

1.0 Factsheet – Cyprus

This factsheet analyses the situation regarding waste management policies and practices in Cyprus, the focus being on municipal solid waste (MSW). The basic aim of the factsheet is to identify potential deficiencies in waste management practice implemented in the Country that could lead to non-compliance with EU waste legislation, in particular the waste hierarchy and the EU waste management targets.

The following table presents some basic data and information related to current waste generation and management in Cyprus, which the following analysis was based on.

Table 1-1: Basic waste management data for Cyprus¹

Parameter	Value
Population	
Total (inhabitants)	868.940
Waste generation	
Total (tn)	541.520
Total (kg/cap/y)	623,20
Waste composition (%)	
Organics	41,47
Paper	25,70
Plastic	14,77
Metal	3,25
Glass	2,66
Wood	2,08
Other	10,07
Waste management	
Waste treated (% of MSW in 2013)	9%
Waste recycled (% of MSW in 2013)	12%
Waste landfilled (% in 2013)	79%
Existing waste management infrastructure	

¹ Data referring to 2014 unless otherwise stated

Parameter	Value
MBT plant in Larnaca	Waste input: 110.000 tn/y (capacity 160.000 tn/y)
2 composting plants	Total Capacity: ~28.000 tn/y
10 anaerobic digestion plants (2 of them may accept municipal organic waste)	Total Capacity: ~70.000 tn/y (corresponding to the 2 units currently accepting municipal organic waste)
20 sorting facilities	Total Capacity: ~130.000 tn/y
Transfer station in Pafos	Capacity: 5.400 tn/y
Transfer station in Larnaca	Capacity: 10.000 tn/y
Sanitary landfill in Pafos	Capacity: ~25.000 tn/y
Sanitary landfill Larnaca	Capacity: ~50.000 tn/y
2 non compliant landfills in Nicosia and Limassol	-

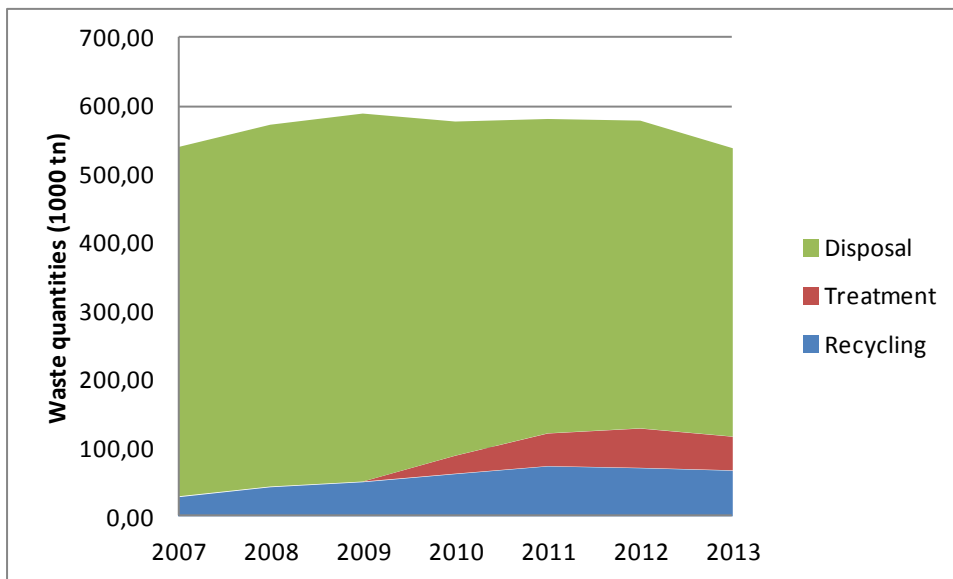
According to the table above it can be derived that waste generation in Cyprus is rather high (623 kg/cap/y) compared to areas with similar GDP, such as Spain, Greece, Portugal or Malta (which is around 500 kg/cap/y). This can be attributed mainly to the very touristic nature of the country. It is noted that Cyprus has the special characteristic that each year the number of tourists arriving in the country are more than 3 times higher than the permanent population (more than 2,5 million tourists arrive on annual basis). Moreover it is noted that the figure of 623 kg/cap/y includes the total municipal waste generation, including:

- Mixed and separately collected municipal waste,
- Similar waste from commerce industry and institutions
- Waste from parks and gardens
- Other municipal waste

Waste management relies heavily on waste disposal and this is not in line with the EC and national legislation and targets. There is only one waste management (MBT) facility in operations, while a second one is in the process of Construction. Currently only in 2 districts exist sanitary waste disposal facilities, while in Nicosia and Limassol waste is disposed in non compliant landfills.

The following graph presents the evolution of waste management in practices over time.

Figure 1.1: Evolution of waste management in Cyprus



(Source: Eurostat (2014) http://www.mof.gov.cy/mof/cystat/statistics.nsf/index_gr/index_gr?OpenDocument)

The graph illustrates that even though since 2009 there has been increase in the rate of recycling and treatment, this increase is insufficient as the rate of disposal remains at very high level, around 80%.

1.1 Roles and Responsibilities of Key Actors

The main legislation that sets the framework for waste management in Cyprus is the waste law N.185(I)/2011 and its subsequent amendments.² According to this legislation, the main competent Authority for waste management is the Ministry of Agriculture, Rural Development and Environment (MARDE). However, in relation to specific waste streams, including mixed municipal waste, specific roles and responsibilities are attributed to the Ministry of Interior (MoI), especially in relation to the recycling, treatment and disposal activities of these waste types.

The development of waste management policy is the responsibility of the MARDE and this policy is adopted by the cabinet. The waste Law establishes the Advisory Committee for Waste Management (ACWM), which consists of representatives from:

- MARDE (chair)
- MoI
- Ministry of Labour, Welfare and Social Insurance (MLWSI)
- Ministry of Energy, Commerce, Industry and Tourism (MECIT)
- Ministry of Transport, Communications and Works (MTCW)
- Ministry of Health (MoH)
- Union of Municipalities (UoM)

² Waste legislation for Cyprus can be found at <http://www.moa.gov.cy/moa/environment/environment.nsf/All/21274605411443E5C22578D300382CEA?OpenDocument>

- Union of Communities (UoC)
- Federation of Environmental Organizations (FEO)
- Scientific Technical Chamber (STC)

Amongst its responsibilities, this committee provides advisory services to the competent authority for the development of waste policy and legislation, the approval of waste management systems and the issuance of permits.

The new plan especially for municipal waste management covering the period 2015-2021 (expected to be adopted in 2015³) sets clearer responsibilities for the local authorities (municipalities and communities, or complexes of municipalities / communities), which, until now, were generally responsible for waste collection within their territories, but had no specific requirements or targets to be met.

With respect to the responsibilities of the main stakeholders, these are summarized in the following table, as they derive from both the existing and forthcoming waste legislation.

