WASTE MANAGEMENT PLAN FOR THE MALTESE ISLANDS 2008-2012

CONSULTATION DOCUMENT

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INTRODUCTION

The Ministry for Resources and Rural Affairs has developed this Waste Management Plan for the Maltese Islands in accordance with the requirements of the relevant regulations of the European Directives on waste management. This activity was a chance to evaluate the existing situation with waste and its management in Malta and to look forward what will or should happen during the next five years.

Malta joined the European Union on 1st May 2004 which created many challenges in many areas, of course also for the management of waste in a small country with a small total population and on islands with a high density of population and relatively far away from the European mainland. As a consequence we had to change many practices and attitudes and try to cope with very many new requirements and regulations which are binding to member states of the European Union. However, this created also many chances to improve the then existing situation and has led to a significantly improved management of wastes, to a much better protection of our environment and the health of our citizen.

The accession document in 2004 contained only few exemptions for Malta from then existing EC-regulations on waste management, mainly the extension of several deadlines for coping with implementation of requirements (e.g. packaging, reduction of biodegradable waste from landfill) or keeping existing legal requirements for a defined intermediate period (e.g. restrictions like bringing into circulation certain beverages only in refillable containers or general prohibition on importing waste to Malta).

The biggest change was the need of shutting down the existing landfills in Malta and Gozo, which have been far away from coping with the existing technical standards for landfills. This, however, gave opportunity to start remediation of the large waste dump at Maghtab, which will reduce or avoid negative impacts to our environment.

Until 2004 the two old waste dumps in Malta and in Gozo have been the only facilities for all arising wastes in Malta and Gozo. It was necessary to make available new and alternative solutions. For that purpose Mata had already developed the first strategy on waste management for the Maltese islands in 2001, which contains the mayor political, legal and technical means for such improvements. Recently (January 2009) the Ministry for
Resources and Rural Affairs has published a first update of the Strategy for public consultation.

The Waste Management Plan has been developed in accordance with the requirements which are laid down in the European regulations. The two mayor parts of the plan are

- the existing situation with waste management in Malta
- from the existing deficits measures are described which are intended to be implemented during the next five years (planning phase).

In an introducing chapter we have outlined the existing background about legal requirements from European and Maltese law as well as the responsible political bodies, authorities and stakeholders which are responsible for or affected by implementing waste management regulations in Malta.

Problems when determining the existing situation in Malta have been the poor availability of precise and actual datas about type and amount of arising wastes. It was necessary to create a task force for data-compilation, consisting of representatives from ministries, authorities, WasteServ Malta, National Statistics Office, Local Councils, associations of trade and industry as well as from significant waste producers and private waste management companies.

Results from Twinning projects with Germany and Austria as well as from TAIEX-projects with a German expert have been used to draft this Waste Management Plan.

The preparation of this plan was rather time consuming. The original time frame from 2006 until 2010 had to be extended to 2008 until 2012. Current amendments within European regulations and their national transposition have been taken into account. The hierarchy for waste management with first avoidance, then reduction and reuse, recycling, recovery and finally disposal has been taken into account. In addition, remediation of the old landfills is an issue.

Since the publications of the first Waste Management Strategy in 2001 significant improvements could be achieved in Malta. Mainly they refer to:

- more detailed legal requirements
- new separate collections system, e.g. curb side, bring-in sites and civic amenity sites
• new facilities for treatment, recycling and disposal of waste
• new system for waste control and enforcement
• measures to inform and motivate private and commercial waste producers about waste management and rise public awareness.

During the next five years significant efforts are necessary to improve our waste management situation significantly and to cope with all European and national legal requirements. This has to take into account our specific difficulties of a small island, of a limited market, our dependence on import for most products, our lack of industries which could be used for recycling wastes, high cost for exporting waste for recycling or disposal and the difficulties to adopt full cost fees and charges for waste management which reflect the arising full costs – without damaging our economical situation.

Nevertheless important principals e.g. “Producer-pays Principal” or “Extended Producer Responsibility” will be implemented. For this purpose it will be important to find agreement with mayor stakeholders.

The only existing engineered landfill in Malta will reach its capacity boundary in only a few years. Then new technologies for waste management will be needed, which obviously will contain more recycling but also a small facility which recovers energy from waste and thereby avoids landfilling. The contributions of such new technology to protect the world climate and Malta’s contributions to use renewable energies will be taken into account.

The implementation of this Waste Management Plan will be evaluated in short periods of one to two years. This will also take into account the enactment and implementation of the new EC Waste Framework Directive of 2008, which will be enacted in Malta until the end of 2010.

The political goals laid down in the new update of Malta’s waste strategy (2009) will be used as a further guideline for implementing new systems and facilities for waste management and protecting our environment and the health of our people.
1. **Background**

1.1 **Malta’s specific circumstances**

The Maltese Islands are in the centre of the Mediterranean Sea and comprise six islands. The main islands are Malta, Gozo and Comino. The three main islands are inhabited, while Filfa, Cominotto and St. Paul’s Islands are uninhabited. The Maltese islands cover a total area of 330 km² with a total coastline perimeter of approximately 140 km.

Malta is located 93 km south of Sicily and 290 km north of the African Continent. The general topography of the island can be described as a series of low hills in the northern area with terraced slopes and plains on the southern side. There are no mountains or rivers. The Island of Gozo is the second largest landmass and lies about 6 km northwest of Malta. The total land cover of Gozo is about 67 km² with a coastline perimeter of 43 km. Its topography is similar to that of Malta.

The climate of the Maltese archipelago is normally described as typically Mediterranean, with moist, mild winters and dry, hot summers. The average annual precipitation is about 530 mm and is mainly restricted to very short periods in the autumn and winter. The air temperature generally ranges between 9.5°C and 33°C, exceptional extremes of 1.4°C and 43.8°C have been recorded. The hottest period of the year runs from mid-July to mid-September and the coldest months are January and February. The sea temperature varies in conformity with the air temperature, with a yearly mean of 20°C. The mean sea temperature is higher than that of the air from September to April, and lower from May to August. Humidity is usually high, rarely falling below 40%, and there is little seasonal variation.

The Maltese Islands (Malta, Gozo and Comino), with a population of 407,810 inhabitants and a density of 1,257 persons per km², have one of the highest population densities in the world. The present population growth rate is in the region of 0.75% per annum. This small annual increase in the net population is primarily sustained by high life expectancy and a low emigration rate.

Furthermore, population density is accentuated by the annual inflow of approximately one million tourists.
Land is probably the scarcest resource in Malta. Therefore, given the size and natural constraints of Malta, it is evident that landfilling of large volumes of waste is ultimately unsustainable as a primary method of disposal. This means that, while there will continue to be a need for landfilling of some kind, a sustainable system for managing of waste needs to incorporate facilities either for recovering and/or pre-treating waste, both to minimize their final volume and reduce their pollution potential, or for storing wastes prior to export for final treatment and disposal elsewhere. The scarcity of land also means that the capacity of future engineered landfill sites will be limited and a valuable resource that should be preserved for landfilling those waste fractions for which no other technically feasible or economically viable disposal route exists.

The waste streams identified to be generated in Malta are as follows:

- Inert wastes comprising certain fractions of construction and demolition wastes, including excavation wastes;
- Non-hazardous wastes including municipal solid wastes, industrial and commercial waste; and
- Hazardous wastes from industrial and commercial establishments and households.

Due to the small size of the country, the relatively small population and the lack of heavy industry (e.g. for the production of steel, non ferrous metals, paper, glass, cement or chemicals), mayor recycling activities can only be achieved by exporting wastes abroad, which means high...
transport costs. Moreover, there are very limited facilities available for treatment, recycling, recovery or ultimate disposal of hazardous wastes.

Most of the consumer goods as well as industrial raw materials and products have to be imported into Malta. The onus of the principle of ‘Extended Producer Responsibility’ mainly has to be laid upon importers, wholesalers and retailers.

1.2 The Solid Waste Management Strategy for the Maltese Islands, 2001 and its update from 2009

In October 2001, the Government of Malta (at that time the Ministry for the Environment) adopted “A Solid Waste Management Strategy for the Maltese Islands” (hereinafter referred to as “the Strategy”).
Key elements of this strategy that has been notified to the European Commission are still relevant to this waste management plan.

In the foreword to the Solid Waste Management Strategy for Malta, it was stated that uncontrolled and unmanaged waste can be a threat to the health of the people and to the environment and that it was thus important to recognise that a marked change in the way of thinking about and managing waste was needed. Proper management of solid waste, it was stressed, should be a key priority task in order to make further progress towards sustainable development.

The Strategy was another step forward in this direction. It had set out the targets that needed to be achieved over the next years, the waste handling and treatment facilities that needed to be established and the institutional and resource requirements that also needed to be put into place.

In conformity with Government’s underlying commitment to have the Strategy serving as an effective means towards the protection of human health and the environment, it was stated to understand the concepts and vision behind it, namely those concerned with the requirements for:

- an integrated approach to waste management;
- a reduction in the quantity and hazardousness of waste arisings;
- higher levels of re-use;
- increased recycling and composting;
- the possible further development in energy recovery technologies (e.g. anaerobic digestion);
- safe disposal of residues that cannot be otherwise managed; and
- greater public participation in the decision making process.

Changes in the way of thinking about and managing waste and resources, primarily the generation of waste, are central to achieving sustainable development. Thus, at the very heart of the Strategy was reducing the growth in waste. Each household in 2001 produced circa 1.3 tons of waste per year on average and any further growth in this direction had to
be checked and restrained. If waste arisings continue to grow at this rate, Malta would need nearly twice as many waste management facilities by the year 2010 as were available at that time in order to manage and dispose of all wastes.

Recognising that waste is a resource needs to gain much more support, while at the same time managing it in an environmentally responsible way. Key to this, besides curbing the increase in waste generation itself, will be substantially increased levels of recycling. Resources should be used more efficiently, and greater use should be made of secondary resources. It was also stated to endeavour the exploration of further ways and means to recover energy from waste before final disposal.

The Strategy has set out the scale of the challenges facing Malta, and the actions that needed to be taken in meeting these challenges. The shift to sustainable waste management will not be easy, and will require the involvement of all stakeholders, householders, businesses, Non-Governmental Organisations (NGOs) – in short the whole community. It was seen to be essential, to make a full contribution to delivering a better quality of life, that there should be a greater public involvement in the decision-making process, and a greater awareness on waste and the importance of its proper management among businesses and the public.

Although economic factors are an important aspect in the successful implementation of such a Strategy, they should not be considered in isolation, nor taken to be an end in themselves or as being the only attributes towards solving the existing problems.

The Strategy’s overall purpose was to provide a policy and decision-making framework for the management of wastes, and for the preparation of detailed implementation plans.

In such a process, waste management must primarily take place in accordance with national legislation and local policies as well as take into consideration international conventions to which Malta is a Party. It is also the means by which the various requirements and targets contained in European legislation on waste will be implemented. It was above all a means through which Malta intended to achieve a better quality of life and to provide a proper and effective framework for the protection of human health and the environment.

The Strategy did not only cover those wastes defined in the EU Waste Framework Directive, including those covered by directives dealing with specific waste types, products and processes, but also other wastes not included therein at that time, such as animal wastes
and animal by-products regarding the treatment and disposal of animal, slaughterhouse and other wastes.

There are a number of key principles that need to be taken into account in establishing and implementing the Strategy. These are:

- Sustainable development;
- Proximity principle and self-sufficiency;
- Precautionary principle;
- Polluter pays principle;
- Waste hierarchy;
- Best Practicable Environmental Option (BPEO); and
- Producer Responsibility.

These principles are valid now and in future, especially:

**The Waste hierarchy**

The waste hierarchy as a concept has been developed over the last decades; it has been underlined in the recently decided new EU-Waste Framework Directive, and provides a preferred order of priorities for selecting and deciding upon waste management practices. These are:

1. *Waste prevention / reduction*: minimising the use of resources, and reducing the quantities and/or hazardous qualities of the wastes generated;
2. *Reuse*: using products or items again for the same or different purposes;
3. *Material Recovery (Recycling)*: reprocessing of waste materials for use as a feedstock in the manufacture of the same or a different product. Also composting;
4. *Energy Recovery*: obtaining energy from waste; and
5. *Final Disposal*: if there is no other appropriate solution, the disposal of waste by landfilling or incineration without energy recovery.

This principle needs to be considered in conjunction with other principles, in particular the ‘Best Practicable Environmental Option’ (BPEO).
**The Best Practicable Environmental Option (BPEO)**

The BPEO is the outcome of a systematic and consultative decision-making process that emphasises the protection and conservation of the environment across land, air and water. The BPEO process establishes for a given set of objectives and circumstances the option (or combination of options) that provides the greatest benefits or least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term.

**The Producer Responsibility**

The principle of ‘Producer Responsibility’ means that the manufacturers, importers, distributors and retailers of products that give rise to the generation of wastes, should take responsibility for those wastes, rather than expecting the community to bear the burden of arranging and paying for waste collection, treatment, recycling, recovery and disposal.

The meaning of ‘producer’ in this context is much broader than the normal sense. Considering the life cycle of a product from its manufacture until the end of its useful life, it is not only the manufacturer who influences the waste generating and management characteristics of a product – but also others that play a significant role. However, it is the manufacturer who has the dominant role, since it is the manufacturer who takes the key decisions concerning the design and composition of the product that largely determines its waste generating potential and management characteristics.

This principle therefore implies that producers should take responsibility for:

- Minimising their waste arisings;
- Designing and developing goods that are inherently recyclable and do not contain materials that pose an unnecessary risk or burden for the environment;
- Taking back end-of-life products for reuse, recycling, recovery or ultimate disposal;
- Developing markets for the re-use and recycling of the goods they produce; and
- Informing consumers of the environmental impacts of products and on the management of end-of-life products.

**Other principles**

As well as applying among others the above-mentioned principles to the development and implementation of a sustainable waste strategy, Malta is committed to:
Achieving and maintaining an effective balance between economic development and protection of the environment;

• Within the constraints of a small island state, encouraging open and flexible markets for waste management services;

• Intervening in these markets only where necessary to ensure the achievement of its strategic objectives for waste management; and

• Wherever possible, using economic instruments in preference to legal instruments in order to induce or encourage changes in pursuit of its strategic objectives.

Not all of the detailed principles and goals of the Strategy could be implemented since then. Therefore, the Ministry for Resources and Rural Affairs has sent out for consultation a first update of “A Solid Waste Management Strategy for the Maltese Islands” in January 2009.

This first update to the 2001 Strategy must be seen in the context of the numerous developments that have occurred in this sector including:

- the setting up of WasteServ Malta Limited to provide facilities and services in relation to waste management
- the closure of the Maghtab and Qortin landfills;
- the opening of an interim landfill facility at Ta Zwejra;
- the introduction of bring-in centres;
- the identification of sites for the development of civic amenity sites;
- the design of the upgrading of the existing Sant Antnin composting facility;
- the introduction of cooking oil collection systems for its conversion to biodiesel;
- the introduction of construction and demolition (C&D) landfills and the halting of the dumping of C&D waste to the engineered landfill; and
- the evaluation of the potential for the introduction of waste to energy facilities as has been intended in the new thermal facility at Marsa and the upgraded plant at Sant’ Antnin.

It must be pointed out that the Strategy Update is intended to serve as a policy document, that is, a statement of the intended direction to be pursued by Government. Consequently, the initiatives proposed are kept at a high level and the specificities will be pursued through subsequent detailed working papers that will be developed with a view to securing the implementation of the initiatives proposed.

The Waste Management Plan for the Maltese Islands takes into account the Strategy from 2001 as well as the first update from 2009 and gives a detailed outlook to the currently existing situation of waste management in Malta and its intended further development.
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during the next five years. The methodological guidance note “Preparing a Waste Management Plan” from the European Topic Centre on Waste and Material Flows from 2003 has been used as a guidance.

1.3 Obligations arising from Accession to the European Union

Malta acceded to the European Union on the 1st May 2004.

From that date the provisions of the Treaty establishing the European Community (hereinafter referred to as the EC Treaty) and the Treaty on European Union (hereinafter referred to as the EU Treaty), as supplemented or amended by treaties or other acts which entered into force before this accession, and the acts adopted by the institutions established by these Treaties before accession shall be binding on Malta and shall apply in Malta under the conditions laid down in those Treaties and in the Act concerning the conditions of Malta's accession to the European Union and the adjustments to the Treaties on which the European Union is founded (hereinafter referred to the 2003 Act of Accession).

Malta acceded by the 2003 Act of Accession to the decisions and agreements adopted by the Representatives of the Governments of the Member States meeting within the Council. Malta undertook to accede from the date of accession to all other agreements concluded by the previous Member States relating to the functioning of the European Union as established by the EU Treaty or connected with the activities thereof.

Malta is in the same situation as the previous Member States in respect of declarations or resolutions of, or other positions taken up by, the European Council or the Council and in respect of those concerning the European Community or the European Union as established by the EU Treaty adopted by common agreement of the Member States; Malta is to observe accordingly the principles and guidelines deriving from those declarations, resolutions or other positions and is to take such measures as may be necessary to ensure their implementation.

The 2003 Act of Accession contains only few transitional measures for Malta that relate to waste management. In addition, in accordance with Article 55 of the 2003 Act of Accession, at the duly substantiated request of one of the new Member States, the Council, acting unanimously on a proposal from the Commission, could, before 1 May 2004, take measures consisting of temporary derogations from acts of the institutions adopted between 1 November 2002 and the date of signature of the Treaty of Accession.
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Transitional Measure about shipment of waste within, into and out of the European Community

Until 31st December 2005, all shipments to Malta of waste for recovery listed in Annex II, III and IV to Council Regulation Nº 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community (hereinafter referred to as Council Regulation Nº 259/93), and shipments of waste for recovery not listed in those Annexes shall be notified to the competent authorities and processed in conformity with Article 6, 7, and 8 of Council Regulation Nº 259/93.

By way of derogation from Article 7(4) of Council Regulation Nº 259/93, the competent authorities shall object to shipments of waste for recovery listed in Annex II, III and IV to the Council Regulation Nº 259/93 and shipments of waste for recovery not listed in those Annexes destined for a facility benefiting from a temporary derogation from certain provisions of Directive 2001/80/EC of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from large combustion plants, during the period in which the temporary derogation is applied to the facility of destination.

New regulations are valid according to the Environment Protection (Control of Transboundary Movement of Toxic and Other Substances) Regulations, 2000 (L.N. 205 of 2000), which have been superseded by Community regulation.

Transitional measure about Packaging and packaging waste

By way of derogation from Article 6(1)(a) of European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (hereinafter referred to as Directive 94/62/EC), Malta shall attain the overall recovery targets for the following packaging materials by 31 December 2009 in accordance with the following intermediate targets:

- recycling of plastics: 5% by weight by the date of accession, 5% for 2004, 5% for 2005, 7% for 2006, 10% for 2007 and 13% for 2008;
- overall recycling target: 18% by weight by the date of accession, 21% for 2004 and 25% for the year 2005; and
By way of derogation from Article 18 of Directive 94/62/EC, the requirement not to impede the placing on the market on Malta’s territory of packaging which satisfies the provisions of the Directive shall not apply in Malta until 31 December 2007 to the requirements under Maltese national legislation that beverage packaging for carbonated beverages with less than 2% alcohol content shall be sold in refillable glass bottles or dispensed from metal kegs.

In view of the enlargement of the European Union on 1st May 2004, it was recognized that due attention needed to be further paid to the specific situation in the new Member States, including Malta, in particular in relation to the attainment of the recycling and recovery targets set out in Article 6(1) of Directive 94/62/EC.

Since Malta required additional time to adapt its recycling and recovery systems to the targets of Directive 94/62/EC, and since the objective of this Directive, namely to harmonise national targets for the recycling and recovery of packaging waste, could not be sufficiently achieved by Malta and could therefore, by reason of the scale of the action, be better achieved at Community level, the Community decided to adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty establishing the European Community provided that, in accordance with the principle of proportionality, as set out in that Article, the Directive does not go beyond what is necessary in order to achieve that objective.

It was therefore decided through Directive 2005/20/EC of the European Parliament and of the Council of 9 March 2005 amending Directive 94/62/EC on packaging and packaging waste that Malta may postpone the attainment of the targets referred to in Article 6(1)(b), (d) and (e) until a date of its own choosing which shall not be later than 31 December 2013.

**Transitional measure about waste electrical and electronic equipment**


Malta stated as reasons its recycling infrastructure deficit, low quantities of waste electrical and electronic equipment, constraints due to the fact that it is a small and geographically
isolated country with a small local market and a high population density with attendant land-use problems, and that it is a net importer of electrical and electronic equipment.

It was considered that those reasons justified an extension of the abovementioned time-limits for Malta by 24 months.

It was therefore decided through Council Decision 2004/486/EC of 26 April 2004 granting Cyprus, Malta and Poland certain temporary derogations from Directive 2002/96/EC on waste electrical and electronic equipment that Malta may extend the time-limits referred to in the first subparagraph of Article 5(5) and Article 7(2) of Directive 2002/96/EC by 24 months.

Subsequently, Malta shall ensure that by 31 December 2008 at the latest a rate of separate collection of at least four kilograms on average per inhabitant per year of waste electrical and electronic equipment from private households is achieved.

Malta shall also ensure that producers meet certain minimum targets for the recovery of waste electrical and electronic equipment and for component, material and substance reuse and recycling by 31 December 2008.

1.4 International obligations

The United Nations (UN) recognised a long time ago the necessity of undertaking measures at international level, aiming at better protection of the world environment. Since then, the UN has adopted an extensive amount of legal instruments, regulating different aspects of the environmental protection, i.e. air quality, trans-boundary movement of hazardous waste, transportation of chemicals and dangerous goods, nature protection, marine environment protection, etc.

Being a Member State of the European Union, Malta is bound to cope with all agreements or conventions concluded or provisionally applied by the European Community or with an international organisation under the conditions laid down in the EC Treaty and the EU Treaty, as supplemented or amended by treaties or other acts which entered into force before the accession of Malta to the European Union and in the 2003 Act of Accession.

In the waste management area, the following international instruments are of relevance:
• Basel Convention on the control of transboundary movements of hazardous wastes and their disposal (hereinafter referred to as the Basel Convention) and its Protocol on liability and compensation for damage resulting from trans boundary movements of hazardous wastes and their disposal;

• Convention for the protection of the Marine Environment and Coastal Region of the Mediterranean (hereinafter referred to as the Barcelona Convention) and the following Protocols to the Barcelona Convention:
  ➢ Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft;
  ➢ Protocol for the elimination of pollution of the Mediterranean Sea by dumping from ships and aircraft or incineration at sea; and

• International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as MARPOL 73/78);

• Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (hereinafter referred to as London Convention) and the 1996 Protocol thereto;

• Stockholm Convention on Persistent Organic Pollutants (POPs);

• Convention on Long-Range Trans Boundary Air Pollution and the 1998 Protocol on Persistent Organic Pollutants (POPs);

• Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer;

• European Agreement Concerning the International Carriage of Dangerous Goods (ADR);

• International Maritime Dangerous Goods Code (IMDG Code);
The Basel Convention is of most importance since Malta does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the waste in question in an environmentally sound and efficient manner in Malta, and thus mainly rely on exportation of waste for recovery or disposal in an environmentally sound manner.

Both the London Convention and the Barcelona Convention (including the Protocols thereto) are also of relevance to Malta as long as the country is not able to phase out totally the dumping of inert wastes at sea.

1.5 Existing legislation in Malta

The accession of Malta into the European Union generated changes in many areas, particularly in the environmental legislation. This section provides an overview of the current legislative framework related to environment and renewable energy sources, which is applicable to Malta (whether at the EU or national level). However, an exact description of the contents of the individual piece of legislation will be abstained within this document, because the compliance with the legal framework forms an integrated element of the considerations being put forward.

1.5.1 EU Legislation relating to Waste Management


Waste framework:


- Commission Decision 96/302/EC of 17 April 1996 establishing a format in which information is to be provided pursuant to Article 8 (3) of Council Directive 91/689/EEC on hazardous waste;


**Shipment of waste:**

- Council Resolution of 21 December 1988 concerning transfrontier movements of hazardous waste to third countries


• Council Decision 97/640/EC of 22 September 1997 on the approval, on behalf of the Community, of the amendment to the Convention on the control of trans-boundary movements of hazardous wastes and their disposal (Basle Convention), as laid down in Decision III/1 of the Conference of the Parties;

• Commission Decision 1999/412/EC of 3 June 1999 concerning a questionnaire for the reporting obligation of Member States pursuant to Article 41(2) of Council Regulation (EEC) No 259/93;

• Council Regulation (EC) No 1420/1999 of 29 April 1999 establishing common rules and procedures to apply to shipments to certain non-OECD countries of certain types of waste; and

• Commission Regulation (EC) No 1547/1999 of 12 July 1999 determining the control procedures under Council Regulation (EEC) No 259/93 to apply to shipments of certain types of waste to certain countries to which OECD Decision C(92)39 final does not apply.

