

# **Waste Management Strategy Perspective of a Small Island State - Malta**

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**Tomas Bata University in Zlín**  
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Univerzita Tomáše Bati ve Zlíně  
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Ústav environmentální bezpečnosti  
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[3] L.N. 277 of 2006. **Waste Management (Packaging and Packaging Waste) Regulations, 2006.** Malta: Department of Information (doi.gov.mt) – Valletta, 2006, (38 pages).

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## **ABSTRAKT**

Bakalářská práce se zabývá současnou situací odpadového hospodářství na Maltě a zaměřuje se zejména na studii dvou hlavních dokumentů „The Solid Waste Management Strategy 2009“ a „The Waste Management Strategy Plan for the Maltese Islands 2014 – 2020“, který byl schválen vládou na začátku roku 2014. Práce obsahuje teoretickou část, na kterou navazuje důkladná analýza hlavních toků odpadů, které výrazně ovlivňují tento malý ostrovní stát. Bylo provedeno prozkoumání výše zmíněných dokumentů a hlavní důraz byl kladen na otázku jejich realizace.

Klíčová slova:

odpadové hospodářství, směrnice EU, transpozice, realizace

## **ABSTRACT**

The thesis looks at the current situation of waste management in Malta with particular emphasis on two documents namely “The Solid Waste Management Strategy 2009” and “The Waste Management Plan for the Maltese Islands 2014 – 2020” approved by The Cabinet early in 2014. The thesis has a theoretical part followed by an in depth analysis of the different major waste streams that affect a small island state like Malta. An assessment was made between both documents with special attention to implementation.

Keywords:

waste management, EU directives, transposition, implementation

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## INTRODUCTION

Malta is the smallest island state in the European Union. Over the last decade a number of at least two documents were issued by the Maltese Authorities outlining either a plan for the management of waste or otherwise a strategy document.

This bachelor thesis is divided into two main parts: the theoretical and the analytical part. In the theoretical part I describe the legislation in the form of Directives, Regulations and Decisions and I explain general terminology and the major waste streams in Malta. In this part I explain the theory in general which is then applied in the analytical part of the thesis.

The practical part of the thesis introduces a methodology which is established within the parameters of both legislation issues in place, both on a National basis and also on a European basis. The methodology, albeit different to a European perspective still has to keep in mind European legislation.

However the key factors as indicated below are of strategic importance and although subsequent plans have noted these factors, it is imperative that in respect to Waste Management policies approved by Government of the day, these are actually implemented on target.

The key factors are: proximity and self sufficiency within the constraints of volumes and area of the Maltese Islands, precautionary principles, economic and fiscal measures, and polluter pays principle and extended polluter pays principle, waste hierarchy, best practice operations, education and communications with stakeholders.

The strategy document issued by The Government of Malta for the years 2014 – 2020 clearly shows a political will to achieve EU targets in accordance with EU Directives however after a detailed analysis one would recommend that more insistence is made by Government to implement economic and fiscal measures to reach the goals of the strategy.

The aim of the thesis is to explain and describe in detail why Malta as a small island state, in respect to waste, is not yet able to reach the targets of the European Union.

## **I. THEORY**

## 1 THE AIMS OF THE EUROPEAN COMMUNITY

The European Union (EU) is aiming to minimize waste as much as possible in the coming years. The Member States have chosen to follow the Thematic Strategy which has been adopted on 19 January 2011 in order to limit the waste placed on the market and promote further prevention, re-use and recycling.

The EU issues legislation in the form of Directives, Regulations and Decisions. **Directive 2008/98/EC** is the most important legal instrument but there are also other Directives which focus on waste streams such as packaging waste, end of life vehicles, batteries, waste electrical and electronic equipment or Directives of specific waste streams.

At present a consultation document launched by the Community earlier this July 2014 provides the Community's insight towards furthering more onerous targets in respect to waste minimization through a number of changes being recommended in relation to a number of EU Directives, including:

- **94/62/EC** Packaging and Packaging Waste
- **1999/31/EC** Landfilling of Waste
- **2000/53/EC** End of Life Vehicles (ELV)
- **2006/66/EC** Batteries and Accumulators
- **2012/19/EU** Waste Electrical and Electronic Equipment (WEEE).

All legislations together have one main aim and that is to safeguard human health and the environment for both present and future generations. In the latest proposals the EU is focusing on providing the legislative framework to make sure that producers become part of a circular economy, a subject matter which will be treated briefly later on in this thesis.

Such legislative mandatory regulations are directed to achieve a number of targets including but not limited to:

- Several dump sites and incinerators were completely closed down all over Europe
- New techniques were developed for the treatment of waste/s
- Removal of hazardous substances from vehicles and EEE and reduction of emissions from waste management facilities.
- Increase in the re-use, recovery and final recycling of waste [1]

## 1.1 Malta – Demography related to Waste Management

Malta joined the European Community in May 2004. The small island state, demographically only just over 300 km<sup>2</sup> with a population of 400 000, lies 93 km south of Sicily and 290 km north of the African coast. Until then it had in place a National Waste Management Company, namely WasteServ Malta Ltd which was established in 2001 with the specific aim of taking on the island's needs in relation to waste management but with the additional aim of being an operator of a last resort, thus leaving all doors open for private enterprise to tap this sector from an economic point of view.

The climate in Malta is very hot and humid for most of the calendar months with very little rainfall compared to all other EU member states. This climatic aspect is an important issue to any Waste Management plan or Strategy being put in place both in the past years and also in the years to come in relation to its management. In addition the first aims of WasteServ Malta Ltd between the year 2001 and the year 2004 was to make sure that under specific agreement with the EU the mixed waste landfill at Maghtab had to close down by 2004 and an engineered landfill established which would cater for the islands needs for a number of subsequent years. [2]

Established by law through Maltese Parliament in 2001, WasteServ Malta Ltd today continues to spearhead the waste management strategy or plan for the Maltese Islands.

This bachelor thesis intends to provide a background to the last ten years of Waste management in Malta and also provide an insight into a New Waste Management Plan which has been adopted by the Government of the day in Malta for the years 2014 - 2020.

An analysis of this strategy is based on first hand local experience of the public and the producers who actually place waste together with an insight into how the Local Councils in Malta abide to the strategy or otherwise. Malta has 68 Local Councils with 14 Local Councils emanating from Gozo whilst the rest, 54 Local Councils operate in Malta. Annex A provides a list of these Local Councils together with individual population as at 2014 and also the number of occupied dwellings within each locality.

At this stage it is important to provide a statistical review of what waste streams have been documented and the way they have been disposed to date.

The table below outlines the total amount of waste treated year by year from 2006 to 2011.

Picture 1 – Map of Localities in Malta – own creation

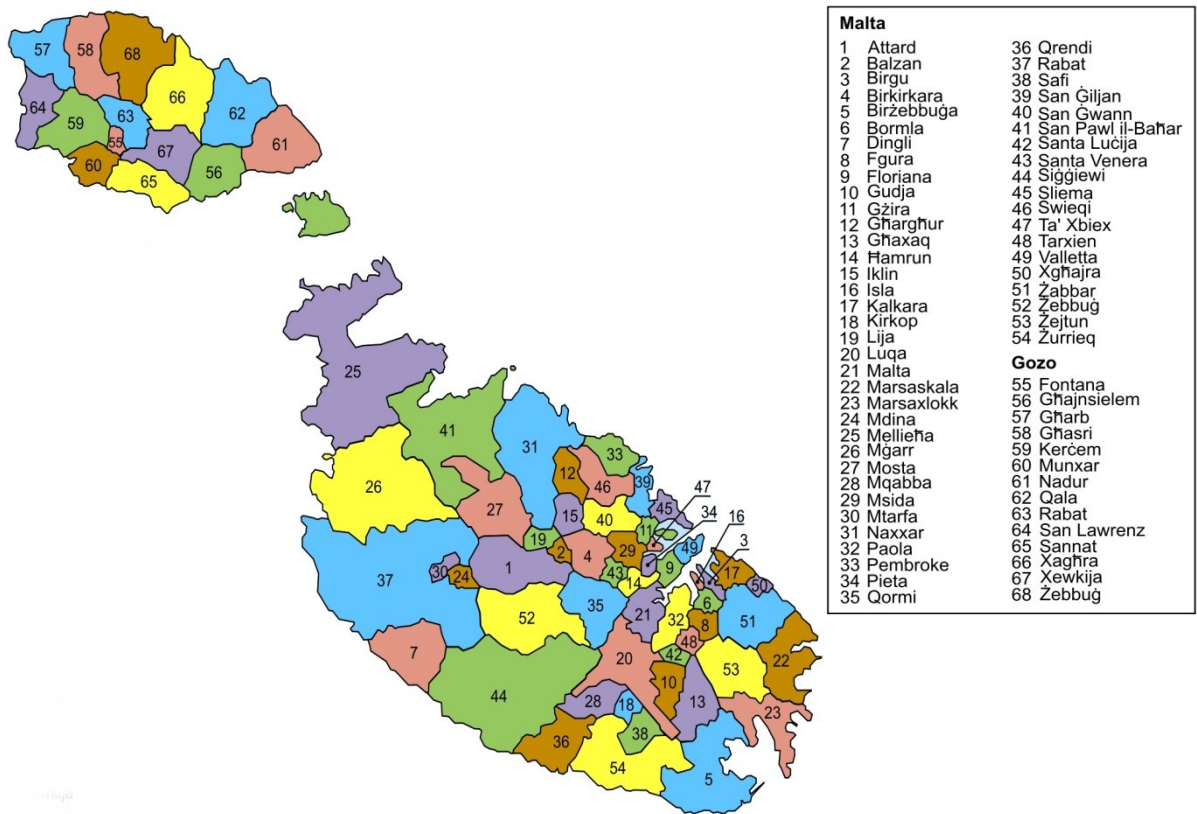


Table 1 – Waste management in Malta: an overview [3]

	2006	2007	2008	2009	2010	2011
Waste management in landfills	247 099	278 537	287 540	270 130	246 715	250 226
Waste management in quarry sites	2 159 049	2 349 435	1 686 834	523 161	799 538	553 785
Disposal at sea	329 426	146 205	300 360	74 370	290 120	144 800
Recovery (Sant'Antnin Waste Treatment Plant)	48 665	18 806	8 221	11 708	25 030	59 826
Incineration (Marsa Thermal Treatment Plant)	0	0	5 683	7 178	7 261	6 457
<b>Total</b>	<b>2 784 238</b>	<b>2 792 983</b>	<b>2 288 638</b>	<b>886 548</b>	<b>1 386 665</b>	<b>1 015 094</b>
of which						
Non-hazardous mineral waste	2 492 522	2 500 664	1 996 342	600 417	1 092 330	703 118
Municipal waste	252 833	265 940	273 094	264 619	244 361	235 893
Other waste	38 833	26 380	19 203	21 511	31 973	76 083

Tonnes

## 2 WASTE PREVENTION

The revised Waste Framework Directive requires that Member States had to establish by 12 December 2013, National waste prevention programmes. These programmes shall be evaluated at least every sixth year and revised as appropriate. The programmes shall set out the waste prevention objectives. Economic growth should not have a link to the creation of waste but past history has shown that this is not the case. Waste minimization in Malta has been directed by WasteServ Malta Ltd and this entity has undertaken the following initiatives in respect to waste prevention.

- a) European Week for Waste Reduction
- b) Waste Minimisation
- c) Pre-Waste project
- d) Zero Waste project
- e) Other initiatives

Waste prevention, also known as source reduction, means using less material to get a job done, also defined as measures taken before a substance, material or product has become waste so that the quantity of waste is reduced and the adverse impacts of the then generated waste or the content of harmful substances in materials and products.

Waste prevention methods help to create less waste in the first place - before recycling. If organizations take a good look at their recycling collection data, they are likely to see ways to reduce waste first through waste prevention, thereby decreasing purchasing costs and the amounts of materials that they currently send for recycling. [3]

### 2.1 Quantitative waste prevention (amount reduction)

Quantitative prevention reduces the amount of materials produced and the harmful environmental effects associated with producing and disposing of them. Adequate source reduction conserves resources, reduces disposal costs and pollution, and teaches conservation and prevention; therefore it should be given first consideration. It also results in substantial and measurable cost savings, such as avoided collection, transportation and disposal costs. Monitoring should be an integral part of quantitative prevention programs.