Table 1-2: Basic responsibilities of main stakeholders for waste management in Cyprus

Stakeholder	Basic responsibilities
MARDE	<ul style="list-style-type: none"> • Development of waste management policy and legislation • Permitting of waste management activities (excluding mixed municipal waste and other waste streams) • Control, and monitoring, of waste management activities (excluding mixed municipal waste and other waste streams) • Monitoring of the fulfilment of waste management targets • Reporting to international organizations (EUROSTAT, EC, etc)
Mol	<ul style="list-style-type: none"> • Permitting of waste management activities for mixed municipal waste (and other waste streams) • Control, and monitoring, of waste management activities for mixed municipal waste (and other waste streams) • Construction of municipal waste management infrastructure

³ Can be found at

[http://www.moa.gov.cy/moa/environment/environment.nsf/all/94A873EA43FADC92C2257D940041A604/\\$file/1SXEDIO%20DIAXEIRISHS.pdf?openelement](http://www.moa.gov.cy/moa/environment/environment.nsf/all/94A873EA43FADC92C2257D940041A604/$file/1SXEDIO%20DIAXEIRISHS.pdf?openelement)

Stakeholder	Basic responsibilities
Local Authorities	<ul style="list-style-type: none"> ● Promoting waste hierarchy as set in the existing national waste management plan and the new regulations for the municipal waste management plan (MWMP) – still under approval ● Provision of municipal waste services (as it is set in the Municipalities Law and the Communities Law) ● Development, implementation and operation of systems for separate collection of paper, metals, plastics and glass – Reaching of recovery / recycling targets (as set in the new regulations for the municipal waste management plan (MWMP) – still under approval) ● Development, implementation and operation of systems separate collection organic waste (as set in the new regulations for the municipal waste management plan (MWMP) – still under approval) ● The District Councils for the operation of waste disposal and utilization sites are responsible for the operation of municipal waste management facilities within their territory (district) ● Reporting to MARDE (as set in the new regulations for the municipal waste management plan (MWMP) – still under approval)
Collective systems for packaging waste	<ul style="list-style-type: none"> ● The collective system for packaging waste (Green Dot Cyprus) is responsible for managing packaging waste (development of separate collection schemes and recovery/recycling activities) ● Reporting to MARDE
Private sector	<ul style="list-style-type: none"> ● Provision of collection services for municipal waste following contracts with local authorities, especially in remote areas ● Provision of collection services for packaging waste following contracts with Green Dot ● Operation of waste management facilities following contracts with the Mol/District Councils ● Provision of collection services to business producing waste (paper, plastic, metal, glass or other)

It is noted that the co-competency between MARDE and Mol in relation to the management of mixed MSW may generate “grey areas” regarding the responsibilities of each organization in relation to the implementation and monitoring of the policy and the fulfilment of the targets. It is considered that this co-competency between the ministries generates

uncertainties and reluctance in the further development of the waste management market, as it was stated by the recyclers' representatives.

According to the discussions with the representatives of MARDE, currently, there is a shift of responsibilities from MoI to MARDE in order to establish a clearer framework on the roles that each stakeholder should play with respect to MSW management. In fact on 3rd November 2015 a piece of legislation was introduced into the Parliament, which transfers all competencies for waste management from the MoI to MADRE. This piece of legislation is expected to be adopted very soon.

1.2 Summary of Legislative Framework for Waste Management

Directive 2008/98/EC was transposed into national legislation with the waste law N. 185(I)/2011 and its subsequent amendments (laws 6(I)/2012, 32(I)/2014 and 55(I)/2014).

Currently, 2 new pieces of legislation are due to be officially adopted (in 2015), referring to the adoption of the municipal waste management plan, and waste prevention plan, which implement the provisions of the Waste Framework Directive (WFD).

The landfill directive was transposed into national law as Regulations and a Ministerial Decree, under the Solid and Hazardous Law. The Regulations carry the title "The Solid and Hazardous Law Regulations (Landfills) Regulations of 2003" (562/2003 and the amendments 618/2007 and 14/2014) whilst the decree is entitled "Setting of Criteria and procedures for the acceptance of waste at Landfills decree of 2007" (282/2007).

1.3 Status of Waste Management Plan(s)

The current national waste management plan is somewhat outdated and was officially adopted in 2004,⁴ and the new plan and the respective regulation especially for municipal waste management are expected to be adopted in the 2015. The same applies for the waste prevention plan.⁵

The currently elaborated waste management plan is restricted to municipal waste, whilst separate waste plans for other waste streams (Waste tires, Waste oils and all the rest) are under development.

The Cypriot legislation foresees the development of a waste management plan, which it was decided to be developed at a national level while no plans are expected to be developed in lower tiers of administration (e.g. districts). However, as concluded during the discussions with the MARDE representatives, and as foreseen in the new regulations of MWMP, each municipality / community should develop a local waste management plan, in which each local authority will need to describe how it will contribute in achieving the objectives and targets included in the national plan. These local plans may be developed either at the

⁴ Can be found at <http://www.moa.gov.cy/moa/environment/environment.nsf/All/7CEEC67A28F7173CC2257A8B003121EE?OpenDocument>

⁵ Can be found in <http://www.moa.gov.cy/moa/environment/environment.nsf/All/722D5D0744768878C2257D9400415658?OpenDocument>

municipal / communal level, or at the level of municipal and/or communal complexes. This process is expected to be completed in the first semester of 2016.

1.4 Summary of the Key Objectives of the Plans

1.4.1 Waste Management Plan(s)

This section describes the main elements of the national waste management plan that is currently in the process of being adopted (since the extant national waste management plan is outdated).

The plan refers explicitly to Municipal Solid Waste (MSW), namely:

- Mixed and separately collected municipal waste (European Waste Catalogue (EWC) Code – 20 01, 20 03 and 15 01);
- Similar waste from commerce industry and institutions (EWC Code 15 01 and 20);
- Waste from parks and gardens (EWC Code 20 02); and
- Other municipal waste (EWC Code 20 03).

In principle, the plan includes the main elements requested under article 28.3 of the WFD, as follows:

- Type, quantity and source of waste generated within the territory: information is included in the plan, both for the country total, and the distribution across the districts of Cyprus (Nicosia, Limassol, Paphos, Larnaca and Famagusta);
- Waste shipment: as the plan focuses on MSW, there is no waste shipped to and from the country;
- Projection of future waste generation: there are projections for total waste generation until 2030 (the model of European Topic Centre / Resource and Waste Management was used for the projections);
- Existing waste collection schemes: the plan describes the existing collection schemes for mixed municipal waste and packaging waste;
- Major disposal and recovery installations: the plan presents all existing recovery, treatment and disposal facilities;
- Special arrangements for waste oils, hazardous waste or waste streams addressed by specific Community legislation: the plan refers to MSW, so there are only some dispersed information on other waste streams such as WEEE, batteries and accumulators, hazardous waste, etc;
- Assessment of the need for new collection schemes: the plan introduces new concepts in relation to waste collection in line with WFD, including:
 - Separate collection of glass, paper, metals and plastics from MSW (currently, such systems are restricted to packaging waste, but this will be extended to cover non-packaging waste);
 - Separate collection of biodegradable waste;
 - Introduction of “green points” for collection of various waste streams (described in more detail in Section 1.6.2); and
 - Establishment of the responsibility of local authorities to develop the separate collection schemes;
- Closure of existing waste installations: it is indicated that non-compliant landfills in Pafos district have been rehabilitated, whilst the rehabilitation of the non-compliant

landfills in Larnaca and Famagusta districts are expected to be finalized by the end of the year. Currently there are 2 operating non-compliant landfills (in Nicosia and Limassol) which are expected to cease their operation as soon as the new central waste management facility in Limassol and the new landfill in Nicosia, commence operation. All other non-compliant landfills in the 2 districts have ceased their operation and will be rehabilitated, together with the 2 active ones;

- Additional waste installation infrastructure: the plan includes provisions for the development of one central waste management facility in Limassol (consisting of MBT and landfill) and a sanitary landfill in Nicosia;
- Economical instruments/schemes, financial aids (subsidies/"de minimis") that will prompt the private sector to get more actively involved (extra capacity/investment seems to be needed in plastic treatment, composting or other treatment of organic waste and energy recovery)
- Capacity of future disposal or major recovery installations: the plan includes information on the future capacities of the recovery, treatment and disposal installations;
- General waste management policies: the plan includes the policy priorities, technologies and methods for all elements of waste management. The priorities in relation to each waste management stage include:
 - Waste collection: separate collection of recyclables and biodegradable waste;
 - Waste collection: Development of green points;
 - Waste treatment: Recovery of recyclables and pre-treatment of waste prior to disposal;
 - Waste disposal: development of a network of sanitary landfills for waste and residues;
 - Waste disposal: cessation of operation and rehabilitation of all non-compliant landfills.