Specific waste streams:


Commission Decision 1999/177/EC of 8 February 1999 establishing the conditions for a derogation for plastic crates and plastic pallets in relation to the heavy metal concentration levels established in Directive 94/62/EC on packaging and packaging waste;


Commission Decision 2001/171/EC of 19 February 2001 establishing the conditions for a derogation for glass packaging in relation to the heavy metal concentration levels established in Directive 94/62/EC on packaging and packaging waste;


• Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB-PCT);

• Commission Decision 2001/68/EC of 16 January 2001 establishing two reference methods of measurement for PCBs pursuant to Article 10(a) of Council Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCBs/PCTs);


*Treatment and disposal facilities:*
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- Commission Decision 97/283/EC of 21 April 1997 on harmonized measurement methods to determine the mass concentration of dioxins and furans in atmospheric emissions in accordance with Article 7 (2) of Directive 94/67/EC on the incineration of hazardous waste;


- Commission Decision 2006/329/EC of 20 February 2006 laying down a questionnaire to be used for reporting on the implementation of Directive 2000/76/EC on the incineration of waste;


- Commission Decision 2000/738/EC of 17 November 2000 concerning a questionnaire for Member States reports on the implementation of Directive 1999/31/EC on the landfill of waste; and


EU Legislation relating to Statistics that are relevant to waste management


Parliament and of the Council on waste statistics as regards Austria, France and Luxembourg;

- Commission Regulation (EC) No 782/2005 of 24 May 2005 setting out the format for the transmission of results on waste statistics; and


**Other EU Legislation related to waste management but that does not fit in any of the four above-mentioned groups include the following:**

- Commission Decision 76/431/EEC of 21 April 1976 setting up a Committee on Waste Management;


- Council Resolution of 7 May 1990 on waste policy;


- Commission Decision 94/741/EC of 24 October 1994 concerning questionnaires for Member States reports on the implementation of certain Directives in the waste sector (implementation of Council Directive 91/692/EEC);

- Commission Decision 97/622/EC of 27 May 1997 concerning questionnaires for Member States reports on the implementation of certain Directives in the waste sector (implementation of Council Directive 91/692/EEC);

- Council Resolution of 24 February 1997 on a Community strategy for waste management; and
- Resolution of the ECSC Consultative Committee on the classification of scrap (adopted unanimously with two abstentions during the 337th session of 10 October 1997).

Other EU Legislation exists which is or may be of certain relevance to waste management. In order to limit the list of regulations it may be referred to the homepage of the E.C.

### 1.5.2 National Legislation relating to Waste Management

This section provides an overview of the current legislative national framework in Malta related to the environment and waste management.

**Waste framework:**

- Litter Act, 1968 (CAP. 206 of the Laws of Malta);

- Abandonment, Dumping and Disposal of Waste in Streets, and Public Places or Areas Regulation, 2005 (L.N. 344 of 2005);

- Environment Protection Act, 2001 (CAP. 435 of the Laws of Malta); and

- Environment Protection (Preventive and Remedial Measures), 1994, as published by Legal Notice 1 of 1994;

- Deposit of Wastes and Rubble (Fees) Regulations, 1997 (L.N. 128 of 1997), as amended;

- Waste Management (Permit and Control) Regulations, 2001 (L.N. 337 of 2001);

- Abandonment, Dumping and Disposal of Waste in Streets, and Public Places or Areas Regulations, 2005 (L.N. 344 of 2005); and


- Environment Protection Act (CAP. 435) Deposit of Waste and Rubble (Fees) (Amendment) Regulations, 2007 (L.N. 405 of 2007)
Shipment of waste:

- Environment Protection (Control of Transboundary Movement of Toxic and Other Substances) Regulations, 2000 (L.N. 205 of 2000); [superseded by Community regulation];

Specific waste streams:

- Non-alcoholic Beverages (Control of Containers) Regulations, 1998 (L.N. 158 of 1998), as amended;
- Batteries and Accumulators Order, 2001 (L.N. 6 of 2001);
- Asbestos Products (Labelling) Regulations, 2001 (L.N. 60 of 2001);
- The Sludge (Use in Agriculture) Regulations, 2001 (L.N. 212 of 2001);
- Waste from the Titanium Dioxide Industry Regulations, 2001 (L.N. 223 of 2001);
- Prevention and Reduction of Environmental Pollution by Asbestos Regulations, 2001 (L.N. 228 of 2001);
- Waste Management (Batteries and Accumulators) Regulations, 2002 (L.N. 158 of 2002);
- Waste Management (Waste Oils) Regulations, 2002 (L.N. 161 of 2002);
- Waste Management (Polychlorinated Biphenyls and Polychlorinated Terphenyls) Regulations, 2002 (L.N. 166 of 2002);
- Substances that Deplete the Ozone Layer Regulations, 2002 (L.N. 292 of 2002);
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- Waste Management (Packaging and Packaging Waste) Regulations, 2004 (L.N. 98 of 2004); superseded by LN 277 of 2006;

- Waste Management (End-of-Life Vehicles) Regulations, 2004 (L.N. 99 of 2004);

- Port Reception Facilities for Ship-generated Wastes and Cargo Residues Regulations, 2004 (L.N. 278 of 2004), as amended;

- Motor Vehicles (Registration and Licensing) Regulations, 2004 (L.N. 476 of 2004), as amended;


- Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment Regulations, 2004 (L.N. 396 of 2004), as amended;


**Treatment and disposal facilities:**

- Waste Management (Incineration) Regulations, 2001 (L.N. 336 of 2001);

- Waste Management (Landfill) Regulations, 2002 (L.N. 168 of 2002), as amended;


**Other national legislation relating to the Environment that are relevant to Waste Management**

- Integrated Pollution Prevention and Control Regulations, 2002 (L.N. 234 of 2002), as amended;
• Environmental Impact Assessment Regulations, 2001 (L.N. 204 of 2001);

• Freedom of Access to Information on the Environment Regulations, 2001 (L.N. 217 of 2001);

• Chemicals Co-ordinating Committee Regulations, 2002 (L.N. 328 of 2002), as amended;

• Eco-Contribution Act, 2004 (CAP. 473 of the Laws of Malta);

• Eco-Contribution Regulations, 2004 (L.N. 395 of 2004);

• Designation of the Competent Authority Order, 2004 (L.N. 392 of 2004);

• Marine Pollution (Prevention and Control) Act, 1977 (CAP. 271 of the Laws of Malta);

• Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations (L.N. 1 of 1996) (as amended).

The System of Consignment Permits and Waste Consignment Notes

Malta has introduced a new system for waste control: A waste producer must have a valid permit and a consignment note (during transfer) in order to dispose of/transport his waste. These Notes must accompany waste, which consists of hazardous, biodegradable or non-hazardous waste. The consignment note procedure is divided into two stages:

Stage One: Waste Consignment Permit Application (CP)
Stage Two: Waste Consignment Note (CN)

All Waste Consignment Permit Applications (CP) and Waste Consignment Notes (CN) have a unique number (code) allocated by the Competent Authority. The Waste Consignment Permit Application (CP) is used in order to obtain a permit for the disposal of waste while the Waste Consignment Notes (CN) must be used for the transfer of waste.

The CONSIGINOR is the person who asks for the waste to be removed from the place where it is being held.

The CONSIGNEE means the person to whom the waste is being transferred.

WASTE CONSIGNMENT NOTE APPLICATION (CP)
Step 1
One should apply for the disposal of waste with the Malta Environment and Planning Authority (MEPA) using the Waste Consignment Note Application (CP). The details in Sections A (Consignment Details), Section B (Description of the Waste), Section C (Carrier's Details) and Section D (Consignor's details) should be filled appropriately. Once the latter four sections are filled, the applicant should fill and sign Section E (Consignee's Certificate).

Step 2
The applicant should contact the Waste Management Facility to make the arrangements for the delivery of waste. The Waste Management Facility will inform the Competent Authority of its intention to accept the waste.

Step 3
The applicant should fax the WHITE copy to MEPA and then send it by mail.

Step 4
A day before the transfer of waste is carried out, the applicant should fill the Consignment Note (CN).

STAGE TWO: WASTE CONSIGNMENT NOTE (CN).

The Consignment Note (CN) consists of five part self-carbonising forms.
1. White. - Pre-notification Copy. This should be sent to MEPA.
2. Green. - Consignors Copy. The applicant should keep this copy.
3. Blue. - Carrier's Copy. The carrier should keep this copy.
4. Pink. - Consignee's Copy. This should be kept by the receiving facility.
5. Yellow. - Deposit (MEPA) Copy. This will be returned to MEPA by the receiving facility.

Step 1
A day before the transfer of waste, the applicant should fill Section A (Consignment Details) and Section B (Description of the Waste) in the Consignment Note (CN).

Step 2
The applicant should fax the WHITE copy to MEPA and then send it by mail

ON THE DAY OF COLLECTION

When the waste carrier collects the waste, the carrier should fill Section C (Carrier's Certificate) while the applicant should fill Section D (Consignor's Details) DURING TRANSPORTATION

The CARRIER must ensure that the consignment note and a valid permit accompany the consignment of waste AT THE CONSIGNEE'S FACILITY

On delivery of the consignment the CARRIER must give the three remaining copies and permit to the CONSIGNEE. The CONSIGNEE must complete Section E on the three remaining copies and give the completed - Carriers copy (Blue) to the CARRIER. The CARRIER must retain his/her copy as part of a register for not less than three years. The CONSIGNEE must forthwith dispatch the completed deposit (MEPA) copy to MEPA. The consignee must retain the completed Consignee's copy (Pink) for not less than three years.
REPETITIVE MOVEMENTS, SUCCESSIONS

There is a procedure for the movement of waste of the same description from the same premises and consignor, going to the same consignee and premises. These repetitive movements are called successions and can be applied to both single loads and to carrier’s rounds. A Consignment Note (CP) should cover all consignment, which occurs during the validation of the permit (refer to the permit).

CARRIER’S ROUNDS

A carrier’s round is a journey made by the carrier during which more than one consignment of waste is collected and all consignments are taken to the same consignee. To be treated as a carrier’s round under these regulations the round must be completed within 24 hours.

The System of Eco-Contributions

Strong relevance for waste management in Malta has the Eco- Contribution Act, 2004 (CAP. 473 of the Laws of Malta), which was enacted in September 2004. The main objective of this Act is to provide for the levying of an eco-contribution on products which generate end-of-life products or waste, with the ultimate aim of ensuring better disposal/re-use/recycling management. Therefore, under the provisions of this Act, products falling within its scope would attract eco-contribution. For a large number of products being put on the Maltese market, the producer (or importer) has to pay an eco-contribution depending on the type of the product (between EUR 0,02 and EUR 70 per piece or per litre in case of liquids).

The Eco- Contribution Act puts greater emphasis on producers / importers to either develop recovery schemes or pay for the costs incurred by Government when the specific product ends in the general waste stream. In the case of the former, producers will have control over the cost structure of their own recovery scheme as opposed to paying for a central public service for which they do not have direct cost control. Recommended recovery schemes are to be analysed on various aspects. For example, Government needs to determine whether eco-contribution will be charged in full or in part depending on the firm commitment of the ‘take back’ scheme to recover products from the market. Apart from meeting the obligations, such schemes translate in an enhanced waste separation initiative thereby improving the overall quality of Municipal Solid Waste (MSW).

MEPA has formulated guidelines of how schemes are to be licensed with recommendations on how to waive the eco-contribution charge if responsibilities for waste are shared. The policy document “Authorisation/Registration of Schemes – Eco Contribution
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Exemption/Refund Mechanism” provides incentive schemes that play a determining role in the achievement of Malta’s waste management targets in conjunction with possible amendments to the Eco-Contribuion Act to offer additional incentives to such schemes.

This regulatory framework is an economic incentive that, given the necessary legal basis, could also be instrumental in maximizing the amount of waste that is recovered. Moreover, the framework is self-enforcing since producers are given the incentive to recover and will be rewarded when successful.

The description of existing legislation related to waste reflects the commitment of transposing EU Directives into Maltese law and taking into account the specific national situation of a small island.

The relevant and competent authority since March 2008 is the Minister for Resources and Rural Affairs (MRRA) - before the Minister for Rural Affairs and the Environment (MRAE) - and as such responsible for environmental legislation under the Environment Protection Act of 2001 (EPA).

1.6 Implementation and enforcement

Laws and regulations governing waste management are not in themselves sufficient to ensure their success. To be effective, such measures must be administered and enforced, which in turn requires that adequate systems, procedures and resources be deployed to fulfil these tasks.

All EU legislation relating to waste management were enacted in Malta. However, the practical implementation is still ongoing.

Over the last few years, it was observed that the Malta Environment and Planning Authority (MEPA) suffered from insufficient resources which have, in turn, influenced negatively its ability to properly establish an effective monitoring and enforcement regime. The first step towards addressing this problem was to determine the necessary human resources required to fulfil all monitoring, inspection and enforcement obligations within the established
minimum criteria for environmental inspections in the Member States, as laid down in Recommendation 2001/331/EC.

Government will ensure that the Authority has the necessary administrative capacity to cover these tasks. Government is conscious of the financial situation of the country and is therefore determined to ensure that:

- existing resources are being deployed in an effective and efficient manner;
- any competent resources within the public service/sector who are not being utilised to their full potential will be detailed to the Environment Protection Department within MEPA; and
- recruitment is the last yet inevitable option.

Notwithstanding, Government is directing MEPA to prove its cost effectiveness and to put forward proposals to ensure that its current and future operations become as financially independent from Government as possible, which has been done and is awaiting Government approval.

MEPA does presently not charge any fees for authorizing an application for operating a waste management activity or a compliance scheme. In other European countries licensing and enforcement authorities similar to MEPA charge applicants fees and have the possibility to bring in external expert opinions, these external costs again are charged to the applicant; this has led to a significant acceleration of decisions by the responsible authority.

The implementation of the principle of ‘Producer Responsibility’ for certain products and waste originating from these products offers a possibility to outsource monitoring and control to stakeholders and systems, which will reduce the enforcement burden on MEPA.

Technical standards / codes of practice are aimed at establishing minimum technical requirements for the quality of certain goods, resources or wastes, and/or the operation and performance of specified waste management activities and facilities.

The standards currently being used in Malta are those adopted either by the European Union as a whole or in the United Kingdom. As far as necessary, Malta tries to establish its own national standards and codes of practice that are to be tailored to suit Malta’s particular needs and circumstances in the waste management sector. These standards are made official through the Malta Standards Authority.
Priority is given to technical standards and related codes of practice with respect to:

- management of wastes that pose a potential risk to public health and environment and therefore requires special methods of treatment, e.g. waste batteries and accumulators, waste oils, healthcare waste and other potentially hazardous wastes;
- landfilling / final disposal of wastes (including thermal treatment); and
- management of waste within the Public Sector to complement the efforts of the Green Leaders appointed within all Government ministries.

The Maltese government has pledged its commitment to meet its corporate responsibilities with regard to the environment, and to this aim has set up an office to coordinate environmental initiatives across all Ministries and public agencies.

**Green Leaders:**

To enable the implementation of such initiatives, the Government appointed Green Leaders, one in each Ministry, to act as the main focal point. The Green Leaders have a duty to create environmental awareness within their Ministries and act as catalysts for action to promote environmentally – friendly practices within their spheres.

The Green Leaders are coordinated by the Government Environmental Corporate Responsibility Office set up for the purpose within the Office of the Prime Minister. Within each Ministry, however, each Green Leader will report to the Director responsible for Program Implementation, who has been designated as the main focal point for environmental issues.

Their main targets are to:

- set up a paper separation for recycling system within their Ministry’s offices
- set up a collection system for used printer cartridges; and
- commission an energy audit of at least one building belonging to their Ministry.

Training and workshop sessions in waste management, energy efficiency and developing sustainability values and attitudes were also held for the Green Leaders in order to enable them to develop the necessary skills to carry out their appointed role.
On 1 June 2006, Government also launched the Green Office Label, a certification scheme for government ministries, departments and agencies which run their offices according to environmental best practices.

The certification scheme will be run by the Government’s Green Office. The concept centres around a list of 100 environmental best practices, or criteria, which are related to the office environment. The list is made up of six different areas which include environmental planning, waste reduction, energy conservation, water conservation, transport and green public procurement.

The list of environmental best practices is composed of 50 obligatory criteria and 50 voluntary criteria. To obtain the Green Office Label, a government entity must at least meet all of the compulsory criteria. This will be verified by an on-site audit.

The list of environmental best practices was drawn up following research on international best practices and similar schemes related to office environments and their assessment in the local scenario.

Technical support will be offered to applicants to ensure that environmental implications are well understood. Support will also be given to assist in the manner of implementation of environmental best practices.

The content and training tools are being developed with the assistance of the Centre for Environmental Education and Research (CEER) and WasteServ Malta Limited. The Green Label certification is an initiative by Government to lead by example and promote an attitude and an office behaviour which are sustainable for the environment.

1.7 Institutions and organisations

The Office of the Prime Minister and the Ministry for Resources and Rural Affairs

The implementation of waste management requires communication and close cooperation between the Office of the Prime Minister, who is responsible for waste policy, the Ministry for Resources and Rural Affairs, who is responsible for the implementation of this policy, and other ministries and Government institutions.

The Malta Environmental and Planning Authority
The Malta Environment and Planning Authority (MEPA), was established following the merger between the former Planning Authority and the Environment Protection Department, on 1\textsuperscript{st} March 2002. The functions of the Authority are drawn out in the Environment Protection Act, 2001 (CAP. 435 of the Laws of Malta), which states that:

\begin{quote}
'\textit{The Authority shall be the principal means whereby the Government shall implement its duties under this Act. The Authority shall advise the Minister in the formulation and implementation of policies relating to the promotion of sustainable development, protection and management of the environment and the sustainable management of natural resources, and on such other matters as may be necessary for the better carrying out of the provisions of this Act.}'
\end{quote}

The primary tasks of the Authority are intended to be:

- the licensing or permitting of waste management facilities and activities;
- the compliance monitoring and inspection of waste management facilities and activities to ensure that their license or permit conditions are being adhered to; and
- the enforcement, where applicable
- providing input to the OPM in the formulation and implementation of plans and policies relating to waste management; and
- advising the OPM on Malta’s position on pipeline waste management EU Acquis.

The functions of the inspectorate section within the former Environment Protection Department have been taken up by MEPA. Inspectors have been delegated full enforcement and inspection powers as provided for by the Environment Protection Act, 2001 (CAP. 435 of the Laws of Malta).

Government is aware that MEPA requires capacity building and is committed to commission the necessary evaluation to improve its capacity building. Moreover, better integration of the Planning and Environmental fractions is considered essential for MEPA to truly benefit from these two functions. A recent report of the European Network for the Implementation and Enforcement of Environmental Law (IMPEL) has been very critical of the current operations of the Inspectorate largely resulting from the lack of trained staff.

An exercise providing a snapshot of the current situation in respect of human resources and skills that are present and those which are required in order to fulfil these duties in a professional
and comprehensive manner has been carried out. The resultant gap would need to be filled either through additional recruitment or through redeployment of competent personnel already within Government employment who might currently not reside within MEPA.

WasteServ Malta Limited

WasteServ Malta Limited was established in November 2002. The company is responsible for organising, managing and operating integrated systems for waste management including integrated systems for minimisation, collection, transport, sorting, reuse, utilisation, recycling, treatment and disposal of solid and hazardous waste. An evaluation of this company must be carried out on an on-going basis in order to assess whether the resources currently in place are sufficient to service its increased responsibilities in a cost-effective manner.

The establishment of WasteServ Malta Limited and MEPA have managed to achieve a clear institutional separation of the Government’s powers and functions as a legislator / policy maker (Government), as a regulator (MEPA) and as a provider of waste management facilities and services (WasteServ Malta Limited). WasteServ Malta Limited was established to:

- provide waste management facilities and services;
- finance as much as possible waste management facilities and services;
- retain ultimate responsibility; and
- serve as an operator of last resort.

At this point in time, Government wishes to reiterate that it does not intend to involve WasteServ Malta Limited in activities that compete with or impinge upon the services that could be offered by the private sector. Notwithstanding, in line with WasteServ Malta Limited’s mandate to act as an operator of last resort, Government will be forced to ask WasteServ Malta Limited to enter into additional services should the private sector not fill in the demands that are being created.

Local Councils

Through the Local Council Act, 1993 (CAP. 363 of the Laws of Malta), the collection services of municipal solid waste (MSW) was assigned to Local Councils. However their
operations in respect of the collection of MSW have largely been an individualistic effort so far with only a limited number of the smaller Local Councils teaming up in order to provide a more cost-effective service. It is evident that greater economies of scale can be achieved by regionalising the collection of MSW.

For the purposes of certain services, Local Councils have been grouped into six regions; a shift from a 6-zone to a 9-zone system may be undertaken.

It is felt that this degree of regionalisation has the potential to enable a more rationalised and cost effective collection of MSW to be achieved.

A waste collection draft contract was drawn up by WasteServ Malta Limited, and forwarded to the Department of Local Government. WasteServ Malta Limited also advised Local Councils to issue yearly MSW collection service contracts with private waste haulers after a public tender.

The regionalisation policy initially started in regard to the introduction of bring-in sites. In view of the autonomy and jurisdiction assigned to Local Councils, the latter are in a position to issue tenders for one or more bring-in site(s) within their locality. In this context, the Department of Local Government made provisions in order for the respective Local Councils to be able to establish the required number of bring-in site within their localities.

**Other key players in waste management**

Several public or private sector institutions are responsible for or involved in certain aspects related to waste management:

- Office of the Prime Minister (responsible among other for Environment, MEPA, Sustainable Development);
- Ministry for Gozo;
- Ministry for Infrastructure, Transport and Communications;
- Ministry for Justice and Home Affairs;
- Malta Standards Authority;
- Malta Transport Authority;
- Malta Maritime Authority;
- Malta Tourism Authority;
Public sector institutions require a small nucleus of people who are entrusted with the responsibility of waste management within their organisation. The introduction of Green Leaders is a step in the right direction and could represent the necessary seed to stem this initiative further. Government is committed to carrying out a detailed review and assessment of the human resource and training needs of those aforementioned entities that are public with respect
to their waste management responsibilities and functions. Following such review, these institutions should take the necessary actions to comply with this initiative.

The Management Efficiency Unit (MEU) of the Office of the Prime Minister could provide a determining role in conducting these forms of training needs and complementing exercises.

To an increasing degree, private waste management companies are either acting on behalf of Local Councils, WasteServ Malta Limited or industrial waste generators for collecting, transporting, sorting, pre treating, recycling or exporting different types of wastes.

2. Status of waste management in the Maltese Islands

The description of the existing situation of waste management in Malta is related to data for waste generation and disposal for the year 2005 or even earlier. More recent statistical data are only available in few sectors as indicated in the following text. However, the information about existing waste management facilities or systems reflects the situation up to the year 2008.

2.1 Waste prevention and minimisation

Waste prevention and minimisation have a top priority in the waste hierarchy – but only a limited effect on the arising and practical management of wastes. This can be seen from the fact that the generation of wastes in Malta is still increasing (for municipal solid waste by around 2.4% per year from 2001 to 2008).

Prevention and minimisation can be affected in terms of quantity and/or quality of waste. The first tries to reduce the total generation of wastes while the second tries to avoid or reduce hazardous substances in waste in order to ease the following steps of recycling, recovery or ultimate disposal.

Examples for the reduction of waste quantities in Malta are:

- The use of refillable bottles for drinks like mineral water, refreshment drinks, beer, Maltese wine, and other;
• The prohibition to give away plastic bags in shops without charging the customer
• The use of pre- or post-mix systems for drinks dispensers;
• Reuse of packaging in certain industries for internal and external transport; and
• The extended life time of cars and other products.

In most cases the driving force for these actions is not so much the ecological benefit but the economic advantage. Unfortunately, the situation is rather limited where ecology and economy go into the same direction.

Qualitative prevention and minimisation means to avoid hazardous substances (like heavy metals, hazardous chemicals) in production processes and products as well as avoiding mixing different waste streams during their generation.