## 2.2 Qualitative waste prevention (toxicity and hazard reduction)

Prevention can occur when the amount of waste is reduced, and also when there are less hazardous and toxic materials in the waste. Common household purchases containing hazardous materials include some types of cleaners, disinfectants, polishes, motor oil, solvents and garden pesticides and herbicides. There are several strategies to accomplish quantitative waste prevention, most of them centred on the education measures. [4]

Domestic hazardous waste must be taken to Civic Amenity sites, while commercial hazardous waste must be taken to different WasteServ facilities, depending on the type of waste. [5]

Examples of waste prevention measures outlined in the Waste Framework Directive:

- a) Measures that can affect the framework conditions related to the generation of waste
- b) Measures that can affect the design and production and distribution phase
- c) Measures that can affect the consumption and use phase/s

From a local aspect Malta would be expected to comply within a limit to measures relating to the generation of waste. It is to be noted that Malta relies heavily on imports from the EU and other non EU countries. From this point of view Malta has few large producers who can somehow deliver the impetus not to generate waste in the first place through the design and production of goods. Malta has to however take all those preventive measures necessary starting from an educational aspect to change the mentality of the final end users of goods being placed in the market.

Malta will also have to build up mentality changes in respect to consumption of goods placed on the market, with once again educational systems firstly in place followed by implementing incentives through a carrot and stick approach. It is mostly assumed that consumers would take up an initiative of any nature if it has a fiscal benefit or a concrete moral benefit to themselves. In Malta over past years it has transpired that any initiatives relating to reducing waste were not effective since they were not driven by fiscal incentives. [3, 4]

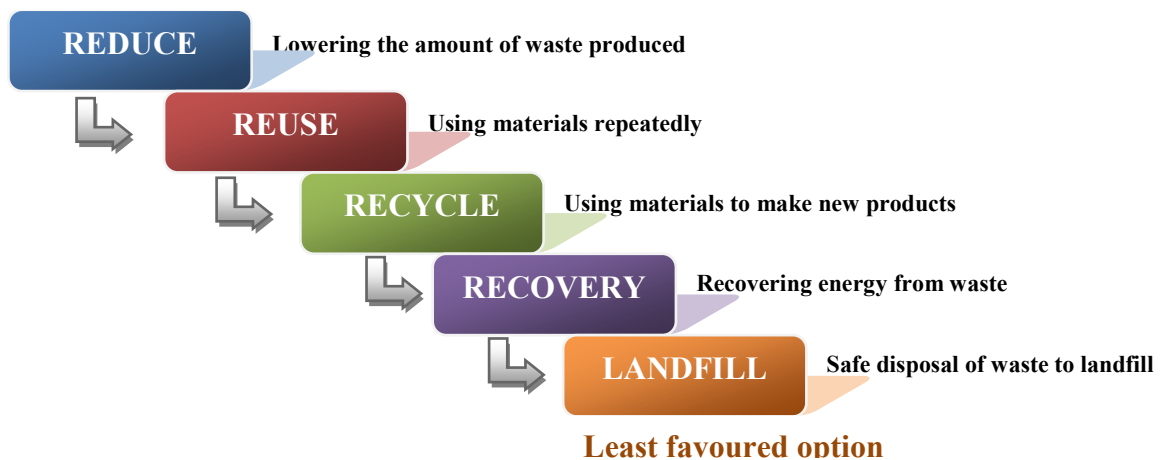
### 3 WASTE HIERARCHY

Directive 2008/98/EC sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. It explains when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products. The Directive lays down some basic waste management principles: it requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.

Waste legislation and policy of the EU Member States shall apply as a priority order, the following waste management hierarchy:

Picture 1: Waste reduction hierarchy – own creation

#### Most favoured option



The Directive introduces the "polluter pays principle" and the "extended producer responsibility". It incorporates provisions on hazardous waste and waste oils (old Directives on hazardous waste and waste oils have been repealed with effect from 12 December 2010), and includes two new recycling and recovery targets to be achieved by 2020:

50 % preparing for re-use and recycling of certain waste materials from households and other origins similar to households, and 70 % preparing for re-use, recycling and other recovery of construction and demolition waste. The Directive requires that Member States adopt waste management plans and waste prevention programmes. [6]



## **4 THE KEY PLAYERS IN WASTE MANAGEMENT**

There are a number of public and private sector institutions who are responsible or deeply involved in certain aspects related to waste management in Malta, namely:

The Ministry for Sustainable Development, The Environment and Climate Change, The Ministry for Gozo, The Ministry for Transport Infrastructure and Communications, Malta Standards Authority, Malta Maritime Authority, Malta Tourism Authority, Malta Resources Authority, Malta International Airport, The Malta Chamber of Small and Medium Enterprises (GRTU), The Malta Chamber of Commerce, Malta Hotels and Restaurants Association, Malta Institute of Waste Management, Waste Management Facilities, Waste Management Compliance Schemes, Waste Carriers Representatives, Waste Brokers and other non Governmental organizations.

### **4.1 Major Waste Streams**

Malta's major waste stream going back through the years was construction and demolition waste which accounted to over 80 % of all waste deposited then at landfills and with the remaining 20 % divided between municipal waste and other wastes. However at the time all construction and demolition waste was directed to landfill but since then and for the last 6 years a mechanism has been put in place whereby quarries are rehabilitated by such construction and demolition waste. All C&D directed towards these quarries have to pay a fiscal gate fee. Through this initiative alone the following waste streams can be considered as being part and parcel of wastes generated in Malta and Gozo, namely, municipal solid waste, HSW (Household Separated Waste), Batteries and Accumulators, Industrial Waste, Waste from Agriculture and Fisheries, Waste from Port and Airport Reception facilities, Sewage Sludge, Clinical Waste, Waste Oils, Electrical and Electronic Equipment, End of Life Vehicles, Tyres, and Hazardous Waste.

The above waste streams and their effects on society and facilities are outlined below in further details so that the concept of managing waste in a small island state can further be established. [3]

#### **4.1.1 Municipal Solid Waste**

A yearly average increase of minimally 2 % since 2001 has decreased in the last four years due to the fact that consumer's consumption habits are changing radically and the fact that

during the last 5 years the concept of collecting separated household waste has increased through the implementation of a once or twice weekly collection of a recyclables bag from every Local Council. Municipal Solid Waste (MSW) collection services have been assigned to Local Councils. However to date this has remained an individualistic effort and regionalisation of collection has as yet not been implemented which results in lack of economies of scale for all Local Councils and the taxpayer in general. A Waste Collection Contract is entered into between the Contractor and the Local Council which agreement has been endorsed by Government through the Department of Local Government. Local Councils are also responsible for the collection of bulky refuse 50 % of which relates to WEEE, Waste Electrical and Electronic Equipment. Because of the climate conditions municipal solid waste or more commonly known as the black bag is collected daily in at least 6 Local Councils, 6 times a week in over 30 Local Councils, 5 times a week in 15 Local Councils and 4 times a week in 17 Local Councils. In 2012 Local Councils altogether exceeded landfilling allocation by around 35 000 tons. Currently approximately 250 000 tons of MSW is received at landfill. [7]

#### **4.1.2 Household Separated Waste**

Separated Collection of household waste came into being in April 2008. An initiative called 'Recycle Tuesdays' was put in place through which Government funded a weekly kerbside collection of recyclables, namely carton, paper, magazines newspapers, plastic bottles and metal cans every Tuesday. In addition Bring in Sites were established in a number of Local Councils through which a site had four 1800 litres bins for collection of Carton/ Plastic/ Metal and Glass. These initiatives have now been devolved to permitted packaging waste compliance Schemes, namely Green MT or GreenPak Coop, which are the only two permitted Schemes in Malta. Through individual agreements with all Local Councils in place by March 2010, each Local Council allowed an authorised Scheme to recover recyclables from the locality under a specific agreement with the Local Council. After March 2010, Government no longer shouldered the financial cost of collection of recyclables.

The collection results up to 2013 clearly show an increase on a yearly basis of such collections. Both Schemes have reported collections of over 26 000 tons of packaging waste and in addition there are other individual establishments or entities who deliver to WasteServ Malta Ltd or to other authorised Waste Management Facilities such material. It is assessed

that at least 40 000 tons of packaging waste is minimally collected through Local Council collections and collections from Bring in Sites and also commercial establishments. Schemes are funded by producer members. It is estimated that 90 000 tons of packaging waste is placed annually on the market but Schemes producer members only declare just above 40 000 tons. [3, 8]

#### **4.1.3 Industrial Waste**

Waste derived from industry can only be reduced if it is handled at management level and the commercial sector truly undertakes more its corporate social responsibility role. Malta has introduced six Civic Amenity Sites, five in Malta and one in Gozo. These Civic Amenity Sites were initially set up for householders but industrial waste is also being directed there since there is no solid entry policy at these sites. One is to note that industrial waste, although cannot be compared on a national level to any size in the EU Community relates to minimal aggravation. Industrial waste includes for hazardous waste which is estimated to reach currently 12 000 tons. [3, 8]

#### **4.1.4 Batteries and Accumulators**

The total amount of batteries and accumulators placed on the market in Malta is at present not known. Although the Batteries and accumulators EU Directive has long been in place the Competent Authority has as yet not in hand this important information. Data available from WasteServ Malta Ltd shows that on an annual basis approximately between 15 000 and 20 000 kilos are received by this facility every year. Collected batteries are exported whilst uncollected batteries generally result as part of the mixed household waste. [3]

#### **4.1.5 Waste from Agriculture and Fisheries**

Currently waste resulting from these two sectors are estimated at 7 000 tons and Government has over the last years planned to build three agricultural waste treatment plants, one in Gozo, and one each, Malta South and Malta North. The facilities would treat cattle, rabbit and poultry manure resulting in generation of biogas. There is also a possibility of treating other waste streams like fallen stock, fish waste, slaughterhouse waste and other waste from industry. All these facilities are still on the drawing board to date although they were planned in the previous waste management plan 2008 – 2012. [8]

#### **4.1.6 Waste from Ports and Airport Facilities**

No data of ship generated waste is currently available, however Malta is a leader in the Mediterranean as a cruise liner port of call whilst the number of incoming travellers has exceeded 1.4 million in 2013. Whilst operators at Malta International Airport and also those operating cruise liner terminals have legal obligations to both segregate waste and also provide their own service providers, data in relation to such end operations is not in place. [8]

#### **4.1.7 Sewage Sludge**

Minimising pollutants at source is the ideal solution to the problem of sewage sludge. At present sewage sludge is all treated prior to going to the sea at three waste management facilities in two different areas in Malta and one plant in Gozo. Recovery of energy from sewage sludge had been high on Governments agenda but through the years no economies of scale has transpired. The three plants currently in operation create 38 000 tons of sewage sludge which is currently land filled, although it is intended for the plant in Gozo to co-digest the sludge under a Private Partnership Agreement. [3, 8]

#### **4.1.8 Clinical Waste**

Clinical Waste is currently incinerated at the Marsa Thermal Plant Facility. Whilst Malta has one major hospital but has also clinical waste derived from other medical sources including clinics and smaller hospitals currently authorised. Clinical waste fees for incineration are high and data of the amount incinerated yearly is not available at present although there are rough estimates which also include waste from the pharmaceutical sector. [8]

#### **4.1.9 Waste Oils**

As the total amount of waste oils generated is too low to make a secondary refinery of waste economically feasible, the ultimate aim of the plan is to either incinerate (waste to energy) or else export. Although waste oils fall within the producer responsibility sector the Maltese producers are as yet not organized in a way so that they provide a collective scheme for its collection in order to comply with their legal environmental obligations. Approximately over 7 000 tons of waste oils are generated alone from the shipping industry. [8]

#### **4.1.10 Waste from Electric and Electronic Equipments (WEEE)**

It is estimated that 14 000 tons of WEEE are placed on the market as at 2013. Data in this waste stream is known through the fact that legislation in place requires producers of WEEE to register with the Competent Authority in line with EU legislation transposed in Maltese law by Legal Notice 63 of 2007 which has early last year been superseded by Legal Notice 204 of 2014. Currently two Compliance Schemes have operational permits in place but logistically the WEEE from the market is collected by Local Councils from their bulky refuse collection. Technical data show that 50 % of bulky refuse results in WEEE. Currently both Schemes do not implement their operational permits since an Eco Contribution is levied by the Government on a large amount of EEE products placed on the market. Such legislation has been in place since 2004 and whilst the Government has always stipulated that the legislation is there, producers will be exempt from Eco Contribution if there are participants in a Scheme. However no legislation is in place today in respect to such exemption procedure. There are a number of authorised WEEE treatment facilities as one can see through the National Waste Register which is available for viewing at the MEPA website ([www.mepa.org](http://www.mepa.org)). At present WEEE is also taken back to Civic Amenity Sites administered by WasteServ Malta Ltd. In addition from time to time WasteServ issues a call for tender to export or treat WEEE. However last data shows that Malta is recovering at least 3 kg per capita in relation to the current 4 kg requirement by the European Community. [3, 8]

#### **4.1.11 Tyres**

Importers/producers of tyres currently have not set up systems to cater for this kind of waste. Currently an Eco Contribution is deemed payable for each tyre imported to Malta by producers. Tyres are collected at random with no fixed practice in place. They are currently taken to WasteServ Malta Ltd and the same operator issues a tender for their shredding and final export. Only one facility usually tenders for this service and as thus a market monopoly is in place. To date WasteServ receives minimally over 70 tons of tyres on a bimonthly basis. [3]

#### **4.1.12 End of Life Vehicles**

This waste stream falls under extended producer responsibility but establishing an ELV permitted facility has taken years to be authorised. Currently there are four authorised ELV

facilities but there is an extensive black market in this sector. Although EU Directive was transposed into Maltese law in 2004 to date one can truly state that although there are four authorised facilities they do not operate to their full due to economies of scale. Take back schemes have as yet not been set up although one operator who has a permit for an ELV facility has agreements with the importers of new cars. Second hand imported vehicles from other countries also remain a problem at this stage. Government has provided one or two schemes lately whereby those wishing to scrap a second hand vehicle for a new one with certain emission values will be given a fiscal incentive in order to take the vehicle to an end of life facility. The Government Schemes are not permanent and this creates a stammer in the sector. [3, 8]

## 5 WASTE MANAGEMENT FACILITIES AND OPERATORS

Waste Management facilities in Malta are authorised through permits issued by the Malta Environment and Planning Authority for the following waste streams:

Municipal Waste, HSW, Tyres, Waste Oils, WEEE, Batteries and Accumulators, Hazardous Waste, End of Life Vehicles, Clinical Waste, Sewage Sludge, Green waste.