The intention of the Country is to move up the waste hierarchy promoting waste prevention and recycling instead of mixed waste treatment and disposal. Particular focus is put on the separate waste collection, in line with the provisions of the WFD, and LAs are becoming fully responsible in this respect. Several instruments will be implemented in order to serve this priority, including the establishment of landfill tax, the ban of disposal of certain waste streams, the extension of EPR, the promotion of PAYT systems, development of waste management fund etc. The plan also foresees the promotion of voluntary agreements and implementation of specific motives (awards, financing of activities, fees for certain products, etc) to further ensure the maximization of waste prevention and recycling.

The plan contains no specific reference to location criteria for site identification. In discussion with the authorities it was claimed that such criteria are covered by the legislation for Town Planning and urbanization. Moreover, all scheduled waste management facilities (the ones in Nicosia and Limassol) already have environmental permits and their location has been established. However, it is noted that the national waste management

plan that was developed (however, not adopted) in 2012⁶ includes such criteria which could be easily incorporated in the new plan.

The plan introduces specific quantitative and qualitative targets for waste management, which are in line with, and in some cases, exceed, the requirements of the WFD and landfill directive. These targets include:

- Key objectives:
 - Environmental protection
 - Supply the economy with secondary raw materials and energy sources (circular economy)
 - Increase the contribution of waste management to sustainable material flow and resource management (resource efficiency)
 - Increase the degree of utilization of recyclables, as raw materials, locally in Cyprus (reduction of CO₂ emissions)
 - Training and capacity building
 - Strengthening of collection and recovery systems and improvement of waste disposal (green growth economy)
 - Encourage desirable treatment channels through economic incentives
 - Generation of a recycling society – increase in public participation in waste management
 - Promotion of the design and use of products in line with preservation of resources
 - Development of a reliable, operational and flexible data collection and processing system
- Quantitative targets
 - 50% of MSW to be collected separately by 2021, corresponding to approximately 295.000 tn of MSW
 - 50% of recyclables (paper, metals, plastic and glass) to be reused / recycled by 2020, corresponding to approximately 137.000 tn of recyclables;
 - 15% of MSW to be collected separately as organic material by 2021, corresponding to approximately 88.000 tn of organic material;
 - No more than 95.000 tonnes of biodegradable waste to be disposed in landfills by 2016;
 - No more than 20% of MSW to be disposed in landfills by 2021, corresponding to 472.000 tn of MSW diverted from disposal.

The most significant measures that will allow the implementation of the proposed policy and reaching of the respective targets include:

- Maximization of the capacity of the central waste management facility (consisting of one MBT facility and a sanitary landfill for the residues) in Larnaca up to 160.000 tonnes per annum(tpa) (from 110.000 tpa which is the current waste input);

⁶ Can be found at <http://www.moa.gov.cy/moa/environment/environment.nsf/All/D1CF07F7EB83735EC2257A9100270099?OpenDocument>

- Construction and operation of the central waste management facility in Limassol with capacity of 140.000 tpa;
- Construction and operation of a sanitary landfill in Nicosia;
- Finalization of the construction of green points in all districts;
- Finalization of the closure and rehabilitation of all non compliant landfills;
- Examination of the need to develop transfer stations;
- Adoption of legal provisions that will foresee:
 - Role and responsibilities of local authorities in separate waste collection and recovery/recycling (legal act to be adopted in 2015);
 - Setting up of separate collection systems (legal act to be adopted in 2015);
 - Banning of certain waste types (e.g. green waste) from entering into landfills (legal act to be adopted in 2016);
 - Establishment of landfill tax / levy (legal act to be adopted in 2015);
 - Establishment of extended producer responsibility (EPR) in streams other than packaging waste, such as non packaging paper and plastic (legal act to be adopted in 2017);
 - Creation of a waste management fund to promote waste hierarchy and the reaching of waste management targets (legal act to be adopted in 2017);
- Strengthening of inspections and monitoring
- Assessment of the possibility for the existing cement plant to receive waste fractions deriving from MSW (e.g. residual waste, secondary fuel - SRF, etc).
- Development and implementation of capacity building programs, for public servants handling waste management issues, for LAs personnel and for the producers of the biggest waste quantities
- Promotion of voluntary environmental agreements with public sector for implementation of waste prevention activities, separate collection activities, preparation for recycling, development of guideline for good practices, etc
- Promotion (within 2015) of Pay as you Throw (PAYT) systems
- Provide resources (know how, training, collection equipment etc) to the local authorities for the development of separate collection systems
- Elaboration of a study to assess the opportunities to utilize increased quantities of recycled material in Cyprus
- Develop donation programs for the private sector to enhance the current waste management and utilization infrastructure. These donation programs will refer to:
 - Support new or existing waste recovery units in order to be developed, upgraded or expanded
 - Support industries to incorporate secondary products (recovered recyclables) in their process line
 - Support industries in implementing waste prevention and separate collection within their process
- Elaboration of a national plan for biowaste management
- Development of pilot programs for home composting and separate collection of kitchen and garden waste
- Adoption and implementation of waste prevention programme
- Development and implementation of raising of public awareness programs
- Development of waste database

- Development of end-of-waste criteria
- Establishment of motives for sustainable waste management:
 - Prizes for waste management
 - Financial Aids
 - Environmental tax for selected products

1.4.2 Waste Prevention Plans

The waste prevention plan has been under elaboration and the respective piece of legislation is expected to be adopted in 2015.

The plan covers the period 2015 – 2021 and includes measures for prevention of the generation of the following waste streams:

- Organic waste;
- Paper / cardboard;
- Plastic (bags, toys, bottles);
- WEEE;
- Hazardous waste;
- Clothes / textiles;
- Bulky waste; and
- Construction and Demolition Waste.

The general objectives set by the plan include:

- Change in consumption patterns related to waste generation;
- Reduction of waste generation for specific streams;
- Promotion of reuse;
- Reduction of organic waste that is landfilled; and
- Reduction in the generation of hazardous waste.

Specific quantitative targets will be included in a future regulation (expected in 2016) issued by the MENRA.

The following table presents the main activities and measures already implemented and planned as they are described in the National Waste Prevention Plan (NWPP) for Cyprus (the focus is on MSW and especially biodegradable waste).