Certain producers in Malta make use of such environment-friendly production processes. For products, this effect is rather small because most of them are imported into Malta from abroad or, if produced in Malta, international product standards have to be met.

The European legislation on producer responsibility takes this into account. The legislation on packaging and packaging waste, batteries and accumulators, end-of-life vehicles and waste electrical and electronic equipment, contain prohibitions or limitations for certain hazardous substances (heavy metals, flame retardants) in new products, which have to be complied with by all producers inside or outside the European Union if they put their products into the Community market. This aims to solve or minimise waste problems already when producing new products.

The major obstacles in Malta to the prevention and minimisation (but also to recycling and recovery) of wastes are the very low charges for disposing of wastes in landfills as well as the existing situation that citizens are not charged directly for the collection and management of the wastes they generate. Waste management is partly financed by the Government from the overall income tax system. This does not create a major incentive to minimise waste.
2.2 Total amount of non-hazardous and hazardous waste in Malta

Waste arises as a result of household, industrial and commercial activities. Furthermore, the collection, treatment and disposal of waste involve considerable economic and environmental costs.

While waste generation is a useful indicator of the resource efficiency of the Maltese economy, a complete picture of the total amount of waste generated on the Maltese Islands is not yet available. However the amount of waste arriving at the three principal waste management facilities (Ta’ Zwejra/Ghallis, limits of Maghtab in Malta; Qortin Waste Transfer Station in Gozo; Sant’ Antnin Solid Waste Treatment Plant in Malta) and of construction and demolition waste arriving at the inert waste facilities, is a useful approximation of waste generation in Malta. This data must be nevertheless viewed in the context of increasingly exact measurements over the years, particularly since 1997, when weighbridges were installed at Maghtab and Sant’ Antnin Solid Waste Treatment Plant.

Although during the period under review the total amount of waste generated has fluctuated, there has been an increase of approximately 50 percent in waste arriving at the facilities between 1996 and 2004, principally due to increases in the quantity of construction and demolition waste and municipal waste.

In 2004, 6.5 tonnes of waste (of any kind) per capita was generated in the Maltese Islands, while the EU average stands at 3.5 tonnes per capita. However these figures do not include illegal dumping. The Cleaning Services Department indicates that 20,000 tons of material illegally dumped across the Maltese Islands was cleared during 2004, and 10,000 tons between January and August 2005.

The total amount of Malta’s waste being generated in the year 2004 has to be estimated to have been around 2.6 million tonnes

The Maghtab as well as Qortin dump sites were closed down on 30 April 2004 in line with national targets stipulated in the Solid Waste Management Strategy of 2001.
An interim national facility for the receipt, treatment and disposal of municipal solid waste was set up at Ta’ Zwejra and was operational until 2006. This facility had a projected lifespan of two years and its estimated volume is of 500,000 m$^3$.

Additionally, Ghallis was identified as the most suitable site for the development of a longer term controlled engineered landfill. This site is meant for the disposal of non-hazardous, non-inert waste (operating since 2006), and in a separate set of facilities for the disposal of certain hazardous waste, as well as for the interim storage, pre-treatment and transfer/export of hazardous waste.

The Ghallis engineered landfill for municipal waste has a total capacity of 1.6 million cubic metres. On the basis of total amounts of waste going to landfill in 2006 which has been 247,256 tonnes, expected increasing amounts in the following years plus rejects of non recyclable waste from Sant Antnin recycling plant, the total amount of waste which would go to landfill would render the lifespan of Ghallis very short.

Ghallis does not accept inert C&D waste which is used for filling up no longer used quarries which will be recultivated for further use (husbandry or industry).

To permit the closure of the Qortin dump site in Gozo and until the permanent waste transfer facility is developed at a site known as Tal-Kus, a temporary waste transfer station is currently being operated at il-Qortin. All waste received at this facility, with the exception of inert waste, is transferred by trucks to Malta on a daily basis.

2.3 **Major waste streams**

Malta’s major waste fractions (by weight) are construction and demolition waste (88 percent in 2004) and municipal waste (8 percent). Interestingly, these shares reflect 1996 patterns (87 percent construction and demolition waste and 9 percent municipal waste) rather than average percentages for the years 1997-2003, which were 80 percent for construction and demolition waste and 13 percent for municipal waste.

The amount of hazardous waste going to landfill declined substantially since 1999, and since 2003 this type of waste has been retained on site at the waste generator or exported through private initiative. This activity ensued as a result of new national procedures being introduced pending the establishment of a national hazardous waste treatment facility and a hazardous
waste landfill. Although hazardous waste generally makes up less than one percent of all waste generated in Europe (including Malta), it represents a serious risk to the environment and human health if not managed and treated safely.

An increase of 64 percent in separated waste arriving at the Sant’ Antnin Solid Waste Treatment Plant has been registered since 2001, and whereas in 1998 separated waste consisted solely of waste batteries and accumulators, in 2004 there were ten different types of separated waste streams. These included waste glass, paper, metal and plastic collected from bring-in sites, waste oils, kitchen waste (edible oil), end-of life tyres, mattresses, green waste and waste electrical and electronic equipment.

2.3.1 Municipal solid waste

Municipal solid waste (MSW) is waste produced from households, as well as other waste, which because of its nature or composition, the competent authority deems it to be municipal waste. For the purpose of this document, it is considered to be waste collected by or on behalf of municipalities and accounts for waste produced from households, hotels, restaurants, as well as non-hazardous hospital waste, rejects from Sant’ Antnin Solid Waste Treatment Plant, bulky refuse, agriculture and beach waste/seaweed.

Municipal solid waste and mixed trade and municipal waste (which includes bulky refuse, agricultural waste and waste from beaches/seaweed) have increased substantially since 1996 (57 percent) (see review below). In the period between 1997 and 2004, the increase was 37 percent. Fluctuations also dominated the commercial and industrial waste streams (whose nature is similar to household waste), although there was a decrease in total amounts registered probably due to resource efficiency gains in industry as well as improved recycling practices.

Municipal waste is the fraction most closely related to household and commercial consumption, and after inert waste, is also increasing. Municipal waste collected for the period 1996 to 2004 is on the increase, most likely due to increased use of packaging. In 2003, municipal waste collected in Malta was 625 kg/capita (rising from 593 in 2001), which makes 250 000 tons per year. Municipal solid waste alone (MSW) from households and similar sources like hotels and restaurants and rejects from the waste treatment plant at Sant Antnin amounted to approximately 150,000 tons in the year 2005.

Altogether, approximately 2600 tons of plastic, paper, glass and metals were treated separately during 2004. Other waste streams collected separately during 2004 include end-
of life tyres (962 tons), used mattresses (5000 units), waste electrical and electronic equipment (80 tons), green waste (1535 tons), wooden pallets (521 tons), bulky waste (50,000 tons) and waste batteries and accumulators (18 tons). These items were collected through Government initiatives with little or no responsibility being shouldered by the private sector so far.

A 2003 NSO survey indicated that between 58 to 66 percent of the waste generated by households is biodegradable and in the Northwest, which is less urbanized, the fraction of biodegradable waste is even higher. The survey also indicates that 37 percent of municipal waste consists of packaging, which is still strongly coupled with economic growth and consumption patterns. In 2004, packaging waste caused approximately 3 percent of total waste generated (including C&D waste), whereas the total amount would be more than 90,000 tons by weight; the volume of packaging waste in the total MSW is significantly higher and may be >50%.

With regards to hotel waste, the 2003 NSO Hotel Waste Survey indicates that, on average, a tourist generates almost double the waste generated by a Maltese resident: whilst a resident living in a household generates an average of 0.68 kg of waste daily, a tourist residing in a hotel produces an average 1.25 kg of waste each day. Five-star hotels tourists generate more waste than other tourists; the average daily waste generated in a three- to five-star hotel room is 0.37 kg, while the figure for five star hotels is 0.42 kg. Hotel waste also contains more packaging: approximately 48 percent of the weekly average waste generated per room in three- to five-star hotels is primary packaging, and while 60 percent of household waste is biodegradable, hotel room waste is only 41 percent biodegradable.

Having more than 1 million tourists in Malta every year and assuming that the average tourist stays only for one week in Malta this corresponds to an average increase of waste producing people by 20,000. Taking into account the higher waste production by tourists compared to Maltese citizens, this would correspond to about 10 % of the overall production of household waste.

**Reduction of biodegradable waste:**

The EU-Landfill-Directive requests from member states to reduce landfilling of biodegradable waste in three steps. The first reduction of 25% has to be achieved until the year 2006. As Malta has landfilled biodegradable waste in 1995 to more than 80% it will make use of the possibility to
extend that goal by 4 years until 2010. The calculations for the reduction of biodegradable waste going to landfills are as follows:

Production of municipal solid waste in the Maltese Islands during 1995:

<table>
<thead>
<tr>
<th></th>
<th>Municipal Solid Waste, tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malta</td>
<td>127,000</td>
</tr>
<tr>
<td>Gozo</td>
<td>8,250</td>
</tr>
<tr>
<td>TOTAL</td>
<td>135,250</td>
</tr>
</tbody>
</table>

During the same year, the total quantity of municipal waste accepted for treatment at the Sant’ Antnin Composting Plant was 22,835 tons. The balance, viz. 112,415 tons, corresponding to 83.12% of municipal waste, was landfilled.

Paragraph (m) of Article 2 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste, defines "biodegradable waste" as follows:

“Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food- and garden waste, and paper and paperboard".

The composition of municipal waste that resulted from a study carried out in the period March 1996 to May 1997 was as follows:

<table>
<thead>
<tr>
<th>Specific Weight, Kg/m³</th>
<th>272</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractions, % by weight:</td>
<td></td>
</tr>
<tr>
<td>Plastic film</td>
<td>11.1</td>
</tr>
<tr>
<td>Plastic Water Bottles</td>
<td>1.1</td>
</tr>
<tr>
<td>Other Plastics Containers</td>
<td>2.0</td>
</tr>
<tr>
<td>Wood</td>
<td>1.4</td>
</tr>
</tbody>
</table>

---

Separate collection of recyclables:

In 2003, Government began to set up ‘*bring-in sites*’ at a local level, where the public can deposit clean dry recyclable waste (plastic, metal, glass and paper) in separate colour-coded bins. This initiative is the first of a series aimed at encouraging waste separation at source in line with various EU directives. This should reduce a significant part of municipal waste requiring final disposal in landfills.
By End of 2008, 226 bring-in-sites had been set up across the Maltese Islands, and this number should rise to a maximum of 400 within the next years. In addition, 200 bring-in-sites have been installed at schools. The use of these collection sites by citizen has increased significantly over the last years. Occasionally, however, problems arise with those citizens not wishing to have containers in the vicinity of their home or also with those local councils not able to identify sites for the containers in densely populated areas.

WasteServ Malta Limited reported that 2,228 tons were collected in 2006 at the existing bring-in-sites with the following amounts of wastes being collected separately (in kg):
Bring-in sites were also set up in private establishments and schools. Public participation in waste separation is on the increase, as indicated by the increasing amounts of recyclable waste collected. Most of the separated waste consists of light packaging waste, with the greater fraction of separated waste collected being exported for recycling following pre-treatment in Malta.

Over several years the collection of recyclables by bring-in sites increased steadily:

<table>
<thead>
<tr>
<th>Bring in sites</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>82.64</td>
<td>476.41</td>
<td>892.04</td>
<td>1084.76</td>
<td>1344.95</td>
<td>1793.37</td>
</tr>
<tr>
<td>Plastic</td>
<td>25.76</td>
<td>163.95</td>
<td>266.14</td>
<td>352.39</td>
<td>537.42</td>
<td>769.84</td>
</tr>
<tr>
<td>Cans</td>
<td>15.76</td>
<td>81.20</td>
<td>135.48</td>
<td>165.34</td>
<td>218.73</td>
<td>256.38</td>
</tr>
<tr>
<td>Glass</td>
<td>33.72</td>
<td>241.02</td>
<td>494.77</td>
<td>632.75</td>
<td>897.39</td>
<td>1287.28</td>
</tr>
</tbody>
</table>

Waste Deposited at Bring in Sites 2003-2007 (tonnes)

In 2008 Malta started its **Recycle Tuesdays’ Initiative**. Every Tuesday the collection from households is limited to dry recyclable waste (paper, cardboard, plastic, metal cans) in semi-transparent plastic bags. During its initial period it managed to collect 140 tonnes per week, which would make 7280 tonnes if extrapolated to 52 weeks.

It is evident that if one were to compare the amount of paper, plastic and cans collected via bring in sites in 2007 (2101.1 tonnes) and compare it to a straight line annual projection
Based on the maximum amount of waste achieved during the first four weeks of the Recycle Tuesday initiative (6026.8 tonnes), it appears that this latest initiative has the potential to increase the amount of separated waste that is collected separately. Figures for 2008 show an increase in the amount of waste deposited at bring in sites, a fact which so far complements other separation initiatives.

With regards to waste batteries and accumulators from households, around 100 tons collected from various outlets in Malta were exported to France for recovery.

Civic Amenity Sites (CAS), which are supervised facilities where the public can bring a variety of household (mainly bulky) waste, including old furniture, waste electrical and electronic equipment and garden waste, are also in the implementation stage. Between 2004 and 2006, Malta stood to benefit from 4.6 Millions Euros in Structural Funds to set up the necessary facilities that will help the further implementation of source segregation and the separate collection of waste. Until end of 2008 in Malta 4 CAS started operation, a fifth CAS is to be opened in Gozo.

In addition, a pilot project to collect used cooking oil for it to be converted into bio diesel was launched in May 2005. While being a more environmental-friendly way to recover such waste oil, this project produces a biodegradable fuel that generates lower emissions than petroleum diesel when used in a combustion engine.

As certain wastes are no longer accepted at the landfill, WasteServ Malta Limited has organized separate collection and treatment/recycling at private companies in Malta. Mattresses and tyres are shredded by private facilities. The shredding of mattresses has been pursued since 2005 with an amount of several hundreds of mattresses per month and a weight of several tons per month (e.g. in November 2005: 142 mattresses were shredded with a net weight of 6.75 tons). The shredding of tyres has been pursued since 2004 with the resulting materials being sent for recycling or reuse in a number of activities. This is in line with one of the requirements stipulated in the Landfill Directive.

Intensive public awareness and education campaigns accompanied these activities. Economic measures are also being introduced; the eco-contribution on non-biodegradable plastic bags
Aims at reducing bag use by 20 millions (the first quarter of 2005 already witnessed a reduction of 5 millions).

A new activity by government is the Initiative Regarding Plastic Carrying Bags:

The initiative aims to stop the practice of having such bags distributed for free thus encouraging the consumer to reduce or to eliminate their use. New obligations are imposed on producers and importers:

- Whoever produces or brings into Malta plastic bags and who is therefore already required to register in terms of Eco-contribution Act, would now be required to print on each side of a bag name and address, ECO-number and batch number of the consignment;
- Any person who purchases plastic bags to supply them to consumers has to ensure that he is provided with a certificate by the producer (to avoid illegal marketing);
- On the fiscal receipt the price for every plastic bag has to be printed.

Sanctions are foreseen for those who supply plastic bags to consumers without the mentioned conditions. Offences shall be prosecuted by fines of not less than €1,000 for the first time (higher in case of repeated offences).

In a drive to crack down on widespread illegal dumping and littering, Government issued the Abandonment, Dumping and Disposal of Waste in Streets, and Public Places or Areas Regulations, 2005 (L.N. 344 of 2005), which is a new legislation that has significantly raised fines and will enable ‘green wardens’ to enforce these Regulations.

### 2.3.2 Industrial waste

Most hazardous waste comes from industry and from small and medium size enterprises.

The amount of hazardous waste going to landfill has declined substantially since 1999, and since 2003 this type of waste has been retained on site at the waste generator or exported through private initiative. This activity ensued as a result of new national procedures being introduced pending the establishment of a national hazardous waste treatment facility and a hazardous waste landfill. Although hazardous waste generally makes up less than one percent
of all waste generated in Europe (including Malta), it represents a serious risk to the environment and human health if not managed and treated safely.

There is presently no comprehensive inventory available with the amounts of industrial and/or hazardous wastes that are produced, their sources of generation and their final destinations. The only sources of data are wastes entering the waste management facilities operated by WasteServ Malta Limited, the hazardous waste consignment note system for waste being transported in Malta and the transfrontier shipment of waste system for wastes being exported legally out of Malta.

In 2005, in a project entitled “Hazardous waste inventory in Malta” funded under the Technical Assistance and Information Exchange (TAIEX) programme, an expert from Germany was mobilised to develop a plan aimed at monitoring and controlling producers of hazardous wastes in order to get a comprehensive picture about generation of industrial waste in Malta.

The Malta Environment and Planning Authority and WasteServ Malta Limited have been the beneficiaries of a Twinning Light project MT04EN08TL entitled "Hazardous waste inventory and technical assistance in regulatory aspects of hazardous waste management". The twinning partner was Austria. The results of this project will serve to enhance the ability of the Malta Environment and Planning Authority and WasteServ Malta to manage hazardous wastes and provide Malta with the capacity to comply with monitoring and inventory obligations pursuant to the relevant EU Directives and Regulations.

The project resulted in:

- an assessment of the current situation in respect of hazardous waste in Malta;
- information of producers, operators and other stakeholders of hazardous waste on relevant obligations in the field of hazardous waste management and on the registration of hazardous waste;
• generation of a national digital inventory of hazardous waste generated in Malta;
• proposals for legislative, policy and administrative measures;
• training government officials in the inventory of hazardous waste and in the use of related data management and monitoring systems.

The generation and movement of all waste, including hazardous waste, is now being controlled through the introduction of new permitting systems, which ensure that environmental safeguards on waste-related activities are set up, monitored and enforced. MEPA has a hazardous waste consignment procedure in place. A consignment note must accompany every movement of hazardous waste. All persons wishing to transfer hazardous wastes within the Maltese Islands should first apply for a permit on an appropriate form (CP form). Following the issue of the CP permit, all subsequent waste movements authorised under this permit need to be notified to the Authority on the CN form.

The permitting system will also provide information to feed into a National Waste Register. Permitting has initially targeted the infilling of disused quarries with inert waste; the land filling of non-hazardous, non-inert waste; the transfer of waste (particularly hazardous waste and problematic waste such as animal carcasses) between the producer and treatment facilities, and the shipment of waste. Permits are also issued for facilities falling under Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (IPPC), as amended.

A waste registration system is being set up to cater for low-risk activities that may involve smaller quantities of waste. This will allow the registration of the large number of waste carriers in the Maltese Islands.

Cognisant of the small amounts of hazardous waste that may be generated by a significant number of operators in Malta, and the need to facilitate its interim storage prior to disposal, Government remains committed to provide interim storage and pre-treatment facilities prior to export at the hazardous waste landfill at Ghallis and/or local treatment at the Marsa abattoir of hazardous waste generated in the Maltese Islands.

2.3.3 Construction and demolition waste

The high share of construction and demolition (C&D) waste in Malta’s total waste generation (84%) may be related to excavations for major development projects. In Western Europe in
2002, construction, mining and quarrying waste made up 55 percent of the total waste generated, while municipal waste was equivalent to 14 percent. Although the amount of C&D waste collected has fluctuated greatly between 1996 and 2004, and reductions are evident at times, the trend has been one of marked growth, with an overall increase of 112 percent since 1996.

Despite efforts to reduce this waste, the tonnages registered continue to be high. Whilst the total landfill capacity required in future will be influenced by further emphasis on reduction and prevention, a need for continued disposal of substantial volumes of surplus inert material will remain.

Since July 2003, inert waste has no longer been deposited at the Maghtab or Qortin dump sites.

This was made possible through the awarding of a five-year contract to a private entity to rehabilitate disused quarries by infilling with inert material. In 2004, the large part of Malta’s inert waste (98 percent) began to be deposited in approved disused quarries, thus reducing pressure on other waste management facilities and ensuring that inert waste is not contaminated by other waste fractions.

Between May 2003 and May 2005, 3.3 million tons of this material was deposited in 14 quarries situated around the Maltese Islands.

As from January 2005, the subsidy on the disposal of C&D waste was removed and therefore the waste generator now pays the true cost for the disposal of the waste that is generated. This should result in a positive effect in the prevention of waste. The space available is decreasing.
One option government is currently considering is using C&D waste for land reclamation. There are 2 feasibility studies carried out by MEPA for land reclamation to create artificial islands.

Government remains committed to:

- increase the observance of waste-avoiding measures in the construction planning phase;
- explore ways how best the useful life of buildings and parts thereof may be prolonged;
- provide assistance on the use of recycled materials in the construction of new buildings; and
- give advice on toxicity of construction materials before licensing.

Recommendations for further improvements have been provided in 2008 as part of a Twinning Project MT05-IB-EN-01 –Recycling of Construction and Demolition Waste in Malta- between Malta and the Austrian Federal Environment Agency. Government intends to follow this through the issue of a Topic Paper with a view to outlining strategies for this waste stream.

### 2.3.4 Waste from Agriculture and Fisheries

Waste from Maltese agriculture which has to be disposed of comprises among other abattoir wastes. The estimates for 2005 are as follows:

- Pork: 2,700 tonnes
- Beef: 315 tonnes
- Fallen stock: 350 tonnes
- Blood: 1,500 tonnes

Abattoir wastes are estimated to be approximately 5,000 tonnes per year (pork-, beef-, fallen stock- and blood-waste).
Some of those wastes went for incineration in a mobile abattoir incinerator with a capacity of 700-800 tonnes per year.

This device has been replaced by a larger abattoir incinerator (capacity of 1.5 tonnes per hour), which is still in test operation.

Category 3 wastes are currently landfilled. All such consignments require authorization from MEPA.

Waste from fishery in 2005 was estimated to 620 tonnes, mainly from off shore fish farms. Some of these wastes are dumped at sea as a feed for marine sea life.

The total amount of agricultural waste (with the exemption of manure) is estimated at 7000 tonnes (fallen stock, abattoir waste, fish waste and other waste from food industry).

Other wastes from agriculture are no longer usable fertilizers and pesticides (no data available about types and quantities), or agricultural plastic foils which created problems with recycling due to contamination with soil and plant residues. For two consecutive years WasteServ organized the collection and recycling of agricultural plastics.

2.3.5 Waste from Port and Airport reception Facilities

Most vessels deliver their solid waste either at ports chosen by their owner or at ports where the waste collection is free. A survey carried out in 2003 identified that over 93% of the vessels visiting Maltese waters requested the collection of waste from ashore. Sadly, at that time none of this waste was delivered separate to public licensed facilities.

During 2005 the number of ships calling at the port of Valletta was 3,685. At the port of Marsaxlokk the respective number was 2,717.

All port or terminal operators were required to prepare a waste management plan with respect to the provision and use of port reception facilities in consultation with all stakeholders by November 2004. The waste management plan is to comply with all the requirements of Schedule 1 of Legal Notice 278 of 2004 “Port reception facilities for ship-generated wastes and cargo residues regulations”. These regulations further require that
the Master or the agent of a ship notify the Malta Maritime Authority about the waste on board and the arrangements needed.

Malta Maritime Authority has prepared and published a National Port Waste Management Plan for all ports, harbors and marina operations in Malta. It outlines among others the requirements for port waste reception facilities (for waste oils, garbage, sewage).

The Ministry for Competitiveness and Communications has reported that so far 18 individual waste management plans have been submitted for the port areas in Malta and Gozo.

Following a questionnaire sent to terminal operators and a collation for the respective year shows the following amounts of wastes being collected and transferred to recycling or disposal:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>GARBAGE (m³)</td>
<td>952</td>
<td>966</td>
<td>1,146</td>
<td>1,525</td>
<td>2,777</td>
</tr>
<tr>
<td>OILY WASTE (m³)</td>
<td>66,914</td>
<td>46,941</td>
<td>34,968</td>
<td>40,091</td>
<td>57,365</td>
</tr>
<tr>
<td>SEWAGE (m³)</td>
<td>460</td>
<td>610</td>
<td>510</td>
<td>710</td>
<td>810</td>
</tr>
</tbody>
</table>

All sea going vessels have to pay fees to contribute towards the costs of handling of ship-generated waste in an effective and environmentally friendly manner. Exemptions are for vessels which can prove that they have discharged their waste to an approved waste reception facility in Malta or in a Community port.

Solid waste from the operation of Malta International Airport (MIA) is collected separately in bins (paper, cans, plastic, residual waste) and transported to Sant Antnin for sorting and preparation for recycling. Waste from Air Malta aircrafts arrives unsorted; some foreign carriers have to take their waste back to their airport of origin.
For the year 2005 MIA has collected 38 tonnes of cardboard-, 1.2 tonnes of plastic-, 2 tonnes of glass-, 4 tonnes of paper- and 3.9 tonnes of metal-wastes.

