead to the formulation of rules for government company tenders, and the Ministry of Environmental Protection's decision-makers' proposal to obligate government companies and the local authorities to use a minimum of 20% recycled materials – has not yet been submitted for government approval. As a result, although the Ministry of Environmental Protection took action to encourage and increase the use of recycled materials during several projects, no obligation to use recycled construction materials has been imposed. The ratio of recycled construction waste marketed in Israel out of the total construction waste in 2019 was approximately 48%.



Cleaning orders – The audit found that the Ministry of Environmental Protection's computerized information system (Ma'of) contains no information about implementing cleaning orders. These orders are one of the administrative enforcement measures. approximately 30% of the cleaning orders issued in 2019 (47 orders) were ignored by the offenders who received them.



Enforcement campaigns – The cooperation between the Green Police and the Israel Police focused on several enforcement campaigns. No joint action plan was formulated to handle various categories of waste dumping offenses (including construction waste).



Fines – The Criminal Procedure Order (Finable Offenses – Maintaining Cleanliness) of 2000 defined the fine amounts in 2000. These amounts have not been updated since then. From 2017 to 2019, the Ministry of Environmental Protection issued few fines – 263 fines on average per year – for dumping construction waste in the public domain or from the public domain into the private domain from a commercial vehicle. This despite the data and estimates that 180,000 trucks are dumping construction waste in open areas around Israel every year (more than 500 trucks per day) The estimated damage is in excess of NIS 120 million per annum.



The Office of the State Comptroller commends the initiative of the Civil Enforcement Unit in the Ministry of Justice that established a forum addressing illegal waste dumping and burials (including construction waste). The forum comprises the Ministry of Environmental Protection and the Green Police operating within its framework, the Israel Land Authority, the Israel Police, the National Unit for Enforcing Planning and Construction Laws and the Green Patrol, which operates within the framework of the Nature and Parks Authority.

The ratio of construction waste recycling in 2019 (55.4% of the waste received at recycling plants and 48% of the waste that was actually marketed) was nearly double



the ratio of the waste received at recycling plants in 2014 and more than four times higher than the ratio of waste marketed in 2014. It should be noted that the ratio of construction waste recycling in Israel is significantly lower than in EU member states, some of which approach 100% recycling.

Key recommendations



The Ministry of Environmental Protection, in collaboration with the Ministry of Finance, the Ministry of Interior and the Center for Local Government and the Ministry of Justice, should finalize the regulation of construction waste handling, and find solutions for all remaining issues, and to enact the needed new regulations. It is recommended that, while regulating construction waste treatment and contending with the difficulties that still need to be resolved, the aforementioned authorities should consider the possibility of adopting the arrangements currently in effect abroad. These arrangements relate to the separation of construction waste at the source and arrangements that place a significant share of the responsibility for handling construction waste on the local authorities as is practiced, for example, in Spain.



It is recommended that the Ministry of Environmental Protection, in collaboration with the Ministry of Interior and the Center for Local Government define means and tools that will enable local authorities or other parties to minimize the instances whereby waste generated during renovations, not requiring a building permit, is not transported to authorized waste treatment sites as required. The Ministry of Environmental Protection estimates that such renovations account for the generation of approximately 2.3 million tons of construction waste per annum², or approximately 37% of the annual quantity of construction waste.



It is recommended that the Ministry of Environmental Protection initiate surveys and samplings in communities throughout Israel with regard to waste being generated during building demolitions, including during "vacate and reconstruct" projects. It should document its findings as is required, in order to validate and update the standard for calculating construction waste, if necessary. It is recommended that the Ministry of Environmental Protection use the results of the above surveys and samplings to ascertain the need to update the procedure disseminated in 2016. This procedure was intended for use by planning and building committees and for its own use when calculating the overall quantity of waste being generated during building demolitions.



It is recommended that the Ministry of Environmental Protection, in collaboration with all other government ministries involved in the matter of construction waste recycling,

² The Ministry of Environmental Protection's estimate for 2019.

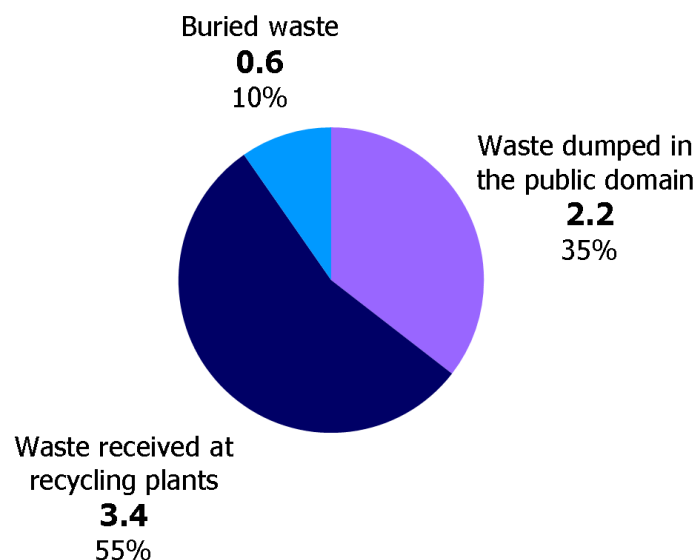


consider the various recommendations in this regard. They should decide on the external costs caused by mining and quarrying operations; develop guidelines regarding building demolitions; establish a research and information center for developing applications for recycled construction materials; appoint an integrated government authority to handle construction waste recycling; and encourage separation of construction waste at source and improve the quality of the recycled materials.



Reduction of the magnitude of the wide-spread deleterious phenomenon of construction waste being dumped in the public domain and in the private domain and the resulting damage requires the Ministry of Environmental Protection to intensify its efforts and take action in several spheres simultaneously. It should revise the fine amounts, implement suitable economic incentives; increase enforcement as a deterrent that will induce compliance with the law; and establish and periodically update a database of construction waste hazards in Israel. This database should be accessible by all enforcement agencies. In addition, it should strengthen the cooperation among all of the various state agencies engaging in enforcement in relation to construction waste offenses and appoint an authority to coordinate the handling of this matter.

Construction waste recycled, buried and dumped in 2019 (in millions of tons)



Ministry of Environmental Protection data, processed by the Office of the State Comptroller.



Summary

In 2003, the government instructed the Ministry of Environmental Protection and other government ministries to regulate the construction waste treatment throughout Israel in order to change the current situation and create a supervised process whereby most construction waste is recycled and any residual waste is relocated to authorized landfills. Since the government resolution of 2003, an optimal solution was found for the phenomenon of construction waste being dumped in public areas. In 2011, the Ministry of Environmental Protection estimated that more than 100 million tons of construction waste had been dumped in open areas, and that the cost of treating that volume of waste would exceed NIS 5 billion. The ministry assesses that, since 2011, approximately two to three million additional tons of construction waste are dumped annually in open areas. The Ministry of Environmental Protection, in collaboration with all other relevant government authorities, should take action to regulate construction waste treatment. It should delineate clear spheres of responsibility for each of the parties involved – the party generating the waste, the local authority and the waste treatment plants. It is recommended that all relevant government authorities, led by the Ministry of Environmental Protection, work together with an overarching view of the topic of consumption of recycled construction materials in order to remove the obstacles to recycling and re-use of construction waste and to drive this needed change. The Ministry of Environmental Protection should also intensify its own enforcement actions relating to construction waste offenses. It should concurrently take action, in collaboration with the various government enforcement agencies, to strengthen the cooperation among them in order to increase enforcement and eradicate the persisting phenomenon of construction waste offenses.

