



BILLET D'ÉTAT

WEDNESDAY 31st JANUARY 2007

**ENVIRONMENT DEPARTMENT
WASTE DISPOSAL**

**I
2007**

B I L L E T D ' É T A T

TO THE MEMBERS OF THE STATES OF THE ISLAND OF GUERNSEY

I have the honour to inform you that a Meeting of the States of Deliberation will be held at **THE ROYAL COURT HOUSE**, on **WEDNESDAY**, the **31st JANUARY, 2007**, at 9.30am, to consider the item contained in this Billet d'État which has been submitted for debate by the Policy Council.

G. R. ROWLAND
Bailiff and Presiding Officer

The Royal Court House
Guernsey
8 December 2006

ENVIRONMENT DEPARTMENT

WASTE DISPOSAL PLAN

The Chief Minister
Policy Council
Sir Charles Frossard House
La Charroterie
St Peter Port

12th October 2006

Dear Sir

CONTENTS

Main Report

- Section 1 Executive Summary
- Section 2 Background
- Section 3 Work-Streams
- Section 4 Private Sector Materials Recovery Facility
- Section 5 Waste Management Plan – Elements
- Section 6 Green Waste Composting and Civic Amenity Sites
- Section 7 Impact on Waste Tonnages
- Section 8 Enviros – Appointment
- Section 9 Enviros – Waste Data
- Section 10 Enviros – Modelling of Selected Waste Treatment and Disposal Scenarios
- Section 11 Enviros – Technologies Appraisal
- Section 12 Solution Search
- Section 13 Technology Preference

Section 14	Procurement
Section 15	Waste Strategy
Section 16	Soft Marketing
Section 17	Supporting Infrastructure
Section 18	Draft Interim and Long-Term Waste Disposal Plan
Section 19	Relationship with other Major States Projects
Section 20	Conclusions
Section 21	Recommendations

APPENDICES

Appendix 1	Work Stream Matrix
Appendix 2	Letter to the Policy Council – The Future of Solid Waste Disposal in Guernsey
Appendix 3	Enviros Report – Waste Strategy Review – Data, Projections and Markets
Appendix 4	Enviros Report – Modelling of Selected Waste Treatment and Disposal Scenarios
Appendix 5	Enviros Report – New Technologies for the Treatment of Residual Waste
Appendix 6	Letter to all States Members – Waste Management
Appendix 7	Solutions Search Evaluation Criteria and Evaluation Results
Appendix 8	Draft Waste Disposal Plan
Appendix 9	Glossary

1. Executive Summary

- 1.1 Under the Environmental Pollution (Guernsey) Law, 2004 part V, which was enacted by the Environmental Pollution (Guernsey) Law, 2004 (Commencement and Designation of Waste Disposal Authority) Ordinance, 2006 the Advisory and Finance Committee is required to lay before the States draft Waste Disposal Plans. The functions of the Committee were transferred to the Environment Department under The Machinery of Government (Transfer of Functions) (Guernsey) (No. 3) Ordinance, 2006. At the same time various functions which rested with the Public Services Department, in relation to the preparation of a Waste Disposal Plan, were also transferred to the Environment Department.
- 1.2 As a result of the resolutions of the States, Billet d'Etat V, May 2005, the Environment Department is required, inter alia, to report back to the States on the potential options to deliver a long term solution to Guernsey's future waste needs.
- 1.3 As a consequence of the above, this report sets out the status of the various work streams resulting from the May 2005 resolutions, makes recommendations on how to progress the procurement of the end disposal infrastructure required to deliver a long-term waste management strategy, and recommends a draft Waste Disposal Plan for adoption by the States. In recognition of the fact that the long-term Waste Disposal Plan cannot be fully enacted until the necessary infrastructure has been procured and commissioned and in recognition of the fact that to allow for this steps must be taken to protect the life of Mont Cuet Landfill, this report also recommends various short term interim measures within the draft Waste Disposal Plan.
- 1.4 In preparing the draft Waste Disposal Plan the Department has carried out the statutory consultations required under the Control of Pollution Law.
- 1.5 A glossary of terms is provided at (**Appendix 9**)

2. Background

- 2.1 Waste disposal in Guernsey has been the subject of at least fourteen States debates over the last twelve years. In July 1994, the States considered two reports which both highlighted the conflicting demands of the identified needs of water storage, stone extraction and the urgent requirement for new putrescible waste disposal facilities. The States reaffirmed previous decisions that Mont Cuet should be the island's next putrescible landfill site and resolved not to pursue stone extraction on the Chouet Headland. The States directed the Advisory and Finance Committee to carry out a comprehensive assessment of the Island's most appropriate future strategy for the disposal of all Island waste.
- 2.2 In November 1994, the States considered the Advisory and Finance Committee's review of the Strategy on Waste, Water and Stone and resolved

that local requirements for stone should be met from Les Vardes Quarry until circa 2020.

- 2.3 In June 1997, the Advisory and Finance Committee submitted its Liquid Waste Strategy Report (WSA1). This strategy preceded the Solid Waste Strategy as it was acknowledged that the solid waste strategy would need to take account of any solid waste streams (sludge) that might result from the liquid waste treatment works. The States resolved, in principle, that sewage should be treated to an appropriate standard and that the Public Thoroughfares Committee should prepare a business plan taking note of that decision. In April 1999, the States resolved, in response to a policy letter arising from an amendment to the former Public Thoroughfares Committee's Business Plan, that sewage treatment should be centralised at a single location unless there were overriding reasons to consider localised treatment.
- 2.4 In June 1998, the Advisory and Finance Committee submitted its Solid Waste Strategy Report (WSA2) and the States resolved in principle that Les Vardes Quarry was unsuitable for the landfill of putrescible waste. The Committee's report acknowledged that export of waste for disposal was not sustainable and that there were no other suitable landfill sites available on island. As a consequence the report recognised that a sustainable waste disposal strategy must be centred on waste volume reduction by incineration in a Mass Burn Energy from Waste (EfW) facility. The States directed the Board of Administration to investigate the feasibility of commissioning an EfW facility.
- 2.5 In April 2002, the States considered the Island Development Committee's report setting out the findings of the Planning Inquiry into the Longue Hougue site which had been identified, as a result of a two year Environmental Impact Assessment, as the preferred site for the location of the EfW facility. The States resolved that an integrated waste management facility should be constructed at Longue Hougue including an EfW facility, a Materials Recovery Facility (MRF), a CA site and a scrap metal yard. Longue Hougue was chosen after other possible sites in Guernsey were subjected to an Environmental Impact appraisal by independent consultants in accordance with best practice. The findings of those consultants were subjected to peer review by the Institute of Environmental Management and Assessment before becoming part of the body of evidence submitted to the Independent Planning Inquiry. The Planning Inquiry supported the use of Longue Hougue and this view was endorsed by the States.
- 2.7 In June 2002, the former Board of Administration, in accordance with the directions of the States, presented proposals in respect of the procurement of a Mass Burn EfW facility. The procurement route proposed by the Board and approved by the States was for a design, construct and two year operate contract to be signed by a Special Purpose Company wholly owned by the States of Guernsey. The Board was directed to proceed with the seeking of tenders.