Waste from the maintenance of aircrafts and airport facilities is disposed off similar to industrial waste. There is no data available about types and amounts of those wastes.

2.3.6 Sewage sludge

There are currently three Sewage Treatment plant in operation in Malta. One old one is the Sant Antnin Sewage Treatment Plant. This plant is not equipped with a sludge line and thus any primary sludge (from primary settlement tanks) and surplus activated sludge (from bioreactors) is being pumped back to the sewage network. The volumes and quality of this sludge are not measured, however it is estimated that should this sludge be in fact thickened and dewatered to a dry solid content of 25% this will equate to about 7,040 tons per annum.

This plant is intended to be phased out within a year or two from the date of commissioning of the new planned Malta South plant.

Two new plants, one in Gozo and one in Malta-North have recently started operation.

2.3.7 Clinical Waste

The Health Division’s “Clinical Waste Management Plan of 2001” from the Ministry of Health, the Elderly and Community Care remains the guiding policy for all public healthcare institutions and has also been disseminated to private stakeholders as a recommended guidance document.
Since several years a policy of clinical waste (CW) segregation at source as well as CW minimization has been spearheaded. As a result previous projections on CW volumes could be reduced over the past 5 years.

Presently (2005) around 2 tons of CW has been collected per day, mainly within the central St. Luke’s Hospital and by collections from peripheral public as well as private healthcare entities. CW from other entities than St. Luke’s Hospital are transported to Sant Antnin, stored there in a cooled facility and transported in larger batches to St. Luke’s Hospital for incineration. Comparison with data from other parts of Europe lead to the conclusion that the generation rate of CW in Malta, both on a kg/head of population/day and kg/hospital bed/day basis are on the lower side.

The old CW incinerator at St. Luke’s Hospital did not comply with the EU regulations on waste incineration. It was intended to shut down this facility and to replace it by a new incinerator at the new Mater Dei Hospital. This process was postponed in 2006 pending a decision regarding the upgrading of the new abattoir incinerator facility to additionally process waste streams arising from healthcare facilities.

The old incinerator at St. Luke’s was shut down in December 2007 with the onset of operations on the incinerator at the Civil Abattoir which is capable of treating this waste stream.

2.3.8 Waste Oil

Waste oil arises from many industrial, commercial and private activities. Major sources for waste oil in Malta are engine oil from cars and other combustion engines, hydraulic oils, bilge oils from ships and water-oil mixtures from tank cleaning.

On a small scale waste oil might be used illegally as a fuel or dumped to the ground or discharged into the sewer or directly into the sea.

In order to avoid illegal dumping practices and to collect all arising waste oil, separate collection had started rather early in Malta (in the 60'ies). There are two mayor systems operating:

A private company in Malta (Waste Oils Company Ltd) offers professional tank cleaning, collection of waste oils, bilge water and ballast from all sectors of marine industry.

The company has reported of having collected in 2005 around 15,300 m$^3$ of waste oil including oil-water emulsions. Around 14,000 m$^3$ came from vessels (oil-water mixtures) and 1,300 m$^3$ from local industry. In a modern treatment facility the water-oil mixtures are dewatered, dried and sedimented in order to get clean waste oil. The result of this treatment facility is almost 5,000 m$^3$ of oil that has been recovered. This purified waste oil is stored in tanks.

The collection and treatment of waste oil is financed partly by contributions from the importers of fresh lube oil. The amount of 0.24 EUR per liter is paid directly from the importer of the fresh oil to the recycling company. They refund 0.12 EUR for every liter of waste oil they get back from a customer. This acts as an incentive for waste oil producers (like car owners, repair shops, garages, marinas) to deliver their waste oil to the recycling company.

Imports into Malta of lubricating oils and other oils which might become waste oil after use amount to several thousand m$^3$ per year. Data from the Central Office of Statistics for the year 1999 indicate 3,609 m$^3$. These amount could have increased due to increased population, but at the same time intervals to change lube oil from more modern cars and other engines have been prolonged. As a rough estimate one can assume that approximately 30-50% of lubricating oils will be burnt/lost during the operation of a combustion engine. The total amount of waste oils would be smaller than the amount of fresh oils.

The small market for oils in Malta does not allow refining waste oil into base oil for the production of new lubricating oil. Therefore the waste oil is sold to industry for combustion and substitutes primary fuel. Presently this market for incineration is also limited which affords to store larger amounts of purified waste oil in large tanks.
A waste oil service is operated also by Malta Shipyards Ltd. which inspects vessels and collects bilge and ballast water from ships, entering the harbors of Malta.

The collected waste oil is stored in tanks for dewatering and sedimentation. Further dewatering takes place by steam heating.

Malta Shipyards has reported for the year 2005:

- Slops and washing directly from ships berthing at their installation: 4,513 tonnes
- Bilges/slops etc. from vessels at Malta Shipyards: 1,535 tonnes
- Oil recovered and used in the own facility boilers: 400 tonnes
- Oil recovered and sold for re-use: 1,047 tonnes.

Waste oil has to be stored to a large degree due to the limited market for secondary fuels.

2.3.9 PCB-Waste

The European Directive on PCB/PCT (96/59/EC) has been transposed in Malta in 2002 by the former Minister for Rural Affairs and the Environment by Legal Notice 166/2002 entitled *Waste Management (Polychlorinated Biphenyls and Polychlorinated Terphenyls) Regulations, 2002.*

Limited quantities of polychlorinated biphenyls (PCB) and polychlorinated terphenyls (PCT) have been identified in Malta. The volumes and current storage locations of equipment containing more that 5dm$^3$ of PCB/PCT contaminated oil became known through an inventory process conducted in 2001.

Two local organizations submitted a declaration indicating they have equipment containing PCB/PCT or oils contaminated with PCB/PCT in storage.

The first case is a quantity of 45,500 liter of oil contaminated with PCBs/PCTc. The second case is capacitor containing 6 liter of oil contaminated with PCBs/PCTs.
In the first case an analysis has been commissioned of a composite sample of the PCB/PCT contaminated oils currently in storage. This analysis revealed that the concentration of PCB/PCT in the oils is less than 0.005% by weight. Oils containing less than 0.005% by weight of PCB/PCT do not fall within the scope of Council Directive 96/59/EC on the Disposal of Polychlorinated Biphenyls and Polychlorinated Terphenyls (PCB/PCT). Since the analysis were conducted on a composite sample of six out of forty-six (46) intermediate bulk containers (IBCs), a more detailed investigation of all 46 containers currently in storage is required.

As there are no facilities for the treatment and/or disposal of PCB/PCT in Malta, treatment and/or disposal needs to be conducted at authorized facilities overseas.

PCB/PCT may also be contained in old models of electrical appliances (washing machines, refrigerators, lighting equipment, etc), which may have parts (capacitors, condensers, etc) with less than 5 liter (5 dm\(^3\)). In the past such equipment which might contain PCB-capacitors has been disposed of by landfilling, exported for disposal/recycling abroad or large household equipment, cars or other machinery has been shredded in order to separate and recycle metals.

2.3.10 Other Waste

Asbestos

Waste which contains asbestos is hazardous waste. Such waste arises from former roofs of sheds, from thermal insulation material in ships and other devices or buildings, from pipes or water tanks.

Some 2000m\(^3\) of asbestos containing waste is estimated to be in storage awaiting disposal. Additionally, it is estimated that some 5000m\(^3\) of this same material remains installed and will eventually be dismantled as refurbishment works on the older building stock are gradually carried out.

Several private companies are authorized by MEPA to collect, transport and pack such wastes for shipment. Hazardous waste should be disposed of in landfills for hazardous waste (land fill category 3). No such landfill is existent presently in Malta.
Therefore, over the past years several thousand tons of waste containing asbestos have been notified with and exported to another EU member state (Germany) for ultimate disposal. In 2005 a total of 67.4 tons of waste containing asbestos have been exported.

Decision of the EU-Council from 2002-12-19 defines detailed regulations for the acceptance of hazardous wastes in landfills; this decision contains an exemption for asbestos waste, which may be disposed of also in landfills of category 1 or 2 in separate compartments (mono section) when special precautions are taken to avoid the emission of fibres. These conditions are fulfilled for the disposal of the exported waste in a landfill in Germany.

2.4 Implementation of Extended Producer Responsibility

Several categories of waste have been identified (through the relevant EU-Producer Responsibility Directives) for which the producers / manufacturers / importers of the products giving rise to such wastes should bear responsibility for arranging and paying for the management and disposal of waste products in accordance with relevant legislation. These include:

- used packaging materials;
- used batteries and accumulators;
- used mineral oils;
- end-of-life electrical and electronic goods; and
- end-of-life vehicles.

Furthermore, the Eco-Contribution Act (Act No XII of 2004) enacted in September 2004 puts greater emphasis on producers / importers to either develop recovery schemes or pay for the costs incurred by Government when the specific product ends in the general waste stream. In the case of the former, producers will have control over the cost structure of their own recovery scheme as opposed to paying for a central public service for which they do not have direct cost control. Recommended recovery schemes are to be analysed on various aspects. For example, Government needs to determine whether eco-contribution will be charged in full or in part depending on the firm commitment of the ‘take back’ scheme to recover products from the market. Apart from meeting the obligations, such schemes translate in an enhanced waste separation initiative thereby improving the overall quality of MSW.
At this stage, MEPA has drafted guidelines of how schemes are to be licensed with recommendations on how to waive the eco-contribution charge if responsibilities for waste are shared. Such guidelines detail how:

- recovery schemes should work; and
- binding measures are to be implemented and enforced.

These guidelines are awaiting Government approval.

### 2.4.1 Waste batteries and accumulators

The directive on Batteries and Accumulators Containing Certain Dangerous Substances, EC Directive 91/157/EEC, and its various amendments have been transposed into the national Waste Management (Batteries and Accumulators) Regulations 2002 (Legal Notice 158 of 2002).

The use of batteries and accumulators has increased significantly over the past years and is still increasing. Many appliances like IT-products (mobile phones, lap tops etc), toys, watches, tools, health care and sport and leisure equipment are operated by batteries or rechargeable accumulators. Many of these batteries and accumulators – even after the restriction of hazardous materials (heavy metals) in batteries through the EU-Battery Directive from 1991 - are dangerous and might jeopardize the environment when disposed off in landfills, the sea or the country side.

The total amount of batteries and accumulators brought into circulation annually in Malta is not known. The same is true for the total amount of waste batteries and accumulators which might arise in the whole country annually.
The following Table shows amounts of portable batteries/accumulators collected per month by WasteServ Malta in the years 2004 and 2005.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>887.46 Kg</td>
<td>1254.69 Kg</td>
</tr>
<tr>
<td>February</td>
<td>1254.28 Kg</td>
<td>1099.02 Kg</td>
</tr>
<tr>
<td>March</td>
<td>861.40 Kg</td>
<td>896.56 Kg</td>
</tr>
<tr>
<td>April</td>
<td>767.27 Kg</td>
<td>984.88 Kg</td>
</tr>
<tr>
<td>May</td>
<td>1516.72 Kg</td>
<td>951.88 Kg</td>
</tr>
<tr>
<td>June</td>
<td>963.46 Kg</td>
<td>1,653.72 Kg</td>
</tr>
<tr>
<td>July</td>
<td>754.28 Kg</td>
<td>2,107.10 Kg</td>
</tr>
<tr>
<td>August</td>
<td>746.14 Kg</td>
<td>384.64 Kg</td>
</tr>
<tr>
<td>September</td>
<td>1032.01 Kg</td>
<td>1,296.56 Kg</td>
</tr>
<tr>
<td>October</td>
<td>1069.14 Kg</td>
<td>1,410.98 Kg</td>
</tr>
<tr>
<td>November</td>
<td>1178.96 Kg</td>
<td>691.98 Kg</td>
</tr>
<tr>
<td>December</td>
<td>958.96 Kg</td>
<td>518.44 Kg</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>11,990.08 Kg</strong></td>
<td><strong>13,250.45 Kg</strong></td>
</tr>
</tbody>
</table>

WasteServ Malta runs a battery collection scheme in which appreciable amount of dry cell batteries (approximately 1.5 tonnes per month) have been collected from some 500 retail outlets, 160 schools and various offices and other institutions. The collected batteries are packaged in plastic drums and then partly stored at Sant Antnin Recycling Plant and exported for recycling. Otherwise uncollected batteries generally arise as a constituent of MSW and similar commercial / industrial solid wastes and are landfilled.
Large lead-acid accumulators (like starter batteries for cars and boats) have a positive market value and are collected by garages, repair shops or marinas and are exported for recycling to OECD-countries. WasteServ Malta also collects accumulators at Sant Antnin for pre-treatment, storage and export for recycling.

WasteServ Malta also organizes regularly campaigns and programs to inform citizens as well as commercial enterprises why separate collection of batteries and accumulators is necessary and to motivate them to take use of the existing separate collection systems.

2.4.2 Packaging Waste

Approximately 1.6 million tonnes of waste was generated in Malta during 2002, an estimated 62,000 tons of which was packaging waste. This was composed of 27,500 tons of paper and board, 15,500 tons of plastics, 10,000 tons of glass, 5,000 tons of other packaging materials, and 3,550 tons of metals. These data are estimates based on several assumptions and try to come as close as possible to the real situation. Only very little of these amounts of packaging waste went for recycling in these days. The further development of packaging waste was calculated in a scientific study from 2001, taking into account further development of population and standards of living and consumption patterns. Three different methodologies had been used in order to estimate the total packaging waste load in Malta. It came to the following projections:
Overall packaging waste and material specific packaging waste projections for the period 2004 – 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Packaging Waste Projections</th>
<th>Glass Packaging Waste Projections</th>
<th>Metals Packaging Waste Projections</th>
<th>Plastics Packaging Waste Projections</th>
<th>Paper and Board Packaging Waste Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>68,000</td>
<td>11,000</td>
<td>3,700</td>
<td>16,250</td>
<td>30,500</td>
</tr>
<tr>
<td>2005</td>
<td>69,147</td>
<td>11,222</td>
<td>3,750</td>
<td>16,500</td>
<td>31,331</td>
</tr>
<tr>
<td>2006</td>
<td>73,000</td>
<td>11,550</td>
<td>3,800</td>
<td>17,500</td>
<td>33,000</td>
</tr>
<tr>
<td>2007</td>
<td>76,000</td>
<td>12,500</td>
<td>3,900</td>
<td>18,000</td>
<td>34,500</td>
</tr>
<tr>
<td>2008</td>
<td>82,924</td>
<td>12,700</td>
<td>4,000</td>
<td>22,424</td>
<td>36,000</td>
</tr>
<tr>
<td>2009</td>
<td>86,042</td>
<td>13,400</td>
<td>4,100</td>
<td>23,042</td>
<td>37,500</td>
</tr>
<tr>
<td>2010</td>
<td>89,060</td>
<td>13,827</td>
<td>4,145</td>
<td>23,787</td>
<td>38,819</td>
</tr>
<tr>
<td>2011</td>
<td>92,288</td>
<td>14,400</td>
<td>4,300</td>
<td>24,288</td>
<td>40,000</td>
</tr>
<tr>
<td>2012</td>
<td>95,416</td>
<td>14,800</td>
<td>4,450</td>
<td>24,916</td>
<td>41,500</td>
</tr>
<tr>
<td>2013</td>
<td>98,549</td>
<td>15,400</td>
<td>4,550</td>
<td>26,049</td>
<td>43,000</td>
</tr>
</tbody>
</table>

At the same time (2001) targets for recycling and recovery have been proposed on the assumption that energy recovery, through waste incineration, would form part of Malta’s waste management strategy. Assuming different targets for different packaging materials and taking into account the targets in the EU-packaging directive from 1994, the overall total recycling and total recovery targets for all material types had been estimated to be.

- **Recovery:** 62% (Directive target: 50-65%)
- **Recycling:** 17% (Directive target: 25-45%)

The performance of existing recycling and recovery at that time was less than 5% combined. A five year period seemed to be necessary to meet the above targets. This time period was far too optimistic.

Little progress took place during the years afterwards. Major reasons are that in Malta no facilities existed for recycling glass, paper, plastic or metals (no market available on the Maltese islands). Separately collected packaging material is to be exported at high costs. In the meantime only small amounts of plastic material can be recycled in Malta by Maltese companies. Broken pallets (wood) are commonly used as secondary fuel.

When Malta acceded into the European Union on May 1st, 2004, more emphasis was necessary to achieve the European targets for packaging and packaging waste. The at that time responsible Minister for Rural Affairs and the Environment has enacted the European Directive
on packaging and packaging waste (94/62/EC) by his Legal Notice 98 of 2004 [superseded by LN277/2006]. Some exemptions are valid temporarily. The regulations did not apply, until 31st December, 2007, to packaging of non-alcoholic beverages, as defined in the Non-alcoholic Beverages (Control of Containers) Regulations, of 1998. Until such date, such packaging have been regulated by the Non-alcoholic Beverages (Control of Containers) Regulations, 1998. CO₂ containing refreshment drinks were only allowed in Malta in refillable containers. This exemption was based on a provision in the accession treaty for Malta when joining the EU. It intended to protect refillable systems against competition from non refillable containers - which have to be seen less environmentally friendly - and allowed national producers to adopt themselves to the challenges of the single European market. Another provision in the accession treaty for Malta contains the possibility, to attain the recycling and recovery quotas of the EU-Packaging Directive with some delay (until 31 December 2008).

The second amendment to the original EU-Packaging Directive aims at granting Member States having acceded to the European Union by virtue of the Accession Treaty of 16 April 2003, a further, but limited, postponement of the attainment of the targets referred to in paragraph 1 points (b), (d) and (e) of Article 6 of the original Packaging Directive as amended. Malta may postpone the attainment of these targets until a date of its own choosing which shall not be later than 31 December 2013 (instead of 31 December 2008).

Collection and recycling/recovery of recyclables from MSW are done by or on behalf of WasteServ Malta. This is the only reliable source of data. Results for the year 2005 are shown below:

**Contribution achieved in Malta during the year 2005 for overall recovery**

<table>
<thead>
<tr>
<th>RECOVERY</th>
<th>Projected Packaging put on the Market (tonnes)</th>
<th>Target for 2005 (Minimum)</th>
<th>Quantified Target for 2005 (Minimum)</th>
<th>Quantity Recycled for 2005 (tonnes)</th>
<th>Target Reached 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastics</td>
<td>16,500</td>
<td>n.a.</td>
<td>n.a.</td>
<td>395.03</td>
<td>n.a.</td>
</tr>
<tr>
<td>Metals</td>
<td>3,750</td>
<td>n.a.</td>
<td>n.a.</td>
<td>733.69</td>
<td>n.a.</td>
</tr>
<tr>
<td>Glass</td>
<td>11,222</td>
<td>n.a.</td>
<td>n.a.</td>
<td>0</td>
<td>n.a.</td>
</tr>
<tr>
<td>Paper and Board²</td>
<td>31,331</td>
<td>n.a.</td>
<td>n.a.</td>
<td>2966.08</td>
<td>n.a.</td>
</tr>
<tr>
<td>Overall</td>
<td>69,147</td>
<td>28%</td>
<td>19,361</td>
<td>4094.80</td>
<td>5.92%</td>
</tr>
</tbody>
</table>

² Paper packaging includes all cardboard + 30% of the mixed paper.
Contribution achieved in Malta during the year 2005 for overall recycling and material specific recycling

**RECYCLING**

<table>
<thead>
<tr>
<th></th>
<th>Projected Packaging put on the Market (tonnes)</th>
<th>Target for 2005 (Minimum)</th>
<th>Quantified Target for 2005 (Minimum)</th>
<th>Quantity Recycled for 2005 (tonnes)</th>
<th>Target Reached 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastics</td>
<td>16,500</td>
<td>5%</td>
<td>825</td>
<td>395.03</td>
<td>2.39%</td>
</tr>
<tr>
<td>Metals</td>
<td>3,750</td>
<td>15%</td>
<td>563</td>
<td>733.69</td>
<td>19.57%</td>
</tr>
<tr>
<td>Glass</td>
<td>11,222</td>
<td>15%</td>
<td>1,683</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Paper and Board³</td>
<td>31331</td>
<td>15%</td>
<td>4,700</td>
<td>2966.08</td>
<td>9.47%</td>
</tr>
<tr>
<td>Overall</td>
<td>69147</td>
<td>25%</td>
<td>17,287</td>
<td>4094.80</td>
<td>5.92%</td>
</tr>
</tbody>
</table>

(The reason for zero recycling of glass was that no export took place; collected waste glass was just stored).

The data base for the collected materials does not distinguish between recyclables originating from packaging or from other sources. In Germany, e.g., it is assumed that the collected fraction of paper and cardboard consists of 25% of packaging paper/cardboard and of 75% of non packaging material (newspaper, magazines, brochures, printed matter etc.). Therefore, the actually achieved recycling or recovery quotas for packaging alone will be lower than listed above. More accurate data is not available.

In order to increase the activities for separate collection and recycling/recovery of waste, including packaging waste, Malta has launched an economic instrument, the Eco-Contribuion Law:

When putting packed goods on the Maltese market the producer or importer has to pay a certain amount of money as an eco-contribution to balance for the negative environmental impact these products and their packaging might generate. This should act as an incentive to reduce packaging.

A negative impact of this regulation was, that stakeholders “lean back, saying we have paid our contribution, now government is responsible for doing everything what seems necessary to be done for managing the packaging wastes”. When doing so they neglect their producer responsibility or reduce it to just paying an eco tax. As the present Eco-contribution regulation

³ Paper packaging includes all cardboard + 30% of the mixed paper.
does not distinguish between large or small or environmentally friendly or not friendly packaging, it fails to give a market based incentive for producers to improve their packaging design.

To facilitate the implementation and enforcement of the Eco-Contribution Act as well as to recommend recovery schemes, Government appointed an Eco-contribution Commission. This Commission had submitted its report to Government in February 2005. Their recommendations contained also possibilities of exemptions and refund under certain conditions.

MEPA in 2006 has published for public consultation a draft paper about authorisation/registration of schemes in order to start discussion about exemption/refund from eco-contribution, focussing on refund schemes for those who have achieved a certain recycling quota for the packaging waste they have generated. It proposes steps in the height of refund for the paid Eco-contribution, depending on the height of the achieved recycling/recovery quotas. A refund of 5% of the paid Eco-contribution should be possible if the responsible company can proof to have recovered at least 25% of the waste it has put on the Maltese market; the refund increases more or less linear until the maximum of 100% refund when 80% or more recovery have been reached.

A decision about the enactment of such a new regulation has not been made up to now.

Based on the Legal Notice 98 of 2004 it is possible that schemes act on behalf the individual responsibility of producers/importers to cope with the targets set out in the Legal Notice.

The Legal Notice 98/2004 with its weakness of enforcement has been replaced recently by legal Notice 277/2006 (which entered into force on March 1st, 2007) Among others, it transposes the higher recycling/recovery targets of the revised EU-Packaging Directive into Maltese Law. The new regulation establishes that each company needs to register itself with MEPA as a company which puts packaging on the Maltese market. At the end of each year each company must provide data about which amount of packaging it has brought into circulation. Companies must keep records about such amounts and about what they have recycled or recovered (on a quarterly basis). Members of a scheme must not register with MEPA but have to notify their participation, which shifts the burden of responsibility from companies to an authorized scheme.
It is to be expected, that this new regulation will produce much more transparency about who produces which amount of packaging waste and how and how far s/he or the scheme s/he has joined is coping with the necessary recycling/recovery targets.

In combination with the refund mechanism from paying ECO-contributions (mentioned above) which could reduce the costs for companies, because their fee for joining a scheme might be much lower, the new legislation should be able to improve the situation in Malta significantly.

In addition to the described situation, the Government, hoping to further increase the collection and recycling/recovery of packaging waste, has proposed to launch a “Mandatory Deposit Refund System” for certain beverage containers in Malta. Systems like the proposed one exist in several European countries, having different goals like protection of national refillable systems or reducing littering. The advantages and disadvantages for Malta of the proposed system of an additional scheme for collection of certain beverage containers at the retailer shops - in terms of ecology, economy and competitiveness - has created a very controversial debate which has the potential of scrapping such a system.

The EU-Twinning contract between Malta and Germany about Technical Assistance for the Development of Implementation Systems for the Producer Responsibility Directives (MT04-IB-EN-04) produced important recommendations for the implementation of the necessary regulations in an optimal ecological and economical sense.