Table 1-3: Waste prevention activities and measures

Activity / measure	Target material
EXISTING	
Green procurement	<ul style="list-style-type: none"> ● Paper ● Plastic ● Packaging
Centres for maintenance and repair	<ul style="list-style-type: none"> ● Products that may be repaired
e-Procurement	<ul style="list-style-type: none"> ● Paper

Activity / measure	Target material
Life project WASP ⁷ in Municipality of Paralimni	<ul style="list-style-type: none"> ● Organic waste
PAYT Pilot System in Aglantzia Municipality	<ul style="list-style-type: none"> ● MSW
Eco-labeling / Environmental management programs in Companies and organizations as well as products and services	<ul style="list-style-type: none"> ● MSW
Programs for reuse and exchange of products	<ul style="list-style-type: none"> ● Food waste ● Paper ● Books ● CDs
Raising public awareness for waste prevention	<ul style="list-style-type: none"> ● MSW
PLANNED	
<ul style="list-style-type: none"> ● Raising public awareness and training activities ● Legislative initiatives: <ul style="list-style-type: none"> ○ Landfill tax ● Program for the reduction of food losses in households (guide for good practices, food recipes used food remaining, voluntary agreements) ● Program for the reduction of food losses in agriculture (information campaigns for producers, guide for good practices) ● Promotion of home and school composting 	<ul style="list-style-type: none"> ● Organic waste
<ul style="list-style-type: none"> ● Raising on public awareness and training activities ● Green procurement ● Prizes ● Submission in electronic form of applications, studies, etc ● Environmental management systems (EMAS) ● Legal establishment of Extended producer responsibility for paper 	<ul style="list-style-type: none"> ● Paper / cardboard
<ul style="list-style-type: none"> ● Raising on public awareness and training activities ● Reduction of the use of plastic bottles for water ● Voluntary agreements for the use of reused bags, exchange or sale of goods ● Development of repair and sale centres for toys 	<ul style="list-style-type: none"> ● plastic

⁷ «Development and Demonstration of a Waste Prevention Support Tool for Local Authorities – WASP Tool» Information can be found at <http://wasptool.hua.gr/>

Activity / measure	Target material
<ul style="list-style-type: none"> • Raising on public awareness and training activities • Reduction of the use of plastic bottles for water • Voluntary agreements for exchange or sale of goods • Development of repair and sale centres 	<ul style="list-style-type: none"> • Clothes / textiles

It is considered that the plan under adoption includes sufficient level of analysis on the existing and planned interventions that are necessary in order to achieve the general objectives described earlier. It is noted however that specific quantitative targets have not been set and will be established in the future. The measures proposed are detailed and specific at a satisfactory level, the responsible authorities are also specified, while the timetable for implementation is also part of the plan

1.5 Progress towards the Fulfilment of Targets

1.5.1 Landfill Directive Targets

The targets for the diversion of biodegradable waste from landfill have been set for years 2010, 2013 and 2016 in line with the Regulations “The Solid and Hazardous Law Regulations (Landfills) Regulations of 2003” (562/2003 and the amendments 618/2007 and 14/2014) which transpose the landfill directive and the national waste management plan. The following box presents the targets and the extent to which they have been met (the data regarding the latter refer only to year 2010, according to the Cypriot Questionnaire on the transposition and implementation of the landfill Directive).

Box 1.1: Targets for the diversion of biodegradable waste from landfills

	2010	2013	2016
Target for disposal tn:	203.500	135.650	95.000
Actual disposal tn:	332.900	no data	no data
Gap (%):	64%	-	-

From this it can be seen that the 2010 target for the diversion of biodegradable waste from landfills was not met, and the minimum quantity allowed to be disposed was exceeded by 64%. This is also likely to be reflected in the year 2013, and to an even greater extent, since, as stated in the national plan, no developments in infrastructure and collection systems took place that would divert biodegradable waste from disposal. Given the current situation this will remain the case for 2016, since the planned initiatives (development of treatment facility in Limassol, implementation of selective collection for paper and organic waste) will not have been completed until 2016. The target for 2016 is expected to be achieved late, with at least a couple of years’ delay.

The main reasons for this non-compliance are the lack of waste treatment infrastructure (only the MBT facility in Larnaca operates with an operation capacity of 110.000 tpa for mixed waste) and the complete absence of an organized system separate collection of organic waste.

The measures foreseen in the national waste management plan in order to reach the targets for 2016 (with a certain delay) are:

- Construction of the MBT facility in Limassol with capacity of 140.000 tpa;
- Utilize the maximum operation capacity of the MBT facility in Larnaca which is a capacity of 160.000 tn/y. Also, utilize the maximum operation capacity of the mechanical unit (for separation of recyclables) that reaches almost 200.000 tn/y;
- Elaboration of a national plan for biodegradable waste management;
- Completion of the green points network;
- Assessment of the possibility for the existing cement plant to receive waste fractions deriving from MSW (e.g. residual waste, secondary fuel - SRF, etc).
- Promotion of the implementation of separate collection for organic waste;
- Training of local authorities and waste producers on separate collection of organic waste;
- Voluntary agreements for raising of awareness and implementation of separate collection of organic waste;
- Technical and financial support to the local authorities for development of systems of separate collection of organic waste;
- Promotion of home composting;
- Development of plans for upgrade of organic waste treatment plants;
- Raising of public awareness;
- Banning of certain waste types (e.g. green waste) from entering into landfills;
- Establishment of a landfill tax.

It should be noted that the national plan does not set out how the target of maximum disposal of 95.000 tpa of biodegradable municipal waste will be achieved with the proposed infrastructure. More specifically, as no waste treatment facilities are foreseen for Nicosia and Pafos districts, in order for the target of diversion of biodegradable waste from disposal to be met, a significant amount of waste, at least from Nicosia (which generates around 40% of the total municipal waste), will need to be treated at the MBT plant in Limassol. It is also noted that in order for the targets of diversion to be met without additional mixed waste treatment capacities, the target of separately collecting and treating organic waste (15% of MSW, or more than 30% of organic waste needs to be separately collected and treated) will need to be fulfilled much earlier than 2020 (it is expected for the LFD targets to be met a couple of years after 2016, which is the target year).

Concerning data reliability, the information presented in the national plan derives from:

- Statistical Service of Cyprus;
- Weighing of the waste in Pafos landfill and Larnaca central waste management facility;
- Annual reports of Green Dot Cyprus (referring to collection of packaging waste);
- Annual reports of recyclers
- Studies elaborated at national level.

While the data for the districts of Larnaca and Pafos are considered to have a low level of uncertainty, as they are derived from actual weighing of the waste in the facilities or by Green Dot and recyclers, the data of Nicosia and Limassol are based on general estimates (trucks entering the dumpsites, assumptions on per capita generation etc).

With respect to waste composition the data may be considered reliable as in the districts of Larnaca and Pafos frequent composition measurements take place, while in Nicosia and Limassol a recent (2011) waste characterization study was elaborated in which sample and analyses were carried out for one year period.

1.5.2 Waste Framework Directive Targets

As described in the Cypriot Questionnaire on the implementation of the WFD, the Calculation method 2 was selected for calculation of the WFD targets on recycling.

Currently recycling activities are restricted to packaging waste and printed paper recycling, this is carried out by Green Dot Cyprus. According to the national plan, Green Dot Cyprus serves approximately 78% of the total population.

The overall recyclable collection is approximately 26% of the total recyclables out of which 85% (or 22% of total recyclables) is actually reused / recycled (including waste recycled by Green Dot, in the waste treatment plant in Larnaca and by private recyclers).

This value (22% of recycling) is considered a good starting point with the view to meet the target of 50% in 2020, taking into account the fact that up until this point, the local authorities had no responsibility whatsoever to implement separate collection systems for recyclables. The new waste management plan, and the respective regulation that will shortly be adopted, define clearly the responsibility of the authorities to develop separate collection systems, making them responsible for meeting the respective targets. The central government will support technically and financially the local authorities in the development of these systems.

