



# COUNTRY PROFILE on the solid waste management situation in **LEBANON**

April 2014

## BACKGROUND INFORMATION

Population:	5.6 million projected to 2013 <sup>1</sup>
Municipal Solid Waste (MSW) Generation:	2.04 million tons (projected for 2013)
Per Capita MSW Generation:	1.05 Kg/day (weighted average over the country) <sup>2</sup>
- Urban areas	0.95 - 1.2kg/day
- Rural areas	0.8kg/day
MSW Generation Growth:	1.65 % per year
Medical waste generation:	25,040 Tons/year <sup>3</sup>
Industrial waste:	188,850 Tons/year <sup>4</sup>
Agricultural waste:	N/A tons/year
C&D Waste:	N/A tons/year
Waste Tyres:	N/A tons/year
e-Waste:	N/A tons/year
Packaging Waste:	N/A tons/year

## TECHNICAL PERFORMANCE

### Municipal Waste<sup>5</sup>

MSW Collection Coverage:	
- Rural areas	99 %
- Urban areas	100 %
MSW Final Destination:	
- Composted	15 %
- Recycled	8 %
- Landfilled	48 %
- Openly dumped	29 %
Number of Dumpsites:	-
Number of Controlled Landfills:	-
Number of Sanitary Landfills:	
- Planned	2
- Under construction	1
- Constructed	3
- Operational	3

### Hazardous and industrial waste

Number of hazardous landfills or plants (Chemical and physical treatment):	
- Planned	0
- Under construction	0
- Constructed	0
- Operational	0
Types of disposal and treatments for medical waste:	Part of waste (60%) treated by autoclaving and shredding Around 1,250 tons per year are incinerated at the hospitals

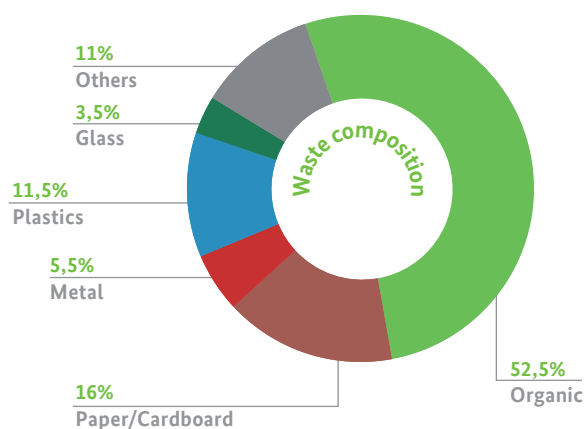
## Policy and planning environment

- Emergency plan for SWM in Greater Beirut area in 1998 (still implemented) which consists on collection of around 2800 t/d of municipal waste then sorting, composting and sanitary landfilling;
- Municipal SWM Strategy for Lebanon prepared by the MoE in 2002;
- The National Integrated Strategy for SWM in the country presented in 2010;
- Recently in March 2013, and within the National strategy of 2010, MoE with CDR and MoIM has presented to the CoM a new detailed strategy.

## Legal framework

### General Legal Framework:

- No specific legislative framework dealing directly with Solid Waste Management (SWM);
- A draft Law on Integrated Solid Waste Management is approved by CoM in 2012 and sent to the parliament for final approval under decree number 8003 dated 23/4/2012 and it is currently under discussion at the Parliament;
- A draft Law providing incentives to Municipalities hosting waste management facilities was prepared by end of 2013;



- 1- Excluding Syrian refugees and tourists
- 2- Another 1000 t/d is estimated to be generated by Syrian refugees
- 3- 5,040 tons of the total are infectious
- 4- 3,338 Tons/year is hazardous and most of it is mixed with MSW
- 5- Excluding the quantities generated by Syrian refugees
- 6- A portion (difficult to quantify) of the waste is directly recycled before reaching the municipal bins through private companies.
- 7- Scavenging activities (illegal) is continuously undertaken within the country.

