



Activity 5.1.1 Mapping and assessment of relevant local, regional and national policies in waste

SPAIN | JORDAN | LEBANON | ITALY | TUNISIA | GREECE



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1. List of Acronyms

CJEU - Court of Justice of the European Union

EIA - Environmental Impact Assessment

EPR - Extended Producer Responsibility

MSW - Municipal Solid Waste

NAPCE - National Action Plan on Circular Economy

NRRP - National Recovery and Resilience Plan

NSPWP - National Strategic Plan for Waste Prevention

NWMP - National Waste Management Plan

SCP - Sustainable Consumption and Production

SWM – Solid Waste Management

2. Summary of the document

This document encompasses the results of a mapping of policies and strategies on solid waste management across the 6 project partner countries of the ENI CBC Med funded project Med4Waste. These countries are Greece, Italy, Jordan, Lebanon, Spain and Tunisia. The work focused on reviewing recent national and municipal waste and circular economy policies and strategies, while also providing the context of each country. Links to the regional frameworks influencing directly and indirectly the national policy settings (EU, UfM, UNEP/MAP, etc.) have also been made.

As anticipated, the mapping process showed a varying landscape and made clear that each country has its own specific needs and priorities, as presented in the gaps and opportunities subchapter of each country. However, valuable conclusions and recommendations can be derived, of relevance to all countries in the Mediterranean, which will be integrated in the Med4Waste Policy Toolkit (a key project deliverable¹) and eventually into local and national policies and planning.

In a nutshell, this document:

- provides an overview of the regional policy framework on waste management and relevant legal context of each country mapped, in a non-exhaustive way.
- identifies main gaps and opportunities on approaching sustainable waste management and circular economy, either at the institutional level or at the practical, operational and/or implementation level in the project partner countries (e.g. enhancement of awareness on specific aspects of sustainable waste management).

¹ The Med4Waste Policy Toolkit will be a dynamic document synthesizing the recent developments in municipal solid waste management in the Mediterranean and integrating the results of the Med4Waste findings and recommendations to mainstream sustainable waste management into national, regional and local planning in the region.

3. Mapping of Med4Waste partner countries' policies on waste management

3.1. Greece

3.1.1. Local context

Waste management has been recognized as one of the most severe problems in Greece's environmental performance indices, suffering from a low level of organization while relying predominantly on semi-controlled landfills until the end of the last century. Nevertheless, over the last two decades, solid waste management in Greece has improved.

At national level, in 2018 a total of 5,523,809 tonnes of municipal solid waste were generated, compared to 5,277,209 tonnes in 2015 (a 4.7% increase in the amount generated compared to 2015). The per capita generation of MSW amounted to 514 kg/capita/year in 2018, while the corresponding EU average was 489 kg/capita/year.

Following the recent EU waste policies, a significant effort has been made to reduce the amount of landfilling, while increasing the rate of recycling. Indeed, the Greek government has set the most ambitious goal among all EU Member States for reducing waste disposal.

Disposal in sanitary landfills is still the main method of managing MSW (78.4% of generation in 2018); however, there has been a decreasing trend from 2015 onwards, mainly due to the gradual increase in recycling as the country is still struggling to increase the percentage of recycled municipal solid waste. Greece is still lingering on a lower percentage when comparing to the European average (21% vs 48% approximately in 2020). Despite the heavy reduction of MSW production, recycling operations in Greece are still far from the new EU target of 65% by 2035.

3.1.2. Legislation

The regulatory framework for waste management in Greece comprises of several pieces of legislation that are based on EU Law. The main driver has been Directive 2008/98/EC on waste, which has been transposed into Greek legislation with Law 4042/2012 on Waste Management.

Throughout the last decade, a significant number of Directives and Decisions regulating specific problems on waste management have been adopted at a national level. Recently, Law 4685/2020 on the modernization of the environmental legislation, incorporated into Greek legislation, Directives (EU) 2018/844 and 2019/692.

Initiative	Description
Article 12 of Law 1650/1986 on the Environment	Article 12 lays down the principal obligations in relation to waste management.
Law 2931/2001 and associated Presidential Decrees for the recycling of packaging waste	Transposing Council Directive 94/62/EC on packaging waste and related Directives on other wastes (used tires, end of life vehicles, waste oils, electrical and electronic waste and batteries). Quantitative targets are set

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	for recovery and their enactment is primarily an implementation of the 'polluter pays' principle, since producers of products and producers of waste are obligatorily involved in the set up and management of relevant Alternative Management Systems.
Joint Ministerial Decision 29407/3508/2002 on sanitary landfill of waste, transposing Council Directive 99/31 on landfill of waste	The Decision <i>inter alia</i> sets strict operational guidelines for Sanitary Landfill Sites; mandatory processing of waste both at a national and at Landfill Site level, establishes targets for reducing the amount of waste deposited by landfill and provides for planning and licensing.
Joint Ministerial Decision 50910/2727/2003 on the management of waste	Transposes the Directive into national law and includes the National Waste Management Plan - introduces the tool of Regional (and Inter-regional) Waste Management Plan as the operational tool for waste management planning, determines the obligations of the management authorities and the Regions, regulates the permits of waste management operators and sets a time limit for the eradication of uncontrolled dumping.
Law 4685/2020	Provides for the National Waste Management Plan (NWMP), which is approved by the Ministerial Council, following a proposal by the Minister of Environment and Energy.
Ministerial Decision no. 99398/6484	The Ministerial decision contributes to the establishment of a unified and stricter legislative framework in terms of the environmental licensing for Waste Processing Facilities, whereas at the same time provides for the shortening of the relevant procedures and guarantees a high level of environmental protection.

3.1.3. National Strategies

A new **National Waste Management Plan** and its accompanying **National Strategic Plan for Waste Prevention (NSPWP)** was introduced and instituted in September 2020 with an implementation period between 2020 and 2030. The aim of the new NWMP is to adopt the appropriate strategic directions so that the national waste management policy is implemented through a coherent network of plans, programmes, actions and projects, and the established objectives are achieved.