The measures foreseen in the national waste management plan in order to reach the targets of 2020 are:

- Completion of the green points network;
- Implementation of separate collection for recyclables;
- Training of local authorities and waste producers on separate collection of recyclables - MARDE will be responsible for the implementation of the training activities and will collaborate with the Union of Municipalities and Communities, NGOs, Universities, etc.
- Voluntary agreements for raising of awareness and implementation of separate collection of recyclables;
- Technical and financial support to the local authorities for development of systems of separate collection of recyclables;
- Raising of public awareness;
- Establishment of landfill tax; and
- Establishment of EPR for certain materials.

In any case in order to report some progress in recycling, the plan has to be adopted and implemented. Hence, additional progress is not expected prior to 2017.

One issue that is not completely clear in the waste plan is whether the strategy of the authorities is to meet the 50% recycling target mainly via separate collection of recyclables with minor contribution by the waste treatment facilities, or whether it is expected that the existing and new waste treatment facilities to substantially contribute in reaching the aforementioned targets.

With respect to the data, the figures on the recycling derive from Green Dot Cyprus, the treatment unit in Larnaca and the annual reports of the recyclers and are considered to be reasonable, notwithstanding the issues presented in the previous section regarding the lack of reliable arisings data for Nicosia and Limassol (since these 2 districts generated more than 65% of the total MSW, these inaccuracies are not insignificant).

1.6 Implementation of Specific Waste Framework Directive Articles

1.6.1 Article 4: Application of the Waste Hierarchy

As presented in the Cypriot Questionnaire on the implementation of the WFD, the waste hierarchy is laid down in Article 9(1) of the national legislation (law N.185(I)/2011). In this respect, the authorities are required to take any necessary measures to implement the waste hierarchy within the boundaries of technical feasibility and financial viability. The new piece of legislation, via which the new plan will be adopted, reaffirms the need to respect waste hierarchy.

Prior to the adoption of the plan, given the lack of legal and other instruments (bans, obligations for separate collection, landfill tax, etc), there has been no real responsibility or motivation for people and stakeholders involved in waste management to actually move waste management up the hierarchy.

The new waste management plan seeks to change this through the instruments that will be implemented together with the new waste prevention plan. Both plans will promote the priorities of the waste hierarchy, mainly prevention and reuse/recycling.

Some of the instruments to be adopted in this respect include:

- Obligation for local authorities to implement separate collection;
- Introduction of landfill tax (legal act to be adopted in 2015)
- Banning of the disposal of certain waste streams
- Extension of EPR in various waste streams
- Promotion and implementation of PAYT systems

The national plan includes a commitment of the authorities to reach an overall target of 50% of MSW for separate waste collection, which confirms the strategic intent to implement waste hierarchy at local level.

1.6.2 Article 10: Recovery

As presented in the Cypriot Questionnaire on the implementation of the WFD, the provisions for waste recovery are laid down in Article 12 of the national legislation (law N.185(I)/2011). In this respect, the authorities should take any necessary measure to ensure that the waste produced follows the waste hierarchy during its management cycle, with recovery taking precedence over disposal.

Moreover, the national legislation that transposes the packaging directives promotes recovery of packaging waste (laws 32(I)/2002, 133(I)/2003), 58/(I)/2012 and 59/(I)/2012).

The separate collection system adopted by Green Dot Cyprus for packaging waste, which is going to be expanded for all recyclables, consists of a system of 3 bins for:

- Paper / cardboard;
- Glass; and
- Plastic, metals, tetrapak (PMD stream)

The collection of recyclable material is carried out as follows:

- The glass is collected via bring systems;
- The paper and PMD is collected via a door-to-door system (77% of the waste recovered is collected via this system) as well as bring systems (mainly in household complexes and blocks of flats).

The national waste management plan to be adopted, as already described, imposes, upon local authorities, the responsibility to implement separate collection for recyclables and organic waste. The municipal waste will be collected in the following 5 fractions:

- Paper / cardboard;
- Glass;
- Plastic, metals, tetrapak (PMD stream);
- Organic fraction; and
- Residual fractions.

This system will be supplemented by a network of green points already under development which will further enhance separate waste collection and recovery. The network will consist of several points in each district where citizens may return numerous waste materials.

According to the design of the green points, the following streams are expected to be separately collected (depending on the type and size of each green point, different streams may be collected):

- Expired cleaning materials, detergents, etc
- Paints
- Thermometers
- Medicine
- lamps, bulbs, etc
- Batteries
- Plastic containers,
- Metal objects (scrap, radiators, etc)
- Toys
- Furniture
- Mattresses
- Cardboard
- Green waste
- Recyclables (paper, plastic, metal and glass)
- Clothes and textiles
- Carpets
- Wood

- Do it Yourself material
- Residues
- Inert – Construction and demolition waste

The network of green points will consist of 30 points (9 Nicosia District, 8 in Limassol District 8 in Larnaca/Famagusta Districts and 5 in Pafos District). Depending on the location, size (large, medium or small) and the materials to be collected in each Green Point (not all aforementioned material are collected in all Green Points), the served population varies between 2.500 – 83.500 (on average approximately 16.000 citizens will be served by each green point).

Currently waste at local level is collected in a mixed manner. Separate collection is implemented by Green Dot Cyprus only in packaging waste and printed paper, while private recyclers (in collaboration or not with Green Dot) serve businesses and industries. Currently 78% of the total population is covered by separate collection of packaging waste and printed paper.

Following the implementation of the new system the target for separate collection of 50% of MSW is set (by 2021), which refers to separate collection of:

- Paper, plastic, metal and glass
- Organic waste
- Streams collected in green points

As already mentioned, the new plan establishes for the first time the responsibility for the local authorities to develop separate collection systems and meet specific targets for recycling. As the plan and respective legislation is not adopted yet, the separate collection systems are expected to be in place no earlier than the end of 2016. With respect to collection scheme, the current system relies heavily on door to door collection (77% of the waste is collected via such system) and this practice will be maintained, as it is considered suitable for reaching the targets. .

The following arrangements are already implemented and will continue to be in place in with regards to the separate collection of recyclables (excluding packaging waste and printed paper carried out by Green Dot), and the separate collection of organic waste:

- Collection is carried out by the collection services of the local authority itself;
- Collection is carried out by complexes (unions) of local authorities pooling their equipment and staff;
- Contracting an authorized private collector using the equipment of the local authority; and
- Contracting an authorized private collector using its own equipment

Authorities are also responsible for collection of Green and bulky waste (Door-to-door collection, Pick-up service, central collection point systems are used in this respect).

Usually private collectors are used in small communities that do not have the necessary personnel to execute the collection services and they also serve businesses producing waste (paper, plastic, metal, glass or other).

With respect to packaging waste, collection is already carried out by Green Dot, and there are authorized private collectors that are active in recyclables collection, both with and without collaboration with Green Dot.

It is intended that the local authority separate collection system be set up in collaboration with the existing Green Dot collection system.

The costs for the development and operation of the packaging waste collection system as well as for the downstream management (recovery, etc) of the packaging waste are covered by the Green Dot scheme (in the frame of EPR); Green Dot also collects (by arrangement) the printed paper fraction within the same fraction, but the local authorities must meet the cost of this part of the collection.

Via the implementation of this collection system, the need for comprehensive material recycling facilities is reduced, since the sorting facilities (currently operated by private sector) are used today only for the separation of the PMD stream and the separation of the residues from the main stream.