### 2.4.3 End-of-Live Vehicles

The number of licensed cars in Malta is approximately 250,000. Many cars are used for a very long time (20 years and longer). However, Malta imports not only new cars but also a great number of used cars, which have already been used several years abroad. Therefore, it might be close to reality, to assume, that the mean lifetime of a car in Malta will be 10 years or more. This leads to a total number of cars
being decommissioned in Malta per year of around 25,000. The number of scrap cars, ending up at scrap yards, is, obviously, much smaller. The total number of scrapped cars in Malta during five years has been 27,898, where there have been strong fluctuations up and down. The highest number was 13,983 in the year 2005 whereas in the years 2002 until 2004 (and again in 2006) the numbers were significantly smaller.

Like from other European countries many old cars are exported as used cars (not a waste car but still a product) to other parts of the world. Obviously it is a problem how to distinguish between a used car (which is a product) and an end-of-life vehicle (ELV) which is a waste.

Disposal of ELV's in Malta takes place in the old fashioned way in several scrap yards where mainly metals (steel as well as non ferrous metals), lead-batteries and tyres are separated for recycling and/or export to be recycled abroad. The remaining waste from an ELV (shredder-light-fraction) goes to landfill. The treatment of ELV's as well as of other scrap in such scrap yards is not always in accordance with the requirements for the protection of the environment. The scrap yards have an (outdated) authorization, but they do not - in contradiction to their requirements - report about types and amount of scrap input and waste output. Therefore, no relevant data are available about the waste production from ELV's disposal or recycling.

Similar situations exist or existed in many other European regions. The European Directive on ELV's – 2000/53/EC – tries to avoid wastes from ELV'S and to improve the reuse and the environmentally friendly recycling/recovery.

This Directive has been enacted by the former Minister for Rural Affairs and the Environment by Legal Notice 99 of 2004. The Legal Notice takes over all requirements laid down in the Directive.

Following the principle of extended producer responsibility the importers of cars (there is no car production in Malta) are obliged to cope with the duties to take back ELV's and to drain them from liquid, to dismantle them and to achieve the targets for reuse, recycling and recovery. Malta has not asked for longer periods for the implementation of all these requirements.

According to article 11 of the Legal Notice 99 of 2004 the Competent Authority may exempt an economic operator from all or part of these regulations provided the economic operator provides evidence to the Competent Authority of participating in an authorized end of life vehicle collection and treatment scheme.
Several companies have applied at the Competent Authority for an authorization to act as an Authorized End-of-Life Vehicle Collection and Treatment Scheme (ELV-S). Until now, MEPA was not able to issue such an authorization to any of them. The economic operators themselves have not yet taken steps to take over their individual responsibility. Therefore, the implementation of the LN9972004 is at a stage where discussion between government and the operators are ongoing.

The EU-Twinning Contract between Malta and Germany about Technical Assistance for the Development of Implementation Systems for the Producer Responsibility Directives (MT04-IB-EN-04) gave advice to authorities and stakeholders how to improve the situation and to speed up decisions.

WasteServ Malta Ltd in collaboration with the Maltese Police started a pilot project to dismantle and destroy those cars in an environmental friendly way, which have been confiscated by the Police. Equipment was procured to remove all liquids from each car and safely dispose of it prior to the dismantling process. Recyclable parts of the car are then removed and sent for recycling while the other non-recyclable parts are sent for disposal. A destruction certificate is issued for each destroyed car and the registration vehicle number is returned to the ADT (Malta Transport Authority) as a proof of destruction.

### 2.4.4 Electrical and Electronic equipment

The Directive 2002/95/EC of January 2003 on the restriction of the use of certain hazardous substances in electric and electronic equipment (RoHS-Directive) has been transposed into national law by the Minister for Competitiveness and Communications, acting on the advice of the Malta Standard Authority, by Legal Notice 396 of 2004. This regulation came into force on the 1st of July, 2006. All definitions and regulations of the RoHS-Directive apply.

The Legal Notice sets up a committee to be set up by representatives from the Consumer and Industrial Goods Directorate of the Malta Standard Authority and from the competent body responsible for the environment. This committee follows the proceedings referred to in articles 5, 6 and 7 of the EU-Directive.
The former Minister for Rural Affairs and the Environment, after consultation with the Malta Environment and Planning Authority, has published on October 22\textsuperscript{nd}, 2004 draft regulations about the enactment of the Directive 2002-96-EC of January 27\textsuperscript{th}, 2003 on Electrical and Electronic Equipment (WEEE), as amended by Directive 2003/108/EC of December 8\textsuperscript{th}, 2003, allowing any person to make representations to the Director for Environment Protection of the Malta Environment and Planning Authority, stating how in his opinion the proposed regulations do not sufficiently respect the environment or how they are too restrictive or cause him/her hardship or economic loss and asking for a revision of such draft.

During this consultation process a lot of resistance against this draft regulation has been raised by producers, importers, retailers and the Maltese associations of industry, trade and commerce.

As a consequence it was not possible to find a political consensus about this draft legal notice.

WEEE is collected from households further on voluntarily by retailers (take back an old equipment when delivering a new one) or by local councils together with domestic waste or with bulky waste. The amount of WEEE going for recycling or recovery is not known in detail. The only figures available up to now are the amounts of WEEE delivered to the Sant Antnin plant (80 tons of WEEE in 2004, which corresponds to 0.2 kg per capita and year).

In Sant Antnin Plant, WEEE collected separately from retailers, from local councils and from commercial enterprises is stored intermediately, sorted, and is packed for export to foreign recycling plants. A certain amount of large household appliances is also recycled at local metal shredder facilities.

The remaining amounts of WEEE obviously end up at the landfill.

In February 2006 Malta has started the EU-Twinning Contract with Germany (MT04-IB-EN-04), which gave advice for the implementation of EU-regulations on producer responsibility.
German experts have investigated the situation in Malta together with responsible authorities and the relevant stakeholders and have made recommendations how in their opinion the WEEE-Directive should be enacted and implemented, taking into account the special situation in Malta.

In order to find practical solutions for questions of the implementation of the WEEE regulations in Malta, it was agreed to install a Task Force with representatives from the former Ministry for Rural Affairs and the Environment, the Maltese Environment and Planning Authority, WasteServ Malta and the most affected associations of industry, trade and commerce under the coordination of a German expert. The Task Force formulated recommendations.

These recommendations have been taken into account for further decisions.

2.4.5 Tyres

With effect from 2004, tyres were no longer accepted at the landfill. These are collected separately and recycled. There is no facility available in Malta for energy recovery or thermal treatment (no cement kiln, which in many other countries use waste tyres as a secondary energy source and substitutes fossil fuel). Transport of tyres from Malta (sea transport) to other countries is expensive.

The total amount of waste tyres can only roughly estimated.

Licensed cars in Malta, 2000
250,000
Number of tyres per car
5
Number of car tyres in use
1,250,000

Assuming the average life of a tyre is 5 years i.e. 6,000 miles per car per year considering that car tyres last 30,000 miles

Then, importation of car tyres per year is 1,250,000/5 = 250,000 tyres/year

Average NEW car tyre weight = 8.00 kgs
Average USED car tyre weight = 6.50 kgs

→ Used car tyres to be disposed of per year: 6.5 X 250,000 = 1,625 tons

Car tyres from dismantling scrap cars: 15,000 cars x 5 tyres each = 75,000 tyres
→ Total weight will make around 500 tons

In total it has to be assumed that approximately 2000 tons of waste tyres will arise per year

Composition of tyres:

<table>
<thead>
<tr>
<th>(%) weight</th>
<th>RUBBER</th>
<th>STEEL</th>
<th>TEXTILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car tyre</td>
<td>86%</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Truck tyre</td>
<td>85%</td>
<td>15%</td>
<td>&lt;0.5%</td>
</tr>
</tbody>
</table>

In order to give an incentive for recycling of tyres in Malta, the ECO- Contribution Law contains the provision that the consumer has to pay an ECO- Contribution of EUR 4.65 for each new tyre. WSM pays to recycling companies for every recycled tyre Lm EUR 2.28. Presently there is one company in Malta which has invested in machinery for shredding tyres to separate steel, rubber and fluff. The metal is exported for recycling. The rubber is grinded to rubber powder which is exported. The fluff goes to landfill. In the first year of operation of the plant (only a few months in 2004) approximately 1,000 tons of tyres were recovered and 500 tons of tyres have been processed for recycling. It is expected that these amounts will increase significantly during the next few years. The capacity of the plant is much higher and could recycle more tyres. Logistics for collection and transport of used tyres has to be improved in the future.

### 2.5 Dumping of waste at Sea

This chapter contains also information about materials which are not waste in the definition of the EU-Waste-Framework Directive.

#### Legal requirements

activities according to the provisions of the BCDP 1995 and of the London Convention Dumping Protocol 1996 (LCDP 1996) and to comply with the more stringent requirements as appropriate.

LCDP 1996 assumes that waste may not be dumped at sea, making exceptions for named types of waste, which may be dumped under strict conditions. In case that dumping at sea is considered, then the permit conditions have to evaluate potential effects on the marine environment, select appropriate dumping sites and conduct monitoring activities.

The guidelines from BCDP 1996 and from LCDP 1996 are considered.


Permits for dumping at sea may be issued by the Environmental Protection Directorate of MEPA and specify certain reporting obligations and may also cover liability for environmental damage. Other authorities are concerned (Planning Directorate of MEPA, Malta Maritime Authority, Civil Protection Department, Malta Resources Authority, Department of Fisheries and Aquaculture).

The current permit regime is quite complex, requesting permits of three different entities:

- Development Permit for designating of dumping ground and for dumping of waste arising from land or coastal developments
- Environmental Permit for normal dumping operations
- Waste Management Permit

A fee is charged per ton of dumping at sea in the official designated spoil ground.

MEPA recognizes dumping-at-sea as a temporary solution to the problems associated with the disposal of large amounts of inert waste in Malta.

Only inert and uncontaminated waste originating from construction and demolition activities may be accepted for dumping-at-sea. In former times this has not always been observed.

**Dumping Activities**

The local construction industry uses around 2 million tons of limestone per year. The corresponding construction and demolition activities produce a great amount of waste. The
options for recycling and disposing of construction and demolition waste in landfills or quarries are rather limited in Malta.

Also other waste has been or is currently being dumped at sea, falling under the following categories:

- Dredged materials
- Inert geological wastes arising from excavation and from demolition
- Fish wastes arising from fish farming activities
- Spoil cargo of ships of organic origin or spoilt grain
- Obsolete ordinance and ammunition
- Spent grit used for blasting in ship-repairs
- Wrecks to serve as artificial reefs.

In 2001 a total of 177,000 tons of dredged material and inert excavation waste were dumped at the official offshore spoil ground.

There is presently only one official dumpsite, located approximately 4 kilometers North-East of the main entrance to the Grand Harbour. The water depth is approximately 100m.

An estimate of annual amount of dumping is shown in the following table:

<table>
<thead>
<tr>
<th>Rough estimate of annual dumping [tonnes per year]</th>
<th>Inert waste (C&amp;D)</th>
<th>Inert geological material</th>
<th>Fish offal</th>
<th>Spoilt grain</th>
<th>Obsolete ordinance</th>
<th>Used grit for hull blasting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likely future</td>
<td>Varies</td>
<td>increasing</td>
<td>varies</td>
<td>Varies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 20,000 | 100,000 | 400 | 450 (may be more) | Approx 1 (but may vary up to 30) | No longer dumped at sea |
2.6 Shipment of Waste

As from 1st May 2004, 42 applications for export of non green-list waste were received; 20 permits have been issued, of which 14 were for shipments for disposal and 4 for recovery, 6 were to Germany, 4 to Belgium, 4 to the Netherlands, 4 to France and 2 to the Republic of Korea; 10 have been refused or withdrawn and 12 were still pending.

Waste that has been exported so far is as follows:

- 07 05 01*: Aqueous washing liquids and mother liquors;
- 07 05 04*: Organic solvents, washing liquids and mother liquors;
- 07 05 13*: Solid Production Waste – Tablets / Granules / Raw Material Samples;
- 07 05 14*: Solid Production Waste – Tablets / Granules / Raw Material Samples;
- 07 07 03*: Solvent Mixture;
- 08 03 12*: Waste ink containing dangerous substances (from MFSU of printing inks);
- 11 01 09*: Waste Water Treatment Sludges & Plating Sludges;
- 12 01 16*: Solid sandblast grit waste from cleaning and physical and mechanical surface treatment of rags;
- 14 06 02*: Solvent Mixture;
- 15 02 02*: Absorbents, filter materials (including oil filter not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances;
- 16 03 05*: Black pigment solution; off-specification batches and unused products – organic wastes containing dangerous substances;
- 16 06 01*: Lead-acid batteries, whole or crushed;
- 17 06 05*: Construction materials containing asbestos;
- 17 06 01*: Insulation materials containing asbestos;
- 18 01 08*: Miscellaneous expired medicines (Excluding psychotropics) in bottles, blister packs and aerosols;
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- 18 01 09*: Miscellaneous expired medicines (Excluding psychotropics) in bottles, blister packs and aerosols;
- 18 02 07*: Miscellaneous expired medicines (Excluding psychotropics) in bottles, blister packs and aerosols;
- 18 02 08*: Miscellaneous expired medicines (Excluding psychotropics) in bottles, blister packs and aerosols; and
- 20 01 33*: Batteries and accumulators not completely sorted.

The quantities of non green-list waste being exported were approximately 255 tons in 2004 (as from 1st May 2004) and 1,150 tons in 2005.

Green-list waste have been exported to the following countries for recovery: Italy; Netherlands; Denmark; England; Israel; Singapore; Hong Kong; China; Ireland; Cyprus; Indonesia; India and Pakistan.

Imports of waste for disposal in Malta have been prohibited with no exception.

The success, sustainability and profitability of waste treatment facilities attempting to recover resources necessitates the opportunity for the exporting of recyclable products and materials. Given the scale of the local market, recyclables would have to be exported. The current rates charged by port service providers significantly hinder the export potential of such products and undermines the feasibility of this market. Partial exemptions of port charges in the case of recyclables are needed to supplement the mission and the results obtained through the implementation of financial initiatives. Furthermore, a reform in port handling operations is needed to gain potential cost savings as a result of revised handling procedures and resulting charges.
2.7 Economy and Financing

Waste disposal fees being currently charged for waste management in Malta do not reflect the true cost, nor do they reflect the real total costs for recycling or disposing of the waste.

**Gate fees**

The gate fee at Ta Zwejra (now Ghallis) landfill for waste which is accepted there (mixed household and commercial waste with few exemptions) is presently as low as EUR 0.77 + VAT per tonne.

The same gate fee is charged at SAWTP (Sant Antnin Waste Treatment Plant) and at the transfer station in Gozo.

For waste mixed with inert waste (like construction and demolition waste) the gate fee at the landfill is EUR 4.66 + VAT per tonne (was 2.00 Lm). This shall prevent waste producers to deliver their mixed waste to the landfill which has a limited capacity. At SAWTP the gate fee for mixed waste is even EUR 23.30 + VAT per tonne (was Lm 10).

Inert waste (CDW) is accepted at authorized quarries at a gate fee of EUR 2.77 + VAT per tonne.

Clinical waste is accepted for treatment at the Marsa Thermal Treatment facility at a gate fee for CW of group A, B, C and D (pharmaceuticals) of EUR 500 + VAT per tonne CW of group D (pharmaceuticals and cytotoxic wastes) are not accepted. The gate fee for CW of group E which can be treated as non hazardous waste is EUR 50 + VAT per tonne.

SAWTP provides the service for the destruction by shredding of confidential documents at a gate fee of EUR 60 + VAT per tonne.

**Costs for industrial producers of hazardous wastes**

Presently, public waste management facilities for industrial and hazardous wastes are not available in Malta. Producers of such waste have to either find intermediate storage of their
Waste or export those wastes for treatment, recycling, or ultimate disposal abroad. The costs for such exports are rather high due to the need of packaging, inland transport to Maltese harbours, the harbour fees, the overseas transport and the final costs for managing Maltese waste abroad.

**Funding of waste fees**
Gate fees charged for the disposal of waste in the public facilities are directly paid by the waste haulers carrying the waste. Haulers are mainly private entities. Waste haulers have contracts or agreements with Local Councils for the collection of mixed MSW as well as other commercial entities. The rates being charged to the Local Council or commercial entity for the collection, transport and disposal of the waste varies, depending on the waste hauler, the disposal/treatment site and the gate fee being charged, the quantity of waste, etc... The local councils pay the contractor a global sum as agreed in the tender dossier offer for the waste collection activities.

**No fees for households**

The waste collection service (daily door to door collection of household waste, exempted since May 2008 on Tuesdays when dry recyclables are collected, and collection of bulky waste on request) which is offered to Maltese households by their Local Councils is free of charge to the Maltese citizens. All costs are borne by the Maltese Government which fully supports this service from the general tax income.

Examples for the amount and the trend of some of these services by local councils are shown in the following table (in Lm for the whole of the country).

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Lm</td>
<td>Lm</td>
</tr>
<tr>
<td>Refuse collection</td>
<td>1,194,922</td>
<td>1,323,206</td>
</tr>
<tr>
<td></td>
<td>(EUR 2,783,420)</td>
<td>(EUR 3,082,241)</td>
</tr>
<tr>
<td>Bulky waste collection</td>
<td>199,513</td>
<td>109,557</td>
</tr>
<tr>
<td></td>
<td>(EUR 464,740)</td>
<td>(EUR 255,199)</td>
</tr>
<tr>
<td>Bring in sites</td>
<td>5,693</td>
<td>13,447</td>
</tr>
</tbody>
</table>
Funding of separate collection systems
With significant funding by the European Union WasteServ Malta is installing a large number of bring in sites (up to 400) for the separate collection of recyclables (paper and cardboard, glass, metal and plastic) as well as five Civic Amenity Sites (CAS) which accept a larger number of separated wastes for further recycling or recovery. To date 4 CAS are in operation in Malta with a fifth expected to be in operation by mid 2009 in Gozo.

Waste from citizens is accepted without charging them. Commercial entities have to pay the same gate fee like at the SAWTP.

High costs for waste exports
Disposal of hazardous waste is presently a problem in Malta, because no disposal facilities are available for such wastes. Industry, therefore, has to store that waste intermediately on site before they get clearance for notified export to the European mainland or to other destinations for recycling, recovery or ultimate disposal.

Costs for such exports are rather high due to costs for packaging, transport to harbour, harbour fee in Malta, shipping to foreign harbour, harbour costs at the country of import (and transit), transport to waste management facility and finally recycling or disposal. Insurance costs and fees for notification apply in addition.
As most recycling activities for separately collected waste (paper and cardboard, glass, metals, plastic, batteries etc.) have to take place abroad, costs for export as mentioned above have to be added to the specific costs for recycling in the country of destination. Recycling of wastes from Malta is therefore much more expensive compared to most other European countries.

**The Eco-Contributions**

Malta has enacted an economic instrument in order to promote avoidance, reduction and recycling or recovery of certain wastes. This is the ECO-CONTRIBUTION ACT from September 1\textsuperscript{st}, 2004 [Act XII of 2004].

On certain products when placed on the Maltese market charges are levied, which are specified in an appendix to the act and which have been amended several times by Legal Notices since 2004.

The appendix to the act covers a non comprehensive selection of certain products, independent on the size or the actual problems or advantages for recycling, recovery or ultimate disposal of the wastes arising from those products at the end of their life time. The list covers mainly:

- Packaging for certain beverages
- Toiletries and washing preparations
- Tableware and kitchenware of plastic
- Chewing gum
- Ammunition
- Mattresses and articles for bedding
- Plastic bags
- Tyres
- Batteries and accumulators
- Lubricating oils
- Oil filters
- Electric and electronic equipment (not all compared to the WEEE-Directive)
- Toner and ink cartridges
The amount of the eco-contribution is different and lies – to give some examples- between Lm 0.01 (EUR 0.02) and Lm 0.05 (EUR 0.12) for certain packed goods, distinguishes between bio degradable (LM 0.01/EUR 0.02) and non bio degradable plastic bags (Lm 0.06/EUR 0.14), requests Lm 2.00 (EUR 4.66) for tyres and Lm 3.00 (EUR 7) for mattresses and is as high as Lm 5.00 (EUR 11.65) for monitors, Lm 10.00 (EUR 23.3) for fridges, dish washers or washing machines, Lm 15.00 (EUR 35) for colour TV and as high as Lm 30.00 (EUR 70) for dispensing machines.

Producers
- may be exempted from the payment of the eco-contribution, in part or in whole, or
- may be granted a credit of the contribution paid on such products in whole or in part, against eco-contributions which may fall due in future,

if the producer provides or participates in an approved scheme for the recovery of waste of the respective products.

A draft regulation for a refund scheme has been sent out for consultation in 2005. Producers who would prove recovery of waste arising from products for which they have paid eco-contribution should get a refund of 5% of the paid contribution when having recovered more than 25% in weight of these waste products; this refund would increase more or less linearly until a maximum refund of 100% for recovering more than 80% of the waste products. No exemptions from eco-contributions have been foreseen in this draft regulation.

As mentioned in chapters of this plan about extended producer responsibility government intends to grant exemptions from eco contributions for those entities or schemes which can proof that they have taken over full responsibility for the recycling and recovery of waste products of that kind they had brought into circulation in Malta, and that they have achieved all targets of the relevant regulations.

The final regulation about a refund scheme or an exemption scheme is still pending.

3. Planning Procedure

One of the obstacles against an environmentally friendly management of wastes in Malta is the support that Government is providing for the waste management in Malta through the general taxation system. The present charge of Lm 0.33 (EUR 0.77) + VAT per ton of waste being
disposed of in the landfill cannot reflect the total costs for landfilling. Currently, the true cost for waste disposal generated in Malta, including households, commercial and industrial waste, is supported by the tax payers, directly or indirectly.

A few number of industries are currently exporting their hazardous waste for treatment at very high costs.

Considering that approximately 80% of the waste disposed of in the landfill was C&D waste, Government shifted the disposal of this inert material from landfilling to land reclamation of empty quarries.

Further to this, the true cost for this waste treatment is being gradually increased so that the true disposal cost is covered by the waste producers themselves.

However, waste producers in Malta have presently no economic incentive to avoid or to reduce their wastes or to participate in separate collection schemes. Also commercial enterprises have no financial incentives to reduce their production of wastes as long as this waste can be disposed of at very low tipping fees. The situation is different for the industrial waste which can no longer be disposed of in Malta but must be exported for recycling or disposal at high costs.

Malta must ultimately aim towards ensuring full cost recovery of all its existing and new waste management facilities without causing any significant social or economic disturbances. WasteServ Malta Limited was created with the main objective of providing waste management facilities and services. It is intended to farm out from WasteServ as many of these facilities and services as possible and to ensure that their building and operation comes at zero cost to Government. Waste management operations all over Europe are carried out to a large extent by private entities whose business depends on the manner in which they operate. As these European Operators usually manage to derive profit and sustainability from such facilities there is no reason to believe that the case in Malta should be any different.

WasteServ should be used to safeguard the interests of the public such that any very expensive service continues to be provided by WasteServ particularly if this can be provided at a cheaper cost. However, the financial regulations for the sector should ideally set parameters which delimit fees, in proportion to the characterisation of the associated costs, which any private operator would be allowed to charge.
Waste management facility financing should ultimately be derived from the fees that are charged for the disposal of waste to be managed by the same facility. Most of the waste arriving at facilities results either from municipal solid waste, collected by Local Councils, from individual households or directly from individual (or a group of) producers.

In the case of charges to Local Councils, the current system whereby Local Councils pay a contractor to collect and dispose of the municipal solid waste generated by households should be modified to ensure that the fees chargeable to Councils originate in two forms namely:

- a transportation fee for the collection and transport to the waste facility; and
- a fee based on the type and weight of waste deposited which is charged directly to the Local Council and not the carrier. This would take place through the introduction of consignment notes which Local Councils would hand over to their waste collector and which would identify the quantity and origin of waste.

This system would give an incentive to Local Councils to take required measures and initiatives in order to ensure that their community is encouraged to minimize waste requiring door-to-door collection through the possible modification and alteration of patterns of behavior, the use of bring-in sites and any other measures deemed appropriate.