The new National Waste Management Plan defines the policy, strategies, axes and the qualitative and quantitative objectives of waste management in the individual waste streams, defining the actions and measures required to achieve the objectives set by national and European waste management legislation. The new plan also sets an ambitious target for reducing waste disposal to 10% by 2030, five years ahead of the European guidelines (10% by 2035).

The above goal will be achieved within the framework of national planning towards energy recovery. The plan encourages the construction of new treatment plants that will produce secondary fuel, biogas and electricity. The new NWMP proposes the construction of four waste-to-energy units with an estimated capacity of between 847,782 and 1,429,752 tonnes per year by 2030. Following the approval of the National Waste Management Plan, the regional waste management plans developed by the country's 13 regions are currently being reviewed, as are the local plans of all the municipalities.

3.1.4. Circular Economy Framework

The **National Action Plan on Circular Economy (NAPCE)**, was developed as Greece's response to the EU Action Plan for the Circular Economy. It was endorsed by the Governmental Economic Policy Council in 2018. The NAPCE details short-term priority interventions aimed at the promotion of the circular economy in Greece. The strategic long-term goals for 2030 included in the NAPCE focus on, amongst others, further applying the waste hierarchy, focusing on the prevention of waste production, recycling and supporting circular economy consumption patterns of re-using, re-storing and repairing especially for electrical and electronic equipment.

3.1.5. Gaps & Opportunities

The transition of the Greek economy from linear to circular is hindered by the country's poor performance in waste management compared to other EU countries. Many efforts should still be made in order to inform and persuade society and policy makers of Greece that modern waste to energy technology is the demanded step after recycling and composting at the source, in order to be severed from landfill sites and the illegal dumps. It is noted that while no investments directly related to improvements in the waste management sector have been included in the National Recovery and Resilience Plan (NRRP), the plan does foresee an important reform of the legal framework by mid-2023 including, among others, the provision of incentives to the Greek municipalities to achieve higher recycling rates and to render the economy into a more circular path.

The challenge lies in achieving the planned objectives and recycling quotas by 2025 and reducing greenhouse gas emissions from the waste sector as a whole. The country has to reduce the proportion of waste going to landfills, raise recycling rates and improve the disposal of hazardous waste. Further obstacles are the difficult access to the archipelagos and the huge volumes of waste generated by tourism during the summer months.

3.2. Italy

3.2.1. Local context

Interestingly, despite being one of EU's leading waste generating nations, Italy is also ranked first in the EU for waste treatment by recycling in 2020, with a recycling rate of over 83%. Italy also disposed of one of the largest volumes of waste for energy recovery in the EU, although that represented less than 6% of the total waste generated in the country.

In terms of municipal waste by treatment, the situation varies by region, but managing waste efficiently at national level remains an important challenge for Italy. 2019 data shows landfilling is still excessive in the least developed regions (31%) and in the transition regions (39.7%), as compared to the most developed regions (14.8%). Great efforts by certain regions are needed to meet the 10% national target for landfilling by 2035.

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Indeed, the regional differences in the municipal waste management in Italy are profound. Northern Italy accounts for the largest volume of municipal waste generated in the country, with almost twice the average production of 7.5 million tonnes in the rest of Italy. Nonetheless, the northern Italian regions have the highest share of municipal waste subject to sorting in the country. Additionally, most of the waste management centers, comprising incineration and waste energy recovery plants, are in the North. Because of the lack of infrastructure in central and southern Italy, large volumes of waste are transported across the country or permanently sent to landfills. In 2020, the volume of municipal waste collected in landfills was over one million metric tons higher in southern Italy than in northern Italy. On top of that, southern Italy has the highest rate of eco-mafia crimes, including illegal trafficking of waste that mainly accounts for industrial and construction waste, hazardous waste, and electronic waste.

After falling for a period, municipal waste generation in Italy has started to increase in recent years. It came to 504 kg/year/inhabitant in 2019, although it remains close to the EU average (501 kg/year/inhabitant). This indicates that Italy's economic growth is not yet decoupled from its generation of waste.

Nevertheless, Italy has made slow but steady progress over the past decade with a steady increase in recycling (in 2019 with 51% compared with the EU average of 48%) and a decrease in landfilling (21% in 2019). The Italian government's intention under their waste policy is to increase recycling capacity, which, in turn, should reduce the demand for new incineration plants.

A notable example is the region of Capanori, a European frontrunner in the zero waste and circular economy movement, as it became the first Zero Waste Certified City in Italy and the third in Europe.

3.2.2. Legislation

The European Directive about Waste (200/98/EC) which was adopted by Italy in April 2010 (Legislative Decree December 3, 2012, No.205) remains the main driver in regards to the country's regulatory framework for waste management.

Initiative	Description
Legislative Decree No. 152 of 3 April 2006 (Articles 177 to 266)	More specifically: <ul style="list-style-type: none"> - the general discipline (Articles 177 to 216 ter) that refers to the scope of application, general principles, waste prevention, producer responsibility, by-products, the end of waste, waste classification, expertise, service and authorisations; and - special regulations (Articles 217 to 238) regarding certain specific types of waste and the related consortia (e.g., packaging, electrical and electronic equipment, waste deriving from building maintenance activities, tires, end-of-life vehicles, residue produced by smoke, exhausted oil and fats), as well as the incineration and co-incineration of waste.
Law 166/2016	The Italian Law against food waste aims to tackle food waste and includes a regulatory framework to prioritise food recovery and redistribution of surplus food for Italy's most deprived. It is Law No. 166.
Legislative Decree No. 116/2020	According to this, manufacturers and distributors must label all packaging placed on the Italian market in accordance with the new directives. On any

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	packaging, manufacturers and distributors of packaging must indicate a prescribed alphanumeric coding.
Decree No. 152 of 27 September 2022	Establishing the specific criteria in compliance with which construction and demolition waste and other inert waste of mineral origin, subjected to recovery operations, cease to be classified as waste, pursuant to Article 184 ter of the Environmental Code.
Law 118/2022	Laying down provisions on environmental matters, including on municipal waste from non-household users delivered outside the public service.

3.2.3. National Strategies

○ **National Sustainable Development Strategy**

The National Sustainable Development Strategy includes actions to promote efficient resource use, circular economic mechanisms, the market of secondary raw materials and to minimise waste production. The NSDS is intended as the overarching strategic framework to guide the implementation of the 2030 Agenda in Italy and represents the national reference framework for planning and programming policies and for environmental assessments (SEA, EIA). Policy coherence for sustainable development (PCSD) is one of the guiding principles and tools.