In addition, the promotion of the separate collection of organic waste is foreseen - the target is by 2021 more than 30% of the organic waste to be collected and treated. In this respect, development of treatment plants (composting and anaerobic digestion plants) is expected, mainly by the private sector, in order to treat the separately collected organic waste for energy recovery and for uses in agriculture. Currently there are 10 anaerobic digestion plants, treating mainly manure and animal waste, which could be expanded to treat also the separately collected organic waste. In this respect they will need to be equipped with pasteurizers (2 of these plants already possess such equipment). There are also three composting plants currently treating agricultural, and parks and gardens waste, which may also be expanded to receive separately collected organic waste.

1.6.3 Article 11: Reuse and Recycling

According to the 2013 report of Green Dot Cyprus⁸, approximately 46.000 tonnes of material were collected and 43.000 tonnes were recycled. The overall recycling rate is 22% (including waste recycled by Green Dot, in the waste treatment plant in Larnaca and by private recyclers). The new plan includes very significant changes in the collection of municipal waste which is expanded to several streams other than packaging waste (such as separate collection of organics, recyclables other than packaging, materials in green points).

The overall target set for reuse and recycling, in line with WFD is 50% of recyclables (paper, metals, plastic and glass) to be reused / recycled by 2020 (using calculation method 2 for calculation of the WFD targets on recycling).

With regards to the EPR, this is currently applied in packaging waste and other waste streams (WEEE, batteries and accumulators and tires). However, according to the new plan, EPR will be expanded to non-packaging paper, plastics, etc.

⁸ Found at

http://www.greendot.com.cy/cmslikethis/uploadedContent/downloadsFiles/gdc_annual_report_2013_web_file_red1404727129.pdf

With respect to the support and training of the local authorities for the implementation of their obligations in relation to separate waste collection, the plan foresees technical and financial strengthening of the capacities of the local authorities, via:

- Training of the staff
- Technical assistance contracts
- Provision of equipment (bins, trucks, etc)
- Information material
- Organization of awareness campaigns

An important issue for Cyprus, being a small Country (and an island) is the lack of a market for the absorption of the secondary material that is recovered, as a result most of the recovered material (paper, metals, plastic and glass) is exported.

1.6.4 Article 14: Costs of Waste Management

The costs for municipal waste management are borne by the citizens in the form of fees paid to the local authorities. For packaging waste (and other streams, like WEEE, batteries and accumulators and tires), EPR schemes apply and the costs are borne from the producers/distributors of the products. In this case, the producers and distributors of the goods are responsible only for the take back of the waste within their territories. The producers of the product are responsible for paying a fee to the collective management system according to the quantity of product placed on the market.

The EPR scheme for packaging waste is as follows:

A collective system for the management of packaging waste (Green Dot Cyprus) has been established and authorized, under the initiative of the Cypriot Trade and Industrial Chamber. Green Dot Cyprus is responsible to develop, implement and operate an integrated system (collection, recovery, treatment) of packaging material and waste. The cost for the development and operation of these activities is covered by the producers/distributors (members – shareholders of Green Dot Cyprus) via a fee they pay to the collective system (the fee is approved by the Competent Authority under the Packing Law). According to the discussions with the representatives of Green Dot and MADRE the fees of the producers/distributors covers the overall management cost for packaging waste, while fees of are imposed on the LAs for the management of printed paper. The determination of the fee depends on:

- The type of material (paper, plastic, metal, glass, etc)
- The respective quantities per source
- The cost of transport and treatment
- The revenues of the system
- Other operation costs of the system

The current fees imposed by Green Dot are the following.

Table 1-4: Fees of Green Dot

	Domestic PW (€/tn)	Industrial/Commercial PWs (€/tn)
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	Domestic PW (€/tn)	Industrial/Commercial PWs (€/tn)
Glass	29,06	
Paper	47,14	43,31
Plastic		37,94
Ferrous metals	95,39	
Aluminum	21,38	
PET	105,89	
HDPE	105,89	
Wood		12,41
Paper packaging for liquids	122,75	
Other recoverable material	131,05	
Other non recoverable material	157,27	
Other		50,27

It is noted that the cost for the packaging waste collected within the mixed waste fraction is covered by the Local Authorities and the producers/distributors have no contribution whatsoever.

The national waste management plan that was developed (though not adopted) in 2012 includes some information on the costs associated with waste management in each district as presented below.

Table 1-5: Waste Management Costs in Cyprus

	Nicosia District	Limassol District	Larnaca and Famagusta District	Pafos District
Collection cost	45 – 125€/HH/y (includes disposal in non-compliant landfill)	45 – 125€/HH/y (includes disposal in non-compliant landfill)	50 – 100 €/HH/y	50 – 100 €/HH/y
Waste treatment / disposal			55€/tn (for mixed waste treatment)	21 €/tn (for mixed waste)
Transfer station cost			25 -50€/tn	
Packaging waste recycling	27€/tone or 22€/HH	27€/tone or 22€/HH	27€/tone or 22€/HH	27€/tone or 22€/HH

	Nicosia District	Limassol District	Larnaca and Famagusta District	Pafos District
Total cost	80 – 150€/HH/y	80 – 150€/HH/y	240 – 300 €/HH/y	120 – 190 €/HH/y

As already mentioned the national plan foresees the adoption of legislation expanding the EPR to other materials such as non-packaging paper, plastics and metal.

With respect to PAYT system, currently this is implemented only on a very small pilot scale in Aglantzia Municipality. In this pilot system, a microchip is installed in each bin which corresponds to a certain household. The waste truck is equipped with a weighing system in order to register the weight of each bin of each participating household, which is then charged to the respective household (it is noted that the households are not actually charged according to this system, as the current legislation does not allow such charges).

The plan foresees the promotion of PAYT systems on a broader scale. According to the discussions with the representatives of MARDE, PAYT is scheduled to be implemented very soon in areas covering around 300.000 citizens (more than 30% of the total population of the Country). It is noted that the plan does not include clear commitment of the development of PAYT systems.

In general, the charging of the waste management costs to the citizens is included in the overall municipal fees and is not related to the generated waste quantities. Different fees apply to different municipalities, as well as different charging methods and the variation is significant. Hence, the system does not fully respect the “polluter pays” principle and the development of more fair systems (e.g. PAYT) will contribute to better calculation and monitoring of the waste management costs.

1.6.5 Article 22: Encouraging the Separate Collection of Biowaste

The new plan introduces the responsibility for the local authorities to separately collect 15% of the total MSW as organic waste, by 2021. This target corresponds to more than 30% of the organic waste that needs to be separately collected. Specific measures are proposed to be implemented in order to support the authorities to develop the systems foreseen. These measures include:

- Elaboration of a national plan for biodegradable waste management
- Completion of the green points network.
- Promotion of the implementation of separate collection for organic waste
- Training of local authorities and waste producers on separate collection of organic waste
- Voluntary agreements for raising of awareness and implementation of separate collection of organic waste
- Technical and financial support to the local authorities for development of systems of separate collection of organic waste
- Promotion of home composting
- Development of plans for upgrade of organic waste treatment plants
- Raising of public awareness
- Banning of certain waste types (e.g. green waste) from entering into landfills;

- Establishment of landfill tax.

However the plan does not include a timetable for the progressing reaching of the aforementioned targets as it does for other similar targets (e.g. collection of MSW, or recyclables). Moreover the plan refers to the responsibility of the authorities to promote rather than implement separate collection of organics. This fact may allow some LAs not to comply with the need to implement separate collection of organics.