Waste management facilities need strong regulatory and financing mechanisms to maintain their sustainability. European policy and legislation on this issue is very clear in that waste producers are expected to pay, through appropriately devised charges, the full costs of the service and facilities required to manage their wastes in an environmentally sound manner. Therefore it is equally important for the local competent authorities to ensure that not only are environmental conditions being observed but that the fee structure for such facilities is one that is approved and regulated in a professional manner that truly reflects the real cost of treating waste at that facility whilst at the same time safeguarding the social and economic realities of Malta’s people.

The deposit refund scheme mechanism on local beverage bottles has been a useful experience that confirms that this kind of mechanism has a positive effect on the local community in that it is seldom the case that such bottles are found within the waste stream.
or contribute to the littering of the country side and the beaches. The introduction of such incentive-based mechanisms to other waste fractions is seen to be a strategy that could not only make responsible the producer for all waste placed on the market but could also help to contribute towards reducing mixed waste fractions.

Landfilling of untreated waste remains the least preferred option for Malta. Land use constraints in Malta makes this option a far less desirable technique. As a result and during the coming years, Government intends to develop new specialised facilities for the residual waste fraction based on the best available technologies option.

As a consequence, material flow and cost benefit analyses will be undertaken to determine what fractions in which quantities will be going to the planned facilities and what additional treatment technologies will be required to recover the embedded energy prior to disposal. On a practical level, a Working Group has been commissioned in order to assess the feasibility of introducing waste to energy technologies.

Government is considering the possibility of developing a treatment facility at tal-Kus in Gozo in order to contain the transfer of waste to Malta whilst at the same time harnessing Gozo’s potential as an island which can treat its own waste in line with the proximity principle whilst benefiting from the local use of recovered energy. It is also being considered to have a Mechanical Treatment Plant, including a bio-digester to recover biogas, complete with all ancillary facilities, to reduce the amount of landfilling required. This ideally will be located in the North of Malta in an already committed site and will be combined with the treatment of agricultural waste.

At the same time, the separation of waste links closely to the energy that could potentially be derived from our waste. Certain contaminated dry recyclables can be easily converted into Refuse Derived Fuel (RDF) which could be subsequently utilised in the generation of alternative energy. The type of technology to be utilised will be determined following a detailed cost-benefit assessment of available technological options.
In designing such facilities it is intended to synergise the input and the location in order to incorporate, where possible, existing or proposed infrastructure and other waste arising from animal husbandry and sewage sludge production.

Options will be developed and discussed through a Twinning Project with the Austrian authorities on the matter.

Effective recovery exchanges of waste require a sufficient supply of information on what is available in the field, otherwise they remain largely unused. The difficulty stems from the fact that there still exists a lack of reference and consulting activities as well as the need to overcome communication barriers.

Help could be established by organising a national clearing house (which may be virtual). This entity should manage information of what waste is available and where, on the Maltese Islands, this may be put to good use. Such waste could include construction and demolition waste, solvents, waste oils, etc.

To simplify matters of inter-company recovery, Government will consider issuing legislation not to characterise certain clearly defined waste fractions as waste so that the use of secondary materials will be facilitated. Experiences of other Member States in this regard will be sought.

In any event, a certain quality standardisation for waste generated in relevant quantities would surely facilitate recovery irrespective of any legislation suspending the classification of waste. The need for such a facility is likely to increase further with the introduction of new recovery schemes of specific waste fractions.

### 3.1 Program to reduce landfilling of biodegradable waste

Government will commission work to ensure that Malta moves towards meeting its 2010 target for the reduction of landfilling biodegradable waste.

It is intended to achieve this goal by a combination of the following activities:

- Increase the separate collection of packaging waste, graphic paper (printed matter), green waste and other biodegradable waste (like cooking oil)
Waste Management Plan for the Maltese Islands

- By more Bring-In-Sites in Malta and Gozo
- Increase the number of Civic-Amenity-Sites
- Promote kerb-side collection of dry recyclables (Recycle Tuesday)
- Intensify campaigns to increase public awareness of citizens and of public and commercial entities

- Separate and recycle/recover biodegradable waste from the collected bulky waste
- Start pre-treatment of MSW at the new Material Recovery Facilities (MRF) which will include mechanical sorting, production of compost, energy production from bio-gas from the digestion plants and possibly further energy-production from the high calorific residues
- Start incineration of abattoir waste and other appropriate waste at the new Abattoir Incinerator
- Investigate recycling and recovery of waste from agriculture and fishery
- Investigate recycling and recovery of sewage sludge

This program covers the reduction of landfilling of any biodegradable waste, not only from MSW. The monitoring of actions will demonstrate separately the results for MSW, accordingly to the requirements in the Landfill Directive (reduction of 25% in 2010).

3.2 Objectives for different Waste Streams and Plans for Implementation

Mayor new waste management facilities

In December 2004, the Cohesion Funds application, submitted by WasteServ Malta Ltd to upgrade the Sant Antnin facility was approved by the Commission to the total amount of EUR 16,747,500 of which EUR 11,723,250 (70%) represents the Cohesion Fund EU contribution.

The facility is equipped with a digestion / composting facility to treat 35,000 tonnes per year of biodegradable material. This facility for the biological treatment of wastes are scheduled for completion by third quarter 2009. Other forms of composting, on a local scale (such as homes and farms) will also be promoted further wherever possible. In order to further ensure the quality of the input to Sant Antnin. Government will legislate in favor of separate collection and disposal of all catering waste to this facility (hotels, restaurants, hospitals etc.).
A second part of the facility consists of a material recovery facility to treat 36,000 tonnes per year of recyclable material. The Materials Recovery Facility (MRF) is intended for the recovery of recyclable materials such as plastics, glass, paper, metals and wood. This facility is able to receive clean, source segregated recyclable materials directly from the waste collectors, bring-in sites, civic amenities sites, curb-side collection and other sources. This part of the Sant Antnin complex started operation in January 2008. Most materials treated will be sold for export for recycling and recovery. The 71,000 tons of total input to the Sant Antnin are initially planned to pass through a Mechanical Treatment Plant (MTP) to recover the metals, inert material, organics as well as the high calorific fraction (plastics, cardboard, etc). The cleaner the fractions become through increased public separation, the less the material that will pass through the MTP.

Until 2006 an interim facility for the disposal of MSW (known as Ta’ Zwejra) was in operation. An IPPC permit to make this facility permanent had been issued. Planning, construction and start up of operation of the new engineered landfill have been made successfully. The site is that of Ghallis in the Maghtab-area. The Ghallis facility has a sufficient void for a seven year period. This new landfill facility has been developed for the disposal of pre–treated, non–inert and non–hazardous waste. Inert wastes will not be accepted at this facility, except to the extent that such material is required for site construction, on–going operation and restoration. Inert C&D waste is disposed of in quarries.

For hazardous waste a special landfill and a intermediate storage and pretreatment facility is planned and partially under construction in the Ghallis/Maghtab area.

**3.2.1 Municipal Solid Waste**

The yearly average increase (by weight) for this waste stream, has, since 2001, not exceeded 2%. The increase in single households, the change in consumer’s consumption habits to packaged products as well as the wider range of disposable products continue to push the generation of MSW up. The availability of more electronic equipment per household basis has also resulted in more specialised waste fractions being produced. The growing success towards the separate collection and recovery of recyclables must continue to be re-enforced. This underlines the importance of measures being implemented so far. These measures also form an important condition for the success of waste prevention and hence must be further intensified.
Industry too is an important player in the success of household waste prevention. The need to minimise use of materials and energy during production, the use of low-waste products and packaging design, the introduction of incentive-based and education-based initiatives for the recovery of packaging and products as well as the marketing of ecologically preferable products should continue to be prioritised. Substituting the type of materials that are put in circulation, more so if the hazardous content of such material is high, is also a step in the right direction. Anything short of this, Government will explore ways to penalise the non-conformers as the recent introduction of the Eco- Contribution Act.

MSW collection services have been assigned to Local Councils. However their operations in respect of the collection of MSW have largely been an individualistic effort with only a limited number of the smaller Councils teaming up in order to provide a more cost-effective service. It is evident that greater economies of scale can be achieved by regionalising the collection of MSW.

For the purposes of certain services, Local Councils have been grouped into six regions. The selection of the proposed regions was based on the groupings of Local Councils in respect of the devolution for the maintenance and provision of street lighting and is shown hereunder.

It is felt that this degree of regionalisation has the potential to enable a more rationalised and cost effective collection of MSW to be achieved. However, in order to further promote the role of Local Councils and to make use of the regionalised concept which sees the formation of 9 Joint Committees which embrace all the Local Councils, a shift from a 6-zone to a 9-zone system may be undertaken.

A waste collection draft contract was drawn up by WasteServ, and forwarded to the Department of Local Government. WasteServ has also advised Local Councils to issue yearly MSW collection service contracts so as to facilitate the introduction of the new contract format, once an agreement is reached. The revised conditions are to apply once the regions are formed. Therefore, while the new contract has been drafted, it is not as yet being adopted by Local Councils.

The Government, in association with the local councils, intends to increase the number of ‘bring-in sites’ to facilitate public participation in the collection of clean, source-segregated
recyclable materials. Such centres will be conveniently located in or near to areas easily accessible to the public that could include car parks, supermarkets, recreation areas, etc, and equipped with labelled and colour-coded containers for receiving and temporarily storing different recyclable materials.

Bring-in sites have been introduced in most of the localities. As a start, Government allocated Lm1,500 (EUR 3,494) to each local council that participated on a regional basis. Localities which do not wish to form part of a region or have a ‘no bins policy’ will have the funds withdrawn for Government to set in and manage these sites in these particular localities through a designated agency.

Local Councils are also encouraged to locate one site for approximately every 300 households. In the meantime, when sites are identified, WasteServ Malta Ltd will assist in the acquisition of all the necessary permits to install the bring-in site, the capital expenditure of which will be co-funded through Structural Funds secured precisely for this reason.

WasteServ Malta Limited has been allocated funding for 400 bring-in sites. It is important that these bins are put to good use and those local councils, who are responsible for waste collection, could enter into a partnership with WasteServ in order to further contribute towards separating waste at source.

The regionalisation policy initially started in regard to the introduction of Bring in Sites. In view of the autonomy and jurisdiction assigned to Local Councils, the latter are in a position to issue tenders for one or more Bring in Site within their locality as long as the cost does not exceed the Lm 1,500.00 which is the budget allocated by the Department of Local Government for such a waste facility. In this context, the Department of Local Government has made financial provisions in order for the respective Local Councils to be able to establish one bring-in site within their localities.

Currently (until end of 2008) in Malta there are 226 bring in sites and 200 in schools installed which should increase to four hundred (400) as a result of structural funds. Government needs to secure the appropriate mechanism to minimise the recurrent expenditure associated with the management of such sites. WasteServ should provide the management service of the bring-in sites in Malta, since such an activity cannot be currently sustained by the Local Councils, with the scope that in the future this service would be contracted to the private sector, following the principle of extended producer responsibilities.
Further potential for separate collection and subsequent recovery of up to 36,000 tons of recyclables and 35,000 tons of clean organic fractions exists. The recyclable fraction is actually expected to increase further through the participation of private schemes. The other residual waste that will not be treated in the upgraded Sant Antnin Plant (approximately 150,000 tons) must be treated to reduce waste going to landfill. The planned mechanical-biological processes separate the high calorific waste from the organic matter, inert matter and metals with the ensuing fraction requiring landfilling being drastically reduced. The high calorific fraction may be used for energy recovery whilst the organic fraction may be stabilised for use as landfill cover in a digester from which energy may also be recovered.

The household hazardous waste must start to be extracted from the residual waste. The quantities of this hazardous waste fraction are as yet unknown.

The bulky waste (some 50,000 tons per annum) will also be separately collected and recovered through the establishment of 5 civic amenity sites until the end of 2008/early in 2009 (locations in Tal-Kus, Gozo; Imriehel, Maghtab, Hal-Far and Luqa industrial estate). Scrap metal, waste wood as well as other bulky waste will continue to be processed locally to avoid landflling.

The Sant’ Antnin Composting Plant has been upgraded and includes a Materials Recovery Facility (MRF). The MRF (commissioned by January 2008) treats the separated light packaging fraction (approximately 36,000 tons per annum). The facility will also include a digestion plant (to be commissioned 2009) to recover energy from the biodegradable waste fraction received at this facility (approximately 35,000 tons per annum). 16.4 million Euros in Cohesion funds from the EU have been allocated for this development.

Government will explore piloting a Private Partnership Scheme to harmonise the collection of dry recyclables throughout the nine Joint Committee regions in Malta. Government will consider piloting a Private Partnership Scheme in which the main parties would be:

- WasteServ Malta, solely as the provider of the bring-in bins;
the Ministry for Resources and Rural Affairs who, through the Cleansing Department, has a significant workforce which can be deployed to act as the labor force for such a project;

Local Councils as the entities responsible for waste collection; and

A Private Partner who could assist in the provision of machinery and to determine and conduct negotiations with producers for the collection of specific waste fractions.

This would provide the country with the necessary infrastructure to ensure that a producer, or a scheme within which they are participating, complies. Secondly, all major stakeholders would become involved in this process leading to a better utilisation of Government resources and the fostering of a strategic partnership between local and central government.

Government reiterates that it shall be adopting a policy of securing that WasteServ does not compete with private enterprises unless it is forced to do so as an operator of last resort or in the light of unforeseen difficulties.

Government intends to consult respective stakeholders on the possibility of legislating in favour of source segregated and the separate collection of all commercial waste, including hotels, restaurants and other commercial outlets. The reasons for this are twofold. Firstly, it is estimated that approximately 20,000 tons of clean organic waste may be recovered as feedstock for the upgraded composting facility at St Antnin (once this is commissioned). Secondly, every effort must be made to ensure that commercial outlets have a contract in place for the collection of solid waste. Such a practice should also help to focus the attention of waste producers on the amount and value of their waste and stimulate waste avoidance.

Furthermore, Government intends to continue consulting closely with local councils on the manner in which the additional quantities of source segregated material needed as feedstock for the upgraded Sant Antnin facility will be met. Initiative already in place are the bring-in-sites, the Civic Amenity Sites and the curb side collection of dry packaging material and waste paper.
The introduction of new systems for curb side collection will need to be undertaken in phases, supported by an intensive public communications campaign. Following agreements with the localities, the separation may be strengthened by the further kerb side collection of the separated waste.

The introduction of new systems for the source segregation and separate collection of recyclable (including biodegradable) materials from MSW will provide an opportunity to reduce / optimise collection frequencies so that, for example, wet organic waste may be rationalised to be collected four times per week, while essentially dry materials are collected weekly or fortnightly. Rationalisation of collection frequencies in this way has the potential to improve the productivity and reduce the costs of collection services very substantially. Government is also committed to explore further the possibility of adopting additional practices and audits that aim at making individuals responsible towards better waste management behaviours. This will be explored further through separate consultation papers outlining the possible waste collection options available.

Government will explore the adoption of financial incentives for local councils to adopt more environmentally acceptable waste management. This will involve charging local councils directly per tonne of waste they produce. This would not only ensure increased waste separation and composting initiatives at local level but also the local council to monitor the contractor ensuring that household waste is not contaminated \textit{en route} to the waste facility. Government will remain responsible to educate on a national level and to provide the entire necessary infrastructure to support these initiatives.

Similar to what is currently being done with the national public transport service, Government will explore the possibility of providing assistance for upgrading to ISO accreditation all waste collection practices. A scheme to part finance new vehicles should be explored and implemented. Government will also consider favouring the use of smaller sized refuse collection vehicles (RCV’s, circa 3.5 tons) with a view to improving congestion that is currently created as well as to improve accessibility within village cores and other narrow streets.
Government plans to introduce a guidance document for MSW service providers. Waste collection is governed by environmental regulations, as well as regulations and standards related to public health, occupational health and safety, vehicle regulations, local council by-laws, police laws and possibly others. This guidance document will set out the necessary criteria that service providers must aim for. In line with this requirement, local councils will need to introduce a standard procedure for pre-qualifying potential bidders for MSW collection contracts against the requirements stipulated in this guidance document. This will be a further step towards implementing, successfully and in a sustainable manner, new waste management principles in the Maltese Islands.

The mentioned activities will also contribute that Malta will achieve the given targets for recycling packaging waste and reducing the landfilling of bio-degradable wastes.

3.2.2 Industrial Waste

Waste prevention on an industrial level encompasses the repeated use of a product / material, increased product life as well as changing a product’s design in such a way that production waste and its polluting potential is reduced. Above all, the long-term reduction in volume of solid waste produced is only possible by implementing measures that enable the re-introduction of materials into the production cycle and thus reduce the quantity of primary raw materials used. Source segregation and the separate collection of industrial waste facilitates this process since waste originating from one entity might well be the feedstock of another.

Waste prevention entails immediate benefits to industry only if handled at a management (as opposed to an individual) level and the packaging regulations should help the commercial sector understand better its obligations as well as the need to re-use packaging wherever possible.

To further complement the Civic Amenity sites being developed (three of which are close to industrial estates), all major industries will be obliged to formulate a waste management plan and set up the necessary storage facilities so that all solid waste generated on these estates are handled / stored separately and transported separately for treatment. A notification procedure will also be enforced. Industry will be obliged to team up on this effort since in many cases one waste marshalling area per estate will suffice.
MEPA has introduced a hazardous waste consignment procedure on hazardous wastes and other particular waste streams. A consignment note must accompany every movement of hazardous waste. All persons wishing to transfer hazardous wastes within the Maltese Islands should first apply for a permit on an appropriate form (CP form = Waste Consignment Permit Application). Following the issue of the CP permit, all subsequent waste movements authorised under this permit need to be notified to the Authority on the consignment note form (CN form = Waste Consignment Note). Detailed guidance on the consignment note system is available from MEPA offices and on the MEPA website.

It is envisaged that interim storage and pre-treatment facilities be organised as well as arrangements be set up for the export of hazardous waste generated in the Maltese Islands.

Government intends to develop a new secure landfill facility in Malta for disposing of certain hazardous waste. This will be a small facility suitable only for receiving and disposing of a limited range of solid hazardous waste. For logistical and economic synergies, this facility will be located in close proximity to the main landfill facility. The permitting process for this facility has been issued with that of the non-hazardous long term facility.

WasteServ Malta Ltd anticipates that about 12,000 tons of hazardous waste is generated in Malta annually. This figure needs to be confirmed through a thorough hazardous waste audit for which EU funding has been found. To date, WasteServ Malta Ltd receives some of this hazardous waste while most waste generators storing their waste prior to making necessary arrangements with private contractors for export.

Additional to the landfill facilities at Ghallis, a hazardous waste treatment facility is also being developed within the Ghallis waste management complex. This project component will, with certain notable exceptions (e.g. healthcare wastes), will receive and process most of the hazardous waste generated on the Maltese Islands. The hazardous waste received at this facility will be divided into two streams:

- those that can be treated and disposed of safely and cost-effectively in Malta; and
- those that will need to be accumulated, bulked-up, stored and subsequently exported for treatment and disposal overseas.
Given the lack of reliable data on hazardous waste arisings, this project component will, to some extent, have to evolve in response to actual needs and experience. However, at this stage, it is envisaged that this component will include *inter alia*:

- a reception area and facility for inspecting, weighing and recording vehicles and wastes arriving at, and leaving, the facility;
- a laboratory for analysing and determining the essential characteristics of hazardous wastes received at the facility; and
- a facility for pre-treating mainly inorganic hazardous waste using conventional (and relatively simple and low-cost) physical and / or chemical treatment processes.

A facility for bulking, packing or re-packing and temporarily storing mainly organic hazardous waste prior to export for treatment / disposal overseas of:

- potentially hazardous wastes;
- spent batteries and accumulators;
- asbestos;
- oily sludges; and
- consumer durable and electronic goods.

The primary objective of this waste management plan is to maintain a high level of independence for waste treatment. However, the export of waste may of course prove to be viable and efficient as a result of economies of scale.

Some 2000 m$^3$ of asbestos is estimated to be in storage awaiting disposal. Additionally, it is estimated that some 5000 m$^3$ of this same material remains installed and will eventually be dismantled as refurbishment works on the older building stock are gradually carried out.

Significant amounts of asbestos are exported into other European countries and are landfilled in appropriate facilities in accordance with European regulations for those wastes. This includes proper packaging for the handling and adequate measures during disposal.

The costs for packaging, transport and disposal elsewhere are rather significant. This cost burden to the private sector has led Government to explore the possibility to have this material disposed of in a similar way like in other European member states in an engineered landfill.
There is the need for a national characterization and implementation plan for hazardous waste. This should take into account:

- the establishment of final destination points where export of such waste is accepted; and
- negotiations with the major commercial banks to provide guarantees to shippers exporting such waste.

### 3.2.3 Construction and Demolition Waste

A ‘Recycled Building Materials Working Party’ was set up under the auspices of the Building Industry Consultative Council (BICC) together with other representatives from relevant entities e.g. Malta Environment and Planning Authority, Malta Resources Authority, Malta Standards Authority, together with a Producer Responsibility Group representing the main waste producers, producers and suppliers of construction materials, by the first quarter of 2002.

The proposed aims of the Working Party were primarily to propose ways to recover and recycle materials from excavation, construction and demolition wastes.

In October 2002 the Waste Management Working Party within the BICC delivered a technical report to the Works Division. Most of the recommendations made in the report, focused specifically on practical guidelines for action, applying the three R’s (Reduction, Reclaim and Recycle), strategy to waste management, emphasising on the impact of C&D waste and its long-term impact on the building construction industry at large.

In order to achieve Malta’s targets for reducing and recovering excavation, construction and demolition wastes and to limit the use of landfills for this type of waste, Government intends to enforce the current system of development permits granted by MEPA, in which planning permits oblige construction and demolition waste to be disposed of at authorised C&D landfill facilities and, as far as possible, try to channel excavation waste for recycling. Enforcement is envisaged to increase in order to improve compliance rates so that all the developers of major projects submit a Construction Management Plan, waste management, demolition and dismantling arrangements, for MEPA to review.

A five-year contract has been awarded to a private entity to acquire and manage on behalf of WasteServ a number of licensed sites in Malta and Gozo, usually quarries, for the
disposal of construction and demolition waste. Following this contract, the Maghtab dump site was closed for C&D waste disposal during 2003, and all such waste is directed now and in future to privately owned quarries. Despite the increase in charges for C&D waste disposal the volume of such waste is still on the increase. This situation needs to be tackled from a sustainability point of view and due consideration will be given to the introduction of fiscal initiatives, such as the abolition of VAT on the sale of recycled building materials, in order to potentially serve as an incentive to trade in this resource.

Component 2 of the Twinning Project with Austria (MT05-IB-EN-01) aimed also at formulating a strategy for the long term possibilities of reuse/recycling of C&D wastes in Malta. This which will assist the Recycled Building Materials Working Party in designing a C&D management strategy with, amongst others, the following terms of reference:

- determine the structural feasibility of using demolished and newly-dressed stone in new buildings;
- identify financial incentives for the use of such recycled products;
- examine existing financial provisions in respect of C&D waste and propose any amendments thereto; and
- quantify existing space for disposal of C&D waste; and
- identify other possible alternatives that could positively contribute towards the management of C&D waste.

Government is inviting interested parties to offer solutions to Government on how to achieve its objectives in this sector.

Separate collection is necessary to allow for the effective recycling of unavoidable C&D waste. 80% of the inert material is excavation material which can be considered as a mineral and is considered as waste because it is found in abundant quantities. Government will carry out the necessary studies before legislating in favour of separation based on specific thresholds of waste material generated.

As noted above, if the volume of C&D waste requiring final disposal in landfill is to be significantly reduced and local
production and use of natural stone and other virgin building materials is also to be reduced, then it will be necessary to establish at least one major facility for the interim storage, processing and recovery of potentially recyclable materials from this waste.

Government intends to ensure that this facility continue to be operated by the private sector rather than by Government, although it is recognized that tangible support and the implementation of other measures by Government are likely to be needed in order to create the conditions necessary to ensure its commercial viability. Research into the development of commercially viable alternative uses of C&D waste should be promoted through special grants derived from appropriate sources.

### 3.2.4 Waste from Agriculture and Fisheries

The former Ministry for Rural Affairs and the Environment had awarded a consultancy services contract related to the compilation of an Agricultural Waste Management Plan for the Maltese Islands. This Plan has been submitted to Government as draft. Any implementation will be undertaken following a consultation process that the drafters of the plan will conduct prior to the plan itself being approved.