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- Three decrees address the sector specifically:
  - Decree 8735 of 1974 assigning SWM as a municipal responsibility;
  - Decree 9093 of 2002 providing municipalities with an incentive to host a waste management facility;
  - Decree 1117 of 2008 that provides incentives to the Municipalities hosting a sanitary landfill that is currently being revised before implementation.

#### Legal framework related to specific waste types:

- Law No. 444 (August 1988) regulating hazardous waste management;
- Decree No 8471 dated 2012 related to Environmental compliance for industries;
- Decree 8006 (June 2002) amended through Decree 13389 (September 2004), classifying the different healthcare waste categories.

### Institutional framework

#### Policy and Planning:

- Numerous government institutions are involved: Ministry of Environment, Ministry of Interior and Municipalities, Council for Development and Reconstruction (CDR), Office of the Minister of State for Administrative Reform;
- Overlapping responsibilities and unclear lines of authority.

#### Implementation and Operation:

- In Beirut, Mount Lebanon and Tripoli: CDR, and to lesser extent, the MoE and the MoIM;
- For some regions, OMSAR, and to lesser extent, MoE and concerned municipalities are responsible for the construction and the operation of some sorting and composting facilities through an EU fund;
- the municipalities in the rest of Lebanon.

The **institutional structure** under the draft law on integrated SWM:

- Applicable decrees is needed after issuing the draft law on integrated SWM in order to clarify the administration responsible for SWM sector in Lebanon;
- Local authorities (municipalities, union of municipalities): responsible for the waste collection only.

### Financial & cost recovery arrangements

#### SWM Financing:

- Allocation of budget from the Government to waste management infrastructure;
- Allocation of budget from Independent Municipal Fund;
- International loans and grants;
- Proper financing by Municipalities.

#### SWM Costs:

Costs of SWM vary greatly in Lebanon.

	Cost of Collection and Transport	Total Cost from Collection to Disposal with Sweeping
Greater Beirut and Mount Lebanon (Except Jbeil)	USD 32 / tonne	USD143 / tonne
Tripoli	USD 64 / tonne	USD 92 / tonne
Zahle	USD 18 / tonne	USD 37 / tonne
Some rural areas	USD 10-18 / tonne	USD 20-30 / tonne

### Private sector involvement

**In collection and transfer:** highly involved.

**In disposal and treatment:** highly involved - Landfilling in Greater Beirut; construction and operation of an anaerobic digester in Saida, pressing and exporting recyclables (paper, plastics, and glass), recovering materials and semi-formal sector, etc.

### Options for improvement

- Issue the policy/ legal/ institutional and financial frameworks (applicable decrees) through the issuance of the Law on the ISWM;
- Approval by the CoM on the feasibility study prepared by RAMBOLL and the detailed strategy;
- Preparation of the tendering phase;
- Ensuring capacity development;
- Enhancing public awareness;
- Establishing and support SWM networks, such as SWEEP-Net network.

Published by	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH  Registered offices : Bonn and Eschborn, Germany  The Regional Solid Waste Exchange of Information and Expertise Network in the MENA region (SWEEP-Net) GIZ Office Tunis B.P. 753 - 1080 Tunis Cedex - Tunisia T + 216 71 967 220 F + 216 71 967 227 markus.luecke@giz.de <a href="http://www.giz.de/en/worldwide/326.html">http://www.giz.de/en/worldwide/326.html</a> <a href="http://www.facebook.com/GIZTunisie">www.facebook.com/GIZTunisie</a> <a href="http://www.sweep-net.org">www.sweep-net.org</a>	On behalf of the	German Federal Ministry for Economic Cooperation and Development (BMZ)
As at	April 2014	Adresses of the BMZ offices	BMZ Bonn Dahlmannstraße 4 53113 Bonn, Deutschland T +49 228 99 535 - 0 F +49 228 99 535 - 3500  poststelle@bmz.bund.de <a href="http://www.bmz.de">www.bmz.de</a>
Design and layout	Kréa - 1002 Tunis		BMZ Berlin Stresemannstraße 94 10963 Berlin, Deutschland T +49 30 18 535 - 0 F +49 30 18 535 - 2501
Text	GIZ Tunisia /SWEEP-Net/ D-Waste		
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