Table 2 - Sample list of Authorised Waste Management facilities

Case Number	Location	Proposal	Applicant	Status
EP/00004/09	Inspectra Limited, MRA 049B Marsa Industrial Estate Marsa	Dismantling, separation and returning of waste arising out of electronic equipment, in line with WEEE regulations on Waste	Inspectra Limited	Permitted
EP/00006/09	Civic Amenity Site at Maghtab	Renewal of Permit WM 13/05 to operate Civic Amenity Site - Maghtab	WasteServ Malta Limited	Permitted
EP/00007/09	Civic Amenity Site at Mriehel	Renewal of WM 0016/05 to operate Civic Amenity Site - Mriehel	WasteServ Malta Limited	Permitted
EP/00008/09	Civic Amenity Site at Hal l/o Birzebbugia	Renewal of WM 0010/05 to operate Civic Amenity Site – Hal Far	WasteServ Malta Limited	Permitted
EP/00017/09	Electronic Products Limited, 47, Old Railway Track, Sta Venera	To scrap and disassemble electronic equipment, namely cash registers, computers, and related equipment	Electronic Products Limited	Permitted
EP/00024/09	B27C Bulebel Industrial Estate, Zejtun ZTN 08	Renewal of Waste Management Permit WM 02/08	IMA Engineering Services Limited	Permitted
IP/00001/06	Non hazardous landfill at Ghallis l/o Maghtab	Non Hazardous landfill		Permitted

Source: <https://www.mepa.org.mt/waste-management-facilities>

The Competent Authority also issues permits for Waste Carriers, Waste Brokers, Compliance Schemes and all other operators in this sector. In past years permitting took a long period to take place but in the recent three years a number of operators in the market have mushroomed steadily. The Competent Authority includes monitoring for all these operators through annual or quarterly reporting requirements and in a number of instances requires also the provision of financial guarantees in relation to the size of the facility and its operations.

## 6 ECO CONTRIBUTION

The Eco Contribution Act was introduced by Government in September 2004. The aim of the contribution was to incentivize importers and producers to set up take back schemes for those waste streams that fell directly under extended producer responsibility according to EU Directives. At the time this legislation was contested harshly by the Malta Chamber of Small and Medium Sized Enterprises GRTU and also the Malta Chamber of Commerce who cumulatively have over 10 000 members from all business sectors in Malta and Gozo. It was thought at the time that Eco Contribution was only put in place to make good for a shortfall of Government income to the tune of Euro 15 million annually. This was the approximate income received by Government through the introduction of Eco Contribution. Schedule 1 of the legislation shows the list of products and BTN (Brussels Tariff Nomenclature) liable to the legislation once placed on the market.

In addition producers were aware that no technical studies had taken place to really quantify financially the cost of recycling a product at the end of its lifespan. In itself this was already a setback, as for example a refrigerator and a microwave oven had the same Eco Contribution fee. This legislation has resulted in repeated calls from industry for its total abolishment. Government in 2009 started discussions with stakeholders from industry to create an exemption mechanism from Eco Contribution if a producer became a member of a compliance scheme in relation to packaging waste and the Scheme has targets to reach which were higher than those required at EU level at the time. Whilst EU overall target was 50 % the Government of Malta would only exempt a producer from paying Eco Contribution if the Scheme with whom he is a fully paid up member reached 70 % target. This legislation in itself, namely, Legal Notice LN 84 of 2010, still in place today places a Maltese producer at a disadvantage to any other EU Producer since even today packaging targets are at 60 % and not 70 %.

After continued efforts from both Chamber of Commerce and the GRTU, Government has now acceded to abolish slowly the Eco Contribution Act. Legislation has to be in place by September 2015 in relation to EEE products placed on the market as an initial step towards this goal. The concept of paying twice for a service was never acceptable to industry as Government was always stating that industry must pay Eco Contribution and also be complaint to the Legislation relating to WEEE and other products falling under both WEEE and the Eco Contribution Act. This was never accepted by Industry stakeholders. [9]



## 7 GREEN PUBLIC PROCUREMENT

The Green Public Procurement National Action plan has been in place since 2011. The National Action Plan under the responsibility of the Prime Minister's Office together with the Ministry for Finance and other major stake holders formed part of a National GPP Task Force which kick started Green Public Procurement in Malta.

The plan was build on five strategic objectives namely as follows:

- Establishing a strategic framework within which GPP can take place locally in Malta
- Integrating the environmental dimension within the public procurement process
- Establishing clear targets and benchmarks in a number of sectors
- Ensuring the implementation of the GPP and taking corrective measures when and where appropriate
- Engage stakeholders and market suppliers to meet the obligations of the market through continued educational support.

The plan initially catered for Office IT Equipment, Construction Products, food and catering services, transport, cleaning products, and furniture. As Government is a major purchaser of products it is evident that Green Public Procurement would be beneficial both to Government in the long term and also to the environment in relation directly to waste minimization. The targets to be reached were established over a three year period. The targets are expressed in terms on percentage of total public expenditure in relation to that product stream. Purchasing decisions have to be taken in relation to life cycle cost of a product including the cost at its end of life. The targets are closely monitored by the GPP task force still in place today under a new administration. [3]

## **8 EDUCATION AND COMMUNICATIONS**

Without fail education and communications, the engagement of others deep down the lines are fundamental pillars in making sure that the strategic plan is not only a document on paper but is actually implemented in the best way possible. The strategy outlines that Government will distinguish between environmental education and public awareness campaigns on the one hand and stake holder relationship on the other hand.

### **8.1 Communications**

Implementation of any policy or strategy at a National level requires optimum communications at all times. A stakeholder communication programme will be put in place to make sure that everyone knows the entirety of the strategy and the time frames involved. Waste Management is a complicated issue with many stakeholders, from Local Councils to each individual resident, from industry, producers and importers, to all the manufacturing industry present today in Malta. The strategy will as thus facilitate the process of consulting on the strategy or reviewing any updates of the strategy at bi-yearly intervals. Government will also address concerns and objections from stakeholders and hopefully win local acceptance and cooperation with regard to development of new waste management facilities. Government will last but not least encourage all stake holders to develop an appreciation and understanding between key target groups in relation to the economic realities and practical constraints of this sector, whilst holding always high the principle of full cost recovery for waste management services.

### **8.2 Education**

Society has become more concerned about the environment in Malta. It has become the third issue of National importance after work and health related issues in recent years. However the strategy points out that whilst society has taken due note of this, it is all society and stakeholders who need to take the bull by the horns and take due action including effective enforcement measures to provide a corner stone for environmentally sound and cost effective waste management.

Government intends to have a much better enforcement unit once there is a segregation of the Malta Environment and Planning Authority (currently under way). Through this action Planning and the Environment will be segregated and the new Environment Resources Authority would be established encompassing the current Malta Resources Authority.

Priority will be given to waste management issues in educational curricula and programmes and it is also the intention of Government to have in place a permanent education campaign targeting all sectors of the community and all age strata. The programmes include waste separation at source at schools which had stopped in the last two years due to fiscal constraints. Government will continue with educating further Green leaders within its structures at all levels. Whilst education continues to be pivotal, educators will also focus on effective monitoring and enforcement which the same strategy today admits that it has been very lenient in the past. The enforcement of environmental regulations relating to Waste Management will be a core function of the ERA (Environment and Resources Authority).

## 9 THE NEED FOR DATA COMPILATION

The strategy acknowledges that for most waste streams data is/are not readily available, and by the time it is available, the time span has lost all scope of using the data. As thus the Environment and Resources Authority once set up before the end of 2015, will be duly responsible for collecting data in real time and in line with current EU legislation. There needs to be a high level of coordination between the National Statistics Office and also the ERA to this extent. Implementation of such a strategy cannot take place if a National computerised data base is not in place for data storage, processing and retrieval, supported by integrated systems between Government Authorities and the private sector for data gathering, verification and reporting.

The data or information required is important in order to be able to provide essential inputs to planning, development and implementation of the strategy. Data will also be required to provide effective monitoring, inspection and also enforcement in real time. In addition Government wants to make sure that the data is compiled in time under its EU reporting obligations, and last but not least to provide an effective basis of communications with stakeholders, in particular producers and transporters of wastes and operators of waste. [3]

## **II. ANALYSIS**

## 10 INTRODUCTION TO THE ANALYTICAL PART

In addressing the analytical part of this thesis it is important that a methodology is established within the parameters of both legislation issues in place both on a National basis and also on a European basis. The methodology, albeit different to a European perspective still has to keep in mind European legislation.

The following factors are included in the methodological approach to this thesis:

1. The importance of transposition of EU Directives to Maltese legislation and taking into consideration their actual loyalty to the Directive.
2. The actual implementation to date compared with past projections and whether the strategy in place, if implemented is sufficient to reach the goals of the same strategy.
3. The economical feasibility of the strategy in relation to the different waste streams outlined in the strategy.
4. The assessment of whether the waste streams being outlined in the strategy fall under the Polluter Pays Principle (PPP) or under the Extended Polluter Pays Principle (EPL) or whether and whether each waste stream will be loyal to the Waste Framework Directive transposed to Maltese Law by Legal Notice 337 of 2001.
5. The assessment of whether the time frames outlined to reach the goals stated by the strategy are sufficient taking into consideration past performance in the individual waste stream .
6. The assessment of whether the right infrastructure is in place or will be in place in the duration of the strategy for each waste stream outlined
7. The assessment of how Local Councils (68 Local Councils) will take on board the outlined strategy taking into consideration that they are autonomous.

It is important to be noted that the thesis will also provide an insight into those waste streams which were not mentioned in the strategy but which are deemed to be an important factor of a holistic approach to effective solutions to waste management in Malta.

It is to be understood that data currently in hand does not go beyond 2011. However during my engagement with Green MT, additional data could be obtained which is not official but is reliable for the nature of this thesis.

## 10.1 Municipal Solid Waste

The issue of managing municipal solid waste in Malta goes back to three landfills which were in place in the late 1950's, namely Wied Fulija in the limits of Zurrieq in Malta's South, Il-Mizbla (The Dump) ta'(of) Hal-Luqa in the limits of Luqa, central Malta and Maghtab Landfill in the limits of Naxxar, in the north of Malta which was closed in 2004 after Malta went through the requirements of an Accession agreement with the EU. The prior two landfills were closed in the mid 1980's and whilst Wied Fulija has not been rehabilitated to date, the landfill at Luqa, central Malta has been rehabilitated and part of this landfill is being used as a large Civic Amenity site operated by WasteServ Malta Ltd.

Picture 2 - Map of Malta denoting three landfills of MSW – own creation



It is to be noted that the first two landfills created ample problems for the nearby localities from an environmental perspective. The one at Wied Fulija was situated 3 km on the outskirts of Zurrieq within the parameters of a pristine valley leading to the sea which was eventually filled with municipal solid waste. The locality of Zurrieq at the time had a population of 8 000 residents. About fifteen years ago, Government decided to place layers of glass fractions on the surface of this landfill which is still there to date. The placing/dumping of glass at Wied fulija has stopped a few years ago.