The recovered biowaste, following treatment may be used in the form of compost in agriculture or for other purposes. In this respect it might be critical to establish quality criteria in order to govern the use of compost and potential increase the respective revenues from its utilization. These elements should be addressed in the national plan for biodegradable waste management

1.7 Summary of Policy Mechanisms and Instruments to Meet Targets

The targets included in the national waste management plan of Cyprus require additional efforts in order for them to be met, both in relation to the separate collection and treatment of organic waste (15% of MSW or more than 30% of organic waste needs to be separately collected and treated) or the overall separate waste collection (50% of MSW needs to be separately collected).

The plan includes a series of instruments and measures to support and ensure the accomplishment of the objectives and targets foreseen in the plan as follows:

Legal instruments

Appropriate legal initiatives will be taken in order to further define the framework, and the roles and responsibilities of all stakeholders. These initiatives will include:

- Legal provisions aiming at local authorities
 - Development of local waste prevention and management plans
 - Development of infrastructure of separate collection of paper, glass, metal, plastics and organic waste
 - Separate collection of 50% of MSW by 2021
 - 50% of recycling by 2020
- Legal provisions aiming at producers
 - Extension of EPR to products such as non-packaging paper, plastic etc.
 - Environmental tax on selected products for which their negative environmental effect, when they become waste, has been well documented
- Legal provisions aiming at reduction of disposal
 - Establishment of a landfill tax
 - Banning the disposal of certain waste streams (e.g. green waste, high calorific value waste, etc)

These instruments are not yet in place and no timeline for their introduction is included within the plan. In any case according to the plan,, the respective legal acts introducing these instruments will be in place in the period 2015-2017

Financial instruments

The government intends to finance the development of the following infrastructure to support the local authorities in delivering the targets:

- Central waste management facility in Limassol, consisting of MBT plant and landfill for the disposal of residues (expected to be completed in 2016)
- Network of green points (expected to be completed in 2016)
- Sanitary landfill in Nicosia (expected to be completed in 2017)
- Utilization of the material disposed in the non-compliant landfills in Nicosia and Limassol
- Rehabilitation of all non-compliant landfills
- Utilize the full operational capacity of the Central waste management facility in Larnaca
- Development of the necessary transfer stations following assessment of the actual needs

Other economic instruments to be used in order to motivate the stakeholders include:

- Instruments aiming at local authorities
 - Co-financing of PAYT systems
 - Co-financing of measures promoting the implementation of separate collection (e.g. provision of equipment)
 - Co-financing of activities for integrated waste management in isolated areas (zero waste approach)
 - Co-financing for technical assistance contracts aiming at capacity building, raising of awareness etc
- Instruments aiming at the private sector
 - Financial support for companies of specific size and personnel, that are big producers of waste, for the implementation of a waste prevention and separate waste collection program in their operation cycle
 - Financial support for existing or new waste management facilities that seek to expand, upgrade or be equipped
 - Financial support for industries for the utilization of recycled material in their production processes
- Instruments aiming at the public sector
 - Financial support in the public sector for the promotion of waste prevention and separate waste collection
- Instruments aiming at horizontal activities
 - Donations – competitions – establishment of prizes for best performance in waste prevention and separate collection systems

Administrative and information instruments

The following practical measures are foreseen:

- Establishment of a reliable, operational and flexible system for data collection and processing including the development of a database ;
- Improvement of the website of the Environmental Department of MARDE
- Development of an electronic platform for exchange of information, opinion and know-how between the stakeholders and among the public
- Implementation of awareness-raising campaigns

- Implementation of capacity building programs for local authorities and other stakeholders
- Issuance of guidelines, brochures, leaflets, books and FAQ for waste prevention and management for households and institutions
- Establishment of communication line for guidance and support to the citizens in relation to waste prevention and management

With respect to sanctions, the waste law N.185(I)/2011 foresees sanctions which are mainly related to the performance of the waste management operators (e.g. perform waste management activities without permit, or failing to fulfil the permit conditions, or failing to protect the environment during waste management services, etc). The sanctions for such cases may include imprisonment up to 3 years and fines up to 500.00 €.

However there are no clear sanctions for the local authorities in case they fail to implement the foreseen separate collection systems or fail to meet the collection and recycling targets.

With respect to the objectives and targets of the landfill directive it has to be noted that current situation indicates that the system fails to meet the requirements of the Directive especially in relation to:

- Diversion of biodegradable waste from disposal: the amount of biodegradable municipal waste disposed is well above the maximum allowed quantities;
- Disposal of treated waste: Most of the waste generated in Nicosia, Limassol and Pafos districts is disposed without prior treatment
- Operation of non-compliant landfills: Nicosia and Limassol districts are still served by non-compliant landfills.

The new plan seeks to close these gaps by:

- The introduction of separate collection for recyclables and organic waste
- The development of a waste treatment facility in Limassol
- The development of sanitary landfills in Nicosia and Limassol
- Closure and rehabilitation of all non-compliant landfills
- Setting the necessary motives/tools for private sector get actively involved in the promotion of separate collection

Given past experience the implementation of the plan should be monitored very closely in terms of timetable, as well as the performance of the stakeholders, and appropriate sanctions in the event of poor performance should be established, in order to avoid, once again, the situation where, by the year 2020, it is acknowledged that the targets are not met or the systems are not implemented.

1.8 Investment in Waste Management Infrastructure

According to the national waste management plan, and some rough calculations based on the targets that have been set for 2020 (total MSW generated in 2020 is approximately 590.000 tpa), the following requirements for waste treatment arise from the plan:

- Recycling of paper, plastic, metals and glass (50% of paper, plastic, metals and glass): 137.000 tpa

- Diversion of biodegradable waste (according to landfill directive): 301.000 tpa (total biodegradable waste generated 396.000 tpa, of which, 95.000 tpa is allowed to be sent for disposal)
 - Separate collection and treatment of organic waste (15% of total MSW): 88.000 tpa of organic material separately collected
 - Recycling of paper: 76.000 tpa of paper
 - Treatment by MBT of mixed waste: 137.000 tpa of biodegradable waste, or 204.000 tpa of mixed/residual waste.

The existing and scheduled waste management infrastructure to meet these targets includes:

- Waste Treatment facilities
 - Existing MBT plant in Larnaca with existing input of 110.000 tpa – New plan foresees utilization up to 160.000 tpa, which is the full capacity of the plant
 - Scheduled MBT plant in Limassol with existing capacity of 140.000 tpa
 - 2 existing composting plants of total capacity of 28.000 tn/y – New plan foresees expansion in order to receive preselected organic material from MSW
 - 2 out of the 10 existing anaerobic digestion plants of total capacity to accept organic waste up to 70.000 tn/y – New plan foresees expansion and upgrade in order to receive preselected organic material from MSW
- Sorting facilities
 - 20 existing facilities for the sorting of recyclable material
- 2 existing transfer stations in Larnaca and Pafos Districts (one more transfer station will be constructed along with the MBT unit at Limassol) – the new plan foresees assessment on whether additional transfer stations are needed
- Waste disposal:
 - 2 existing sanitary landfills in Larnaca and Pafos
 - 2 scheduled sanitary landfills in Nicosia and Limassol
 - Scheduled closure of all non compliant landfills

There is also a cement plan which receives waste (tires, sludge, etc) to be used as alternative fuels and which may be utilized in the future for streams deriving from MSW (e.g. residual waste, secondary fuel - SRF, etc).

2.0 Summary

The new waste management plan introduces a new concept for waste management in Cyprus, sets new targets, and for the first time, makes local authorities responsible for implementing separate collection systems and reaching specific targets.