○ **National Programme for Waste Management (PNGR)**

Italy also adopted in June 2022 a national programme for waste management (PNGR) with the intention of providing technical support to local authorities by the government to implement the environmental regulations and to draw up plans and projects on waste management.

3.2.4. Circular Economy Framework

With regard to the country's circular economy strategy, as part of the Recovery and Resilience Plan's reforms (RRP), Italy adopted in June 2022 a new **National Strategy for Circular Economy**², which is expected to cover the entire lifecycle of products. The strategy includes action to help create a new digital waste traceability system, tax incentives to support recycling and the use of secondary raw materials, revision of environmental taxation, right to reuse and repair, reform of the extended producer responsibility and consortia system, support for existing regulatory tools, and support for the industrial symbiosis project through regulatory and financial instruments.

Italy has a **national circular economy network**³ and held a fourth annual conference on 5 April 2022.

○ **Waste management regulation and circular economy principles**

The law sets out governance and management principles for waste collection, waste prevention, reuse and recycling and integrated efficiency.

○ **Towards a Model of Circular Economy for Italy**

² [National Circular Economy Strategy](#)

³ [Circular Economy Network](#)

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“Towards a Model of Circular Economy for Italy - Overview and Strategic Framework” (Ministry for the Environment, Land and Sea, Ministry for Economic Development, 2017) is a document that defines Italy’s strategic positioning on the issue in line with the commitments adopted under the Paris Agreement, UN Agenda 2030, G7 Communiqué and within the EU framework. The document calls for a “*change of paradigm*” for Italy’s economy, for a new way to consume, produce and do business. There is a need for a new industrial policy aimed at sustainability and innovation capable of increasing the competitiveness of products and manufacturing. Considering the importance of the document, the Italian government decided to collect the contributions of all institutions, firms, experts and citizens who deal with the issue to develop a document that is the result of a shared and participatory process.

3.2.5. Gaps & Opportunities

Despite some progress made in recent years on municipal waste management, in particular with a steady and consistent increase in recycling and composting, the waste sector in Italy still has significant shortcomings, as illustrated by several infringement procedures against Italy. These include the ‘landfill case’ and the ‘Campania case’ subject to fines levied by the Court of Justice of the European Union (CJEU).

More action is needed to ensure that waste disposal in Italy is carried out in compliance with EU law. The NRRP brings important reforms with a national circular economy strategy and a national waste management programme, plus flagship recycling investments that are expected to improve implementation of environmental norms on the ground.

Some of the key priorities for the country is the complete closure of non-compliant landfills, harmonization and increase of regional landfill tax rates as well as implementation of the national waste management programme and endorsement of regional waste management plans that are in line with the revised Waste Framework Directive.

3.3. Jordan

3.3.1. Local context

Solid management in Jordan, one of the most important services provided by municipalities, consists mostly of collection and transfer to sanitary landfills or open dumpsites. Of the 18 final disposal sites existing in the country, only one is an engineered sanitary landfill, posing serious risks to the environment and public health.

Approximately 50% of the waste generated in Jordan is organic waste, mainly composed of food waste generated by households, while 22–33% of waste is composed of recyclable materials such as paper and cardboard, metals, and plastics. 48% of MSW is landfilled and 45% is openly dumped while only 7% is recycled, with the absence of nationwide recycling schemes. Recycling is undertaken by formal and informal waste pickers as there is no operational recycling facility in the country.

In the past years, Jordan witnessed industrial and population growth due to the influx of Syrian refugees, which added additional pressure on municipalities already struggling to provide essential

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services to their constituents. Over-usage of assets resulted in higher maintenance costs and accelerated the depreciation of equipment. In 2022, it was estimated that 4 million tonnes of MSW was generated. MSW is estimated to reach 5.2 million tonnes in 2034.

With Decision No. 11392/02, the Government of Jordan approved its first National Solid Waste Management Strategy in September 2015. The National Strategy aims at shifting over 20 years from *"an old, inefficient, costly and environmentally unstable municipal solid waste management system towards a modern and integrated one that will be based on the Three R's approach (Reduce – Reuse – Recycle)"*. The strategy is part of the Jordan vision 2025, which includes improving infrastructure, as well as education and health.

To alleviate the burden of the refugees on the waste management system of the country, the Government of Jordan put in place a Response Plan to the Syria Crisis 2016-18 where solid waste management represents 41% of the funding requested under the Chapter Local governance and municipalities. One of the objectives of the plan was to improve municipal services and infrastructure such as waste collection in areas with critical levels of demographic stress due to the arrival of large numbers of Syrian refugees and to mitigate pressures on natural resources as well as on environmental and ecosystem services. Following the Supporting Syria and the Region Conference that took place in London in February 2016, the EU has doubled the funding committed to this operation. At the conference, Jordan committed to ensuring that Syrian refugees are employed alongside Jordanians within the frame of infrastructure projects that will be implemented. A GIZ "Waste to positive Energy" project, commissioned in mid-2015 by the German Federal Ministry for Economic Cooperation and Development, developed [Guidelines for Implementing Cash-for-Work Projects in the Waste Management Sector](#).

3.3.2. Legislation

Initiative	Description
Regulation No. 67 (1979) Amended by: Regulation No. 21 (2005)	Buildings and zoning regulation in the City of Amman; sets permit regulations for construction and demolition waste and illegal dumping.
Law No. 27 (2005) on Solid Waste Management	Law 27 of 2005 establishes general requirements in relation to manpower, equipment, surveillance, management of containers, separation of hazardous waste, documentation, and final treatment or control of disposal for each party that generates and/or manages solid waste.
Law No. 52 (2006) on the Protection of the Environment	As per the Environmental Protection Law, an EIA is requested prior to the construction of facilities, including solid waste management facilities. The Ministry of Environment, through the Department for Licensing and Guidance, is responsible for screening, control and follow-up of the EIA procedure.
Regulation No. 83 (2009)	Determines the different types of nuisance activities and the municipal control measurement, including the municipal responsibilities related to transportation, waste collection, treatment and disposal, and the attached fee system.
Law No. 13 (2011) Amended by: Law No. 7 (2012)	Sets municipal responsibilities such as waste collection, municipal cleaning, and disposal.