- 2.8 In September 2003, the States considered the outcome of the tendering process and post tender negotiations and resolved to procure the EfW facility through a two-stage contract let with Lurgi UK. The first stage conducted between October 2003 and May 2004 involved the detailed design of the plant and the securing of all necessary permissions. The second stage of the contract would have been the construction of the facility and its operation for two years.
- 2.9 In June 2004, the States resolved to appoint an Independent Panel of Inquiry (The Panel) to review the future of solid waste disposal in Guernsey and resolved that the signing of the second stage of the contract with Lurgi UK should be deferred. The findings of the panel (The Report) were made public in January 2005.
- 2.10 In May 2005 the States considered the Environment Department's response to The Report along with the Department's recommendations on further work and investigations. The Department took the opportunity to include as part of its States Report the Draft Waste Management Plan prepared to deliver the strategy approved by the States prior to 2004. The resulting resolutions of the States largely formed the work streams undertaken by the Environment Department from June 2005 and reported on in this States Report.
- 2.11 In November 2005 the States considered the Environment Department's report on Inert Waste Disposal and resolved to confirm its previous resolutions in respect of the reclamation of Longue Hougue by placement of inert waste.
- 2.12 In February 2006, the States considered the Environment Department's report on Waste Disposal – Joint Facility with Jersey and resolved that a joint Channel Island incineration facility did not present an acceptable long-term strategy for Guernsey.
- 2.13 In July 2006 the States considered the Environment Department's report Export of Waste and resolved that export of waste to Europe as an interim strategy was not acceptable.

3. Work-Streams

- 3.1 Before setting out the work-streams undertaken since the May 2005 debate (Billet d'Etat V, 2005) it should be stressed that, at present, the States previous strategy approved in September 2003 remains largely intact. Whilst signing of the second stage of the EfW contract with Lurgi was deferred pending further investigations and whilst individual States members have challenged the appropriateness of the Longue Hougue site and the desirability of future landfill, the decisions of previous Governments have not been rescinded. In addition the previous strategy was based on economically justifiable recycling and whilst the States has subsequently supported the Environment Department's proposals for enhanced recycling as an interim measure, the previous States decision that the

long-term strategy should be based on economically justifiable recycling has not been amended.

3.2 The resolutions of the States, since May 2004, have directed the introduction of additional work streams or the carrying out of supplementary investigation and research but their effect has not, to date, been to introduce a new alternative strategy. As a consequence a new draft Waste Disposal Plan has been prepared, as part of this States Report, for consideration by the States in accordance with the provisions of section 31 of the Environmental Pollution (Guernsey) Law 2004. This plan affords the States the opportunity to formally endorse a revised strategy.

3.3 The resolutions of the States in May 2005 are set out below along with a comment (in bold) on the status of the work stream:

1	To direct the Environment Department, in consultation with the UK Department for Constitutional Affairs, to seek agreement to Duly Motivated Requests submitted to France and Germany for the export of municipal solid waste	Completed
2	To agree not to wait until 2008 to determine a long-term waste management strategy.	Completed
3	To agree that the Environment Department shall continue to investigate the potential of working jointly with Jersey as set out in paragraph 11.10 of that Report and report back to the States at the earliest opportunity.	Completed
4	To authorise the Environment Department, in liaison with the Treasury and Resources Department, to appoint new independent consultants to carry out waste audits and predict future waste arisings as set out in paragraph 14.5 of that report.	Completed
5	To authorise the Environment Department, in liaison with the Treasury and Resources Department, to work with DEFRA's independent consultants as set out in paragraph 15.3 of that Report and report back to the States at the earliest opportunity.	Completed
6	To agree that air pollution monitoring should continue at Longue Hougue pending a decision on the long-term waste disposal strategy and that all associated costs and utilities standing charges continue to be raised against the EfW loan facility.	Ongoing

7	To agree that the Environment Department should pursue those interim waste minimisation and recycling initiatives set out in section 14 of that Report, but so as also to include the recycling of plastic PET bottles,	Ongoing
	but: (a) with the exception of the initiative (set out on page 531) <i>'In liaison with the Public Services Department and the private sector, pilot the diversion of mixed waste from Mont Cuet to waste sorting facilities for segregation'</i> ;	Completed
	and (b) to direct and authorise, as a matter of the highest urgency: (i) the Environment Department, to identify, in liaison with the Public Services Department and the private sector, the most advantageous site suitable for the sorting of all mixed waste:	Completed
	(ii) the Treasury and Resources Department, to approve the issue	Completed
	and acceptance of tenders to set up, provide plant for, and operate such a site for a minimum of 3 years;	Ongoing
	(iii) the Environment Department, in liaison with the Public Services Department, to take all such other measures as are necessary for all mixed waste to be diverted to such a site, in order to minimise the waste entering Mont Cuet.	Ongoing
8	To direct the Treasury and Resources Department to authorise the Department to appoint, on a three year contract, additional resources [a recycling officer] as set out in paragraph 18.4 of that Report.	Completed
9	To direct the Treasury and Resources Department to take account of the revenue and additional staff costs, of introducing interim waste minimisation and recycling initiatives, as set out in section 18 of that report and to increase the Department's budget accordingly.	Completed.

10	To direct the Environment Department to report back to the States on those areas of the Waste Management Plan that could be resolved in advance of the decision on the long-term strategy, as set out in paragraph 17.6 of that Report	Completed.
11	To direct the Environment Department to explore, as a matter of urgency, the procurement and funding options for a green waste composting facility and civic amenity sites and to report back to the States at the earliest opportunity.	Partially Completed
12	To direct: (a) the Environment Department, by advertisement and other reasonable means, but without delay, to seek from interested waste management and related operators across the globe complete packages of waste management and disposal solutions for Guernsey; and to report back to the States on all such proposed packages by not later than the date on which they report back to the States on their proposed long-term solution to Guernsey's waste problem;	Completed
	(b) the Treasury and Resources Department to allocate adequate funding for the Environment Department to carry out that brief.	Completed

- 3.4 As a result of these resolutions and other initiatives identified by the Department a work-streams matrix was prepared and maintained as a progress monitoring report. The matrix was frequently reviewed at Board level and a copy of the matrix was issued to the Scrutiny Committee. A copy of the current updated matrix is attached. **(Appendix 1)**
- 3.5 It will be noted that generally the work streams fall into one of two categories: firstly, initiatives to reduce, in the interim and on a strictly short-term basis, the amount of waste destined to final disposal at Mont Cuet; and, secondly, studies to review the potential long-term waste management solutions suitable for Guernsey's needs. It is not within the scope of this report to give a detailed appraisal of each of the work streams falling under the first category. Rather, the reader is asked to refer to appendix 1 to identify the key actions and outcomes. In addition, some of the work streams have resulted in subsequent States debates and the reports surrounding those work streams have been listed in section 2 above. This report will not, therefore, repeat the findings in those areas. This report concentrates on the second category of work streams and

specifically the output of the Department's work with Enviro – Resolutions 4 and 5 listed in section 3.2 above; and the output of the solutions search - Resolution 12 listed in section 3.2 above.