The draft plan proposes to set up three agricultural waste treatment plants (Gozo, North of Malta and South of Malta) to treat cattle, poultry and rabbit manure with the consequent biogas co-generation power and soil improver’s production. This provides a treatment alternative as well as increases the energy yield. The total projected capital expenditure for setting up the agricultural waste treatment process is Lm 9.7 million (EUR 22.6 million). This figure includes Lm 3.6 million (EUR 8.4 million) to be spent on farms as well as a Lm 5.4 million (EUR 12.6 million) investment in three agricultural waste treatment plants. Each plant would include biogas, separation and composting facilities.

The possibility of treating other (non-manure) agricultural waste (fallen stock, slaughterhouse waste, fish waste and other waste from industry) estimated at 7000 tonnes per annum is also considered in the draft plan.
The potential to site the Gozo and North agricultural waste treatment plant adjacent to the planned solid waste treatment plants to combine the treatment process will be actively explored.

Meanwhile, to site the agricultural waste treatment plant in the South of Malta, Government will set up a technical committee to identify a preferred site.

3.2.5 Waste from Port and Airport Facilities

In view of the port waste management plans, Government ensures that all plans are prepared and implemented in relation to ship generated waste. Plans take the following actions into consideration:

- all ports and terminal operators should create the necessary facilities for the storage of source segregated waste. Port operators shall be informed about the different waste streams and to where these waste streams should be delivered for treatment / disposal; and
- Government shall ensure that a notification procedure is put in place for the transportation of ship generated waste from these port storage facilities to the respective treatment facilities.

A similar waste marshalling area should be made available at the airport. This will receive, process and store all recyclables off-loaded from aircraft as well as from duty free stores. Other waste, including hazardous waste from aircraft maintenance, should also be stored prior to it being transported for treatment to a local licensed facility.

3.2.6 Abattoir Waste

The Government installed a permanent waste treatment facility at the Civil Abattoir at Marsa for the thermal processing and destruction of waste arising from public and private slaughterhouses, certain food-processing industry, port and airport risk wastes.
A separate report assessing the potential of any spare capacity at this facility to be used for
the treatment of clinical and certain hazardous waste has concluded that, with some
modifications to the existing facility, this potential could be achieved. The technical
modifications have been installed and the facility is in test-operation since December 2007.
Final commissioning of the facility is foreseen in 2009.
The old incinerator for clinical waste at the hospital San Lucas has been shut down.

The mobile unit for abattoir incineration is no longer in operation, but will be stored for cases
if a backlog of waste to be treated arises.

### 3.2.7 Sewage Sludge

An important objective of state-of-the-art sewage treatment technologies is to minimise
pollutants at source by means of intensified monitoring by the competent authorities.
Government will ensure that all legal possibilities are utilised to enforce the minimisation of
pollutants at source.

Basically there exist two different strategies in Malta for the recovery and/or treatment of
sewage sludge - either to deposit dewatered sewage sludge in landfills or to digest
dewatered sewage sludge for the recovery of energy and the production of digestate for
landfill cover. Synergies between this dewatered sewage sludge, sludge from agriculture
activity as well as the contaminated organic fraction from MSW must be further explored.
The recovery of energy from sewage sludge, possibly in combination with animal waste, is
Government’s preferred option and all efforts will be made to synergise these requirements,
such that these facilities provide for the treatment of sewage sludge as well as the treatment
of organic farmyard waste.

The Water Services Corporation (WSC) is currently constructing three sewage treatment
plants, one in the North of Malta (Cumnija l/o Mellieha) and one in Gozo (Ta’ Mgarr ix-Xini
l/o Ghajnsielem). Both plants have come on stream recently. It is estimated that the Malta
North plant will generate 3,040 tonnes of sludge per annum, with 2,640 tonnes per annum
for the Gozo STP, all figures quoted at a 25% dry solid fraction.
The third plant, Malta South, will be in operation in 2009 and will generate an estimated 32,000 tonnes of sludge per annum comprising the 7,040 tonne figure of the old Sant Antnin Sewage Treatment Plant.

These sewage treatment plants will contribute significantly to improve the situation in nearby coastal areas, allowing there again swimming and fishing.

The WSC had formerly reached an agreement with WasteServ Malta whereby it was agreed in principle that all sewage sludge be disposed to landfill in the absence of a policy to reuse the sludge, say as a soil conditioner or for co-digestion/co-incineration with other wastes with energy recovery. WasteServ Malta has initiated discussions with WSC investigating the possibility of co-digesting the Gozo STP sewage sludge at a biogas plant which is planned in Gozo.

In case of the need for landfilling sewage sludge, WasteServ Malta has laid down the requirements for such sludges in accordance with the EU-Landfill Directive. The sludges must satisfy the leaching limit values for non-hazardous wastes acceptable at a landfill for non-hazardous wastes. Due to the limited capacity of the only landfill in Malta (Ghallis) landfilling has least priority.

### 3.2.8 Clinical Waste

A Working Group on the Treatment of Clinical Waste was jointly appointed by the former Ministry for Rural Affairs and the Environment and the former Ministry for Health and Care for the Elderly with a view to determining the options that are available for the management of clinical waste as well as to determine the feasibility of utilising the abattoir thermal treatment facility for the treatment of clinical waste.

Until recently, Malta had no authorized facility for the treatment of clinical waste. Healthcare waste from St. Luke’s hospital has been incinerated in an on-site incinerator that did not comply with EU or national legislation. With minor modification, the new civil abattoir plant, situated in Marsa, gave rise to an opportunity for treatment of clinical waste at this facility. It was proposed to consider upgrading this facility so as to permit the co-incineration of clinical (and some industrial waste). The upgraded facility is in test-operation and will be commissioned in 2009.
The Working Group had recommended that healthcare waste can be treated at the new abattoir facility for the following reasons:

- Incineration of clinical waste at the abattoir is a solution that can be immediately implemented and also seems to provide a viable solution for the long-term. The upgraded abattoir facility provides the quickest solution to terminate the temporary solution and to shut down the non complaint St. Luke’s incinerator;
- It fulfils Government’s obligation to provide a proper facility for the treatment of clinical waste;
- The new abattoir incinerator conforms to national and international regulations;
- The treatment of clinical waste will not jeopardize compliance of the facility;
- It is the least costly environmentally-acceptable option available at present time;
- Clinical waste, in addition to abattoir waste, would assist the new incinerator to be able to achieve the throughput for which it was designed. This will contribute to making the facility operate efficiently with fixed overheads being absorbed by higher waste volumes and waste with higher calorific values;
- The treatment of clinical waste at the upgraded facility will not induce additional capital cost over and above those foreseen for the required upgrade.

At the same time it would also make sense to attempt to quantify the total potential generation of pharmaceutical waste in order to ensure that the abattoir facility has the sufficient capacity to treat all clinical waste and for its management to assess the amount of appropriate industrial waste that can be accommodated within this facility.

With the treatment of Clinical Waste in the new abattoir incinerator in operation, the old facility at St Luke’s Hospital was no longer be required and has been decommissioned.

3.2.9 Waste Oil

Further emphasis will be given to collect all amounts of waste oil in order to avoid spillage to the soil or the sea.
As legal requirements and enforcement actions are of little use, having in mind the large number of producers of small amounts of waste oil, more success can be expected from other actions which are planned to be implemented during the next years:

- Better information and motivation of private and commercial waste oil producers, why controlled separate collection and management of waste oil is of paramount importance for the protection of soil, groundwater and marine environment. This is not only an ecological but also an economical challenge for Malta. Information campaigns will be planned and performed.

- Waste oil management should be organized as a matter of producer responsibility. Take back from last owner has to be offered without charging him/her – which means that the cost for collection and treatment have to be fully internalized into the selling price of fresh oil. The importers of lubricating oil should be made responsible in that sense. A possible increase of the price of e.g. motor oil will be insignificantly low. In a similar sense the costs for collecting bilge oil and tank cleaning water from ships will be fully integrated into the fees for entering a Maltese harbour.

- The capacity of the existing facilities for storing, cleaning and treating waste oils will be increased in order to allow that all collected waste oils can be treated properly. The necessary authorizations will be granted without creating unnecessary administrative barriers.

- As the total amount of waste oil in Malta is far too low to make a secondary refinery of waste oil economically feasible, the ultimate recovery of Maltese waste oil should be incineration (waste to energy) or export. As export of hazardous waste should be minimized (Basle Convention), waste to energy strategies will be given priority.

- One outlet for the waste oil in stock pile could be the use of appropriate (purified) waste oils as the energy source for the operation of the new abattoir incinerator. It will be checked whether the composition of such waste oils allows coping with the existing stringent air pollution control regulations which would allow issuing an operation license.

- A further option is to investigate the possibilities of producing diesel fuel from waste oil by using new technologies.
• The Twinning-Contract with Germany contained also one activity about waste oil and provided further advice how to improve the situation.

• The Twinning-light-Contract with Austria on hazardous waste provided better knowledge and data about the sources, the types and the amounts of waste oil.

### 3.2.10 Used PCB’s and equipment containing PCB

Government has presented to the Commission a special Waste Management Plan for PCB/PCT.

An agreement for the export of the existing amounts of and appliances with polychlorinated biphenyls and polychlorinated terphenyls to an appropriate facility in France for decontamination and/or disposal has been reached recently. The material will be exported before the year 2010 and treated in an acceptable manner in one of two plants in France. Export of this waste will be regulated under the provisions of the Waste Shipments Regulation (259/93/EEC).

The holders of PCB/PCT in storage will meet all costs involved in the export, treatment and/or disposal of the PCB/PCT.

Small equipment with contents of less than 5dm$^3$ of PCB/PCT will be treated separately when such equipment is destined for recycling or disposal. Civic Amenity Sites (CAS) will allow to control the disposal of bulky items of waste, including electric household appliances. Waste of Electric and Electronic Appliances will be collected separately through a collection system operated by Local Councils, retailers or future schemes and directed to the newly established CAS’s or to future storage and dismantling facilities for separation and further treatment, recovery and/or disposal. Parts containing PCB/PCT (mainly capacitors) will be removed and stored intermediately in a safe manner for export to appropriate disposal facilities abroad.

WEEE dismantling and recovery facilities will be authorized by MEPA in line with the requirements of the WEEE Directive (2002/96/EC) and the Waste Framework Directive (75/442/EEC). The environmental permits of these facilities will impose conditions on the operators to segregate PCB/PCT contaminated parts and components of WEEE and manage them according to the provisions mentioned above.
Potential sources of such equipment can be identified by means of results of the Twinning light Contract MT2004/IB/EN/08-TL between Malta and Austria. This project developed guides for a strategy:

- identifying appliances which contain or might contain small PCB-capacitors,
- identifying places where such appliances have to be dismantled,
- identifying PCB-capacitors by age of the appliance, by shape of the device and by lists provided by former producers of such capacitors,
- criteria for collection, transport, storage, dismantling and disposal,
- organizing training workshops for experts handling such equipment and
- information campaigns for the public.

The project listed also existing companies abroad with capabilities to destroy/dispose of such devices as well as liquid PCB/PCT.

The competent authorities plan to use this information for introducing it into a specific Waste Management Plan for Hazardous Waste.

### 3.2.11 Packaging


Until 8th February, 2009, plastic crates and pallets are allowed to exceed the limits of 100 ppm by weight of the sum of the concentration levels of lead, cadmium, mercury and hexavalent chromium, if those packaging are used in product loops and are in a closed and controlled chain. Further conditions apply and MEPA is responsible to control and enforce this regulation.

The Legal Notice 98 of 2004 [superseded by LN277/2006] contained also a time frame for the planning of the achievement of quantitative targets for recycling and recovery of packaging waste in Malta. Article 8 of this legal Notice quantifies the following objectives:

**Recycling and recovery targets:**

Producers and industry organisations and as the Minister may prescribe, may take such measures, it may deem appropriate for the following targets to be attained:

(a) by the 1st May, 2004
(i) 20% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 18% as a minimum and 45% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 25% by weight for glass contained in packaging waste, 27% by weight for metals contained in packaging waste, 5% by weight for plastics contained in packaging waste, 25% by weight for paper and board contained in packaging waste.

(b) by the 31st December, 2004

(i) 27% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 21% as a minimum and 45% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 30% by weight for glass contained in packaging waste, 31% by weight for metals contained in packaging waste, 5% by weight for plastics contained in packaging waste, 30% by weight for paper and board contained in packaging waste.

(c) by the 31st December, 2005

(i) 28% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 25% as a minimum and 45% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 35% by weight for glass contained in packaging waste, 34% by weight for metals contained in packaging waste, 5% by weight for plastics contained in packaging waste, 35% by weight for paper and board contained in packaging waste.

(d) by the 31st December, 2006

(i) 34% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 29% as a minimum and 45% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 43% by weight for glass contained in packaging waste, 38% by weight for metals contained in packaging waste, 7% by weight for plastics contained in packaging waste, 42% by weight for paper and board contained in packaging waste.

(e) by the 31st December 2007

(i) 41% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 35% as a minimum and 45% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 50% by weight for glass contained in packaging waste, 41% by weight for metals contained in packaging waste, 10% by weight for plastics contained in packaging waste, 50% by weight for paper and board contained in packaging waste.

(f) by the 31st December, 2008:
(i) 47% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 41% as a minimum and 45% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 55% by weight for glass contained in packaging waste, 46% by weight for metals contained in packaging waste, 13% by weight for plastics contained in packaging waste, 60% by weight for paper and board contained in packaging waste.

(g) by the 31st December, 2009

(i) 51% as a minimum and 65% as a maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recovered and

(ii) 45% as a minimum and maximum by weight of all packaging waste resulting from packaging and packaging material put on the market be recycled with a minimum of 60% by weight for glass contained in packaging waste, 50% by weight for metals contained in packaging waste, 15% by weight for plastics contained in packaging waste, 65% by weight for paper and board contained in packaging waste.

The targets above have not been attained in the past and it would remain very unrealistic to believe that the future targets might be attained automatically. Most of the responsible producers and importers of packaging have not taken over their producer responsibility and only very few of them have joined the authorized schemes for packaging recycling. Government, therefore, has amended the legal requirements and has replaced Legal Notice 98 of 2004 by Legal Notice 277 of 2006, which has been published in the Official Gazette for Malta in December 2006, and entered into force on March 1st, 2007 by Legal Notice 38 of 2007 of the former Minister for Rural Affairs and the Environment.

The new Legal Notice 277/2006 contains among others

1) in article 8 a much stronger obligation directly for producers (including importers) to comply with the objectives and the (new) quantitative targets (see table below);

2) according to article 13 Producers shall use existing systems or set up systems which will provide for all or for some of the individual producer responsibilities a collective solution;

3) according to article 14 producers or systems shall keep records for a three-years period about which amount and type of packaging they have brought into circulation in Malta and which results in terms of reuse, recycling, recovery or disposal they have achieved.
4) article 15 requires that all producers have to provide the Competent Authority with a declaration about their activities to cope with the new requirements on a quarterly and annual basis.

5) as an incentive for producers to join an authorized scheme they may be exempted from many of the obligations mentioned above, if they prove to participate in an authorized packaging waste recovery scheme; producer have to report to the Competent Authority until a deadline whether they have joined a scheme or not.

6) producers have to register themselves on a regular basis as producers or importers of packaging and packaging waste (article 21); the Competent Authority keeps and makes publicly available a register of all those companies so that members of the public can readily trace information contained in it;

7) a scheme has to fulfil detailed requirements in order to be authorized.

According to the possibilities and the constraints for the new EU-member States the new Legal Notice 277/2006 contains a longer transition period for attaining the minimum packaging recycling targets in Malta, which is shown in the table below:

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Notes:
(1) The overall recovery includes recovery and incineration at waste incineration plants with energy recovery.
(2) There is no maximum target for the overall recovery.
(3) The maximum target for overall recycling is 80%.
For the recycling target for plastics, exclusively material that is recycled back into plastics shall be counted.
The plans for strengthening the implementation of the existing regulations comprise further activities:

- The ECO-contribution law (Act XII of 2004 with several amendments) as an economic instrument will be further enforced and developed to foster avoidance, reduction, reuse, recycling and recovery of packaging waste instead of ultimate disposal.

- The discussion about a proposal for a mandatory deposit on certain non-refillable beverage packaging, the so-called Mandatory Deposit Refund Scheme (MDRS) continued. The proposal comprised a deposit on glass bottles, cans and plastic containers for mineral water, beer and carbonated refreshment drinks. The deposit would be refunded to the consumers when returning the empty containers. It was expected that the return and henceforth the recycling and recovery rates for those packaging could be increased. Also the possibilities for material recycling could be improved because such containers would be returned rather clean and intact — compared to kerb side collection or bring in sites.

However, also the controversial discussion continued among stakeholders whether any mandatory deposit scheme would be advantageous for Malta and whether benefits and disadvantages would be balanced. A decision about the enactment of such a new regulation has been postponed and is very unlikely to be realized.

- WasteServ Malta will be extending its network of Bring-in-Sites (to 400) and in addition start the operation of its fifth Civic Amenity Site in Gozo (4 in Malta are already in operation). This offers a broad scope of possibilities for private and commercial consumers to participate in separate collection systems for packaging waste and other waste.

- The new curb side collection of dry recyclables “Recycle Tuesday” (since May 2008) will be further improved and citizen will be motivated to use this comfortable system. It is to be expect that significant additional amounts of packaging waste can be routed to recycling and recovery.

- It is intended that authorized packaging scheme operators participate in such systems.

- The new regulation about plastic bags (marking, control of bringing into circulation, include the price for every bag on the fiscal receipt) has already the consequence, that most bags have disappeared from shops and supermarkets. This reduces the amount of packaging which is brought into circulation and reduces littering.

- WasteServ Malta together with other authorized packaging scheme operators will continue to organise information campaigns to inform and motivate citizens and commercial entities to participate in separate collection systems and to increase the public awareness about the benefits of packaging recycling compared to disposal.

- It is also intended to promote investments by private enterprises into treatment facilities in Malta for collected packaging wastes in order to find more developed recycling streams and markets and to reduce the heavy cost burden when wastes have to be exported for recovery to the European main land or even further.
The results of the Twinning contracts with Germany and Austria will be used to give further advice from these two "old" members of the European Union how to implement the European Packaging Directive and to avoid failures which have been made there, if so.

The Twinning Contract with the German Federal Ministry for the Environment resulted in recommendations especially for the implementation of the principles of extended producer responsibility and the polluter pays principle and how to facilitate some competition even on the small Maltese islands.

The Twinning Contract with Austria generated some recommendations for using non recyclable packaging waste as a secondary energy source in a potential waste-to-energy facility (this would allow to substitute primary fossil fuel) and when doing so coping with the stringent requirements of the European Waste Incineration Directive to avoid air pollution.

In July 2007, the former Ministry for Rural Affairs and the Environment launched a discussion paper “Proposal for the reform of waste collection mechanism”.

The discussion paper put a big question mark behind the question, whether the presently only existent scheme for packaging recycling would be able to achieve at the recycling and recovery targets for the country in due time. In addition, the derogation on the packaging of non-alcoholic beverages expired by the end of 2007. This resulted – as was to be expected – to a massif shift from refillable to non refillable containers for such beverages, mainly to plastic bottles. Industry will try to cope with the recycling/recovery targets primarily via secondary and tertiary packaging. Therefore, unless additional initiatives are taken, littering of primary packaging is expected to increase.

Government has decided to start a curb side collection of light weight packaging (and paper) in plastic bags on a weekly basis. This concentrates on the recovery of primary packaging waste, minimising the littering effects through the maximisation of source segregation of waste materials. Competition could be provided by tendering activities like collection, transport, sorting and recovery. Currently local councils organise the collection from households. Sorting takes place in the updated Sant Antnin facility.

The paper mentioned above discusses also whether such a system of waste collection should be extended to the collection of green waste from households and commercial enterprises.
Financing of the compliance scheme could be made by an environment fund where producers, joining this scheme, would pay their fee depending on the amount of packaging they put on the market; the government would contribute on a pro-rata basis, based on the type and weight of packaging material it would like to recover from the waste stream over and above the targets imposed on producers. This should create an advantage in economy of scale.

Producers/importer joining such a scheme or another authorized scheme would be exempted from paying the Eco-contribution for such packaging. The planned refund scheme for the Eco-contribution would then no longer be applicable.

Awareness campaigns will be continued to promote understanding and cooperation by citizen and stakeholders.

3.2.12 Waste batteries and accumulators

The European Directive on Batteries and Accumulators (91/157/EWG from 18-03-1991) covers only those batteries and accumulators which contain hazardous substances (heavy metals). The enactment in Malta (LN 158/2002 Waste Management - Batteries and Accumulators - Regulation) covered like in other EU-member states all batteries. As pointed out in chapter 2.4.1 of this document WasteServ Malta is organizing collection of waste batteries and accumulators at many outlets and exports the collected batteries and accumulators for recycling to the European main land. The costs for these activities are borne by the government, which means by the tax payers.

This situation does not shift responsibility to the producers/importers of batteries/accumulators. This, however, is explicitly requested by the new EU-Battery Directive from 2006 (2006/66/EC). The present organisation and financing, therefore, will be changed.

The new amended EU Battery Directive from 2006 will be enacted in time and MEPA has started to work on the new draft of a Legal Notice.

Implementation of the new regulation will try to adopt regulations which are already in force in other European countries, like in Germany. The producers and importers should join a scheme which collects a certain fee for every new battery which is brought into circulation within the country. This brings also tourists into the scene to contribute to the disposal costs of spent batteries - when buying a new battery in Malta. Such a scheme then will organize collection,
transport, sorting, and recycling or disposal and deliver the necessary monitoring and reporting to the authorities about the results which have been achieved. This is of great importance, because the new regulation requests that member states report to the European Commission about the quotas of collected and recycled batteries and accumulators, based on the amount of new batteries and accumulators brought into circulation in the country during a certain period of time.

Malta will check how far the existing system of ECO-contributions conflicts with - or can be integrated into - the future new regulations.

Collected batteries and accumulators must be exported for recycling because the small amount in a small country does not justify to invest into a recycling facility for different batteries/accumulators in Malta. This adds to the cost of recycling. Lead-acid batteries can be sold for recovery abroad.

As in other chapters the Twinning-Contracts with Germany and Austria have given further advice for implementation, taking into account the relevant experiences in the two “older” member countries.

3.2.13 End-of-Life Vehicles

The EU-Directive on End-of-Life-Vehicles (2000/53/EG from 18-09-2000) has been enacted in Malta already before the accession to the EU (by Legal Notice 99/2004 Waste Management – End-of-Life-Vehicles - Regulation), but the implementation is still pending, because there are no authorized take back and dismantling facilities available.
Several applications to become an authorized scheme are pending at MEPA and it is envisaged to decide on these applications soon. These authorized companies will have to prove their ability to fulfil all responsibilities which are laid down in the relevant European and national legislation: discharging liquids, removing hazardous substances and appliances, dismantling large parts for recycling and coping with the challenging targets for reuse, recycling and recovery.

When at least one (or several) authorized take back and dismantling facility exists, last owners of end-of-life-vehicles will be obliged to deliver their vehicle exclusively there and get a receipt which they have to present when deregistering their vehicle at the Transport Authority (ADT). Third parties like dealers for cars will be allowed to act on behalf of the last owner. This new organisation of a take back scheme will generate the necessary data about number of scrap cars and their final destination which will be passed to the Competent Authority (MEPA). It will then be possible to generate the necessary reporting to the EU-Commission.

It is envisaged to create these necessary conditions in Malta as soon as possible in order to be able to report on the results to the European Commission.

Like in many other European countries there is one big problem: how to distinguish between an ELV (= waste) and a used car (= product). Measures will be developed to reduce illegal exports of cars which pretend to be a product and would be used as a car abroad (e.g. in African countries), but in reality they are only disassembled to gain some spare parts and the remaining scrap car creates a hazard to the environment and the health of the people in the importing country.

For Malta, being an island, it is something easier to control exports from the country at the ports. Criteria will be developed to assist the customs authority to identify illegal exports of waste.

Importers of new as well as of used cars to Malta will be consulted to deliver detailed figures about the number of cars being imported annually. As the ELV-Directive is a means of implementing the principle of producer responsibility, importers have to contribute to the fulfilment of the obligations of the Directive/the Legal Notice. If necessary, this will include financial contributions, which have to be internalised into the selling price for new/used cars.

Malta will try to get advice from other European countries how to manage that problem. The mentioned Twinning-Contracts with Germany and Austria have been used also for that purpose.
3.2.14 Waste from Electric and Electronic Equipment (WEEE)

In March 2007 Legal Notice 63 of 2007 has been published which entered into force the same day. This new regulation enacts the EU-WEEE-Directives into national law. In order to facilitate the practical implementation it contains the obligation for producers, importers or retailers who put electric or electronic equipment (EEE) on the Maltese market to be registered at the competent authority and to report regularly about the amount of equipment they put on the market and about the results of recovering WEEE.