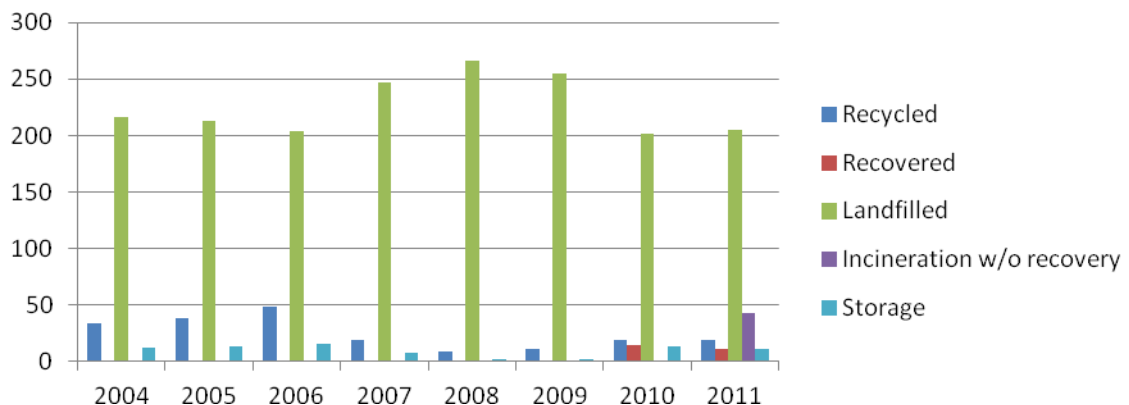
The landfill at Il-Mizbla (The Dump) in the limits of Luqa central Malta was used for over thirty years and was eventually closed in the late 1980’s. The land was initially earmarked for a lengthy rehabilitation but this never materialised. However during the period 2009 - 2012 a Civic Amenity Site was build on part of this landfill. This landfill was near to the village of Luqa which ironically also was very near to Malta International Airport. The village had a population of just over 6 000 residents at the time.

The third and last landfill to be used was Maghtab landfill in the limits of Naxxar which had a population of just under 9 000 residents in 1990 and has now reached 13 400 residents. Whilst the old landfill was closed in 2004, an engineered landfill has been build next to the same site and within the same parameters. This is the only landfill in Malta which today operates and according to information obtained from reliable sources, has a life span of another six years maximum, i.e. 2021. [8]

Table 3 – MSW management over the period 2004 to 2011 [3]

	Recycled	Recovered	Landfilled	Incinerated w/o recovery	Storage	Total
<b>2004</b>	33 734		215 976		12	249 722
<b>2005</b>	38 406		213 041		13	251 460
<b>2006</b>	48 447		204 387		16	252 849
<b>2007</b>	18 628		247 312		8	265 948
<b>2008</b>	8 678		265 708		1 623	276 008
<b>2009</b>	10 959		255 025		1 791	267 774
<b>2010</b>	19 121	14 954	201 555		13 042	248 672
<b>2011</b>	19 076	11 723	205 138	43	11 405	247 386

Chart 1 - Graphical representation of MSW management over the period 2004 – 2011 [3]





**10.1.1 Transposition of EU Waste Framework Directive to Maltese Legislation**

The Waste Management (Landfill) Regulations 2002 were issued in the year 2002 and outlined that the Competent Authority, the Malta Environment and Planning Authority had to establish a strategy by 15th July 2003 to ensure that the following targets are met in respect to biodegradable municipal waste (BMW) going to landfill.

Table 4 – Overview of Landfill Directive and Regulations [3]

Landfill Directive (Directive 99/31/EC)	Waste Management(Landfill) Regulation, 2002 <b>(L.N. 168 of 2002)</b>
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- By 15th July 2010, ensuring 75 % of BMW landfilled in 1995 was actually landfilled
- By 15th July 2013, ensuring 50 % of BMW landfilled in 1995 was actually landfilled
- By 15th July 2020, ensuring 35 % of BMW landfilled in 1995, is actually landfilled

The amount of BMW landfilled generated as at 1995 was 141 000 tons thus the following targets relate to the above legal notice requirements as follows:

- By 15th July 2010, ensuring 105 000 tons only are landfilled
- By 15th July 2013, ensuring 70 000 tons only are landfilled
- By 15th July 2020, ensuring that 49 000 tons only are actually landfilled

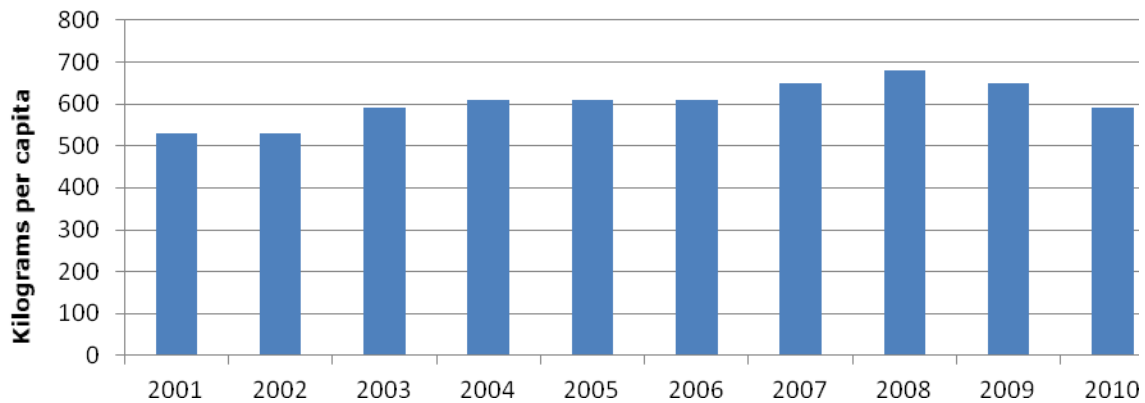
In order to make a volume assessment in relation to the above targets one can only state that landfilling in 2010 reached 201 000 tons. Official figures show that in 2011 the amount landfilled was still over 205 000 tons. [3]

The figures provided for basis year of 1995 varies between the document issued by the Malta Environment and Planning Authority in July 2003 to the Waste Management Strategy Document issued in January 2009 by 5.2 tons which although minimal shows the inconsistency in official figure reporting in such an important environmental issue. [8]

### 10.1.2 Mixed waste generated per capita

Landfilling still remains a major problem in Malta. Although small in size demographically and with no alternative spaces for new engineered landfills, landfilling remains at the level of 82%.

Chart 2 - MSW generation per capita in Malta (2001 – 2010) [3]



There are a number of reasons for this high threshold of landfilling which this thesis will analyse and examine accordingly as follows:

#### 10.1.2.1 Landfilling Costs vis-a-vis WFD (*Waste Framework Directive*)

Although the Waste Framework Directive has been transposed to Maltese law, the current implementation program is slow and is not reaping the desired results or producing any tangible evidence that landfilling is on the decrease.

Effectively the Waste Framework Directive outlines that operations of collection of MSW, recovery to engineered landfill of MSW, cost of treatment of MSW prior to landfilling and actual landfilling, and the rehabilitation cost, have to be charged at a cost to those generating the mixed waste going to landfill and as thus make landfilling a sustainable operation both in the short and long term.

WasteServ Malta Ltd, the operator of the only landfill in Malta had a gate fee of Euro 1 per tonne from 2002 to 2009. In 2009 landfill fee was increased to Euro 23.60 per ton with the intention that in subsequent years this would be further increased to reach around Euro 70.80 per tonne, the near to actual landfilling fee. However the change of the gate fee from Euro 1 to Euro 23.60 per tonne brought about heavy protests for the catering industry and Local Councils in general. After discussions it was agreed that Local Councils would be provided with a landfilling allocation according to population as follows (population

multiplied x 78 kg x 365 days), thus resulting in an annual landfilling final allocation. For this allocation the Government of the day had decided to forward funds to Local Councils covering that amount albeit at Euro 20.00 per tonne as Local Councils are not liable to VAT in Malta. It is to be noted that this would probably go against internal market rules as a service provider invoices for a service inclusive of the VAT content.

It then transpired that many Local Councils were exceeding their annual/monthly landfilling allocation and the Local Councils Association in Malta issued formal instructions to each Local Council not to pay for any excess tonnage going to Landfill. This resulted in Local Council contractors taking full advantage of the situation by collecting waste from private catering establishments and commercial entities at a very minimal fee and taking it to landfill on the premise that the mixed waste came from Local Councils.

From information obtained from close sources this situation continued in force till 28th February 2014. Beyond this date WasteServ Malta Ltd issued instructions to Local Councils stating that all mixed waste landfilled will have to be paid by each individual Local Council. At present and beyond that date WasteServ Malta Ltd is invoicing actual amount of MSW being landfilled to all Local Councils. However a very good number of Local Councils are still operating the previous system and paying a monthly fee to WasteServ, that amount allocated to them by Central Government on an annual basis divided by 12 calendar months. [7]

The below table provides a clear example of how Local Councils pertaining to Malta Northern District has exceeded landfilling allocation by over 46 % in the calendar year 2014. One can clearly see the Allocation provided to St Paul s Bay over 108 %.

Table 5 – Local Councils Waste Disposal and Management

Malta – Northern District		Target Average (Tonnes)	
Locality	Population	Yearly	Monthly
Gharghur	2 422	689.52	57.46
Mellieha	8 033	2 286.96	190.58
Mgarr	3 040	865.44	72.12
Mosta	19 117	5 442.60	453.55
Naxxar	12 356	3 517.80	293.15
St. Pauls Bay	14 541	4 139.88	344.99

Quantity of Mixed Waste Delivered to WasteServ Malta Facilities (Tonnage 2014)												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
95.72	76.26	106.50	111.82	85.24	107.54	131.20	88.22	69.82	72.12	81.42	77.62	1 103.48
252.38	225.54	276.46	311.70	323.84	356.24	403.36	454.70	377.70	326.54	272.44	265.28	3 846.18
125.40	107.58	115.95	144.04	127.62	98.88	103.52	122.36	102.30	89.64	95.04	80.98	1 313.31
502.02	437.14	438.18	507.80	495.32	479.42	476.46	472.62	437.54	455.32	421.96	449.38	5 573.16
335.40	286.84	346.76	374.80	376.02	362.30	350.02	398.24	366.96	401.48	349.88	391.00	4 339.70
643.92	561.28	617.00	685.94	716.94	739.70	825.26	844.50	798.14	770.24	687.84	709.90	8 600.66

Source: <https://www.wasteservmalta.com/statistics>

### 10.1.3 Collections from Households

Contracts for collection of MSW from Local Councils are awarded on a four year basis. Currently there are 68 different contracts for 68 Local Councils. There are 14 Local Councils in Gozo where one operator has responsibility for collection of mixed waste from 10 Local Councils whilst three other individual operators have responsibility for the remaining four Local Councils. In Malta the remaining 54 Local Councils have different operators but some operators have a maximum of four Local Councils under their operational umbrella. Collection from kerbside is free of charge and is operated haphazardly depending on the decision taken by the individual Local Council. Some Locals have opted for a daily collection including Sundays whilst there are a few who have reduced mixed waste collections to four times a week. Others operate a five day a week service and a six day a week service. The collection times also differ in the Local Councils as once again this is a decision taken on an individual basis.

Attempts in the past and currently by Local Government to operate these contracts on a regional basis have proved futile and so there is a service which is spoon fed to the public at no cost at all and in addition not in line with the Waste Frame Work Directive or its transposition to Maltese Law.

The above situation brings about no economical feasibility at all in the circumstances and the current Waste Management Plan does not envisage any increases to the current landfilling fee and neither is it considering a fee for kerbside collection through either Local Councils or through any directly hypothecated tax measure. Without these in place it is considered that targets outlined by the WFD and the Waste Management Plan for 2014 to 2020 in respect to this sector will not be complied with.

#### 10.1.4 Assessment of PPP or EPL

The generation of mixed waste is the responsibility of the waste generator at source and as thus falls directly under the producer pays principle. However under current legislation in Malta and although the WFD has been transposed to reflect this, there are no tangible measures in respect to this waste stream in place to make sure that the WFD is actually implemented. [3]

#### 10.1.5 Infrastructure

The plan outlines minimization as a first priority issue. It is understood that at the time of writing this thesis, Government, through the Ministry of Sustainable Development, the Environment and Climate Change will shortly be issuing a tender for a three year period for a public awareness campaign in respect to minimization and also reducing food waste amongst others. However it has taken the current Government well over two years to come up with such a tender which will according to sources take another year to come in place. Thus it would be in place by second half of 2016 which is already eighteen months gone from the plan.