- 3.6 However, there are three resolutions that fall into the interim waste diversion category which do require specific mention, these are Resolutions 7b, 10 and 11 listed in section 3.2 above.

4. Private Sector Materials Recovery Facility – The Dorey Amendment

- 4.1 During the May 2005 debate Deputy Dorey laid a successful amendment which directed:

- (i) the Environment Department to identify, in liaison with the Public Services Department and the private sector, the most advantageous site suitable for the sorting of all mixed waste:
- (ii) the Treasury and Resources Department to approve the issue and acceptance of tenders to set up, provide plant for, and operate such a site for a minimum of 3 years;
- (iii) the Environment Department, in liaison with the Public Services Department, to take all such other measures as are necessary for all mixed waste to be diverted to such a site, in order to minimise the waste entering Mont Cuet.

It should be noted that this amendment was part of a broader proposition dealing with interim measures.

- 4.2 The intent of the amendment which was subsequently explored at a meeting with Deputy Dorey, was to facilitate the provision of better facilities to the private sector in order to assist it to undertake the sorting of commercial waste. Although not specifically stated in the amendment it also became clear that a potential solution was to hand over to the private sector the Fontaine Vinery waste segregation facility. This solution presented a number of problems:

- A.) Firstly there was no demonstrable business case to support the claim that handing Fontaine Vinery to the private sector would have resulted in increased waste diversion. Indeed the Department received clear indications that if the facility was handed over to the private sector other existing private sector facilities would close down. Therefore, in terms of waste diversion the perceived benefit of such a simple application of the amendment was far from clear.
- B.) The Fontaine Vinery facility was constructed as a States development and as such fell outside of the planning regime. If it were to be handed to the private sector its operation would come within the planning regime.

- C.) The amendment called for the identification of the most appropriate site. This, therefore, precluded the Department from identifying any specified site or facility without considering the suitability of that site against any others.
- 4.3 As a result of the above the Department commenced a desk stop assessment of potential sites for a new additional private sector Materials Recovery Facility. Not surprisingly Longue Hougue scored highly on all criteria and as a consequence the Department prepared the tender packs, sought expressions of interest, sought the approval of the Treasury and Resources Department to the tender process and issued the tender documentation.
- 4.4 The resulting tender placed all the financial and operational risk back on the States. The tenderer wanted, in effect, a sole licence to the waste, a ten year lease and wanted the States to recompense losses resulting from being requested to vacate the site during the 10 year lease. These losses included: building costs including site prep and consultants' fees; equipment costs; redundancy costs including manpower redundancy costs; and loss of profit. Such a scheme would have been extremely difficult to support even if the 10 year period could be guaranteed. But, as part of an interim initiative located on a temporary site - the vacation of which within the 10 year period was almost a certainty – the proposal was totally unacceptable. This view was endorsed by the Treasury and Resources Department.
- 4.5 The Department has relayed its reasons for rejecting the proposal to the tenderer both in writing and at a meeting. The tenderer has been invited to discuss alternative proposals with the Department and the Department continues to explore means by which Deputy Dorey's amendment can be implemented.

5. Waste Management Plan - Elements

- 5.1 Within its May 2005 report the Department recommended the States to direct the Department to report back to the States on those areas of the Waste Management Plan that could be resolved in advance of the decision on the long-term strategy, as set out in paragraph 17.6 of that Report (Resolution 10 in section 3.2 above). Section 17.6 of the 2005 report states:

“Work had progressed on preparing a WMP seeking to implement the previous strategy of the States. As indicated in section 8 above, some areas of this Plan will need to be reassessed and re-specified if the decision is taken to move forward with a non-incineration based treatment facility. However, elements of the Plan could potentially be discussed in advance of a decision on the long-term strategy. These include funding mechanisms and the extent to which the polluter pays principle should apply, procurement routes and the privatisation option, as well as monopoly regulation mechanisms, ownership of waste and

hence the ability to guarantee income streams to private funders. The Department will identify those elements of the WMP that it feels can be debated in advance of a decision on the long-term strategy and will report back to the States on these issues.”

5.2 States members will appreciate that the issues referred to in section 17.6 of the 2005 report relate essentially to strategic procurement issues. In June 2005 the Department wrote to the Policy Council and Treasury and Resources Department on this issue (**Appendix 2**). Whilst the need to resolve this issue was revisited by the Department on a number of subsequent occasions, regrettably the Department was unable to gain commitment from the other key departments to participate in preparing a procurement strategy at an early stage. The Department, therefore, organised a procurement workshop for all Deputies. This workshop acted as the stimulus for subsequent brief meetings between the Ministers and Officers of key departments which assisted the Environment Department to formulate its own proposals which were formally sent to the Treasury and Resources Department for consultation in September 2006 and are set out in this report. As a consequence the Department has not been able to submit an earlier report to the States in accordance with resolution 10 in section 3.2 above.

6. Green Waste Composting and Civic Amenity Sites

6.1 Within its May 2005 report the Department recommended the States to direct the Department “to explore, as a matter of urgency, the procurement and funding options for a green waste composting facility and civic amenity sites and to report back to the States at the earliest opportunity (Resolution 11 in section 3.2 above). Both of these work streams have been investigated.

6.2 The Department had early discussions with its consultant Enviro on the advisability of entering into early procurement of an in-vessel composting facility for green waste. Enviro advised that it could not be assumed that an in-vessel composting plant was appropriate for Guernsey until other work streams being carried out by Enviro were complete. The Department accepted that until waste arisings data had been validated, waste diversion from disposal potential re-explored and markets tested, it would be premature to seek to procure an in-vessel composting facility. Further Enviro advised that it was possible for green garden waste to be processed within the end disposal facility e.g. within a Mechanical Biological Treatment (MBT) plant. Until further consideration had been given to the nature of the preferred end disposal facility it was considered that expenditure of circa £2 million on in-vessel composting facilities could not be justified.

6.3 The issue with potential Civic Amenity sites was not dissimilar to the in-vessel composting consideration as set out above. The extent to which it is necessary or desirable to separate out items before the end disposal facility is, in part, dependent on the volume of waste arisings, the technology chosen, an option

cost appraisal and the recycling/diversion strategy adopted. Again some technology suppliers argue that their facilities will extract recyclables at the end of the treatment process rather than through pre segregation at the front end.

