

Waste Management

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This policy brief is part of a series of nine sectoral studies developed by the Lebanese Center for Policy Studies (LCPS). The lead author of this series is Senior Economic Researcher Lina Maddah, with the contribution of Executive Magazine. The aim of this series of briefs is to examine the impact of Lebanon's economic crises on key economic sectors and present recommendations that can assist with private sector recovery. This series was developed with the support and contribution of the Lebanese Private Sector Network (LPSN) and in collaboration with Executive Magazine.

Sector Overview

Waste management is a sector that combines urgency of finding practical solutions with the need to redesign cycles of consumption and resource optimization. It is a sector where previous approaches of confrontation between absolutist green ideology and primitive economic greed have proven useless. As such, waste management in Lebanon carries a heavy burden of negative local perceptions in addition to the sector's too often unsavory international image.

The average consumer of Hollywood lore associates the notorious "waste management consultant" of Tony Soprano fame with doubly unclean practices, under connotations of the waste haulers' literally unsanitary working environment and the business's infestation with criminal energy. In Lebanon, the image of solid waste collection and processing has been one of deep cronyism, or *wasta*, and corruption in the awarding and remuneration of public contracts since the 1990s.

Whether all accusations leveled in the 2000s and 2010s were substantiated or not, allegations of corruption as well as reports of inefficiency at the time engulfed all aspects of waste management from street-cleaning and collection of solid waste to its transporting, sorting, recycling, composting, and land filling. Against a history of two huge waste dumps that marred the coast in West and East Beirut during the civil war period of the 1970s and 80s and widespread, informal waste dumping in towns and villages, the need for sanitary landfills was only partially answered when a single such facility with limited capacity was established to the south of the Beirut conurbation in 1997.

Attempts at aligning household waste collection practices with international standards were made from the 1990s but failed to permeate urban cultures and broadly change house-hold behaviors. Contradictory legislative moves on waste incineration, opaque corporate behaviors, civil campaigns against environmental pollution and allegedly unreliable implementation of filtering technologies made the quest for economically, socially, and environmentally friendly waste treatment more difficult. Bottom-up, urban cleanup initiative of touristy areas, recycling initiatives and education on waste avoidance and reduction was pursued by civil society actors and also by way of corporate social responsibility campaigns.

In the 2010s, a national garbage crisis sparked civil society outrage and protests against the accumulations of waste on the streets. The situation with large political conflict potential was exacerbated economically by the high cost of waste treatment in Lebanon relative to other countries in the Middle East and North Africa region and in terms of governmental expenditures dedicated to combating environmental degradation. Between 1996 and 2015, solid waste management expenditures totaled \$2.2 billion.¹

In frantic and determined attempts to ease the waste management crisis, new recycling initiatives were launched by civil society organizations and

¹ Impacting policies: Waste management and advocacy in Lebanon – Arab Reform Initiative (arab-reform.net)

non-profits. Social entrepreneurs and tech startups presented imported and homegrown micro-solutions on many occasions and corporate Lebanon sought to remedy accumulations of electronic waste.

However, although finding solutions for decades of accumulating garbage and recurrent waste management emergencies involved public, corporate, and civil stakeholders in the second half of the 2010s, including conceptualization of integrated urban reduce and reuse strategies with waste-to-energy facilities, only temporary fixes of the waste management problems were applied. Further attempts suffered disruptions with the outbreak of the economic malaise in the early 2020s. Important resource extraction opportunities from solid waste remain underused while studies on waste treatment in the previous decade have shown that a large proportion of reusable and recyclable materials in solid waste offers a great opportunity for improving waste reuse and recycling.² To this day, waste management is a serious development challenge in Lebanon, a main source of environmental degradation, as well as a potential threat to public health.³

Combining the need for solutions to considerable per-capita generation of organic – including food loss and food waste in agriculture, retail, households and hospitality ventures – and non-organic wastes with the imperative to improve baselines of public health, environmental protection and adaptation to climate impacts, Lebanon's private sector enterprises are cognizant of the responsibility of creating commercially viable, well-governed, transparent and affordable waste management solutions that maximize the conversion of wastes into profitable resources while serving environmental and social mandates.