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Bylaw of degradable plastic shopping bags No.45 (2017)	It states that plastic shopping bags have to be biodegradable or degradable whether they are produced or imported unless the thickness of the bags is more than 50 microns. It also bans the production of black plastic shopping bags with the goal of preserving the environment and the economy and eliminating the adverse effects of plastics on public health.
The Waste Management Framework Law No.16 (2020)	It defines the roles and responsibilities of actors in the solid waste management sector as well as outlines key considerations and measures for the solid waste management system in Jordan. Article 6 of the Law includes the following key measures to reduce pollution and ensure the protection of public health and the environment in the management of solid waste: <ul style="list-style-type: none"> • Separation of waste at source. • Reduction in the amount of waste generated, including municipal waste. • An increase in opportunities for waste recovery. • Disposal of waste that cannot be recovered, reused or recycled through compaction and storage, as per the specified standards.
Bylaw No.85 (2020) on the Waste Management Environmental Information and Monitoring System	Issued in accordance with article 4 of the Environmental Protection Law, No. 6 of 2017 - where it obliges waste generators, producing more than 100 tonnes per year of waste, to register in the system and obtain an environmental identification number.

3.3.3. National Strategies

○ Jordan 2025: A national vision and strategy

Jordan 2025 (also known as Vision 2025) sets a new path for socio-economic development in the country and aims to revitalize the economy by targeting poverty, unemployment, and the fiscal deficit, and boosting GDP growth. Waste management is treated in Chapter: The Environment sector.

Priority initiatives related to Solid Waste Management (SWM):

- Safe disposal of solid waste in prepared landfills.
- Develop a system of assortment, re-use and recycling.
- Invest and create new jobs in the six sectors targeted for the green economy: the energy sector, both renewable energy and energy efficiency, the transport sector, the water sector, waste management sector, organic and sustainable agriculture sector and sustainable and environmental tourism.
- Increase public sector participation in solid waste management system.
- Increase private sector participation in the system of assorting, re-using and recycling waste.

Two of the KPIs set in this chapter and related to SWM:

- Reduce the percentage of waste that is disposed of in landfills from 80% in 2017 to 60% in 2025
- Increase the percentage of treated and re-used solid waste from 20% in 2017 to 40% in 2025.

○ National Strategy and Action Plan for Sustainable Consumption and Production

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The National Strategy and Action Plan for Mainstreaming Sustainable Consumption and Production targeted three sectors: Agriculture/Food Production, Transport, and Waste Management Sectors aiming to support the implementation of the agreed SCP strategic, operational objectives and actions at the national level. In the waste management sector, the strategy and the Action Plan set 3 Objectives and several suggested actions to be implemented by 2025 to achieve the vision 2025.

- **National Solid Waste Strategy for Jordan**

The National Solid Waste Management Strategy aims at achieving a sustainable waste management system based on the three R's approach (Reduce – Reuse – Recycle). As part of the Jordan Vision 2025, the Strategy includes provisions for improving infrastructure, as well as education and health. In terms of landfills, the Strategy was adopted as a sustainable developmental action plan till 2024 to reduce the number of waste landfills to 9 and replace them with 21 transformational stations nationwide.

- **Green Growth National Action Plan: Waste sector**

The Waste Sector Green Growth Action National Action Plan 2021-2025 (GG-NAP) outlines a green growth framework and actions for the sector aligned with the National Green Growth Plan (NGGP), Jordan Vision 2025, and Nationally Determined Contributions (NDCs) under the Paris agreement.

The Waste Sector GG-NAP identifies 14 sector sub-objectives that serve to mainstream the overarching green growth objectives into waste sector policies and investments. What is more, the Energy Sector GG-NAP provides for increased use of waste-to-energy approaches to produce energy (biofuels and electricity generation) in terms of waste management.

3.3.4. Circular Economy Framework

One of the transformational impacts of the **Waste Sector Green Growth Action National Action Plan 2021-2025 (GG-NAP)** is encouraging private sector investment and job creation in the circular economy through innovation, market development, and public-private dialogue. In fact, two of the 16 action plans are related to circular economy: (i) Establish a national center for excellence on waste management and circular economy to promote innovation, training, R&D, investment and policy work and (ii) Design and implement a national behavior change campaign about circular economy and waste management with total estimated implementation cost (USD) of 15,000,000 and 10,000,000 respectively.

3.3.5. Gaps & Opportunities

The main problem in Jordan regarding waste management is that until now there are still no clear incentives for the private sector to enter. For example, the municipalities have not been able to guarantee a minimum amount of sorted waste to be provided to the private sector in cases of operating sorting and/or recycling facilities.

Jordan landfills most waste including plastic. Waste sorting and recycling is limited and the plastic recycling industry is still reliant on waste pickers on both the street and dumpsites levels, with only few municipalities starting to sort the waste from sources in selected areas of the commercial clusters within these municipalities. The private recycling sector is limited due to various obstacles: inconsistent

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supply of materials; poor quality of material; high price marker volatility; and lack of separation at source.

Consumers' awareness including thorough formal, non-formal and informal education programmes, should also be increased. Special attention should be given among the economic sector and regulators on the importance of the EPR system. This will help increase the amount of recycled waste and provide more clarity on the value chain of recycled waste, hence the importance of awareness raising.

3.4. Lebanon

3.4.1. Local context

Solid waste management in Lebanon has gained global attention since the 2015 “waste crisis”⁴: In July 2015, a solid waste management crisis broke out in Lebanon after the closure of the country's main (and originally temporary) landfill in Naameh, putting an end to a 17-year-long emergency plan regarding SWM. Since 1994, the government outsourced waste management to the private firm Sukleen, which continued to collect and manage garbage by sorting, composting, recycling, and landfilling, until the expiry of its contract in July 17, 2015. However, Sukleen covered only 18.74% of the total surface of the country. Concurrently, the Naameh landfill was long overdue for closure after it had received waste since 1997. As a result, collection of waste came to a startling halt, which led to rubbish piling up in the streets of Beirut and Mount-Lebanon. In the absence of governmental solutions, municipalities and even local neighborhoods had resorted to primitive solutions. The end result included satellite landfills and incineration sites scattered throughout the country, with grave consequences on health, economy, and the environment⁵. The governmental agencies proved unable to take over Sukleen's tasks centrally. In March 2016, the Government of Lebanon eventually announced a four-year plan to end the SWM crisis. This plan relied on the construction of 3 coastal landfills which would receive the solid waste of half the country's population which resides in the dense and urbanized Beirut and Mount Lebanon regions. The plan also set decentralization of waste management and waste-to-energy technologies as the basis of a future national strategy.