The plan includes for preparation for reuse and recycling of 50 % of paper, plastics metal and glass generated by households. Whilst some infrastructure is in place more needs to be done in this waste stream but the thesis will outline specifics to this waste stream in the coming pages to be dealt with under the title 'Separated Household Waste'.

In addition the plan refers to divert municipal solid waste from landfill as a measure to reduce land use impacts as well as to fulfil obligations at law. [3]

A biological treatment plant should be operating by the end of November 2015. The plant has been built with EU funding as part of the current engineered landfill site. This will cater for a maximum of 100 000 tons of household waste coming from Malta North and Gozo. Another treatment plant currently is in operation to the south at Sant'Antnin Marsascala Malta, both operated by WasteServ Malta Ltd and has a capacity of just less than 40 000 tons.

The infrastructure as planned on paper is likely to be up and ready but there remains the concept that since the public or residents and the Local Councils until today have a 'laissez faire' attitude over the importance of complying to Environmental obligations at EU and National Level, then the infrastructure on its own cannot produce the required results.

### 10.1.6 MSW at Local Council Level

The issue of whether Local Councils will or will not take on board the importance of the polluter pays principle and abide to the rules of the environment is very important. At this stage Local Council members are elected by the popular vote so there seems to be a reluctance to impose any legislation on the Maltese/foreign residents to implement the WFD as transposed to Maltese law.

Not one single national conference has been put in place over the last five years to address this issue despite pressure from the Green Party in Malta (Alternattiva Demokratika). Such calls have been sidelined by both Governments to date. Local Councils continue to be more concerned over other issues within their locality but do not seem to understand the long term implications of not implementing the WFD as it should be.

Local Councils are directly responsible in their daily operations to the Director of Local Government within the Department of Local Government who once again is part of the Ministry responsible for Local Government. Whilst this in itself is a complicated issue, the current Competent Authority responsible for the implementation of the WFD is at a stalemate. The Competent Authority is the Malta Environment and Planning Authority. At the time of writing the Government has earlier in the political legislature decided to segregate environmental issues from planning issues with the environmental issues now becoming soon the responsibility of the newly to be set up Environment and Resources Authority. After the summer recess of Parliament, informed sources state that the ERA will be formally established and it is probably after that move that ERA will then start to operate and maybe enforce such environmental issues.

At present the Competent Authority fails to meet its obligation as an enforcer of Environmental rules in Malta and this is having a ripple effect of the environment in general including the lack of tangible results in reducing mixed waste going to landfill.

## 10.2 Households Separated Waste/Recyclables

The introduction of collection of recyclable waste goes back to the year 2003 when the Government of the day introduced Bring in Sites for dry recyclables mainly glass, metal, plastic and carton. The containers were purchased from a leading Italian firm in waste management and were colour coded as follows:

<b>GLASS</b>	<b>PLASTIC</b>	<b>METAL</b>	<b>PAPER</b>
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The concept took a number of years to gather momentum and by 2008, 226 bring in Sites were then in place and a further 200 Bring in Sites in Schools. It is to be noted that each bin at Local Council level had a volume of 1800 litres whilst those at Schools were not greater than 240 litres per fraction. [8]

The implementation of this strategy was in line with the Packaging and Packaging Waste Directive (94/62/EC) transposed in to Maltese law through the Waste Management (Packaging and Packaging Waste Regulations) 2006 namely LN 277 of 2006. Other applicable legislation relates to marking and identification for packaging materials, data and reporting, derogation for plastic crates and pallets from the heavy metal concentration limits, derogation for glass packaging from the heavy metal concentration limits and harmonised standards for packaging. [3]

Table 6 – Overview of Packaging and Packaging Waste Directive and Regulations [3]

Packaging and Packaging Waste	
Packaging and Packaging Waste Directive (Directive 94/62/EC)	Waste Management (Packaging and Packaging Waste) Regulation, 2006 <b>(L.N. 277 of 2006)</b>

At the time Government intentions were to increase these Bring in Sites to 400 within the said 68 Local Councils, thus having a total volume availability for use amounting to 2.88 million litres of space at one given time which could be used by residents across these localities. In addition the volume available at schools amounted to minimally 192 000 litres to be used at any one time by students.

There were no differences between the transpositions of the EU Directive to Maltese Law but the introduction of Eco Contribution Act in Malta in 2004 with its subsequent pitfalls in providing exemptions as from 2009 for packaging and packaging waste has not proved to be an added asset. Legal Notice 84 of 2010 issued by the Maltese Government states that exemption from the payment of Eco Contribution as specified at law will only take place if the producer under the extended polluter pays principle is an Authorised Compliance Scheme member of which Malta has two, namely Green Mt and GreenPak Coop and

further the Scheme has to recover 70 % of packaging waste placed on the market on behalf of the producer. The anomaly lies in the fact that a Maltese producer who is exempt from Eco Contribution through LN 84 of 2010 has to recover 70 % of market placement whilst a producer within the EU was required to recover 50 % in 2009 and increasing to 60 % by December 2013. In itself LN 84 of 2010 was discriminatory by EU legislation but for reasons unknown was never contested at EU level. At the time of writing it remains the same but since the Government of the day has embarked on an exercise and a commitment to remove the Eco Contribution Act industry seems to be accepting a further wait of at least another year to do away completely with this Act. [8, 9, 10]

### **10.2.1 Operational Economical feasibility of EPL and PPP**

For all intents and purposes Waste Packaging shall be deemed to mean:

Waste Packaging as described In Waste Management (Packaging and Packaging Waste) Regulations of 2006 and as outlined within Legal Notice 277 of 2006.

The primary activity to be undertaken by both Schemes in place after 2007 is the collection and transporting, separation and recovery and final recycling of Waste Packaging in accordance with Legal Notice 277 of 2006. [3]

### **10.2.2 EU and National Policy Framework**

The EU Directive in relation to Waste Packaging, 94/62/EC, came into force on the 20th of December 1994, and as amended by Directive 2004/12/EC, of the EU Parliament and of the Council of 11th February 2004, amending Directive 94/62/EC on packaging and packaging waste and Directive 2005/20/EC of the European Parliament and of the Council of 9th March 2005 amending Directive 94/62/EC.

This was transposed into Maltese Law by Waste Management (Packaging and Packaging Waste regulations 2006, Legal Notice LN 277 of 2006.

Under the Directive a system for the collection of all types of Waste Packaging had to be put in place by January 2008 and Member States must ensure that procedures provide for the recovery of Waste Packaging. The recovery rate for 2009, as at 31st December is set at 50 % of Waste Packaging placed on the market and the set target of 45 % of that placed on the market to be recycled. [10]



The Government of Malta together with the help of Germany via EU funding, established a 'Twinning Project' which in turn established and spearheaded a 'Task Force' to draw up recommendations and Proposals for implementing this Directive and other Waste Stream Directives.

The 'Task Force' led by German Expert Dr. Helmut Schnurer as Medium Term Advisor and accompanied by short term advisors, Dr. Thomas Rummler, Achim Winter, Klaus Heironymi and Wolfgang Maerker in cooperation with resident Twinning Advisor Ewa Harlacz firstly identified the market stakeholders and held individual and collective meetings bimonthly and eventually under their terms of reference identified the following as lacking in the local infrastructure in order to implement the Waste Packaging Directive.

- a) Only one Scheme was in place at the time or existed which could take on the obligations of extended producer responsibility (EPR).
- b) Producers and stakeholders were not informed of their responsibilities and their obligation at law
- c) No mandatory registration process with time frames established, were neither in place
- d) No producers register existed with the Competent Authority

In respect to the above shortcomings, at the time, the Twinning Project recommended the following initiatives to be taken with immediate effect.

- a) More information to be made available in as many possible means to disseminate information about EPR and producer obligation re Waste Packaging
- b) Instigate Associations or Institutions to set up collective non Profit Compliance Scheme/s.
- c) The setting up of a Producers Register, on line, by MEPA being the Competent Authority at present
- d) The fast track processing of any Waste Packaging Compliance Scheme
- e) The issuing of a Preliminary Permit by MEPA and requesting any application to allow a start up of an operation, within six weeks from Application
- f) The Authorization of Storage and MRF Facilities and any recycling facilities, so that some of the products can be recycled locally
- g) Such facilities should be authorised fast track without excessive documentation needs, but with regular inspecting and monitoring of the said facilities

- h) The 'Task Force' recommends that there should be no more than two Compliance Schemes in operation, for such a sized market

As such the Task force concluded that 'the establishment of Compliance Scheme/s, supported by investment in separation and recycling facilities in Malta, should be encouraged to the extent possible'.

### **10.2.3 Eco Contribution**

The final goal of these Schemes is to reduce waste going to Landfill and to conserve materials through the encouragement of waste avoidance and the reuse and recycling of packaging material to reach European targets as established by the Commission from time to time and in accordance with Local Legislation now in place, being Legal Notice 277 of 2006 and Legal Notice 337 of 2001.

In September 2004 The Government of Malta introduced Eco Contribution in Malta. The implementation of this tax was not only a haphazard but also discriminated between products of one sort and another thus creating an unfair level playing field in many sectors.

The above is being stated as Government has always stated that Eco Taxation was introduced as a fiscal measure to instigate private industry to take up Extended Polluter Principle either by self Compliance or by being a member of an Authorised Scheme which would recover waste packaging on their behalf.

Discussions over the years have led to two important Legal Notices which have to be seen together with already existing Legal Notices in regard to the Waste Management Sector.

These Legal Notices are LN 74 of 2008 followed by LN 84 of 2010. Whilst the first introduced the concept of creating a mechanism for exemption from Eco Contribution, the second actually created that concept through the creation of such mechanism, this latter legislation published on 16th February 2010 and effective 1st July 2009.

The Malta Chamber of Small and Medium Enterprises set up a fully owned subsidiary namely Green MT in 2007 and as at 1st April 2009 it had a permit to operate both a WEEE and a Packaging Waste Compliance Scheme. GreenPak Coop, the local representative of Green Dot had been in operation since 2006 but with a very few amount of producer members since no enforcement was in place. [9]

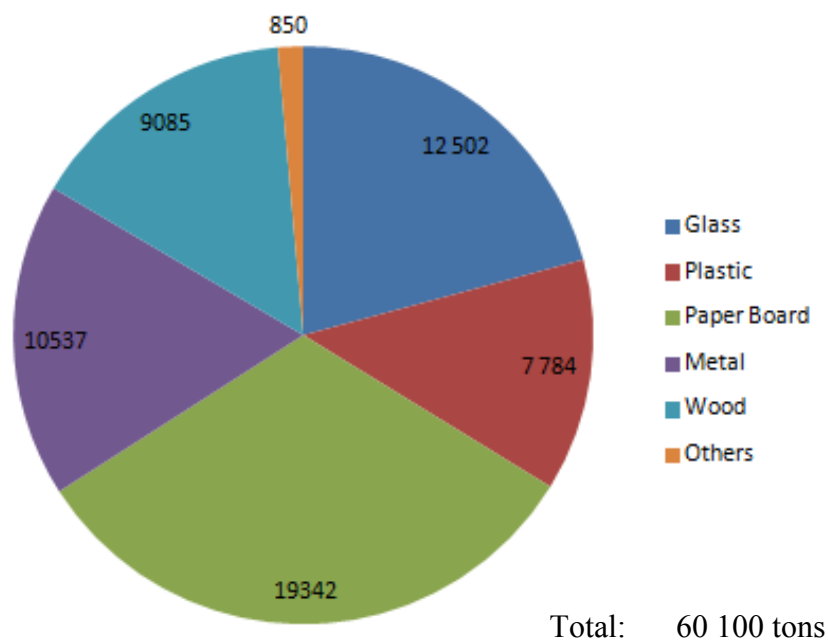
**10.2.4 Figures of Packaging and Packaging Waste placed on the market**

European scientific reports outline that an individual does away with 150 kilos of Waste Packaging annually. This means that our population approximately based at 420 000 should generate 63 000 tonnes of Waste Packaging.

MEPA, the Competent Authority had requested all producers of Packaging Waste to register their market placement giving basis year 2006 figures during September 2007.

At that time and until the year’s end 1 700 producers had registered with MEPA stating that they place nearly 61 000 tons of Packaging Waste on the market. [11]

Chart 3 - Schedule of waste packaging placed on the market as reported to MEPA for basis year 2006 in tonnes [11]



Extrapolation of the above figures together with further technical studies showed that this amount increased to approximately 90 000 tons by the year 2009/2010 and by an additional 10 % by 2014.

