

Brief on the Proposed Policy for Integrated Solid Waste Management

Present State of the Solid Waste Management Sector in Lebanon:

Currently, Lebanon produces around 6,500 tons of household solid waste per day, around 52.5% of which is organic matter, around 36.5% is paper, cardboard, plastic, metal and glass, and around 11% is refuse and other materials. This waste is currently disposed of in the following ways: around 50% is thrown into open landfill (around 940 dump sites), around 35% is buried in sanitary landfills (Burj Hammoud; Ghadir River area; and Zahleh), and the remainder (around 15%) undergoes material recovery, through sorting into recyclable or re-useable material (paper and cardboard, plastic, metal, glass, etc.) or conversion into reprocessed materials or compost, which is undertaken in approximately 50 centers distributed across Lebanese territory. As for the energy recovery process, despite its importance in lessening landfill it is practically never carried out in these existing centers with the exception of one or two plants.

Beside household solid waste, Lebanon produces around 50,000 tons of hazardous solid waste each year: hazardous chemical industrial waste; electronics waste; expired solid materials and equipment; medical byproduct waste (hazardous non-infectious; waste requiring special management; hazardous infectious; etc.); used oils; used tires; used batteries; inert organic pollutants from the energy sector or otherwise; various types of slime, etc., in addition to other wastes such as solid waste byproducts of the olive oil industry, slaughterhouse waste, construction and demolition waste, bulky refuse (some of which is currently dumped in the Bsalim landfill), etc. Environmentally safe treatment of hazardous solid waste and other refuse is also non-existent, as most are disposed of haphazardly, with the exception of a portion of hazardous and infectious medical waste which is processed in accordance with the provisions of order 13389/2004, and some types of hazardous waste which is removed in accordance with the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Law 389/1994).

1. Principles of the Policy:

The Policy is founded on the following eight principles:

- 1) Respect for the principles stipulated in the Environmental Protection Law (Law 444/2002), especially the environmental related principles (vigilance, protection, preservation of biological diversity, avoidance of natural resource depletion, pollution oversight, and assessing environmental impact), economic principles (the polluter pays, reliance on economic stimulants), social principles (the importance of customary norms in the countryside in the absence of statues), and governance principles (cooperation and partnership), with the aim of protecting the environment and thus preserving the public health.

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- 2) Recovery of as much waste as possible (material and energy recovery) through the adoption of the hierarchy¹ of Integrated Solid Waste Management towards a circular economy, as per the following objectives:
 - Years 2019-2024: material recovery 25%, energy recovery 35%, sanitary landfill 40%
 - Years 2025-2035: material recovery 35%, energy recovery 50%, sanitary landfill 15%
- 3) Respect of the authorities of the Ministry of Environment for the management of solid waste, reinforcing the policy of coordination between the other relevant official ministries and departments, and coordination with and between local municipalities and communities; and to this aim, shoring up the Ministry of Environment's equities by filling vacancies including in the environmental regulatory agency (around 60) and amending its equities as necessary, and increasing the ministry's budget gradually.
- 4) Adoption of administrative decentralization of waste management, within the conditions set by law and regulations, by delegating to the municipalities the first stages of the hierarchy of waste management (reducing waste production, re-use, sort at source), in addition to sweeping and collection; and the municipalities are also responsible for the other stages of the hierarchy (pre-treatment with necessary additional sorting and final disposal), in part or in whole, conditional upon prior approval of the Ministry of Environment based on environmentally and economically beneficial draft legislation proposed by relevant municipalities within the allowed timeframe.
- 5) Confirming the government's duty to ensure sufficient distribution of resources by delegating to the central government the last steps of the hierarchy for management of waste produced by municipalities unable to carry out these duties by themselves (i.e. the stages of pre-treatment by necessary additional sorting and final disposal), consistent with the area division (service areas) laid out in principle six below.
- 6) Balanced development by coverage of all provinces under the proposed policy; with the aim of better applying the above principle related to the last stages of the hierarchy of waste management, adopting the service areas specified in decision number one by the Council of Ministers dated 6/28/2006, with possible amendment into six service areas as follows:
 - Administrative Beirut and the southern suburbs of Beirut, and a section of the El Maten and Baabda districts (the coastal section)
 - The Aley and Chouf districts, and the rest of Baabda districts
 - The Keserwane and Jbeil districts, and the rest of El Maten district
 - Southern Lebanon and Nabatieh provinces
 - Northern Lebanon and Akkar provinces
 - Bekaa and Baalbak – Hermel provinces