The current situation reveals that moderate progress has been made in relation to MSW management, especially in relation to recycling of packaging waste, while the Country still lacks sufficient infrastructure for waste treatment and disposal, and the separate waste collection (apart from packaging waste) has not been developed.

Whilst the legal framework seems to be complete, having transposed all European Directives, the results of the system are relatively poor, especially in relation to waste treatment (most waste is landfilled without prior treatment) and separate waste collection (which is currently restricted to packaging waste). The main reason for this fact is the lack of the necessary installations, which have been delayed for several years, and the absence of clear responsibilities placed on local authorities in terms of developing separate collection systems and meeting of the respective targets. In fact, prior to the forthcoming adoption of the new plan, local authorities were only responsible for waste collection, without any responsibilities/obligations to develop separate collection systems or meet specific targets

The new waste management plan seeks to address these problematic issues and its most significant elements include:

- The constitution of local authorities as responsible for the implementation and operation of separate collection for recyclable and organic waste and for reaching of the collection and recycling targets.
- The establishment of very new waste management targets:
 - 50% of MSW to be separately collected by 2021
 - 50% of paper, plastic, metals and glass to be recycled by 2020
 - 15% of MSW (or more than 30% of organic waste) to be separately collected as organic waste by 2021
 - No more than 20% of MSW to be disposed in landfills by 2021
- Development of green points networks for separate collection of several waste streams
- Establishment of a reliable, operational and flexible system for data collection and processing
- Provision of expansion of Extended Producer Responsibility to materials such as non-packaging paper and plastic
- Commitment to adopt legally the introduction of landfill tax and restrictions in disposal of certain waste streams: this is a measure expected to contribute significantly to the diversion of waste from disposal.

The adoption of the national waste management and prevention plans has been delayed by almost one year and this fact delays the adoption and implementation of all measures foreseen in these plans. It is considered that the plan will be adopted in 2015. It is noted that as the plan has not yet been officially adopted its performance cannot be evaluated. However, given the experience from the efficiency in the implementation and meeting of the targets of the previous plan (which was adopted in 2004) as well as the elements presented in this report there are some issues that may generate concerns in relation to the actual implementation and success of the plan, in view of reaching the targets imposed by the EC legislation:

- The local authorities become key players in waste management, especially in relation to separate waste collection. The whole success of the system will rely upon the performance of the local authorities in delivering services, and encouraging households to engage with them. Hence it is critical for them to have the necessary technical and financial resources to deliver. The plan foresees some support for local authorities in their new responsibilities by MARDE (which will be responsible for the implementation of the training activities and will collaborate with the Union of

Municipalities and Communities, NGOs, Universities, etc). This support is urgently needed and will need to be very closely monitored, while sufficient funds should be available.

- Currently, Cyprus is some distance from meeting the targets for diversion of biodegradable waste from disposal. The plan introduces targets for separately collecting organic waste (and its treatment), relying equally to separate collection and mixed waste treatment in order to meet the respective targets (the capacity of the MBT facilities will be around 50% of waste generated). Without the achievement of the targets on separate organic waste and treatment there will be a problem in reaching the landfill directive targets, hence this has to be closely monitored. Moreover the plan refers to the need for LAs to promote rather than implement separate collection of organics. This statement may give the possibility for LAs not to comply with the need to develop separate collection schemes for organic waste and this will result in big risk of failing to meet the respective targets deriving from the LFD.
- The national plan foresees the disposal of maximum 20% of MSW into landfills. It has to be ensured that this amount of waste will have undergone pre-treatment prior to disposal in order to be in line with the LFD. In this respect it is necessary on one hand to maximize the efficiency and success of the separate collection systems in order to minimize the quantity of untreated waste and on the other hand to ensure that treatment capacities will be sufficient and not overestimated to treat all residual waste.
- Pay-as-you-throw systems are foreseen in the new plan. Such schemes currently exist only at a very small pilot scale at present, and no information is available with regard to their performance, while some future expansion of these schemes is foreseen to be implemented in 300.000 citizens until 2021 (approximately 30% of the population). Managed effectively, these systems are known to contribute to waste prevention and diversion from disposal. However, evidence suggests that they need to be introduced against the backdrop of quality, convenient recycling services, including networks of green points (which ought to implement such charges too), in order to avoid the negative consequences of such systems.
- The market on waste management is currently underdeveloped due to:
 - mixed competencies between MADRE and MoI and unclear framework and policies (delay in the adoption of the new waste management plan)
 - underdevelopment of separate collection schemes
 - lack of necessary infrastructure

These uncertainties generate reluctance especially for the private sector to invest in waste management.

- There appears to be no common quality standards and requirements for waste collection (especially in relation to separate waste collection) and each local authority (or cluster of authorities) sets the collection practices to be implemented within their territory (usually by the authorities themselves or in some cases via contracts with the private sector). This results in significant variations in the costs of the collection system between the authorities and problematic monitoring and control of the collection activities, which may result in not acceptable environmental standards.

- Current data on waste generation are unreliable for the Districts of Nicosia and Limassol where no facilities exist to weigh the waste. This may result in improper dimensioning of the waste collection system and waste management facilities or miscalculation of the waste management targets that need to be met. With the new facilities foreseen, this issue should be overcome; however this will also require clear procedures for waste reporting to be developed along with appropriate tools for data processing (although these requirements are already foreseen in the plan they need to be developed very quickly).
- The plan foresees the adoption of a landfill tax. However, there is no indication as to the level of the tax that will be set, and no timeline for its introduction is provided.
- The plan also indicates a commitment to restrict the disposal of certain waste streams to landfill, although, again no timeline is given, and little detail regarding the streams to be restricted, or the method of enforcing the restriction, is provided. Experience from other countries suggests that these restrictions are not the best way to drive diversion of waste from landfill due to the difficulties of enforcing such legislation.
- With respect to the EPR, the plan focuses on the expansion (currently EPR is in place for packaging waste, WEEE, batteries and accumulators) of the principle to additional material (e.g. paper or plastic), although, as with the landfill tax no timeline is given with regard to these changes. However, attention should be given to additional elements that may strengthen the implementation of the EPR in meeting its objectives such as:
 - Promote different fees for each material or product that corresponds to its actual management cost at the end of its life. This would further motivate producers to design their products in a more eco-efficient manner
 - Public awareness activities should allow the citizens to become aware of the fees of each product associated with its management at the end of its life.
 - Establish proper system of monitoring and enforcement system for EPR

Also it is noted that ideally the EPR scheme should cover 100% of the cost of separately collected packaging waste and also contribute to the management of packaging waste collected as residual waste, especially in the areas not covered by separate collection system. Currently, while the cost of separately collected packaging waste is covered by Green Dot, the LAs must meet the total cost of the packaging waste collected within the mixed waste stream.

- These measures acquire particular significance given that there are no clear sanctions applied to the local authorities for failing to meet the targets that are to be implemented, or for failing to implement the proper system. This may limit the extent to which the system being envisaged is actually implemented.
- Cyprus being a small island county depends heavily on the export of the materials recovered (metals, plastics, glass and paper) and this has an impact on the costs of the waste management system. However this issue is difficult to be tackled as it is not possible to have such industrial activity in Cyprus that would be able to utilize all the material recovered from waste, In any case the plan foresees the elaboration of a study to assess the opportunities to utilize increased quantities of recycled material in Cyprus, which is combination with well functioning EPR system may result in reduction in the needs to export the recovered material.

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