### **10.2.5 Descriptive Operation of the Scheme/s vis-a-vis Permit Requirements and Other Legislation in Place**

The Schemes cover a materials recovery system which recovers, separates, and finally recycles materials from the waste stream including but not limited to:

#### ***10.2.5.1 Domestic Kerbside Collection***

Recovering from Domestic Kerbside Collection was not a decision taken by the Schemes but enforced by the Government of the day. Discussion with Government over three years finalised and concluded in 2010 require through LN 84 of 2010, a Scheme to recover 60 % of its total recovery from Local Councils by taking over the grey bag 'Recycle Tuesday' initiative and by furthering incentives in localities.

Schemes had to take over the financial responsibility of the grey bag collection initiative. It was however agreed that paper plastic and metal only be placed in such bag which at the time included magazines, mixed paper, leaflets.

Since Schemes were to pay for the full recovery it was agreed that this material would be accredited to the Scheme/s in respect to Eco Contribution future Exemptions. [3]

#### ***10.2.5.2 Drop off Collection Systems Including Bring in Sites***

The Schemes introduced a substantial amount of Bring in Sites, in a number of localities and its subcontractors recover this material and deliver the said material to MRF facility at Sant'Antnin. The vehicles are authorised under LN 106 of 2007 and the receiving method is documented with evidence of receipts. [3]

#### ***10.2.5.3 Commercial Collection System***

The Schemes introduced a commercial collection system from a number of localities which were identified to have substantial waste packaging which would be credited to the Scheme. Most of these operations are done daily and once again the Schemes use operators permitted under Legal Notice 106 of 2007. The operators follow the same receiving methodology as for Kerbside collection. However for this collection the operator has to confirm by visual inspection that cardboard, plastic or metal being recovered is not contaminated at source. [3]

#### ***10.2.5.4 Companies/Establishments delivering direct to MRF facilities***

The Schemes offer a rebate per fraction (price depending on material) to those companies/traders/individuals, who recover with authorised vehicles, packaging waste and deliver separated fractions to the MRF facility. Since by providing this service, the Scheme does not have a logistical cost, thus the rebate is provided for each provider. However the Scheme is priority advised and the logistical operation is triggered with audit trail in place at all times. [12]

#### ***10.2.5.5 Facilities used by Schemes***

Both Schemes used the services of WasteServ Malta Ltd as a major receiver of goods but there are over ten other authorised facilities that have received segregated fractions from Compliance Schemes over the years. [12]

#### **10.2.6 Results over the years**

The operations of Compliance Schemes in relation to Packaging and Packaging Waste have become more structured over the years. In 2009 GreenPak Coop had over 120 producer members whilst Green MT initiated a pilot project with just thirteen producer members but who on their own placed over 5 000 tons of packaging waste on the market in just six months (1st July to 31st December 2009).

In May 2011 the Competent Authority MEPA issued formal instructions to all producers who had as yet not complied to the legislation that lack of compliance beyond end June 2011 would place a producer liable to both an administrative fine and also a penal fine based at Euro 100 per ton placed on the market and applicable as of January 2010.

This brought about the registration increase of 130 for both Schemes to over 2 600 producer members with both Schemes dividing the market placement or the member producers.

By December 2012 Compliance Scheme declared that they placed on the market nearly 40 000 tons of Packaging Waste. However there still were at the time over 500 free riders to the system, neither registered with MEPA or with a Compliance Scheme. In addition at the time it was considered that there was a shortfall of 30 000 tons of declarations to the Competent Authority and to both Schemes through such free riders.

Up to the time of writing data is available until 2013 and as at end December 2013, both Schemes have a declared market placement of 36 100 tons thus less than 2012. Collections and final recycling by both Schemes amount to around 22 000 tons. The National Waste Register run by MEPA shows around 70 self compliant producers to LN 277 of 2006.

### 10.2.7 Results by fractions

Current results show that both Schemes do not reach their annual recycling targets for glass. The current requirement is 60 % of market placement and around 40 % is being collected and finally recycled. This comes about due to the fact that there is no mandatory legislation in place that obliges the individual or the commercial establishment to place glass only in bring in sites and not in the mixed black bag as it is known locally.

Schemes have set up a kerbside door to door monthly collection on every first Friday of the month to add to its bring in sites but the volume recovered is not enough to reach targets. In addition Schemes have requested Government to guide Local Councils on mandatory basis that on that particular Friday no other fractions i.e. separated waste or mixed waste are to be collected.

In relation to carton, targets are being reached, both collection and recovery and the same goes for plastic fractions. With respect to metal, Schemes have reached their targets in 2012 but not in 2013. Since aluminium is part of the metal collection, there seems to be an outside the loop operation in place for this material which provides a lucrative financial return.

The National Waste Register shows a number of authorised facilities for Packaging and Packaging Waste. Schemes have however outlined that there exists a lack of enforcement on these permitted facilities. Certificates issued by these facilities are not authenticated by MEPA, the Competent Authority and are sometimes checked four years down the line which is far too late to enable the Competent Authority to take any tangible real action against any wrongdoings.

Another loop in the system for collection of packaging waste is the lack of mandatory regulations to be complied with by Local Councils. Despite a guideline issued by the Department of Local Government to have a minimum of one bring in site per 300 occupied households transpires that some Local Councils do abide to the request while many others just do otherwise. There are Local Councils which have an occupied households amount of

4 500 and has just 2 bring in sites and another Local Council with 1 000 occupied household has decided not to have bins at all.

Whilst the Waste Management Plan in relation to HSW has specific targets to meet once again these would not be reached unless the Local Councils are not all on board in a mandatory manner.

After pressure from both Schemes, Green MT and GreenPak Coop, the Government introduced an amendment to the principal legislation, namely LN 444 of 2014 outlining that any producer who placed on the market consumer packaging had to be a Scheme member for that portion/fraction of material placed on the market, and can further be compliant for back end storage packaging. In addition a de minimis threshold was introduced and those producers who place less than 100 kg of packaging waste on the market annually have not become exempt from the legislation.

### **10.3 Commercial and Industrial Waste (C&I)**

The plan aims to ‘exploit the potential‘ in this waste stream. [3]

Over the last few years commercial establishments in Malta have relied on Local Councils for the collection of their commercial waste, be it both packaging or mixed waste. This has resulted from the fact that since 2009 the landfill fee has been increased from Euro1 per ton VAT included to Euro 23.60 per tonne VAT included. When this was introduced no enforcement was in place to ascertain that commercial entities and establishments still made use of a private contractor as they did in the past. To the contrary, commercial establishments entered into underground agreements with waste carriers who operated a contract within the Local Council and used their services against a below the belt price. This resulted in many Local Councils exceeding their mixed waste allocation going to landfill, which was based on a daily rate per capita of .78 kg. During a period of three years over 40 000 tons of such waste collected from commercial establishment went to landfill without paying a gate receiving fee at the engineered landfill.

Whilst this cannot be said for all commercial establishments as there are a good number who practice good governance and as such show in tangible terms a social corporate responsibility.

The plan outlines systems to be put in place to firstly make sure that waste of any nature emanating from commercial establishments and entities is segregated at source and placed

in colour coded bags for collection. Collection is proposed to be made by the Local Councils to create economies of scale but against a fee according to market placement. This would increase the amount of recyclables collected from source. Plan further includes for a waste characterization exercise which is long overdue. Once this is affected one would further be aware in more detail the actual content of this waste fraction/stream.

In an additional initiative food waste emanating from catering establishments is also to be collected from source and segregated thus decreasing mixed waste going to landfill.

The Solid Waste Management Strategy issued in 2009 took very little notice to commercial waste but outlined time frames for establishing CA Sites and outlined the possibility of a hazardous waste landfill. Whilst this was on plan it has not been built to date and industry sources outline that there is no fiscal feasibility in establishing this hazardous facility. Just over 12 000 tons of hazardous waste is generated annually in Malta. Seeing that this facility is not feasible the current plan has done away with such an initiative. [8]

Although time frames established for the implementation of the above initiatives, the amount of initiatives are too many to be put in place within the short time frame taking into consideration the complacency and lack of cooperation that Government faces when tasked with implementing such initiatives at each Local Council level.

#### **10.4 Construction and Demolition Waste (C&D)**

Construction and demolition waste was and still is the largest waste stream in Malta amounting to approximately 80 % of all waste generated in 2009. The aim of the present Waste Management plan is to minimize C&D waste through re-use activities and to promote recycling and recovery thus minimising impacts on raw materials. [3]

In addition 70 % of C&D waste is to be recovered by 2020.

Going back the years Malta entered into a twinning agreement with the Austrian Government through EU funding to assess the volume of material that was then going to landfill and find ways and means as to how this material could be reused or finally recycled. The twinning project with Austria (MT05-IB-EN-01) formulated a strategy as to this effect. [8]

Construction and demolition waste was eventually directed towards disused quarries which were rehabilitated. In addition a working group was established at University level to provide tangible economic ideas so that the material could be re used to create a new raw



material to be used for the same sector of industry. The quarries operating in Malta were individually inspected by the twinning project and a final report eventually showed that if Maltese entrepreneurs continued to use limestone from their quarries at the rate of 2007, the limestone quarries would be exhausted by 2050. Space was quantified too and since that year C&D waste was offloaded at these used quarries and no more at landfill. The placement of construction and demolition waste at quarries was accepted against a price which was not inhibitive for the industry at the time.

The initiative to dispose of C&D waste at disused quarries is now in dire need to be reviewed as operators would not like to see their economic income deplete because the quarry has been rehabilitated to full extent. In the meantime it is envisaged that new legislation will include for separation, recycling and recovery of materials at source during the time of an operational permit for the construction or demolishing of a project. Major projects are earmarked for this legislation. The time frame established for this initiative to be in place is quite realistic but enforcement of the legislation has to be in place. In Malta, as like any other southern European state, there is a tendency to avoid and breach rules. Last but not least the plan aims to incentivise first time buyers to purchase old property with reduced tax rates on applying no VAT for refurbishing such old property. This could in itself regenerate a substantial number of properties which currently are in the market but cannot be sold.

### 10.5 Waste Batteries and Accumulators

Directive 2006/66/EC relating to Batteries Directive was transposed to Maltese legislation through Waste Management (Waste Batteries and Accumulators) Regulations 2010, Legal Notice 55 of 2010 together with other applicable legislation including Directive 2008/12/EC, Directive 2008/103/EC, Commission Decision 2008/763/EC, Commission Decision 2009/603/EC Commission Decision 2009/851/EC, Commission regulation (EU) No 1103/2010 and Commission Regulation (EU) 493/2012. [3]

Table 7 – Overview of Waste Batteries and Accumulators Directive and Regulations [3]

Waste Batteries and Accumulators	
Batteries Directive (Directive 2006/66/EC)	Waste Management (Waste Batteries and Accumulators) Regulation, 2010 (L.N. 55 of 2010)

The implementation of the Batteries and accumulators Directive in Malta has its own stumbling block as batteries are also liable to the Eco Contribution payment but still have a liability to the Extended Polluter Pays Principle Directive. Producers of this product in Malta have as yet to set up Compliance Schemes to reach their obligations but will not do so unless Eco Contribution is removed.

Collection of batteries has to date been made through WasteServ Malta Ltd, through a campaign called 'Batterina' which provided a collection service from 500 retail outlets, 160 schools for used batteries. The campaign was well received and continued for a number of years. It is now no longer in service and collections are now made on a haphazard basis through CA Sites from the general public who feel that they have a moral obligation towards such a collection.

No knowledge of market placement is available for such products at this stage and the only data in hand shows that in the years 2004 and 2005, 11.9 tons and 13.2 tons respectively were collected through the 'Batterina Collection' Larger sized batteries (lead-acid) are collected by a number of garages as they have an economical value but no data is in place over such an issue.

The implementation of this Directive depends of the Eco Contribution Act Reform currently under scrutiny at the time of writing. The aim of the plan is to increase collection and ensure achievement of recycling efficiencies. [3]

Government intends to pass the Batterina Campaign to the private industry, however this is not possible before an Eco Contribution reform. Producers would pay their own Schemes instead of baring further liability to the Eco Contribution Act. In addition the provisions of PPP and EPL have to be achieved also for this waste stream. In addition no enforcement currently exists and as such there are is number of producers who do not even pay the Eco Contribution due to Government on these products and are as such termed free riders.

Whilst there exist the right scenario for taking the plunge and making private industry responsible for what it places in the market in relation to this waste stream, it all depends on the goodwill of Government to remove batteries and accumulators from liability to Eco Contribution.