The port blast in Beirut in 2020 has put further stress on Lebanon's waste management infrastructure, which has been in a state of near collapse for years. The blast caused severe damage to two key sorting and recycling facilities in the Karantina and Bourj Hammoud areas in the capital, causing rubbish to pile up on street corners. There has also been partial damage to healthcare waste storage facilities of three hospitals in Beirut, as well as waste collection and transportation equipment. A [needs assessment](#) carried out by the World Bank Group in cooperation with the European Union and United Nations states that the cost of reconstruction and recovery of waste management facilities and infrastructure will be around \$75m to \$100m. Additionally, the cost of environmental degradation due to the lack of a

⁴ The first “waste crisis” in Beirut and Mount Lebanon was erupted in 1996 when the Burj Hammoud landfill was closed and the Amroussieh incinerator was burned.

⁵ More info on the consequences can be found on: [Hilal N, Fadlallah R, Jamal D, El-Jardali F*, K2P Evidence Summary: Approaching the Waste Crisis in Lebanon: Consequences and Insights into Solutions. Knowledge to Policy \(K2P\) Center. Beirut, Lebanon; December 2015.](#)

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comprehensive solid waste management plan was equivalent to \$66.5 million in 2012 and \$200 million in 2018.

Nowadays, Lebanon generates approximately 7,000 tons of municipal solid waste per day, of which 48% is landfilled, 29% dumped in open sites, 15% composted and only 8% recycled⁶. According to the Ministry of Environment of Lebanon and the United Nations Development Programme (UNDP), 941 illegal dumpsites were established all over the country since the start of the waste crisis⁷.

3.4.2. Legislation

Although there are many legal instruments that bear on SWM, there are only three that address the sector specifically and have been acted on: (i) Decree 8735 of 1974 assigns SWM as a municipal responsibility, (ii) Decree 9093 of 2002 provides municipalities with an incentive to host a waste management facility, and the (iii) Integrated Solid Waste Management Law (ISWML) of 2018 which is comprised of several chapters covering key parts of ISWM. A framework law for the protection of the environment was adopted in 1988 and amended in 2002 (Law 444, 8/8/2002), which defines the basis and norms for environmental protection, but does not provide details of any regulations for SWM (Sweepnet, 2014⁸, Lebanese Center for Policy Studies, 2018⁹ & HBS: The State of Waste in Lebanon, 2019¹⁰).

Initiative	Description
Decree-Law No. 8735 of 1974	Municipalities are responsible for the collection and disposal of household wastes, and the location of waste disposal sites should be approved by the health council of the Mohafaza.
The Municipal Law of 1977 legislative decree No. 118, Article 49	Authorizes municipal councils to build solid waste disposal facilities.
Law 64/1988	Conservation of the environment against pollution from harmful wastes and hazardous substances'
Decree No. 9093 of 2002	Provides financial incentives to municipalities for hosting SWM facilities or landfills. In particular, municipalities who agree to host a sanitary landfill or a SWM facility would, according to the decree, receive five-folds their annual allocation from the IMF and 10-folds this allocation in case the facility serves 10 municipalities or more. To date, the decree has never been implemented.

⁶ More info here: <https://www.rawmec-lb.com/solid-waste-management-in-lebanon.php>

⁷ [MOE, UNDP, 'Updated Master Plan for the Closure and Rehabilitation of Uncontrolled Dumpsites Throughout the Country of Lebanon', \(MOE, 2017\).](#)

⁸ [SWEEPNET, Country Report on the Solid Waste Management in Lebanon, 2014.](#)

⁹ [Zeina Alba, A Wasted Waste Law, The Lebanese Center for Policy Studies, 2018.](#)

¹⁰ [Jacob Boswall, Lebanon: The State of Waste, Heinrich Boel Stiftung, 2019.](#)

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Law 444 of 2002	A broad environmental protection law regulating hazardous waste management with 7 parts divided into 68 articles. The environmental protection provided for in this Law in particular deals with protection of the coast and marine environment from pollution regarding both coastlines, terrestrial ecosystems, and natural resources from pollution hazards and the protection of territorial waters from pollution risks.
Decree No. 1117 of 2008	Gives municipalities the incentives to host a sanitary dumping site.
Decree No. 2275 of 2009	Solid waste issues fall under the Service of Urban Environment (Department of Urban Environmental Pollution Control) of the Ministry of Environment. Notwithstanding resources availability, the Department should (1) review all studies and tender documents related to solid waste and wastewater treatment plants, (2) participate in committees for the reception of works linked to SWT facilities and landfills, (3) prepare and formulate master plan for the management of MSW and (4) define environmental limit values for the disposal of non-hazardous solid waste (and liquid waste) in water bodies and on soil.
Decree No. 8471 of 2012	Associated to the environmental obedience of the industrial sector.
Integrated Solid Waste Management Law (ISWML) of 2018	This Law consisting of 39 articles aims at creating an integrated framework for solid waste management to preserve the environment based on the principles of sustainability, awareness, and transparency. The law provides for the development of a national strategy for integrated solid waste management. In this respect, the Policy Summary on Integrated Solid Waste Management was approved by the Council of Ministers in its meeting of 11 January 2018. It calls for <i>“administrative decentralization in waste management, by devolving to the municipalities the first stages of the waste management hierarchy (reduction, re-use, sorting at source), in addition to sweeping and collection. The municipalities shall also be responsible for the other stages of the hierarchy (treatment preceded by additional necessary sorting and final disposal), in part or in whole, conditional upon prior approval from the Ministry of Environment based on environmentally and economically viable projects proposed by relevant municipalities within established deadlines”</i> . For the municipalities that are not capable of carrying the final stages out on their own, this summary policy reaffirms <i>“the Government’s duty to ensure efficient resource allocation by assigning to the central authorities the final steps of the hierarchy of management of waste”</i> . The policy summary also identifies the funding sources that will be provided to the municipalities and the role of the Ministry of Environment, in coordination with other stakeholders from the public and the private sectors, to provide training for the municipalities on the concept of integrated solid waste management.
Decree No. 5605 of 2019	It regulates the source sorting of solid household waste. It also prohibits illegal incineration and random dumping of waste.