As most individual producers or importers of EEE will not be in a position to take over all responsibilities from the legal notice 63 by themselves, they can join an authorized scheme which will take over collectively their obligations as producers or importers, including monitoring. Proposals for schemes have been developed and applied for authorization from MEPA. Such schemes intend to act on behalf of the individual producers/importers and must give evidence that they collect and recycle/recover WEEE as requested by the legal notice and monitor all their activities to the responsible authority. The scheme, offering the service, will charge a fee from producers/importers which have joined the scheme.

Industry and trade saw a major conflict with the existing Eco-contribution which is levied on many electric and electronic devices. They believe that they have already paid their financial contribution and the government would now have the task to organize collection and recycling of these appliances. The new regulation contains now the provision that producers/importers or schemes will be exempted from Eco-contribution when giving proof that they individually or collectively within a scheme fulfil all requirements and targets of the new regulation. This will create an incentive for producers/importers to achieve high recycling and recovery targets of product groups they have brought into circulation earlier.

It is intended that the new regulation will create flexible means of collection of WEEE from private households

- by modified kerb side collection of bulky waste by local councils,
- by the new Civic Amenity Sites and
• by taking back WEEE by retailers (when selling a new product).

Estimates and comparisons with other European regions have indicated, that the minimum collection rate of 4 kg per inhabitant and year will be achieved and over passed rather easily. The total amount of collected WEEE per year could be raised to several thousand tons (a German expert has estimated from his experience in many other European countries an amount of up to 4000 t per year from Maltese households); most of this amount will come from large household appliances.

MEPA will decide on existing applications for schemes to collect, transport, sort, dismantle, pretreat and recover in Malta or abroad. Such system(s) should be lean in order to avoid unnecessary costs for overheads. All mayor activities should be regularly tendered in order to allow competition.

Start up of such scheme(s) is estimated to take place soon.

As exports for large appliances are rather expensive, it is envisaged to encourage investments into the creation of dismantling and pre-treatment facilities in Malta. This will allow concentrating exports to more homogeneous waste streams like steel, non ferrous metals, different kinds of plastic, glass and others.

The results of the Twinning-Contracts with Austria and Germany will be used to decide on optimum solutions for the Maltese islands in terms of ecology as well as economy and to keep the financial burden on consumers, commercial enterprises and industry as low as possible.

### 3.2.15 Other important incentives

#### 3.2.15.1 Eco-contribution

The **Eco-contribution Act** introduced in 2004 is aimed to encourage the recovery of potentially hazardous and recyclable products. Government acknowledges that this objective will not be achieved solely through the current fiscal structure of the eco-contribution since:

- Some of the contributions stipulated in the Act are too low and are based on price relativity;
- the current system allows for partial refunds to be applicable;
the range of products covered is too narrow; and
payment is affected on the first sale of the product subject to eco-contribution.

Government will consider revising the Eco-Contributio n Act if the producer fails to shoulder part or all of its waste management responsibility. The major changes envisaged include:

- a wider range of products subject to eco-contribution to minimise potential cross-subsidisation;
- the revision of contribution rates, on existent and new products to be covered by the Act, to reflect the actual cost of disposal of a product.

The introduction of a rebate system would ensure that those producers who take up full responsibility for the disposal of their product are refunded the contribution paid upon proof of recovery. The rebate system coupled by a fiscal regime would also provide an incentive for producers to invest in cleaner technologies. Demanding payment on importation or manufacture will reduce the possibility of under-declaration. Partial payment should be considered as a measure to mitigate against producers’ cash flow problems.

The VAT Department has been entrusted with the role of managing and monitoring eco-contribution. This body acts as a reference point on matters relating to eco-contribution in order to reduce the number of free-riders.

Producers must be provided with alternatives prior to the revision of the eco-contribution and the increase in enforcement and penalties. Government intends to provide for, through legislation, the establishment of licensed schemes. Consideration will also be given to legislating in favour of one mandatory scheme per sector where economies of scale are an issue. These licensed schemes need to be encouraged, through the provision of adequate incentives. A revision in the Business Promotion Act is envisaged to provide for the qualification of such schemes for incentives provided by the Malta Enterprise.

These licensed schemes would be responsible for the collection and final disposal. If Government had to allow for one mandatory licensed scheme per sector, sound justification would be demanded to concede such an arrangement. Justification would be granted if pre-determined criteria are met. These criteria would include infrastructural and logistical requirements, economies of scale and the long-term financial sustainability and feasibility. In this context, audit trails would acquire crucial importance and an effective regulatory authority would be required.
The establishment of licensed schemes would be consonant with promoting producer responsibility and the recovery of resources. These licensed schemes would induce a change in behaviour and would encourage waste producers to shoulder responsibility for the treatment and disposal of the waste generated.

Since a new engineered landfill site (Ghallis) is in operation and other waste treatment / processing facilities are being constructed, the former waste disposal sites at Maghtab and Wied Fulija in Malta and Qortin in Gozo are being or will be restored and in the future these will be returned to some form of beneficial use.

Detailed site investigations revealed that if no intervention takes place former dump sites may pose some threat / risk to public health. As a consequence, in situ measures will be adopted for the rehabilitation and restoration of these sites. Preliminary proposals for the rehabilitation of the three sites have been drawn up and a tender worth 8.4 M Euros, co-financed through Structural Funds, will be implemented by July 2007. Concurrent to all this, an extensive monitoring regime is being established to ensure the situation remains within control.

Government is considering developing a Master Plan for the rehabilitation of the whole Maghtab waste management complex. This Master Plan will focus on determining an end use for the rehabilitated Maghtab dump whilst incorporating the new facilities into the whole concept. This should not merely be a landscaping project but an opportunity to create a landmark of national significance. The current waste management facilities should be incorporated as part of the whole park as this would provide an educational spin about the waste we, as an individual, produce. Government has issued a detailed master plan design competition to be evaluated by a panel of national and foreign experts.
3.2.15.2 Charges and Fees

As shown under chapter 2.7 most of the charges and fees for waste management in Malta are far away from the implementation of the polluter-pays principle or from the requirement of the extended producer responsibility. In order to cope with the relevant EC-Regulations like Waste-Framework Directive, Landfill Directive, regulations for packaging, batteries and accumulators, WEEE, End of Life Vehicles there must be a significant change in Malta towards charges and fees which represent the actual costs for waste management and these costs have to be raised from the waste producers. Of course, such changes cannot be achieved in one step but need transition periods for industry, commerce and citizen. First steps have been made:

The experience of the pegging of charges for disposal at authorised construction and demolition landfills with the charges being incurred by Government was introduced over a three year period and today mirrors the principle of full cost recovery. These charges are thought to have been well absorbed by the construction industry as the amount of landfilled C&D waste kept rising year after year.

Government should ultimately aim towards ensuring full cost recovery of all its existing and new waste management facilities without causing any significant social or economic disturbances. WasteServ Malta Limited was created with the main objective of providing waste management facilities and services as a last resort operator. It is hence Government’s aim for WasteServ to farm out as many of these facilities and services as possible and to ensure that their building and operation comes at zero cost to Government. WasteServ should be used to safeguard the interests of the public such that any very expensive service continues to be provided by WasteServ particularly if this can be provided at a cheaper cost. However, the financial regulations for the sector should ideally set parameters which delimit fees, in proportion to the characterisation of the associated costs, which any private operator would be allowed to charge.

Waste management facility financing should ultimately be derived from the fees that are charged for the disposal of waste to be managed by the same facility. Most of the waste arriving at facilities results either from municipal solid waste, collected by Local Councils, from individual households or directly from individual (or a group of) producers.
To this effect it is intended that all gate fees of Government owned facilities be revised to reflect the true cost of managing that waste. This will also require adjustments of the financing that is currently made to WasteServ and Local Councils for the management of waste. Moreover, such a scenario would pave the way for the divestment of the management of such facilities by Government thereby leading to a more competitive market in the waste management sector.

3.2.15.3 Possibilities for Waste Incineration

Two potential scenarios are presently discussed: digestion as the preferred method of treatment or the move towards incineration as a means for securing volume reduction; both methods allowing for the recovery of energy from waste, digestion from the biodegradable fraction, incineration in addition also from the non-biodegradable but high caloric contents of residual waste like paper, plastic, wood. The choice will have to be based on a number of criteria not least the following:

- availability of sites for landfilling in the future;
- availability of sites for the setting up of other waste management facilities
- population contribution towards effective separation of waste at source;
- meeting of recycling targets;
- energy recovery efficiency;
- environmental considerations, including climate protection.

Government shall endeavour to consolidate as much as possible the waste streams generated with a view to minimising the amount of different waste treatment plants required. To this effect, Government will explore the possibility of consolidating the following waste streams:

- agricultural waste and the organic fraction of MSW;
- sewage sludge and agricultural waste and/or part of the organic fraction of MSW;
- mixed waste and refuse derived fuel (RDF).
A compromise, and possibly more realistic solution, would be to move towards a strategy wherein the incineration of waste will complement the further addition of digestion plants. Malta needs to realistically understand the maximum potential that exists for separation with a view towards determining the magnitude of the residual component of mixed waste. A move towards having a degree of incineration will provide the additional flexibility to maximise the lifespan of the Ghallis landfill which space is being consumed at an alarming rate.

The incineration facility would be in a position to:

1. reduce the amount of waste going to landfill thereby prolonging the lifespan of this facility and postponing the need for new landfill space for some time;
2. permit the recovery of energy from refuse derived fuel which, although currently being produced, cannot be fully utilised. This is particularly significant in the light of current oil prices as well as Malta’s commitment to reduce its dependency on the use of fossil fuels;
3. recover energy from the mixed waste fraction which, when disposed to landfill, is, in the main, mostly forfeited;
4. contribute towards our energy recovery targets, and
5. contribute to our goals for climate protection.

The Twinning Project between Malta and Austria which resulted in a deliverable entitled “Waste to Energy in Malta – Scenarios for Implementation” provides a number of scenarios which could stimulate further the debate for the incinerated part of our waste. A feasibility study which was co-financed between Malta and Germany investigated the possibilities of using the energy contents of non-recyclable wastes for energy production to desalinate seawater and secure the supply of drinking water in Malta at reasonable costs. The investigation produced attractive scenarios for Malta and other islands in the Mediterranean with waste and water problems to go this way.

A decision to opt for the provision of an incineration facility with energy recovery to supplement Malta’s biological treatment capacity will not mean that biological treatment will be solely undertaken at the Sant’ Antnin facility only. On the contrary, all efforts to achieve the highest volumes of ‘pure’ organic waste will continue. The aforementioned stratification
of waste streams shall also serve as a means to ensure that digesters have an economical volume of waste directed towards them.

Taking into account the various ongoing developments in the sectors that contribute towards solid and liquid waste management, the following specific options will be considered as the most favoured configuration:

1. the development of a second mechanical biological treatment plant towards the North of Malta with a view towards treating organic waste that will not be treated at Sant’ Antnin and which will be combined with animal husbandry waste from the same catchment area. This plant would also be in a position to accept sewage sludge from the Malta North sewage treatment plant. The Ghallis waste management complex would be Government’s preferred site in the light of its committed use in favour of waste management operations but this will be considered in a matrix of alternatives that could potentially house these waste management facilities and operations.

2. the development of a third, small scale mechanical biological treatment plant in Gozo that would treat all the organic fraction of the MSW as well as all animal husbandry waste. This plant would also be in a position to accept sewage sludge from the Gozo sewage treatment plant. The Tal-Lewz site is proposed to be one of the sites to be considered in a matrix of alternatives.

3. the development of an incinerator with energy recovery for the treatment of the residual fraction of waste, including RDF derived from the mechanical separation of MSW and rejects from the sorting of dry recyclables at the MRF. In identifying a potential site, it is recommended that cognisance is taken of possible synergies with the Delimara power station. The upgrading works that the power station is to undergo in order to meet increased output demands and the possible use of the tunnels being constructed by Enemalta between Marsa, Marsascala and Delimara to transport RDF to an eventual thermal treatment plant in Delimara are both being considered with a view towards determining the feasibility of sites in the vicinity of the power station for such purpose. Should the Delimara site prove to be technically feasible, it would represent Government’s preferred choice for this incineration facility.

### 3.2.15.4 Implementation of the new EC Waste Framework Directive

Within the same time frame government will take or intensify the necessary actions in order to implement – as far as not yet achieved – the existing obligations related to the Landfill Directive and to the European Directives on Extended Producer Responsibility.

The implementation of most of the new waste management targets from the Waste Framework Directive covers longer time frames up to the year 2020. It is intended to tackle the relevant programs, measures and actions in Malta within the next update of this Waste Management Plan, which will be due for the year 2013.

### 3.3 Cooperation at the EU and in international levels

Malta had received clearance from the EU for three Twinning Contracts:

- with Germany (ended in spring 2007) on the implementation of EU-Producer Responsibility Directives and other EU-Regulations. The project also included training of Maltese employees in different waste management activities, including training on trans frontier movement of wastes, eco-councillors training and on measures to increase public awareness on waste;

- with Austria (ended early 2008) on construction and demolition waste and on waste to energy issues;

- with Austria a Twinning-Light Contract for monitoring and control systems for hazardous waste streams, and

- with Germany for a bilateral study (2008) how waste-to-energy could be used to desalinate seawater to produce drinking water “Waste-to-Water”.

All these activities have contributed significantly to prepare the necessary decisions for improving the systems for an environmentally friendly waste management in Malta, which is still an ongoing process.

### 3.4 Shipment of Waste
The competent authorities designated for the purposes of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipment of waste will object systematically to such shipments of waste. This ban will be incorporated into national legislation. The Commission will be notified of these measures in accordance with Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste.

The Malta Environment and Planning Authority will be exploring the possibility to draft a separate Management Plan for Exports, Imports and Transit of Waste for Malta, which may, where deemed appropriate:

- contain policies on the bringing into, or dispatch from, Malta waste for disposal and/or recovery. This would implement Article 7 of Directive 2006/12/EC of the European Parliament and of the Council on waste; and
- require the competent authorities of dispatch and destination to object to shipments of waste that do not comply with that plan.

In addition, the Malta Environment and Planning Authority will be exploring the possibility to draft a national legislation implementing Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, which may, where deemed appropriate:

- set out transitional arrangements that apply to shipments of waste to Latvia, Poland, Slovakia, Bulgaria and Romania;
- set out the requirements that apply to shipments of waste to and from Malta to and from other member States;
- apply to exports of waste from Malta to third countries;
- apply to imports of waste into Malta from third countries;
- apply to transit of waste through Malta to and from third countries;
- set out additional duties of notifiers, persons who arrange shipments of waste subject to the general information requirements, operators of facilities, consignees and
laboratories in respect of the shipment, recovery or disposal of waste in Malta, as well as additional duties on carriers;


- provide for competent authorities to recover the costs of take-back under Articles 22 and 24 of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste;

- set out the procedure applicable to the application for an approval of a financial guarantee or equivalent insurance;

- provide that the Regulations must be enforced by the competent authorities and that any person authorised by a competent authority has the powers including powers of entry and powers to serve enforcement and prohibition notices and powers to seize waste;

- give powers to competent authorities to enable them to carry out their take-back functions under Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste; and

- give powers to Customs officers to detain waste.

### 3.5 Time Lines

Construction/operation/remediation of facilities by/for WSM:

**Facilities for collection:**

- Civic Amenity sites – 5 sites will be established by the end of 2008/early 2009;
- Bring-in sites – 400 sites will be established by the end of 2008/2009;
- Curb side collection of dry recyclables since May 2008;

**Storage:**

Intermediate storage and treatment facility for hazardous wastes will be established by the end of 2010;

**Landfilling:**

**MSW:**

- The non-hazardous waste landfill at Ta’ Zwejra started to operate on 1 May 2004 and is now exhausted. The gas management system and capping has been installed by mid-2008;
• The non-hazardous waste landfill at Ghallis started to operate in October 2006 and is expected to have a lifetime of a minimum of 7 years.

Hazardous waste:
• The hazardous waste landfill is under construction. It can start to operate when the IPPC permit for the facility is approved. The IPPC application is currently being reviewed by MEPA.

Inert waste sites:
• Disused and exhausted quarries are being used for the deposit of inert waste (C&D / excavation)

Waste Treatment:
• Digestion – The facility at Sant Antonin will be completed and commissioned by third quarter 2009;
• MRF – The facility has been completed and commissioned by January 2008;
• Civil Abattoir Incinerator – is in test-operation and will be commissioned in 2009.

Closing down and remediation of old facilities:
• The Qortin and Magtab dumps were shut down on 30 April 2004 and are currently being rehabilitated together with another old dump (Wied Fulija) which was shut down in 1996. The project will be completed by end 2008.

Policy decisions:
• First update of a Solid Waste Management Strategy for the Maltese Islands by January 2009 (Consultation Document)

4 Consultation Mechanism

4.1 Information Strategy

Information and communications are equally important as they will ensure that unilateral approaches are avoided and that all interested stakeholders have a real and true opportunity to participate in a process. Waste management is no exception to this and it is clear that the number of stakeholders involved is wide and varied. Government recognises the need to allay any fears as well as to rope in all those who are willing to contribute concrete and tangible proposals that enhance the waste management capabilities of Malta.

An important step will be to provide data and information on waste issues:
Data and information on wastes and waste management activities need to be collected, processed and analysed for a variety of reasons, including:

- to provide essential input to the planning, development, management and control of waste management facilities and services;
- to provide the necessary data and information for effective monitoring, inspection and enforcement;
- to fulfil the reporting obligations concerning waste management required by EU legislation; and
- to inform and facilitate communications with stakeholders, in particular producers and transporters of wastes, operators of waste management facilities and the general public.

MEPA had started an opinion poll already in 1999 which included 5,700 answers from representative people on environmental questions. Concern with waste and public cleaning emerged as one of the most important issues: e.g.

- 76% of the population agreed to separation of household waste at source; only 18% disagreed
- 84% of the population agreed to skips in central locations for separated wastes, only 12% disagreed
- 59% of the population agreed to the construction of a waste incinerator in Malta; 26% disagreed, and
- 63% of the population would disagree with sea dumping of C&D waste; only 24% would agree.

The scope and quality of data and information about wastes and waste management activities have improved to some extent in recent years, but there are still some major gaps and weaknesses, notably:

- insufficient or inadequate data and information about some waste streams e.g. the quantities and types of hazardous wastes; the composition of Municipal Solid Waste;
- insufficient or inadequate data and information about some waste producers, transporters and facilities; and
- the lack of a comprehensive system and procedures for classifying, collecting, processing, analysing and disseminating data and information on wastes and waste management activities in a consistent and standardised format.

The European Commission has issued a number of decisions and clarifications relating to the collection and reporting of information on waste management.
The Malta Environment and Planning Authority (MEPA) is responsible for developing and managing a national waste management information system. Implementation requires the establishment of a national computerised database for data storage, processing and retrieval, supported by integrated systems and procedures for data gathering, verification and reporting. This information system should also cater for dissemination to the public of waste management information and data. MEPA shall also compile a Waste Management Register, which would provide the public with information about all permitted waste facilities and activities. This register shall be made available online on the MEPA website.

The setting up of such systems, that in any case are essentially required for reporting purposes to the European Commission, would require MEPA to dedicate more trained human resources towards this scope. To date, MEPA’s main priorities in this area were on the transposition of the EU’s waste management Acquis. Little progress has been registered on actually developing waste management data and information systems. This issue needs to be given higher priority in the implementation phase of this waste management plan.

Implementing a waste management plan obviously involves change and the achievement of objectives. In any society or community, the interests and aims of different organisations and individuals do not always coincide. As a consequence, it is usually necessary to overcome a variety of institutional and social barriers if the objectives are to be reached. The main purposes of the planned stakeholder communications programme will be to inform stakeholders on how strategic objectives are being proposed and to respond to any concerns, try and reconcile any conflicting or competing interests, and build consensus for implementing the actions foreseen in this plan. At times communication with stakeholders will also be undertaken in order to obtain ideas of how a particular objective may be implemented such that Government, together with interested stakeholders, could take forward together certain initiatives in a collaborative manner.

In fact this waste management plan will be launched as a consultation document for all stakeholders to forward their feedback such that the final update reflects Government’s position after the consultation process.

In the context of plan implementation, communications support will be provided in a variety of ways, for example in order to:
facilitate the process of consulting on, reviewing and subsequently updating the plan;

- obtain information and feedback on key issues from stakeholders during plan implementation;

- address concerns and objections, and hopefully win local acceptance and co-operation, with regard to the development of new waste management facilities; and

- identify practical constraints of waste management, and the importance of cost recovery for waste management services.

The information programme will distinguish between the needs for environmental education / awareness-raising and develop an appreciation and understanding amongst key target groups of the economic realities on the one hand, and the needs for stakeholder relations and communications on the other. The former mainly involves a constant one-way process (i.e. selected concepts, ideas and information are continually presented and transferred to particular target groups) aimed at bringing about fundamental long-term changes in social attitudes and behaviour, whereas the latter usually entails a two-way process of limited duration intended to generate a specific reaction or response on the part of a target audience or group within the short-term e.g. to identify and address the concerns of the local community in connection with the development of a new waste management facility. Although to some extent inter-dependent, each element will require a different approach and different skills / resources.

4.2 Increasing Public Awareness

Priority and greater prominence will continue to be given to waste management issues in educational curricula and programmes. Although the subject of environment and environmental protection in general is covered within existing curricula and programmes, only little emphasis or attention is currently given to waste management issues, or to promoting changes in social attitudes and behaviour concerning waste management among young people. Today’s schoolchildren and students are tomorrow’s opinion formers, decision makers and service providers. Moreover, experience in other European countries also shows that schoolchildren and students can exert considerable influence over the attitudes and behaviour of their parents and other older members of society.
The waste management plan proposes to intensify the campaign for good waste management through the dissemination in all educational institutions of knowledge in respect of environmental information, in the case with particular emphasis on waste management aspects. The implementation of waste separation programmes in schools is also considered to be a priority.

Interventions in the educational field will be carried out in collaboration with the competent authorities but will focus on primary, secondary, tertiary and vocational aspects. It is envisaged that whilst a number of school based roadshows will be undertaken, students will also be exposed to the employment opportunities within the sector. Moreover, existing curricula will also be reviewed in order to attempt to offer more input into students’ studies in terms of environmental education.

4.3 Education and Training of Waste Management Experts

The need for effective monitoring and enforcement will also be a central theme of the educational and communications programme. The enforcement of environmental regulations and standards has been underestimated in the past, and the importance of effective enforcement has not yet been fully recognised and accepted by all sections of our society.

While there is evidence to suggest that people in Malta have become generally more concerned about environmental issues in recent years, the fundamental shifts in social attitudes and behaviour required to bring about a major and sustainable improvement in waste management have yet to occur. Legislation and standards, and their effective enforcement, provide the cornerstone for environmentally sound and cost-effective waste management.

While acknowledging the need for educating stakeholders about the benefits and necessity of good waste management practices, this waste management plan intends to place an additional effort on the strengthening and taking of actions intended to enforce good practice and to make this initiative an educational tool. This in addition to all the educational efforts that need to be undertaken at all levels of the educational curriculum. Increased enforcement initiatives would
inevitably place an increased demand for more adequately trained enforcement personnel at MEPA, which has already been stressed in other parts of this plan.

4.4 Creating Political Support

There are many politicians as well as several active environmental NGOs with a keen interest in waste management. Their interests, policies and activities differ in various respects, but all have a declared interest in improving waste management standards and practices and in promoting changes in social attitudes and behaviour regarding wastes. Some NGOs are primarily campaigning organisations, whereas others are focused more on environmental education and working with local communities.

It is therefore intended to establish a forum for continuing dialogue between NGOs and the Government, and a mechanism for co-ordinating and supporting NGO activities in areas such as stakeholder communications, environmental education and awareness raising. To this effect, a standing committee shall be established by the Ministry responsible for the Environment where key representatives of public agencies meet regularly with representatives of NGOs and other interested stakeholders. The outcome of the work of this standing committee should also feed into subsequent review of the Waste Management Plan for Malta.

5 Implementation Phase

The results of the implementation of this first comprehensive Waste Management Plan for the Maltese Islands will be reviewed and reported on a regular basis.

Short reports about the major progress or problems of implementation will be prepared on a regular basis.

A comprehensive report including the first update of the Waste Management Plan will be prepared five years after the formal decision about this Plan.