## 10.6 Waste from Agriculture and Fisheries

Surprisingly the plan says nothing at all about waste emanating from Agriculture and Fisheries. In the previous strategy, a consultancy awarded years before regarding this waste stream was followed up by the actual building of three agricultural waste treatment plants, one in Gozo, one in Malta North and the other in Malta South. The facilities cater for treatment of cattle, poultry and rabbit manure with bio gas generation.

All plants were projected to cost the sum of Euro 22.6 million including farms. The previous plan also considered the establishment of a facility to treat (non manure) agricultural waste estimated at 7 000 tons in 2009. [8]

The same plan lacks also any kind of information on waste emanating from fisheries. Malta's proximity to the sea sees a number of professional fishermen using at present facilities which are not up to standard and although a new fish market is being built in Marsa Malta, the plan leaves much to be desired in respect to such waste from the fish industry.

Likewise waste emanating **from Port and Airport facilities** was totally missed in the current Waste Management Plan for the Maltese islands 2014 - 2020. In the previous plan operators were to set up facilities for storage of source segregated waste at any port terminal and also at the one and only airport in Malta. The notification procedure required to transport this waste was never put in place as recommended in the Solid Waste Management Strategy for 2009. [8]

In relation to the airport the 2009 strategy outlined the provision of an area where packaging/recyclables offloaded from an airplane would be segregated and also processed.

Waste emanating **from the abattoir** is currently incinerated at an incinerator in Marsa next door to the abattoir. It is well to note that this incinerator was on the WMS 2009 and is now operating. However a capacity issue is now on the discussion table and in addition since the incinerator is the only one of its nature in Malta for both slaughter house waste and clinical waste the cost of incineration is extremely inhibitive. The current waste management plan for the years 2014 to 2020 does not provide a guideline of any nature in relation to what will happen when the capacity of this incinerator is exhausted. [3]

## 10.7 Sewage Sludge

The Sewage Sludge Directive (Directive 86/278/EEC) was transposed into Maltese law through The Sludge (Use in Agriculture) Regulations 2001, Legal Notice 212 of 2001. [3]

The legislation was implemented and the use of sewage sludge in agriculture is heavily regulated so as to minimize harm to soil, vegetation and animals in particular. Concentration of heavy metals in the soil is very limited. In Malta and as in accordance to EU legislation, sludge is not allowed on grassland where animals graze, neither on fruit and vegetable crops and on ground intended for cultivation of arable land.

There is no spreading of sewage sludge at present on Maltese soils.

However whilst it is to be noted that the current plan is very scarce on this waste stream, the previous plan went into quite some detail. It had then outlined that Government intended to minimise as much as possible the use of pollutants at source. Back then the Water Services Corporation (WSC) was entrusted with the building of three sewage treatment plants with a total capacity of approximately 37 000 tons. [8]

WSC has entered into agreements with Wasteserv Malta Limited in the event that sludge was not treated at any of these facilities for any reason whatsoever. The landfilling of sludge is in line with the EU Landfill Directive.

## 10.8 Waste Oils

Waste Oils and lubricants have very recently been removed from the Eco Contribution Regime and instead placed under liability to direct excise duties deemed payable at import stage. Excise tax is without fail not an environmental tax. It is a tax which goes to Government revenue. Malta has as such failed to operate the EPL principle in this aspect in regards to this waste stream and the Waste Management Strategy for the Maltese Islands does not envisage to change this policy. Deemed to be hazardous, waste oils and lubricants have always been a headache for such a small island. There are no economies of scale in setting up a Scheme to collect and recover waste oils and then export to a final recycling facility at an extreme cost. From a technical aspect a study has some years back shown that the after treatment of a 45 gallon drum of a certain type of oil was more costly to recycle than to purchase a new 45 gallon drum.

In addition no enforcement is in place to make sure that waste oil emanating from the catering industry does not finish in the drainage sewer system.

There is an evident lack of infrastructure in the collection of waste oils and its eventual storage and in addition there exists no economies of scale for any sort of final recycling facility, so the only solution is exporting such waste, classified as hazardous nature. [3]

### **10.9 WEEE (Waste Electrical and Electronic Equipments)**

The implementation of the WEEE Directive in Malta has to date not been implemented through the extended Polluter Pays Principle as required by EU Directive 2002/96/EC which has now been repealed by Directive 2012/19/EU. Both these Directives were transposed to Maltese law, one through Legal Notice 63 of 2007 and recently repealed by Legal Notice 204 of 2014 in February 2014.

Other applicable legislation relating to this Directive includes Commission Decision 2004/249/EC of 11th March 2004, Commission Decision 2005/369/EC of 3rd May 2005 and Council Decision 2004/312/EC and finally Council Decision 2004/486/EC. [3]

The WEEE Directive in Malta has as yet to be implemented. At the time of writing the Government through the Ministry of Sustainable Development, the Environment and Climate Change together with the Malta Environment and Planning Authority, which is the Authority responsible for the legislation, have issued a 'draft' consultation document relating to such implementation.

Although this is exclusively a producer responsibility Directive, to date, due to the fact that producers were liable to Eco Contribution on such EEE products, the same producers decided and rightly so not to comply to Legal Notice 63 of 2007 or lately to LN 204 of 2014. Producer representatives mainly led by the Malta Chamber of Small and Medium Enterprises GRTU argued that a price for a service has to be paid only once. In this case since Government was reaping the sum of circa Euro 8 million out of this Eco Contribution, producers under the umbrella of GRTU did not comply to the WEEE legislation in place. These producers were followed across the board.

Although initially in 2008, 335 producers registered with MEPA as WEEE producers, only 81 of these renewed their producer application by 2010. The National Waste register carries no information beyond 2010.

As such Constituted Bodies in Malta, the Malta Chamber of small and Medium Enterprises together with the Malta Chamber of Commerce and the Malta Hotels and Restaurants Association have been placing pressure on Government to replace the Eco Contribution with the WEEE Directive.

The Eco Contribution Act established in 2004 required importers to declare and pay the established fee for each product falling under the following categories in the market, namely:

White goods and electronic equipment under the following headings:

- Cooling and refrigeration Equipment
- Water Heaters
- Monitors and TVs
- Telecommunications Equipment
- Appliances used for washing and cooking
- Electronic Equipment
- Incandescent/halogen lamps and fluorescent tubes

The proposed legislative Amendments includes for the deletion of these items and products in the Eco Contribution Act. Once these are deleted from their fiscal liability to Eco Contribution, then producers will only fall liable to the WEEE Directive as transposed to Maltese law. However a few major stumbling blocks do exist in order for this to materialise. At present Government continues to insist that even though producers of EEE/WEEE paid Eco Contribution on products from 2008 to date, they were still liable to the WEEE Directive. This is contested by the producers and as such the Constituted Bodies represented by the Producers have proposed to Government that producers who have paid Eco Contribution on those products from 2008 to 2014 will no longer be liable to the WEEE Directive for that period. Of course a cut off date between Eco Contribution and the WEEE implementation has as yet not been established but 31st August 2015 is the proposed cut off date by producers.

Another issue is the fact that no enforcement has been in place by the Competent Authority in respect to Packaging and Packaging Waste regulations and producers who operate on bona fide do not see Government taking any enforcement action for the implementation of this Directive. Malta being a small island state has a lot of parallel trading occurring through various sources, mainly however emanating from a fast catamaran service between

Malta and Italy. Whilst the movement of goods between EU states is internal market movement, Maltese producers state that their livelihood is threatened as Sicilian/Italian producers are flocking to Malta with furnishings including EEE goods directly to new home owners and also developers. This means that the products they sell once in Malta are not declared through Eco Contribution whilst a local producer/importer makes a full declaration.

To tackle this issue the Government has through the measures of the last budget issued in November 2014 established a Financial Revenue Task Force to handle this matter. However it is understood that Constituted Bodies are left in the dark as to whether this has been established to date and whether it has started working. At ground level there is no tangible evidence of such enforcement.

The amendments being proposed to Legal Notice 204 of 2014 require also authorised Compliance Schemes and any self compliant producer to establish a financial guarantee either through a blocked bank account or an insurance policy acceptable to the Competent Authority. The financial guarantee for a Scheme is ten times less than for a Compliance Scheme. The proposed fees start from Euro 210 per tonne in 2016 and increase to Euro 325 per tonne in 2021 for self compliant producers, whilst the fee for producers who opt to join a Scheme start at Euro 21 per tonne in 2016 and reach Euro 33 per tonne in 2021. [3, 13]

#### **10.9.1 Data of WEEE placed on the market**

A private study affected by Green MT in 2007 found that 8 953 tonnes of EEE were placed on the Maltese Market in 2006. The study included all HS codes falling under the WEEE Directive as outlined in Legal Notice 63 of 2007. It is well to be outlined that like Cyprus and Poland, Malta obtained a derogation to implement the WEEE Directive by August 2008.

At that stage Malta had to recover/recycle 4 kg per capita which with a population of circa 400 000 amounted to 1 600 tons. Data in hand today shows that through Civic Amenity Sites established by Government since 2007, and currently six sites in all, 1 300 tons of WEEE has been recovered in 2013. This means at present Malta reaches around 3.7 kg per capita instead of the EU target of 4 kg per capita. By August 2016 after the WEEE recast and the introduction of Legal Notice 204 of 2014 Malta has to reach a minimum target of 42 % of EEE goods placed in the market over an average of the last three calendar years.

Estimations now show that WEEE market placement reaches 14 000 tons. Thus a collection and recycling target of 5 880 tons has to be reached by that date equalling circa 14 kg per capita based on a population now increased to 425 000. This is quite an increase per capita and industry sources and Schemes in place will need to make sure that there are no loop holes for WEEE as this target is very onerous. Legal Notice 204 of 2014 obliges producers to reach a target of 65 % of market placement by the year 2021.

The Waste Management Plan for the Maltese Islands 2014 - 2020 outlines that Government intends to implement the WEEE Directive as outlined by EU law and in no other manner. This is outlined in Implementation Plan Key Issues and Measures. [3]

### **10.9.2 Logistics/Economical Feasibility**

Malta being a small island state and with a distinct water channel between the same island and mainland Europe, poses a great challenge in achieving these WEEE targets with the best available technologies at the lowest of cost to producers.

From the start there are no economies of scale to set up a WEEE refrigeration dismantling and treatment facility as no more than 15 000 units between refrigeration and cooling units are collected annually. And this figure is one which does not allow any collections going out of the loop as the system is today.

Additionally it would not be feasible to set up for Category 5 of WEEE, i.e. halogen lamps, incandescent tubes and lighting. Monitors and TVs are also a stumbling block to the producers needing to abide to the regulations.

A further problem is the freight cost between Malta and southern Sicily by road trailer/s which is inhibitive taking into consideration that quite a number of goods shipped under the WEEE Directive falls under hazardous waste.

Currently WEEE is collected from households through a bulky refuse collection system, free of charge to residents. Residents phone their individual Local Councils and Councils organize a contractor to collect such bulky refuse from a fridge to a chair or a wardrobe or garden equipment. Once collected the contractor takes refrigeration units to a CA Site run by WasteServ Malta Ltd and also leaves there any items which to him do not contain a financial value. Those considered having a financial value are taken to a scrap metal facility (even though they are WEEE) and the facility pays the individual an amount per tonne. Local Councils are currently charged between Euro 2.50 to Euro 4.50 for a kerbside WEEE



collection of not more than three items. The price for collection to Local Council is on the cheap side because these contractors then gain financial compensation from the scrap metal facilities but in this manner a lot of WEEE is finishing as scrap metal and not at Authorised WEEE facilities of which there are a few in Malta according to the National Waste Register.

However these facilities leave much to be desired as they are mostly authorised on paper but in reality have not performed to their permit conditions as most WEEE is going to scrap metal facilities. The WEEE collected by WasteServ Malta Ltd through CA Sites and its own Marsa Storage facility which is mostly used by large commercial establishments, was tendered out to waste brokers in past years and these waste brokers have mostly exported this WEEE to Italy or Spain. However the exported amount in 2011 has not exceeded 1000 tons.

The Local Councils are primary stake holders which need to make sure that collection of any WEEE from kerbside finishes at authorised WEEE storage facilities. At present after a technical assessment made by Green MT it transpires that 47 % of items collected from bulky refuse are WEEE (Waste Electrical and Electronic Equipment).