3.4.3. National Strategies

There is still no comprehensive strategic plan in Lebanon that is agreed upon by government and civil society for solid waste management and SWM infrastructure are created and operated under a perpetual state of emergency with improper Environmental Impact Assessments (EIA). Although two national strategies were introduced in 2006 and 2010, these plans have never been implemented. The Municipal Solid Waste Management Plan 2006 was approved but not implemented due to the war that broke out in 2006. The approved “Household Solid Waste Management Strategy” was forwarded to the Development Council and Reconstruction for implementation. This plan generalizes the principle of recycling, sorting and composting as much as possible, to reduce the quantity of waste that will be buried, with the adoption of the distribution of sorting, recycling and composting centers in all Lebanese neighborhoods to achieve to a decentralization of processing. In 2010, a waste-to-energy plan has been approved but not implemented.

In 2018, the ISWM law was passed and the MoE was asked to establish a national strategy within six months. However, the cabinet only passed a summary brief of the Proposed Policy for ISWM in December 2018 and formed a waste management committee. The MoE was supposed to build on the brief and turn it into a long-term national strategy, but instead in August 2019 they submitted a 10-year roadmap for SWM supposedly based on the national strategy, which was not finalized nor verified by a strategic EIA as required by law. It has been highlighted that no strategy derived from the 2018 ISWM law has been effectively adopted.

The main principles of the policy were:

- Respect for the protection of the environment.
- Recover as much waste as possible (materials and energy).
- Respect for the competences of the Ministry of the Environment in terms of solid waste management.
- Adoption of administrative decentralization.
- Reaffirm the duty of the Government to allocate resources by assigning to the central authorities the last stages of the waste management hierarchy of the municipalities which are not able to create their treatment infrastructures alone, in coherence with the division of the 6 regions
- Include all governorates in the proposed policy.
- Ensure competitiveness, innovation, by adopting various internationally proven technologies, selection of sites according to specified environmental conditions and adopting gradient as a preference.
- Disseminate a culture of shared responsibility. The Ministry of the Environment prepares and implements an awareness program to clarify the role of each citizen and of the institution in the implementation.

3.4.4. Circular Economy Framework

Circular economy is hardly mentioned in any of the existing national laws and regulations. However, the Integrated Solid Waste Management Law (ISWML) of 2018 (in section 2, article 10.3) states that the

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national strategy for integrated solid waste management should include circular economy as one of its clauses.

3.4.5. Gaps & Opportunities

Despite the presence of the abovementioned notable laws, enforcement is challenging mostly due to staffing constraints, lack of proper training, low levels of fines, political interferences (often resulting in delays in municipal funding and the Independent Municipal Fund), lack of trust between the public and the government around the perceived lack of transparency and corruption related to solid waste management, lack of employment and income generation opportunities in these areas, and financial constraints in part due to hyperinflation of the local currency. Generally, studies critique regulations as lacking in clarity and precision, responsibilities are not well-defined, and coordination between relevant public authorities is minimal.

Moreover, Lebanon does not have sufficient technical data to structure a roadmap and a concerted national strategy for waste management infrastructure that would strengthen waste recycling and significantly reduce landfilling, which requires carrying out a mission to identify the waste production, and to characterize the composition of the waste after the crises, due to a major change in the behavior of the population during the crises in terms of waste prevention and reuse.

In addition, recycling is conducted in fractured and uncoordinated ways by individual scavengers, private entities or NGOs, and small municipalities that do not take into account economies of scale and are setting their own unstandardized prices for plastic recyclables. It is crucial for municipalities to build partnerships with each other, in order to lighten the burden of financing and managing a fully solid waste management plan. These collaborations would incorporate economics of scale into the process of waste management, and hence facilitate the implementation of sustainable waste management in the municipalities or federations in question. Despite the fact that there are numerous municipalities, NGOs, and private sector actors promoting sorting and recycling and there is considerable support for initiatives aiming to tackle unsustainable waste management and plastic pollution, they are under threat of closing or find it difficult to scale because there is little to no enabling environment.

On a positive note, in the face of slow political change, several movements, civil society organizations, small businesses and municipalities carry out interventions based on sorting at source and recovering waste in order to minimize the volume of waste sent to landfills. There are also several initiatives to technically and financially support innovative and sustainable solid waste solutions for the solid waste management challenges based on the circular economy principles. Those initiatives are exclusively created by the private sector (e.g., Berytech) and the international funding programs (e.g., USAID).

3.5. Spain

3.5.1. Local context

The situation of waste management in Spain has been challenging for years. According to the EU's Environmental Implementation Review (EIR) 2019 for Spain, *“the country is not taking full advantage of the opportunities to prevent and recycle waste”*.

Nevertheless, there has been significant progress on circular economy and waste management in the recent years. As suggested in the 2017 and 2019 EIRs, Spain approved a National Strategy on Circular Economy in June 2020, which is under implementation. Many Autonomous Communities have also adopted regional strategies on circular economy. Spain has a valid national **Waste Prevention Programme 2014-2020** and a **National Waste Management Plan 2016-2022**, while a new Law on waste and contaminated soils for a circular economy was adopted in April 2022. However, for the whole country to be covered, some regional waste management plans still have to be updated.

Spain is one of the countries that has missed the EU target of recycling 50% of municipal waste by 2020. The overall recycling rate was 38% in 2019, against an EU average of 48%. What is more, the country is (after Turkey) the biggest contributor to plastic pollution in the Mediterranean and one of the top four plastic polluters in the EU. Achieving the EU targets for the next decade, including reaching 55% recycling of municipal waste by 2025, will require significant efforts.