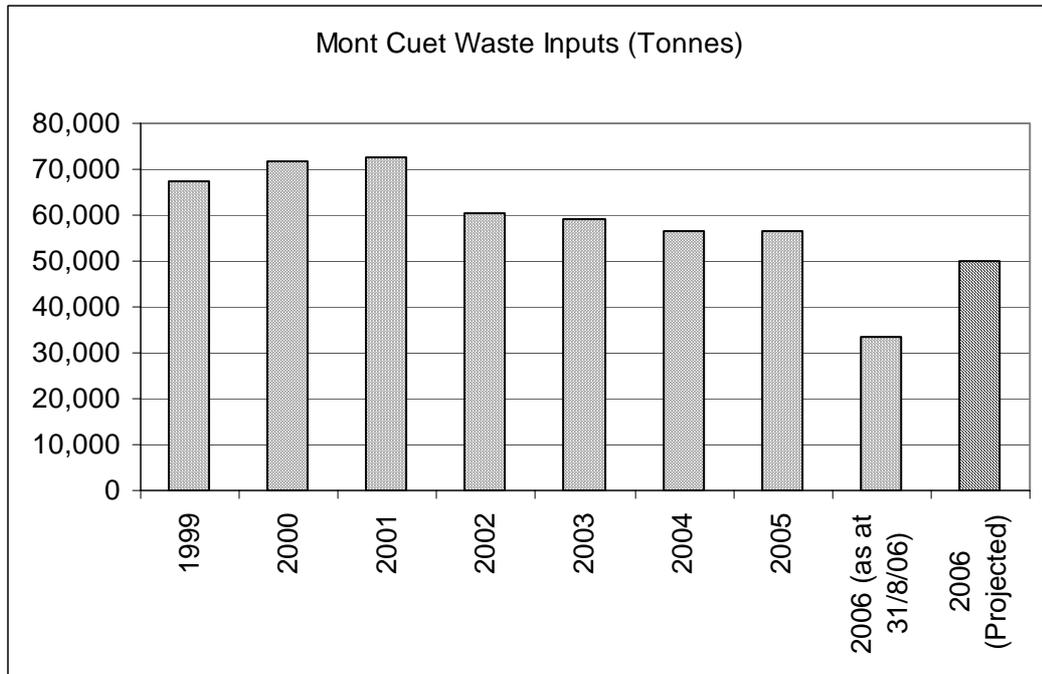
- 6.4 In light of the above the Board considered what interim measures could be put in place pending resolution of the above considerations. The Board gave careful consideration to setting up an additional temporary Civic amenity site at Longue Hougue, to support the facilities already available at Mont Cuet. However, the costs, estimated to be in the order of £225,000, associated with setting up such a temporary facility and ensuring that the facility was fit for purpose, could not be justified. The Board noted that whilst Civic Amenity sites vary greatly across the UK they typically provide reception facilities for inert waste, bulky waste, green waste, metal, wood and oil. With the exception of wood and oil the other waste streams were already well provided for in Guernsey. In particular the free bulk refuse collection service provides a better level of service and greater accessibility than that provided through Civic Amenity Sites. In addition the excellent coverage of bring banks within the island provides readily accessible facilities for dry recyclables.
- 6.5 Nevertheless, the Board felt that more could be done to assist in the diversion of green waste, metal and cardboard. As a consequence the free metal skip scheme was piloted, the cardboard bring banks were introduced, subsidised home compost kits were provided and, with the assistance of commercial premises, additional green waste reception facilities provided. In addition, the Public Services Department has been exploring ways to improve green waste collection and composting. In adopting this approach the Department has provided almost equivalent reception facilities for recyclables without the unacceptable costs associated with setting up temporary Civic Amenity Sites.
- 6.6 In addition to the above initiatives the increased gate fee at Mont Cuet has incentivised private businesses to take a much more responsible attitude to waste management and, along with improved separation at source, a number of other private sector waste diversion initiatives have been introduced.

7. Impact on Waste Tonnages

- 7.1 It is important to appreciate that any trend in waste disposal tonnages at Mont Cuet does not necessarily reflect a trend in waste arisings. Waste arisings is the total tonnage of waste generated annually by the island. The long term trend both in Guernsey and elsewhere is that waste arisings continue to increase and that, to date, there is no evidence to suggest that any jurisdiction has been able to bring about a reduction in waste arisings whilst maintaining a growth in GDP. The general aim is for a reduction or slowing in growth and the best that has been claimed is zero growth. Reduced tonnages received at any given facility do not, therefore, reflect a reduction in waste arisings but rather indicate a diversion of that waste to other treatment/disposal methods.

- 7.2 Notwithstanding the above and whilst not wishing to underplay any strategy to reduce waste growth, Guernsey's principal driver has been to reduce the waste going to landfill and hence extend the life of Mont Cuet. The figures for 2006 demonstrate a major success in this objective.

GRAPH 1



- 7.3 Unfortunately, it cannot be assumed that the reduction in waste tonnage at Mont Cuet can be fully accounted for by increased tonnage in inert waste diverted for reuse or land reclamation and/or recyclables diverted for export. Inert waste tonnage has itself reduced largely due to a slow down in building projects involving deep basement excavations and hence it is not possible to correlate an increase in Longue Hougue inert waste figures with a reduction at Mont Cuet. However, recent provisional waste audit data does indicate that inert waste entering Mont Cuet has reduced by about 75% from 2004 figures. At the same time metal entering Mont Cuet has reduced by about 57% and Cardboard by about 45%. These reductions account for about 60% of the reduction in waste entering Mont Cuet.

TABLE 1

Date	Tonnage of Waste Entering Mont Cuet		
	INERT	METALS	CARDBOARD
2002	2306	3260	814
2004	2843	2576	1394
2006	677	1100	795

- 7.4 It is perhaps noteworthy that the previous strategy, which was based on a Mass Burn Energy from Waste facility, assumed that the historical waste tonnage of 70,000tpa could be reduced to 50,000tpa by the date of commissioning the facility i.e. towards the end of 2006. This target has now been achieved.
- 7.5 Since May 2005 the following initiatives have been introduced to increase the amount of waste diverted from Mont Cuet. The date the initiative was introduced and the tonnage of waste collected are also tabulated.

TABLE 2

Recycling Scheme	Start Date	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Total
Cardboard Banks	13-Dec-05	23.47	69.24	66.24	78.31	107.63	88.79	76.60	90.71	600.99
Kerbside Recycling St Peter Port	14-Feb-06	-	-	9.52	9.56	6.98	9.74	8.56	8.00	52.36
Kerbside Recycling St Peters	25-May-06	-	-	-	-	2.74	6.24	5.60	5.78	20.36
School Paper Banks	03-Apr-06	-	-	-	-	3.06	3.71	7.10	10.32	24.19
Plastic Bottle Banks	05-Jun-06	-	-	-	-	-	-	3.52	8.25	11.77
Green Waste Skips	06-Jul-06	-	-	-	-	-	-	-	47.25	47.25
Metal Recycling Skips	01-Jul-06	-	-	-	-	-	-	-	58.06	58.06

8. Enviro - Appointment

- 8.1 Resolution 4 as set out in section 3.2 above authorised the Environment Department, in liaison with the Treasury and Resources Department, to appoint new independent consultants to carry out waste audits and predict future waste arisings as set out in paragraph 14.5 of that report. Resolution 5 authorised the Environment Department, in liaison with the Treasury and Resources Department, to work with DEFRA's independent consultants as set out in paragraph 15.3 of that Report and report back to the States at the earliest opportunity.
- 8.2 Paragraph 14.5 of the 2005 report advised that the Department would *"commission consultants to carry out a further waste audit with a view to categorising waste types and quantities and applying reasonable projections on future diversion, recycling and growth, in order that this most up to date data can be used to specify the future waste treatment facilities and set short and longer term targets for waste management."* Whilst paragraph 15.3 of the 2005 report advised that consultants to DEFRA *"would be willing to work alongside the Environment Department to examine the nature of the island's waste stream, consider the extent to which waste can be diverted away from end treatment as part of a long-term strategy, identify the types of plant required to deliver those diversion rates, examine the nature of the remaining waste and identify possible packages of treatment plant."*
- 8.3 Enviro had been appointed by DEFRA to oversee the DEFRA new technologies developer programme and to work with UK local authorities to develop information packages, tools and other support to assist those authorities

to develop waste strategies. Enviros was, therefore, appointed under the terms of the above resolutions.