Challenges

- Poor infrastructure, shortage of waste treatment facilities, including recycling plants, composting facilities and sanitary landfills, leading to improper practices such as open dumping or burning. This has severe environmental and health consequences. (See Figure 2)
- Corruption, lack of human resources and suitable facilities and inadequate technical skills are responsible for inefficient municipal solid waste management.⁴
- Lack of comprehensive waste sorting and segregation system
- Financial constraints and barriers to investment
- High prevalence of illegal dumping and uncontrolled burning of wastes which pollutes the environment and undermines formal waste management systems.
- The presence of informal waste sector, with scavengers collecting and sorting recyclable materials from waste, adds further complexity to waste management practices.

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Abbas II, Chaaban JK, Al-Rabaa AR, Shaar AA (2017) Solid Waste Management in Lebanon: Challenges and Recommendations. *Journal of Environment and Waste Management* 4(2): 053-063.

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UNDP and the EU Partner on Waste Management Support in Lebanon 2022 | United Nations Development Programme

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Abbas II, Chaaban JK, Al-Rabaa AR, Shaar AA (2017) Solid Waste Management in Lebanon: Challenges and Recommendations. *Journal of Environment and Waste Management* 4(2): 053-063.

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ILO brief on roundtable with European Parliament, March 2018, Circular economy a source of job creation and re-creation

6

ILO UNICEF Synthesis report 2022: Synthesis on the crisis impact on the Lebanese labour market and potential business, employment and training opportunities.

LCPS

About the Policy Brief

A Policy Brief is a short piece regularly published by LCPS that analyzes key political, economic, and social issues and provides policy recommendations to a wide audience of decision makers and the public at large.

About LCPS

Founded in 1989, the Lebanese Center for Policy Studies is an independently managed, non-partisan, non-profit, non-governmental think tank whose mission is to produce and advocate for policies that improve governance in Lebanon and the Arab region. LCPS's current research agenda focuses on: enhancing governance, informing the process of economic growth and sustainable development, promoting inclusive and effective social policies, and informing the development of policies for a sustainable environment. Four themes cut across the above areas of focus, including gender, youth, conflict resolution, and technology.

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Opportunities

- Developing an urban infrastructure of waste collection services that integrates financial accountability for high levels of waste generation with solutions for waste disposal which encourage reduction and sorting at source
- Unbiased adoption of least-damaging waste treatment technologies in public-private partnerships in creation of industrial solid and liquid waste management facilities for sorting, com-posting, recycling, and further treatment
- Creation of secure facilities for treatment of hazardous wastes such as biological and chemical waste from production of pharmaceuticals
- Extraction of valuable metals and raw materials from high-tech waste
- Establishment of a central Waste-to-Energy facility with inter-national partners
- Improving circular economy structures and incentivizing social enterprises that create and re-establish jobs⁵ through efficient waste management practices and integration on municipal and provincial levels
- Provision of higher and technical education that matches growing demand for qualified labor such as machine operators, wastewater technicians, and safety experts.⁶
- Exploitation of waste as source of biomass, recycled materials, and energy.

Policy Recommendations

1. Create a comprehensive waste management strategy by developing realistic action plans, enforcing the implementation of different laws, decrees and decisions to sustainably manage solid wastes.
2. Simplify and streamline the regulatory and permit-ting processes related to waste management projects. Formalize businesses in the sector to allow for easier and wider access to market and promote Lebanon's nature-based products on the international scene.
3. Promote the development of waste-to-energy projects that convert waste into electricity or other forms of energy. This creates job opportunities in waste collection, sorting, and energy generation.
4. Invest in the development of recycling infrastructure, including material recovery facilities and sorting centers. Expand and modernize the systems for collecting and transporting solid waste.
5. Organizing public awareness programs, which could start from the schools, increasing efforts for recycling, resource recovery, strengthening capacity of municipalities and encouraging public private partnerships.¹
6. Reemphasizing the role of municipalities to support (and benefit from) the private sector at the local level, by being in charge of collecting, transporting, treating, and finally disposing solid wastes.