Illegal or sub-standard landfilling is still widespread in Spain. The European Commission is closely following the matter through several horizontal infringement procedures. The economic incentives to shift waste away from landfilling and incineration to recycling are not sufficient. Several regions have put in place landfill taxes on municipal waste, although tax rates are low as compared to other EU Member States.

In addition, local waste charges are generally not linked to the amount of waste generated, the result being that the charges are not an incentive for enhanced separate collection and recycling. ‘Bring’ schemes where residents bring their waste to communal bins remains the most common system of collection in Spain. This includes the separate collection of light packaging, glass and paper and cardboard, whereas residual waste is still collected with biowaste. A system of separate door-to-door collection has been applied only in a relatively small but growing number of municipalities.

3.5.2. Legislation

Initiative	Description
Royal Decree 252/2006 of March 3 rd	Transposition of Directive 94/62/EC on packaging and packaging waste in national legislation
Royal Decree 110/2015 on the management of waste electrical and electronic equipment	Incorporates Directive 2012/19/EU on waste electrical and electronic equipment into the Spanish legal system and adapts Royal Decree 208/2005 to the provisions of Law 22/2011, while correcting shortcomings and loopholes identified in the management of this type of waste.

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<p>Law 7/2022 of April 8, 2022, Waste and Contaminated Soil Act for a Circular Economy (LRSC)</p>	<p>Creates an excise tax on non-reusable plastic packaging and a tax on waste sent to landfill, incineration and co-incineration, which came into force on January 1, 2023. It moreover imposes an obligation on local authorities to charge a fee in relation to waste treatment, modifies the rules on the charge on the use of inland water for electricity generation and adds amendments to the VAT rules for gifts of products.</p>
<p>Royal Decree 1055/2022 on Packaging and Packaging Waste</p>	<p>This new decree regulates the management of packaging and packaging waste. It establishes the obligations of producers and importers of packaging, as well as the responsibilities of local authorities in the collection and management of packaging waste. The law aims to increase recycling rates, reduce the environmental impact of packaging, and promote the circular economy. It establishes targets by 2025 and 2030 for the recycling and recovery of packaging waste and sets specific requirements for the composition of packaging materials to facilitate their recyclability.</p>

3.5.3. National Strategies

The **2016-2022 National Framework Plan for Waste Management (PEMAR)**¹¹, sets out the strategic guidelines for waste management and the measures needed to meet EU targets. The final objective is to replace linear models of production by circular models that bring waste materials back into the production line. The national plan applies the waste hierarchy in EU waste legislation. This means that the regions should at least reach the same recycling targets set at national level and that these targets should be included in the regional waste management plans. However, the lack of national enforcement instruments has limited the national authorities' capacity to enforce this requirement. There is a gap between the regional and local level, since it has not been defined what specific contribution the local authorities are to make to implement the Waste Framework Directive.

3.5.4. Circular Economy Framework

Following some years of preparation, Spain adopted in June 2020 a comprehensive Circular Economy Strategy titled "[España Circular 2030](#)". This national strategy puts forward a long-term vision, which will be achieved through successive three-year action plans to complete the transition by 2030. It establishes guidelines, strategies and a series of quantitative objectives aiming to reduce the generation of food waste throughout the food chain by 2030, as follows: 50% reduction at household and retail level and 20% in the production and other stages of the food supply chain. The Strategy identifies six priority sectors of activity to address the challenge of increasing "circularity" in Spain. It also identifies key public policies to move towards a circular economy and sets up a framework of indicators in line with EU standards. The Government has already adopted a first Action Plan in May 2021, focusing on implementing actions in 2021-2023.

Spain does not have a specific sectoral strategy on plastics. However, some measures included in the Circular Economy Strategy target plastics as a priority sector, including by working towards developing an *ad-hoc* sectoral Action Plan. Similarly, Spain has not adopted sectoral strategies on the textiles and

¹¹ Plan Estatal Marco de Gestión de Residuos (PEMAR) 2016-2022.

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construction sectors. However, the Circular Economy Strategy includes initiatives targeting these sectors.

As highlighted in the 2019 EIR, Spanish regions have also been very active in moving forward circular economy policies in Spain. Regional strategies on circular economy are common and play a key role in supporting the circular transition on the ground. Civil society and the business community are also playing a crucial role in helping to shape the transition in Spain.

As part of its Recovery and Resilience Plan, Spain has planned to adopt a series of reforms to promote the transition towards a circular economy. First the abovementioned national strategy on circular economy, but also other measures such as a package of acts on the circular economy. These include the already approved regulation on shipment and disposal of waste in landfills, as well as other measures also already approved on end-of-life vehicles; batteries, accumulators and electrical and electronic equipment waste; management end-of-life tires. Overall, the Government has agreed to allocate 176.5 million euros to the autonomous communities and cities to improve town waste management and facilitate compliance with European objectives.

Finally, the new **Law on Waste and Contaminated Soils for a Circular Economy (LRSC)**, including, among other things, new taxes on waste management. The LRSC transposes several European Union Directives and is strengthening the development of a circular economy and the principle of a waste hierarchy, by means of imposing mandatory economic instruments to make the waste hierarchy effective, encouraging the prevention, separate collection and recovery of waste, establishing minimum rules and expanding situations where the extended responsibility systems of product producers are mandatory, as well as prohibiting, limiting and encouraging separate collection, for recovery, of waste from single-use plastic products.

3.5.5. Gaps & Opportunities

As pointed out, there is room for improvement in terms of coordination and cooperation among the different competent public administrations dealing with waste management levels (e.g. different landfill tax rates are applied, waste treatment capacities are not shared or jointly planned between regions, residual waste treatment centers are built in contradiction of national and regional targets), considering the complex multi-level governance in the country. This would support Spain in meeting its EU obligations, which are very challenging in the coming years.

Recycling targets have cascaded down to the regional level, and the new national Law lays down that the Autonomous Communities may determine the contribution to these targets of local authorities. In order to achieve these objectives, the new Law introduces harmonised separate collection obligations for waste fractions under the jurisdiction of local authorities, and regulates the instruments for its implementation, including a specific administrative infringement for non-compliance with this obligation. However, these instruments to enforce them at local level may not be efficient enough. Strengthening the administrative capacity of the local authorities would also be helpful.