8.4 In order to identify the work streams needed to fulfil the objectives in 8.1 and 8.2 above it was necessary for Enviros to gain a detailed understanding of Guernsey's situation and to understand the drivers behind previous work and previous States decisions. Under phase 1 of its contract Enviros, therefore, carried out a desk top study of all key previous work including previous technical reports, background data and States Reports and Resolutions. Enviros subsequently identified, and the Board approved, the following work streams:

1. Data acquisition including wastes composition. This should identify the nature and types of materials arising, allow direct comparison with the results of studies elsewhere and identify what could be achieved, indicating likely areas of uncertainty regarding current waste arisings;
2. Meeting with the Commerce and Employment Department to discuss economic issues and background. This should verify population and gross domestic product (GDP) data, grounds for growth predictions and associated sensitivities;
3. Market development for recyclates. Opportunities for the processing and reuse of recyclates on Guernsey or neighbouring islands, to benefit from greater economies of scale should be evaluated.
4. Modelling including options for maximising recycling. This should allow predictions to be made, confirming the quantity and types of wastes requiring treatment and indicating potential uncertainties or sensitivities associated with the data and the predictions;
5. Technologies – their costing and method of selection. This should include a comparison of costs and benefits for selected technologies, considering the capacity, timing of implementation and type of treatment processes to be introduced on Guernsey.
6. Procurement options and methods selection, soft market testing. In order to provide treatment facilities, possible procurement options should be explored. The market should be approached to determine the likely viability of selected options.

9. Enviros –Waste Data

9.1 Phase 2 of Enviros' contract addressed the work-streams and issues related to establishing robust waste data namely tasks 1, 2 and 3 as listed in 8.4 above. Enviros' full report is attached (**Appendix 3**)

- 9.2 It is important to understand the context in which Enviros undertook the Phase 2 work and consequently the conclusions. Enviros sought to establish the nature and quantity of Guernsey's waste and to consider how that waste could be dealt with on island other than through final disposal. Enviros also sought to identify the fraction of the waste that could be exported off island as a recyclate. Alongside this Enviros sought to set reasonable predictions for how the waste quantity and nature would change over the life of the strategy (taken as 25 years).
- 9.3 This then allowed a view to be taken on the amount of waste left for on island disposal. As a result of this work Enviros was able to comment on the appropriateness of the decisions previously taken in respect of the Mass Burn incineration strategy and the sizing of the required facility. This should not be taken to imply that Enviros had, at this stage of their work, formed a view on the preferred strategy to recommend to Guernsey or that they had formed a view on the appropriateness of the previous strategy. Rather Enviros was examining the waste data including growth and diversion factors in order to verify or otherwise the robustness of calculations and assumptions made by others in early work.
- 9.4 Whilst the full report is attached, for ease of reference an outline of the approach adopted and the findings is set out below.
- 9.5 As part of the old waste strategy work carried out since 1998, waste data was established for 2001 and this "base line data" was used by ISL (consultants appointed at that time) to predict the expected waste that would be generated in Guernsey in 2004. Enviros reviewed the raw data used to establish the 2001 "base line" waste arisings and reviewed the assumptions used to arrive at what was then the predicted 2004 waste arisings. Only minor discrepancies or concerns were identified in the methods used to establish the 2001 base line data. These were recorded and subsequently further examined. Enviros then compared data that was predicted for 2004 (using the former 2001 base line data and assumptions) with the actual waste arisings for 2004. Again any differences were recorded and commented on.
- 9.6 The conclusion of this work is stated in Enviros' report as:

"The work undertaken for this review has confirmed that the waste arisings data collected in 2001 for Guernsey are reliable and justifiable with the following exceptions:

total of 13,000tpa of inerts (part of mixed C&D waste, based on an assumption later found to be unpredictable); and

a relatively small discrepancy (1012 tonnes) in the amount of C&I waste.

However these waste streams, as modelled by ISL, are likely to have little impact on the inputs to possible treatment plant and therefore require no further investigation.”

- 9.7 The key concern identified was not in the quantity of waste generated but rather in the composition of that fraction of the household waste collected through the Parish collection rounds or through CA sites and the composition of that fraction of the waste classified as Commercial and Industrial Waste. Enviro reported:

“Household, C&I and C&D waste compositions are Guernsey specific. However the data are old and other (UK based) research demonstrates that there have been changes in composition of similar waste types (such as Household and CA) in the U.K. within this timescale. However the impact of changing these compositions when using the Guernsey specific ISL model and assessing the changes on inputs to the facility proposed in the Waste Management Plan is small.”

- 9.8 Notwithstanding the above observation Enviro subsequently undertook a sensitivity analysis to test the impact of changes in the composition of these waste streams on potential future strategies for waste management. The outcome of these sensitivity analyses confirmed that the 2001 base line waste data was sufficiently robust to be used as the starting point for subsequent waste data predictions over the life of the proposed strategy.

- 9.9 Enviro then examined assumptions and data behind predicted future waste growth. This is a key area as, whilst it is impossible to be certain as to future waste arisings over the next 25 years, it is essential to make some assumptions and carry out predictions based on those assumptions in order to size whatever facilities are procured as part of the waste strategy. In 2005 the predictions used as part of the previous strategy forecast that the input would reach 77,000tpa in 2026 from a 2001 base of 49,000 tonnes. These projections were called into question both in a report released by the Commerce and Employment Department and within the report of the Independent Panel. As a consequence it was suggested that the proposed facility had been oversized.

- 9.10 In carrying out its study Enviro met with staff of the Commerce and Employment Department in order to better understand the predictions made in the Commerce and Employment Department’s report. Enviro reported that the forecasted waste growth was:

“ sensitive to the forecast GDP growth, due to the compound nature of the calculation. If GDP growth is forecast in the range 1% to 3%, the corresponding range for waste input to the proposed facility would be 65,000 to 106,000 tonnes in 2026.

The probable differential growth in the economy by sub-sectors was estimated, based on discussion with the Commerce department and

Policy Research Unit of the States of Guernsey, on the basis that different business sectors would be likely to increase their generation of wastes at different rates over time. On this basis the central forecast falls from 77,000 tonnes to 75,000 tonnes for the input to the proposed facility in 2026.

“The possibility that waste generation in some sectors (i.e. Finance & Legal, and Information and the Communications Technology (ICT) & Other Business Services) will not rise proportionately with increased economic output was based on discussion with States of Guernsey’s Commerce department and Policy Research Unit. Assuming a 20% reduction in the change in waste growth with respect to economic growth a further reduction in the central forecast is predicted, to 71,000 tonnes of waste input for the proposed facility in 2026.