¹ The hierarchy: reduce waste production, re-use, sort at source and automatic sorting and recycling, treatment (composting and energy recovery), and final disposal of refuse by using it to reclaim spoiled sites, and removal of poisonous materials

- 7) Securing competitiveness, innovation and a spirit of enterprise by adopting all technologies proven to be scientifically effective, and selecting sites within the specified environmental conditions and adopting spoiled sites as a priority.
- 8) Spreading a culture of shared responsibility for integrated solid waste management through the Ministry of Environment's undertaking the preparation and execution of a complete communications program to simplify the concept of the hierarchy of solid waste management and clarify the role of each citizen and institution in its proper application.

2. Procedural Aspect of the Policy:

2.1 Procedural Aspect for Household Waste:

As regards the first stages of the hierarchy of solid waste management (reduce waste production, re-use, sort at source), in addition to sweeping and collection:

- The Ministry of Environment prepares an example scope of work for the sort-at-source process and sweeping and collection, and distributes it via the Ministry of Interior and Municipalities to municipalities and administrators in villages with no municipality to work with, within 3 months from the date of approval of this policy by the Council of Ministers.
- Municipalities, federations of municipalities and administrators review the example scope of work above and decide among themselves if they want to apply it individually or jointly between municipalities and federations, so as to ensure that this service is not suspended in areas where, at present, the service is provided centrally.
- Municipalities continue to raise awareness about reducing waste production, re-using materials, sorting-at-source and recycling, carrying out circular number 1/8 for 11/16/2015 issued by the Ministry of Environment regarding guidance on household solid waste integrated management for municipalities, federations of municipalities, administrators and governors, amended by circular number 1/7 for 11/16/2017.

As regards the development of the recycling sector, the Ministry of Environment prepares a program to this end in coordination with the relevant governmental bodies indicated in section four (Institutional Aspect), with the program taking into account the available research on this subject (analysis of information on the quantity and types of waste produced and related recovery processes and the basic requirements to develop this research and development market), especially since passage of order 167/2017 reducing customs fees and taxes on equipment and technology that help limit or prevent pollution or conserve the environment.

As regards to the last stages of the hierarchy of solid waste management (pre-treatment by necessary additional sorting and final disposal), the following should apply:

- Immediately upon approval of this policy by the Council of Ministers, the Ministry of Environment prepares a detailed survey and sends it to the municipalities, federations of municipalities and administrators via the Ministry of Interior and Municipalities to assess their capabilities to administer this stages, in part or in full, as municipalities or collectives of municipalities or federations or districts, within a period of one month from receiving the Ministry of Environment survey, and the survey will include penalties and

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finances to be levied on non-respondent municipalities. Municipalities that have shown a willingness to administer these stages will be given a period of two months to submit suggestions to the Commission indicated in section four (Institutional Aspect), with any proposed projects to be environmentally² and economically³ beneficial.

- Based on the responses from municipalities, they are to be divided into two groups:
 - 1) Municipalities able to carry out all of the stages of the hierarchy of solid waste management by themselves, which will be required to abide by the regulations of principle four of section one above, and negligent municipalities in this group are subject to legal regulations;
 - 2) Municipalities unable to carry out all of the stages of the hierarchy of solid waste management by themselves, which thus will be required to participate in programs carried out by the central government as per principle five of section one above, and as per the area division laid out in principle six of that section, and the scope of work for these projects will include at least one site⁴ and at least one treatment and final disposal method⁵ for each service area, with the possibility of adopting a preferable site or method, and taking into account any available treatment and final disposal centers or those being built or planned and related employment contracts.

And all cases will benefit from Law 48/2017 related to the organization of public-private sector partnership.