Producers or Schemes on behalf of Producers would be willing to pay a fee per tonne to Local Councils through a centralised unit or regional unit to make sure that WEEE does not go outside the loop. In discussions with the Ministry responsible for Local Government there has been consensus that the collection of bulky refuse tenders should shortly become the work of regional committees and no longer on a Local Council individual level. There are five regions in Malta already set up on paper but operational in a few aspects only at the time of writing. [3]

### **10.9.3 Infrastructure**

The infrastructure to collect WEEE and storage facilities does exist in Malta but as far as beyond storage Malta faces a cardinal problem. For economies of scale WEEE collected will need to be exported unless there is a Government decision to set up at least one or two WEEE treatment and final recycling facilities which would need to somehow be subsidized to operate. Schemes intend to export their WEEE to mainland Italy from where they will obtain a final recycling certificate. It is to be noted that even if Malta reaches the collection of 5 880 tons thus exporting 113 tons a week, this would only be an added value to a

southern Italian WEEE facility that provides recycling certificates amounting to at least 60 000 tons annually.

As such the WEEE exported from Malta would supplement the operations of such a facility whilst without fail the amount of 5 880 tons increasing to eventually no more than 12 000 tons by 2021 would definitely not place a WEEE facility operator in Malta at an economic feasibility situation due to the small amount of EEE placed on the market.

#### **10.9.4 Time Frames**

The time frame established by the Waste Management Plan for the Maltese Islands to implement this Directive is now realistic although the previous plan (2009) failed miserably in its delivery regarding this waste stream from all aspects.

#### **10.10 Tyres**

The plan takes a close look at tyres as a waste stream. Although not government by EU law in specific terms, Malta has since a few years back placed firstly an Eco Contribution on tyres and very recently changed that to an excise duty payable at import stage. The plan includes data which is not realistic for such an island state which lacks a proper road infrastructure and as such should relate to frequent tyre changes.

Data outlined in the plan shows a collection of 1 996 tons in 2011 and 1 997 tons in 2012, last figure being an approximate too. Currently collected tyres by WasteServ Malta Ltd are shredded at a local approved shredding facility which then exports the said finished recyclable product. [3]

Since Government collects excise at this stage from importers over tyres then it forks out funds to the related company under a period contract to receive and shred these tyres of whatever size or nature of use. The infrastructure for this operation is far from exhaustive and whilst no EPL is currently in place for tyres, the PPP can easily apply to these tyres imported and sold or distributed in Malta.

#### **10.11 End of Life Vehicles**

The plan aims to ‘address illegal scrap yards’ and also ‘increase the recycling and recovery rate’ of End of Life Vehicles. Whilst this Directive was transposed into Maltese law early in 2004, prior to Malta’s Accession to the European Community, the implementation to date leaves much to be desired. [3]

Imported vehicles both new and second hand vehicles emanating mainly from the United Kingdom or Japan are still not liable to any 'environmental tax' and importers/producers have as yet not established Compliance Schemes to make sure that all vehicles are finally finishing at an end of life vehicles facility.

Other applicable legislation in relation to this waste stream includes Commission Decision 2002/525/EC, Council Decision 2008/673/EC, Commission Decision 2008/689/EC and Commission Decision 2010/115/EU, Commission Directive 2011/37/EU, Commission Decision 2005/63/EC, Commission Decision 2005/438/EC, Commission Decision 2003/138/EC, Commission Decision 2001/753/EC, Commission Decision 2002/151/EC and finally Commission Decision 2005/293/EC. [8]

Table 8 – Overview of End of Life Vehicles Directive and Regulations [3]

End of Life Vehicles	
End of Life Vehicles Directive (Directive 2000/53/EC)	Waste Management (End of Life Vehicles) Regulation, 2004 <b>(L.N. 99 of 2004)</b>

The previous waste management strategy in 2009 outlined a status quo position even though the legislation had been in place since 2004, so there exists no tangible evidence that any form of implementation of this Directive took place locally in the first five years, 2004 - 2009. At that time there were no Compliance Schemes in place, once again under the EPL provisions, and in addition there were no permits in place for 'End of Life Vehicle Facility'. [8]

The strategy established in 2009 has yet again failed to reach its targets. The new Waste Management Plan for the Maltese Islands 2014-2020 is holding firm to the requirements of the Directive on paper. However although now according to the National Waste Register a number of End of Life Vehicles facilities are authorised, there are neither any Compliance Schemes in place.

In the last three years Government has issued incentives to those buyers of new vehicles to scrap old vehicles and be given a financial bonus. In addition a fee is given also by

Government to the Authorised facility that receives the vehicle for end of life recycling. This is by far a long way away from that established by the legislation. Importers have as yet not taken on board their legal liability and there seems to be no time frame either in the last Waste Management Plan to improve this situation.

The targets as set by the plan cannot be deemed achievable since there are neither Compliance Schemes in place but just agreements between individual importers and individual facilities which are not held firm too.

Transport Malta is the entity responsible for the implementation of this Directive and its related Compliance. However it has lacked to date to address this very important issue and taking into consideration that the amount of vehicles in Malta is enormous compared to its size (336 km<sup>2</sup>).

## CONCLUSION

It is evident that as the smallest EU State, Malta faces difficulties in reaching the levels as stipulated by the EU mechanisms, due to mostly economies of scale and insularity. However there is a cardinal issue which has over the years kept the small island state from reaching a number of targets in relation to primarily the Landfill Directive, the WEEE Directive and the Packaging and Packaging Waste Directive.

The landfill Directive is adamant about the sustainability issue behind any waste operation which should cover the cost of collecting waste generated at source until the actual rehabilitation of an engineered landfill. This sustainability issue or a neutral cost factor has never been taken seriously in Malta and the current landfill fee of Euro 20 per tonne excluding VAT continues to stifle the situation. Unless waste generators are made to pay in totum for the collection, treatment and final landfilling and even rehabilitation of the land, then it would be difficult to try and implement any further initiatives related to MSW issues, and reach stipulated targets according to the Plan.

From my point of view, after a five month stay in Malta, it is clear that the issue of a very small country where everyone knows everyone and the additional issue of Local Councils being totally autonomous in their decisions within their localities have not helped in improving this situation. In addition political will power to actually reduce waste generation or make the PPP (principle) actually in force is still lacking with haphazard initiatives not reaching their final goals.

There is no enforcement of any nature on the implementation of the PPP or the EPL (principles) and as such both in the Packaging and Waste packaging Directive and the WEEE Directive there are a never ending amount of free riders to the system. Despite the ongoing uphill struggle of Compliance Schemes to regulate further the market, their calls for support are most of the time not heeded by Government or action taken very late in the day.

During my five month stay at Green Mt I had the pleasure to assess at ground level the current Maltese operations in relation to a number of waste streams, with site visits to Localities and also facilities which were a tremendous help for myself to be able to then have a closer look at the Plan recently put in place and compare that same Plan with the past strategy or plan issued in 2009. Working so close with a Compliance Scheme on the inside, namely Green MT and taking into consideration to the fact that I had easy access to both information and direct personal contact with the employees in all departments from logis-

tics to accounts to executive management, the contents of my finished work has a clear insight to the problems still faced by this small island state that cannot handle Directives issued on a 'one size fits all' basis as happens so far at EU level.

Malta, as a small island state which joined the EU in 2004 has seen improvements in the waste management sector but there needs to be more political will in order to further enforce legislation that is now established under the EU umbrella and actually comply to such legislation with the best available technologies at the lowest of cost possible in order to make sure that environmental obligations do not cause a ripple effect on the final consumer.

Last and not least Government is rightly embarking on a continuous three year education campaign to drive home a mentality of waste minimization. Although in figure terms Malta is nowhere near a heavy EU waste generator, one needs to make sure that waste minimization or the non generation of waste in the first place should be the primary target from a morally acceptable point of view.

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**LIST OF ABBREVIATIONS**

BTN	Brussels Tariff Nomenclature
CA	Civic Amenity (Site)
C&D	Construction and Demolition (Waste)
C&I	Commercial and Industrial (Waste)
EEE	Electrical and Electronic Equipment
ELV	End of Life Vehicles
EPL	Extended Polluter Pays Principle
ERA	Environment and Resources Authority
EU	European Union
GPP	Green Public Procurement
GRTU	Malta Chamber of Small and Medium Enterprises
HS	Harmonized System
HSW	Household Separated Waste
IT	Information Technology
Ltd	Limited
MEPA	Malta Environment and Planning Authority
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
PPP	Polluter Pays Principle
VAT	Value Added Tax
WEEE	Waste Electronic and Electrical Equipment
WFD	Waste Framework Directive
WSC	Water Services Corporation

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## **APPENDICES**

**Annex A** List of the Local Councils (+ population) in Malta 2014

## ANNEX A: List of the Local Councils (+ population) in Malta 2014

Is-16 ta' Mejju, 2014		VERŻJONI ONLINE		5651	
Nru. 473		No. 473			
ATT DWAR KUNSILLI LOKALI (KAP. 363)		LOCAL COUNCILS ACT (CAP. 363)			
Il-Popolazzjoni Stmata ghal kull Lokalità 31 ta' Marzu, 2014		Estimated Population by Locality 31st March, 2014			
GHALL-FINI tal-artikolu 73 tat-Taqsima VII tal-Att dwar Kunsilli Lokali, il-Ministru għall-Finanzi qiegħed hawn taht jagħti l-popolazzjoni ta' kull lokalità kif imfissra fl-Att:			FOR the purpose of article 73 of Part VII of the Local Councils Act, the Minister for Finance hereunder states the population estimates for each locality as defined in the Act:		
Lokalità u Kodiċi <i>Locality and Code</i>	Popolazzjoni <i>Population</i>	Lokalità u Kodiċi <i>Locality and Code</i>	Popolazzjoni <i>Population</i>		
01	Il-Belt Valletta	6,444	35	Marsaskala	12,134
02	L-Imdina	292	36	Marsaxlokk	3,534
03	Il-Birgu	2,629	37	Il-Mellieha	10,087
04	L-Isla	2,784	38	L-Imġarr	3,629
05	Bormla	5,395	39	Il-Mosta	20,241
06	Hal Qormi	16,779	40	L-Imqabba	3,315
07	Haż-Żebbuġ	11,903	41	L-Imnsida	8,545
08	Haż-Żabbar	15,404	42	Il-Munxar	1,454
09	Is-Siġġiewi	8,367	43	In-Nadur	4,509
10	Iż-Żejtun	11,508	44	In-Naxxar	13,443
11	Ir-Rabat, Għawdex	6,901	45	Paola	7,864
12	H' Attard	10,650	46	Pembroke	3,645
13	Hal Balzan	3,958	47	Tal-Pietà	4,020
14	Birkirkara	22,247	48	Il-Qala	2,284
15	Birżebbuġa	9,736	49	Il-Qrendi	2,752
16	Had-Dingli	3,608	50	Ir-Rabat	11,497
17	Il-Fgura	11,670	51	Hal Safi	2,126
18	Il-Furjana	2,205	52	San Giljan	10,232
19	Il-Fontana	985	53	San Ġwann	12,523
20	Il-Gudja	2,997	54	San Lawrenz	748
21	Il-Gżira	8,029	55	San Pawl il-Bahar	21,046
22	Għajnsielem (u Kemmuna)	3,200	56	Ta' Sannat	2,117
23	L-Għarb	1,539	57	Santa Luċija	2,997
24	Hal Għarghur	2,768	58	Santa Venera	6,932
25	L-Għasri	525	59	Tas-Sliema	16,854
26	Hal Għaxaq	4,722	60	Is-Swieqi	10,064
27	Il-Hamrun	9,244	61	Ta' Xbiex	1,804
28	L-Idlin	3,130	62	Hal Tarxien	8,583
29	Il-Kalkara	3,014	63	Ix-Xagħra	4,886
30	Ta' Kerċem	1,938	64	Ix-Xewkija	3,300
31	Hal Kirkop	2,191	65	Ix-Xgħajra	1,732
32	Hal Lija	3,070	66	Iż-Żebbuġ	2,956
33	Hal Luqa	5,945	67	Iż-Żurrieq	10,823
34	Il-Marsa	4,401	68	L-Imtarfa	2,572
			<b>Totali/Totals</b>		<b>445,426</b>

L-informazzjoni meħuda mir-Reġistru Elettorali tal-Kunsilli Lokali, mis-SABS, u mir-reġistru tal-permessi ta' residenza.  
Data extracted from the Local Councils' Electoral Register, the SABS, and the Residence Permits' database.

Sorsi: Il-Kummissjoni Elettorali, id-Dipartiment tas-Sigurtà Soċjali, u d-Dipartiment taċ-Ċittadinanza u tal-Expatriates.  
Sources: Electoral Commission, Department of Social Security and Department for Citizenship and Expatriate Affairs.

Is-16 ta' Mejju, 2014

16th May, 2014

Occupied dwellings within each locality can be found on:

<http://nso.gov.mt/en/Pages/NSO-Home.aspx>