“The predicted waste arisings to be delivered to the proposed facility, based on identified assumptions, have been shown to be similar to those used previously.

- 9.11 The final stage of work carried out under this Phase two was to examine the potential to develop markets on island for recyclables. This involved examining what is collected for recycling, how that waste is subsequently handled and the size and type of facilities required. Along with this data acquisition, Enviro considered how handling recyclates on island could develop over the life of the strategy with a view to using that data to feed in to subsequent work on sizing facilities for future strategy options.
- 9.12 Enviro concluded that there was little scope to develop markets for processing recyclates on island. This should not be taken to mean that there is no value in recycling but rather it is a recognition of the fact that most materials that are collected for recycling will need to be exported off island for processing. However, Enviro did confirm previous assumptions namely that *“It is in the areas of organic composting and wood recycling where there is the potential for significant improvement.”*
- 9.13 The work under taken by Enviro in Phase 2 delivered two key outputs. The first key output, of fundamental importance, was that Enviro was able to confirm:

“that the base waste data, assumptions and composition used in the compilation of the Waste Management Plan [i.e. the strategy previously approved by the states] are justified and well documented. Changes which might occur when varying these base assumptions or compositions may have an impact on the waste flows. However they do not appear to produce a significant impact on the tonnage input to the facility proposed in the Waste Management Plan”

As a consequence of this work and the robustness of the data, Enviro was able to progress with subsequent phases of work aimed at modelling waste management scenarios in order to assist in the identification of preferred solutions.

The second output is the reassurance in the validity of past work. Taking the base line data and applying various sensitivities and modelling a number of growth assumptions the size of the required facility was in the order of 70,000 tonnes. Enviro was able to state:

“Having established the overall validity of the base data for wastes, the assumptions were identified for predicting waste arisings in Guernsey until 2026 as part of the development of the Waste Management Plan. These assumptions and the resulting predictions, made using the ISL model, and the overall interpretation of the results contained in the Plan have been shown to be valid”.

- 9.14 States members may recall, during the 2005 debate, on the then proposed strategy, claims that the waste arisings data had been miscalculated and the EfW facility, therefore, oversized. These claims have now been addressed by the Enviro work. In addition members may recall comparisons with the Isle of Man facility which, it was claimed, was oversized at 65,000 tonnes and had insufficient waste. It is perhaps worth noting that the Isle of Man facility is currently processing, after two and a half years of operation, an annual throughput of 63,500 tonnes leaving only 1,500 tonnes spare capacity to deal with the next 20 years of projected growth.

10. Enviro – Modelling of Selected Waste Treatment and Disposal Scenarios

- 10.1 Phase 3 of Enviro’s work sought to assess the effect of different waste management scenarios on extending the life of Mont Cuet landfill site and the potential impacts of the timescales required for constructing and operating the different technologies. The modelling provided a means of comparing the effect of different technologies and recycling scenarios and the output of the total waste tonnage for disposal to be dealt with by the States of Guernsey. The full report is attached (**Appendix 4**).
- 10.2 Enviro built a Guernsey specific materials flow model to examine and compare different waste management scenarios. The model was populated with the waste data, growth predictions and potential for waste diversion resulting from the previous phases of work. Assumptions had to be made on the commissioning date of the treatment facilities in order to allow like for like comparisons. A date of 2012 was taken for commissioning of the key treatment facilities and it was assumed that any “ancillary” facilities, required to deliver the high recycling rates modelled in some of the scenarios, would be commissioned by 2008. In recognition of the fact that a land fill will always be required to receive non

conforming waste, Enviros also built in assumptions on the life of Mont Cuet and the desire to retain a 5 year strategic reserve.

- 10.3 It was, therefore, possible to examine the ability of Mont Cuet to support the technology modelled in the various scenarios. In addition, in order to compare costs, Enviros applied comparative capital and operating costs and, for those scenarios that failed to divert sufficient waste from Mont Cuet - such that Mont Cuet reached its 5 year strategic reserve prior to 2031 (i.e. during the 25 year strategy period from the commissioning of the facility in 2012) – the cost of exporting the remaining waste was built into the model. This meant that costs could also be compared on a like for like basis. The combination of all of these considerations meant that the model allowed a business case analysis to be carried out of the various scenarios. This thus addressed a major criticism of the previous strategy.
- 10.4 Eight scenarios were modelled:
1. Baseline Scenario, (i.e. continuing with current recycling, treatment and disposal);
 - 2 High recycling, high green waste diversion levels followed by MBT feeding AD with RDF to EfW;
 - 3a Current recycling and green waste diversion levels followed by MBT feeding AD, with RDF to EfW;
 - 3b No recycling, no bring banks or green waste diversion, with all Parish waste to MBT feeding AD, with RDF to EfW;
 - 4 High recycling, high green waste diversion levels followed by EfW;
 - 5 Current recycling and green waste diversion levels followed EfW;
 - 6 High recycling, high green waste diversion levels followed by advanced thermal treatment option; and,
 - 7 Current recycling and green waste diversion levels followed by advanced thermal treatment option.
- 10.5 A full understanding of the modelling work and its outputs can only be gained by reading the report attached at appendix 4. However, the following points are especially worthy of note.
- a.) In scenarios 2 and 3 the waste enters a Mechanical Biological Treatment Plant (MBT) where it is processed into a Digestate (solid organic waste) by anaerobic digestion (AD) and a Refuse Derived Fuel (RDF) by mechanical separation, shredding and possibly pressure cooking.

Although companies claim outlets for the output from the AD and RDF Enviros' view is that these are unreliable and in the Guernsey context unrealistic. As such the RDF is destined to on island heat treatment in an EfW.

- b.) In Scenarios 2 and 3 the EfW refers to generic energy from waste and not necessarily Mass Burn incineration. Therefore, scenarios 2 and 3 provide for the coupling of MBT with the new developing ATT (advanced thermal treatment) technologies.
- c.) In scenarios 4 and 5 the reference to EfW excludes the ATTs and are based on Mass Burn incineration with energy recovery options.
- d.) In scenarios 2, 4 and 6 high recycling calculations were based on the best results so far achieved in UK local authorities namely 50% of household waste recycled through kerbside and bring banks (during the first half of 2006 Guernsey achieved 24.5% household recycling), supported by Civic amenity sites recycling 46.5 % of waste deposited and green waste processing recycling 100% of household green waste. These aspirations for high recycling were also extended, in the modelling, to commercial and Industrial waste as well as to Construction and Demolition waste.

10.6 Based on all the modelling assumptions and bearing in mind that the results should be seen as comparative rather than prescriptive, the outputs from the modelling can be summarised as:

- a.) Only scenarios 4 and 5 divert sufficient waste from landfill for Mont Cuet to support the strategy and retain the strategic reserve throughout the 25 year life of the strategy
- b.) Scenarios involving high recycling are generally more cost effective than options with current or no recycling
- c.) Scenarios involving high recycling require treatment capacity in the order of 70,000 tonnes per annum whilst scenarios with current recycling levels require facilities in the order of 100,000 tonnes per annum.
- d.) Scenario 4 generates the best Net Present Value and nominal cost results.
- e.) On cost and sustainability grounds scenario 4 is favoured.