Some key priority actions for the country are: (i) to ensure that a national waste management plan and regional waste management plans in line with the revised Waste Framework Directive are in place; (ii) improve cooperation and coordination on waste management among the different competent public

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administrations; (iii) foster the optimisation in the use of the existing waste treatment infrastructure; and (iv) close and rehabilitate the non-compliant landfills as a matter of priority.

3.6. Tunisia

3.6.1. Local context

Solid waste management has emerged as a big challenge in Tunisia. The country, having an estimated population of around 12 million people, produces more than 2.8 million tonnes of waste each year and is experiencing an average increase in waste volume by 3% with per capita waste generation in urban areas adding up to more than 2.5 million tonnes each year. Biodegradable organic fraction constitutes around 68% of the MSW stream.

MSW collection is covered at 80% in urban areas and 10% in rural areas. The country has 10 controlled landfills and four other semi-controlled landfills; many of them do not meet sanitary standards. Although the lifecycle of around half of the official dump sites has already expired, the Ministry of the Environment insists on continuing to use them due to the lack of alternatives.

Since the promulgation of Law No. 96-41 on Wastes and the Control of their Management and Disposal, together with the associated legislation required to apply it, Tunisia has set up several systems for collecting and treating certain categories of waste and recovering valuable materials, one of which is known as ECO-LEF. The [ECO-LEF System](#), which started in 2001, is governed by a decree that specifies the modalities for the collection and management of bags and packaging waste (Decree 97-1102 of June 1997, as amended by Decree 2001-843 of April 2001, on conditions and procedures for the collection and management of used packaging bags and packaging material). The National Waste Management Agency (ANGed) manages and finances this system through a specific eco-tax, paid by importers and local producers of plastic packaging. ECO-LEF is a public system of recovery and recycling of packaging waste, implemented in partnership with local authorities. Practically, it aims to promote the creation of small companies to collect packaging waste and to sell the sorted materials to ANGed.

Tunisia's experience of decentralized waste management started in 2018. The decentralization process has revealed several benefits. Local institutions, communities, and private companies have a better knowledge of the environmental, socioeconomic, and waste management problems of the area and are best placed to find sustainable solutions. Local actors have greater motivation to ensure the cleanliness of their city. Decentralized waste management also facilitates local participation and increases transparency in decision-making. Municipalities in Tunisia are now legally obligated to involve citizens in the decision-making process through their active participation in the municipal council, so marginalized communities gain a voice (Chaabane, 2021¹²).

¹² More information: <https://www.csis.org/analysis/decentralized-waste-management-mena-countries-lessons-tunisia>

3.6.2. Legislation

Initiative	Description
Law 96-41 of 1996	The law set up the framework for solid waste management with the following objectives: (i) the reduction of waste at the source, (ii) the recycling and recovery of waste and the reuse of some waste as an energy source, and (iii) the use of landfills only as a last resort, when no further recycling or recovery are possible.
Law 2001-14 of 2001	<p>The Law amended both Law 92-115 and Law 96- 41. Law 92-115 was amended to make it compulsory on new industrial, agricultural, and commercial projects to provide an impact assessment study before being allowed to operate whereas Law 96-41 was amended with the aim to simplify the procedures and to further clarify the offenses regarding the handling and disposal of waste.</p> <p>This Law also specifies that collected fines are to be deposited in the depollution fund created in 1992 in order to help finance pollution abatement activities.</p>
Law 97-1102 of 1997 revised by Law 2001-843 of 2001	The law, enacted to setup a system of public collection of packaging known as ECO-LEF, outlines the conditions and modalities for the recovery and management of plastic bags and packaging. It is based on the polluter-pays principle and the producer-takeback principle. This puts the onus on the producer to recover packaging waste by (i) collecting it themselves, (ii) outsourcing it, or (iii) using the public system of collection ECO-LEF.
Law 2005-2317 of 2005	The Law established the National Waste Management Agency (ANGeD).
Decree 2020-32 of 2020	The degree bans all single-use plastic bags with the exception of those thicker than 40 microns with a volume higher than 30 liters, bags made of biodegradable material, or ultralight items used for weighing fruits and vegetables.

3.6.3. National Strategies

In 2020, the Ministry of Local Affairs and the Environment developed an **Integrated Strategy of Solid Waste Management** for 2020 to 2035. The Strategy includes several specific targets in terms of waste prevention and management: reduce the amount of household and similar waste produced per inhabitant by 10%, increase the material recycling rate of household and similar waste to 20%, increase the quantity of household and similar waste subject to organic or energy recovery to 40%, and reduce the landfilling of municipal solid waste by 60%.

3.6.4. Circular Economy Framework

Tunisia introduced the **National Strategy for the Green Economy 2016-2036** on the basis of an integrated approach that strengthens coherence between economic, social and environmental policies and a collaborative approach that involves all actors of the society.

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The purpose of the national strategy is to explore possibilities of development of current economic activity and new green activities in several areas, including organic farming and eco-tourism, sustainable transport and infrastructure, sustainable buildings and green industries, environmental services, energy efficiency and renewable energy, water conservation and water reuse and integrated waste treatment management. The focus area linked to circular economy and waste management is: waste disposal in an integrated framework in order to improve life by recovering recycled waste and reducing greenhouse gas emissions.

3.6.5. Gaps & Opportunities

Tunisia has comprehensive environmental laws to encourage the sustainable management and recycling of municipal and industrial waste, but solid waste management remains a challenge for government authorities. Increased investment is needed to ensure proper collection, treatment, and recycling of solid waste, especially in the metropolitan areas of Tunis, Sousse, and Sfax. Lack of citizen awareness and dysfunction of municipal and rural councils create additional challenges for maintaining existing waste management practices.

Local authorities' difficulties with SWM is another challenge. Municipalities do not take advantage of business opportunities in the field of waste management—particularly in collection and recycling—and poor SWM practices increase the costs of environmental degradation. There are political and social costs as well. Citizens' dissatisfaction with environmental degradation and the economic costs of poor SWM has become an increasing driver of social protests, including on the island of Djerba.