Seeing as the time period necessary to begin operation of new treatment and final disposal centers in all areas is no less than two years from the date of approval of this policy by the Council of Ministers, and since the current transitional plan for the provinces of Beirut and Mount Lebanon is unlikely to cover the entire period specified by decision number one of the Council of Ministers for 3/12/2016, corrected by decision number one for 3/17/2016, i.e. through July 2020, due to the incomplete application of the terms of that decision, therefore, in the interests of continuing vital sanitation services and preserving public health and the social and economic public order, the Council for Development and Reconstruction authorizes as follows⁶:

- Rehabilitate and increase the effectiveness of sorting plants in Karantina and Aamroussieh in order to improve the sorting process and increase its percentage, by

² Environmental benefit: according to an environmental impact survey scope specification report, if the project has not yet been undertaken (followed by a detailed study assessing environmental impact within a period of three additional months at most), or an environmental audit evaluation if the project has already been undertaken, approved by the Ministry of Environment, with the evaluation including a pledge to designate an advisory office of supervision, and the local authorities are to provide the Ministry of Environment with copies of regular reports issued by this body, in addition to the local authorities' appointment of a full-time environmental engineer

³ Economic benefit: according to the principle of economy of scale and the principle of allocative efficiency, and the sources of financing.

⁴ Sites: sites approved by decision of the Council of Ministers number 1 for 6/28/2006 may be adopted after re-inspection and completion of necessary initial evaluations by the Council for Development and Reconstruction, beginning with the sites in the governorates of Beirut and Mount Lebanon, or any other sites with approval of the relevant municipalities based on current planning guidance to prepare open dumps and close them (section 2-3), or planning guidance being prepared or outlined in section six.

⁵ Methods: The methods approved by decisions number 1 and 55 for 6/28/2006 and 9/1/2020, respectively, of the Council of Ministers, or any other methods proven effective internationally, with the most appropriate method to be selected in accordance with the specificities of each service area

⁶ After completing the necessary environmental surveys with Ministry of Environment approval

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increasing sorting plans when necessary and providing workers with specialized equipment to produce RDF.

- Rehabilitate a treatment plant in the Coral area as an MBT with Biodrying plant.
- Build an MBT with Biodrying waste treatment plant in the Ghadir river area.
- Rehabilitate the sanitary garbage landfills in the provinces of Beirut, Mount Lebanon, Northern and Southern Lebanon (sites to be suggested by federations of municipalities to the Ministry of Interior and Municipalities and the Committee indicated in section four below, giving preference to spoiled sites, within a period of fifteen days, under penalty of non-respondent municipalities being referred to the relevant judicial authorities as stipulated in section six).
- These facilities are to be ready for use within a period of one year from Council of Ministers approval of this policy.

2-2 Procedural Aspect for Gradual Closure of Open Landfills and their Rehabilitation:

Under the updated guidance planning to rehabilitate open landfills and close them (household waste dumps and landfills) [for] 2017, the Ministry of Environment communicates with relevant municipalities to start gradual implementation of this plan, coinciding with the establishment of new treatment and final disposal centers.

2-3 Procedural Aspect for Hazardous and Other Wastes:

The Ministry of Environment prepares a rapid feasibility study consistent with the available studies in the hazardous and other wastes sector, and in light of the findings and in accordance with Law 48/2017 and the environmental laws and statutes in effect undertakes the necessary steps to:

- Build 3 temporary pre-removal storage plants (2 on the shore and one on the interior; the site suggested by the tenderer as per the standards set in the scope of work), for hazardous industrial waste, electronics waste, expired equipment, and medical institution byproduct waste (hazardous and non-infectious, and those requiring special management), and biological pollutants, etc.
- Build a treatment plant, at sites suggested by tenderers as per the standards set in the scope of work, for used oils, tires, and batteries.
- Build a special incinerator for other types of waste (such as slaughterhouse waste and dead animals, etc.).
- In addition, specifying an abandoned quarry in each district for the treatment of landfill waste and final disposal of bulky items.

3. Financial and Economic Aspect of the Policy

Implementation of the first stages of the hierarchy for solid waste management (reduce production; re-use; separate-at-source), as well as sweeping and collecting, will be funded by local authorities via municipal revenues (municipal fees, independent municipal funds including mobile revenues, endowments, etc.); and the provisions of Law 280/2014 apply in terms of

municipalities or towns in which waste treatment facilities are constructed which see a surplus in share of revenues from the independent municipal fund, and their exemption from debts incurred from solid waste management during the previous period.