10.7 Notwithstanding the above, it is recognised that at least some of the assumptions used in the modelling will be challenged. In particular, if an MBT plant coupled to an EfW (scenario 2) could demonstrate that the ash resulting from the EfW was as inert as bottom ash resulting from the type of EfW plant modelled in scenario 4 then, as more waste would be diverted from landfill, the sustainability of this option and hence potentially the costs would reduce.

- 10.8 Similarly it is recognised that if the bottom ash resulting from a stand alone ATT plant could be demonstrated to be inert then again this would improve the sustainability and costs projections of this option. However, for ATTs the view is held that without some form of front end pre-processing of the waste, the technology cannot accept the same range of waste as the other technology options. As this would result in more rejects to landfill, the view is that, even with favourable assumptions in respect of bottom ash, the technology is considered to be less sustainable and hence more costly than the alternatives.

11. **Enviros – Technologies Appraisal**

- 11.1 As part of the States Resolution concerning the appointment of consultants the brief included examining the nature of the remaining waste and identifying possible packages of treatment plant. This work, whilst in part addressed by the modelling exercise, required, for completion, an up to date synopsis of the available technology including developing technology which may be suitable for meeting Guernsey's needs. This work was undertaken by Enviros as part of phase 2 and resulted in the report –New Technologies for the Treatment of Residual Waste a full copy of which is attached. (**Appendix 5**)
- 11.2 The technologies report sets out, for the non-technical reader, a description of the various technologies and how they are used on municipal waste, the opportunities and risks including reference to track record and potential suitability for Guernsey. Sections on benefits and costs and programme implications are included. The technologies examined included all those used in the modelling exercise detailed in section 10 above.
- 11.3 A full understanding of the various technologies and their relative benefits can only be gained by reading the report attached at appendix 5. However, the following points are especially worthy of note.
- a.) If the MBT processes were to be based upon the bio-drying option, then an outlet for the RDF produced by the process would be required either overseas or on the Island. Given that there is currently a negative market for RDF in the UK and mainland Europe, the cost of exporting the RDF coupled with the gate fee charged for the material by the user is likely to render the export of RDF uneconomic. The alternative would be to install capacity on the Island to dispose of the RDF, either via gasification / pyrolysis or through firing it in a conventional incinerator (capable of managing the higher CV wastes) or other boiler.
 - b.) A key risk issue with MBT is aligning the process to generate outputs which meet the demands of the market/outlet to which the materials are required to enter.

- c.) Currently, best practice in the UK does not allow the spreading of soil conditioner (i.e. that produced from AD of mixed waste) on agricultural land, whereas farmers are being encouraged to trial the use of compost produced from source separated (green) waste.
- d.) The reliability of MHT technology with respect to its operation on mixed MSW is as yet unproven. The track record therefore is limited, and the technology has similar risks as MBT with regard to aligning the process to generate outputs which meet the demands of the market/outlet to which the materials are required to enter.
- e.) The track record of ATT plant processing MSW may be considered 'patchy'. Several processes marketed in Europe have switched their attentions to Japan where the market to date has been more favourable. Certain facilities (e.g. Energos, Techtrade) have a good track record in Europe whilst others have either failed technically or ceased trading. The variability of MSW is difficult for some less robust ATT systems to cope with, and appropriate pre-treatment is required to ensure a feedstock of sufficient homogeneity for gasification / pyrolysis.
- f.) The Mass Burn incineration of waste has the longest tradition of all of the technologies described in this report. The track record and reliability of most moving grate incineration systems is well established. There is less of a track record for fluidised bed systems operating on MSW, and there may be risks over commissioning such facilities. Fluidised bed facilities may be more appropriate for smaller scale, consistent feed stock inputs e.g. RDF. The bespoke smaller scale oscillating kiln designs (e.g. Tiru Cyclerval), also have a lesser track record than moving grate systems however there are reference plant operating in France/Belgium on MSW or similar wastes, in some cases for over twenty years.
- g.) It is unlikely that the preparation, sorting and separation technologies that form part of any integrated waste management solution alongside MBT, MHT, ATT, or even Mass Burn incineration, will pose insurmountable problems with regard to flexibility/scalability in response to changes in total waste arisings or the composition of the Island's waste.
- h.) With respect to costs, unfortunately there is little publicly available data on the capital and operating costs of the technologies that are described. There is a number of reasons for this: in the case of some of the technologies the processes are too novel, or have not been operated on a commercial basis to allow the production of meaningful cost data. It is also true that some of the technology providers are unwilling to release information on costs into the public domain, preferring to declare their costs in tender bids.

- i.) The development, adoption and implementation of a waste management strategy for the Island will require agreement and shared commitment amongst the political decision makers on the Island. Without such agreement and commitment, any strategy for the management of the Island's waste may be subject to delays, reversals, and confusion.
- j.) The adopted waste management strategy will also need to consider the interface between the new waste management facilities on the Island and Guernsey's existing waste management infrastructure. For example, if a strategy involving high levels of recycling and diversion of green waste were to be adopted, this may also require additional investment in the waste collection infrastructure (i.e. a source separated collection system) or the adoption of a complex materials separation system at the treatment facility (thus allowing the continuance of existing collection practices). On the other hand, the adoption of a strategy that does not require high levels of recycling or green waste diversion, will probably have only a minimal impact upon existing collection practices.
- k.) There are two inter-related off-Island factors that may have implications for Guernsey's waste management strategy programme, these are:
 - ◆ The limited number of technology/service providers; and
 - ◆ Competition from other waste management procurement projects.

11.4 In assessing the suitability of the various technologies for Guernsey Enviro acknowledged that *"The benefits and costs associated with the selection and implementation of any waste management technology have to be assessed in the context of the policy drivers and public attitudes on the Island with respect to the adoption of a future waste management strategy"*. Whilst the technical and scientific work undertaken by Enviro allows an assessment and comparison of the various technologies to be made in terms of the risks, robustness, cost and sustainability, this does not take account of public or political acceptability. This was discussed with Enviro at a meeting during which Enviro presented their findings to the full Board of the Department.

11.5 Enviro acknowledged that there had been a strong on-island resistance to Mass Burn incineration. Enviro noted that, notwithstanding the cost, sustainability, robustness and technical suitability factors which appeared to favour Mass Burn incineration, public and political will could be such that an alternative technology choice was necessary. Enviro expressed the view that MBT linked to EfW could be considered as an alternative strategy for Guernsey provided sufficient guarantees could be provided in respect of addressing the risks associated with coupling these technologies. The ability to gain those guarantees and the impact on project cost can only be demonstrated through competitive tender.