The final stages of the hierarchy (pre-treatment by additional necessary sorting and final disposal) will be funded jointly between municipal revenues and the treasury, in tandem with initiatives to recover costs such as:

- Fees specified in the draft law for integrated solid waste management (direct fees on the source related solid waste management, taking into account the quantity, type and specificities of this waste, along with the associated costs of management operations; indirect fees, such as a fee on electric bills; fees on products).
- International donations, including those related to the United Nations Framework Convention on Climate Change
- In addition to a feasibility study for application of Extended Producer Responsibility, starting with several priority sectors.

4. Institutional Aspect of the Policy

Upon ratification of the draft law for integrated solid waste management mentioned above, which mentions the establishment of a national commission to manage this sector under supervision of the Minister of Environment, the Council of Ministers shall form a committee representing relevant parties to the issue (i.e. the Ministries of Environment, Interior and Municipalities, Finance, Industry, Public Health, and the office of the Minister of State for Administrative Development, and the office of the Minister of State for Women's Affairs, and the Development and Reconstruction Council,) along with five representatives from the private sector: a representative from the Economic and Social Council, a representative of other economic bodies (the Lebanese Manufacturers Association or Federated Chambers of Commerce, Industry and Agriculture), a representative of specialized professional unions (engineers and chemists), a representative of civil society, and a representative of the academic sector—for a total of 13 members, chaired by the Minister of Environment. The Commission's duty shall be to oversee the proper implementation of this policy upon approval of the Council of Ministers, and select the necessary projects to strengthen the institutional capacities of each of the institutions represented.

5. Legal and Supervisory Aspect of the Policy

Ratification of the draft law for integrated solid waste management referred by the Council of Ministers to the Parliamentary Council in 2012 (order 8003/2012), which lays out the general principles of integrated solid waste management, specifying the institutional framework, the hierarchical sequence of non-hazardous solid waste management and the bases of hazardous solid waste management, in addition to the funding, fees and incentives, and the obligations, violations and penalties [sic fragmentary sentence]. As well as preparation of the

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implementational stipulations under this law and the other related projects stipulated in Law 444/2002 (Protection of the Environment) [sic fragmentary sentence].

As regards supervision, it shall be through mandating the owners of solid waste treatment and final disposal centers to provide regular reports to the Ministry of Environment, which will review the reports and undertake necessary inspections to corroborate them in cooperation with the Environmental Regulatory Agency upon initiation of work at these centers, in accordance with order 3989/2016, and communicate with public environmental lawyers and environmental affairs investigative bodies (Law 251/2014) when necessary. And in order to avoid open dumping, the Ministry of Environment, Ministry of Justice, and Ministry of Interior and Municipalities will coordinate to:

- Set financial penalties to be incurred by each municipality for open dumping or other environmental violations, under executive order for Law 444/2002 (Article 4, Clause C) made by the Council of Ministers upon suggestion of the three ministers, with this fine to be levied directly against municipal resources allocated from the independent municipal fund, including mobile fees;
- Consider the act a criminal offense by the chairman, deputy chairmen and members of the municipality, and anyone else proven to be complicit in the act of public dumping.

6. Strategic Aspect of the Policy

Immediately upon ratification of this policy by the Council of Ministers, and in tandem with the start of its implementation, the Ministry of Environment shall prepare a national strategy for integrated solid waste management based on this policy, with details derived from the guidance plans for household solid waste management for each district (a part of which plans are prepared by the office of the Minister of State for Administrative Development), paired with a strategic environment assessment survey as per order 8213/2012.

7. Educational and Guidance Aspect of the Policy

Immediately upon ratification of this policy by the Council of Minister, the Ministry of Environment shall prepare and implement, in coordination with the relevant bodies from the public and private sector (Ministry of Education and Higher Education, Ministry of Information, Ministry of the Interior and Municipalities, the special committees represented in the commission referenced in section four), an integrated communication program to simplify the concept of the hierarchy of integrated solid waste management and clarify the role of each citizen and institution in its proper implementation, as per circular number 8/1 dated 11/16/2015 issued by the Ministry of Environment and amended by circular number 7/1 dated 11/16/2017. In tandem with this, municipalities will be trained in the concept of integrated solid waste management, in addition to a media and advertising campaign to resolve misunderstandings.