12. Solutions Search

- 12.1 As can be seen from the letter at appendix 2 the amendment placed by Deputy Parkinson and approved by the States presented the Department with significant difficulties. Following correspondence with the Policy Council, the Department met with Deputy Parkinson and it was agreed that the “solutions search” would not be limited to “complete packages” and would not constitute a formal tender. Rather “all comers” were invited to propose any solution or part of a solution they felt could deliver or contribute to the delivery of Guernsey’s long-term waste disposal strategy.
- 12.2 States members will recall that a letter was sent setting out the proposed way forward. A copy is attached (**Appendix 6**). The results of this consultation with States Members, including a presentation held for those members requesting one, was overwhelming support for the way forward proposed in the letter.
- 12.3 Ninety five information packs were sent out to companies having expressed an interest in response to the Department’s advertisements or to companies having already lodged an interest with the Department. Twenty seven responses to the call for solutions were received one of which could not be scored.
- 12.4 Regretfully, as referred to in section 5 above, it was not possible to bring to the States a report on the strategic procurement issues within the desired time frame. Instead, in agreement with the Treasury and Resources Department, a panel “The Waste Procurement Panel – Criteria Setting” was formed to set the criteria against which the expressions of interest would be evaluated. Responses to the “Solutions Search” were subsequently evaluated against these criteria by another panel “The Waste Procurement Panel –Scoring”. The membership of the panels, the criteria adopted and the evaluation of the responses is set out in full in the Scoring Panel’s Report, a copy of which is attached (**Appendix 7**).
- 12.5 The objective of the Scoring Panel is set out in the report as *“this exercise was not intended to score a particular submission in the way that a tender would be scored. It was the case that what was being elicited were generic solutions – the question was not whether the solution produced by a particular tenderer was better or worse than the solution offered by another tenderer, but how did each proposed solution measure up against what was regarded as important by the Waste Procurement Panel (and entrenched in the criteria and weighting) to enable it to be compared against a solution of a different type or between technologies within the same type.”*
- 12.6 In that the output of the Panel was essentially a schedule of tables and scores it is difficult to draw many references from the report and the reader is recommended to refer to the full report. However, the following observations are of relevance:

“Looking at the overall scores, composting and other recycling activities generally scored well both in the non-weighted scores awarded by the panel in relation to the criteria and those scored as weighted in accordance with the instructions from the Waste Procurement panel. This is hardly surprising since such technologies are going to be less expensive to build, are, in the main, going to be more environmentally friendly since they do not produce unwanted hazardous residues, and both as to risk and social criteria are acceptable - However the main issue over the composting recycling submissions is their inability to deal with the whole waste stream and as such are only partial solutions and their scores suffered as a consequence.”

“The Mass Burn technology with energy recovery, those using, for example, an oscillating kiln or similar technology, (Lurgi, WRG Cyclerval etc) scored consistently better than those using gasification processes. Rather interestingly, the criteria weighting had a lowering effect on the Mass Burn technologies, but with gasification the weighting improved scores.”

“Weighting made little difference in the other two categories of composting/ recycling and mechanical biological treatment. This indicates that even despite its significantly higher costs Mass Burn technology provides a comprehensive solution to the disposal of the waste stream, but that there is an impact in terms of the economics and the environment in adopting such technology”

“The conclusions are not surprising and reflect what it is thought was already known, namely that in order to obtain a complete solution some form of technology is going to be required and that, viewed against the criteria set, with weightings towards environment and risk, the Mass Burn technology with additional energy recovery solutions performed well in general”

- 12.7 The full submissions scored by the Scoring Panel are available to States members should they wish to examine the raw submissions.

13. Technology Preference

- 13.1 Having considered all the information resulting from the work of Enviro and having considered the findings of the Waste Procurement Panel – Scoring, the Board of the Environment Department is of the view that Mass Burn incineration remains the technology front-runner. However, the Board is also of the view that if performance guarantees could be gained which satisfactorily addressed the risk issues of coupling MBT with EfW (Mass Burn or ATT) and if such a technology coupling could generate waste residues at least as inert as the bottom ash from Mass Burn incineration, then such a technology coupling could

meet Guernsey's needs. As such the Board is of the view that MBT coupled with EfW should be competitively tendered against Mass Burn EfW.

- 13.2 The Board is satisfied that sufficient companies have demonstrated, through the "Solutions Search", an interest in providing waste management technology to Guernsey. As such, whilst the Board recognises that the waste industry is currently in a sellers' market and that, as such, any procurement strategy will need to encourage reputable companies to commit the resources required to tender, the Board believes that such a competitive tender approach should be deliverable.

14. Procurement

- 14.1 The output of the procurement workshop (see 5.2 above) - whilst recognising that no decisions were being taken - was for an output based specification for a States owned facility with a 25 year operation contract with finance provided by the States (the States could take a gate fee etc to meet the contract costs) and possibly procured through a strategic partnership. It was also made clear during the workshop that the generally held view is that the contract let should not be for an integrated contract as per Deputy Parkinson's proposed "complete package of waste management and disposal solutions" but should rather be a design build and operate contract for the plant in question. The Board has developed this starting point into a proposed procurement strategy as set out below.

- 14.2 It will be appreciated that not all elements of a procurement strategy form part of the contract with the facility supplier. The role of an economic regulator to regulate the waste facilities' gate fees, as suggested below, is a case in point. The extent of any regulator's functions and the mechanisms under which a regulator might be appointed must be carefully considered and will need to be addressed in subsequent reports. This may also be the case for other elements of the procurement strategy. The intent of the following paragraphs is, therefore, to enable the States to debate the principles rather than to prescribe the detail.

- 14.3 In considering the key elements of the procurement strategy the Board was mindful of the following questions:

What is the extent of the service required?

How long is it required for?

How is it going to be funded?

Who will provide/own the various elements?

What are the consequential issues?

What contract/structure is used to procure the resultant package?

These questions were considered in more detail as follows.

14.4 Extent of the Service Provision

Current advice (Office of Government Commerce, Kelly Report, Procurement workshop) is to avoid complete solution integrated package contracts which fall at one extreme end of the output based/input based specification line. In identifying what should be covered in the contract the following options were considered:

- a.) Should the contract include collection – Parish Doorstep, Kerbside Doorstep, bring banks servicing, Civic Amenity (CA) site operation etc?
- b.) Should the contract include post collection/pre treatment sorting – Materials Recovery Facilities (MRF)?
- c.) Should the contract include ancillary services – Sewage, Street Cleaning, Scrap Metal, Landfill operation, Composting etc?
- d.) Should the contract be limited to the key disposal infrastructure – MBT, EfW, ATT etc?
- e.) Should the contract require recycling/recovery?

14.5 Elements of the contract

Previous criticism (Independent Panel Report) included that the DC20 mass burn EfW contract did not deliver best value and that a longer-term operation contract, possibly a Guernsey version of a PFI should have been let. The following options were considered:

- a.) Should it be a design build and operate contract?
- b.) If so should the operation be for the typical life of the plant (excluding retro fitting) typically 25 years? – This may introduce contract risk management issues resulting from changes in service delivery, waste type, legislation etc during the life of the contract.
- c.) Should funding be by the States or the contractor? – Risk transfer would put funding with the contractor but previous advice was that best value comes from States funding.
- d.) Where should ownership of land/facility rest?

14.6 Potential consequential issues resulting from the above

- a.) Will the States be prepared to sell the land at Longue Hougue?

- b.) How do we envisage guaranteeing the contractor the required revenue income?
- c.) How do we envisage regulating gate fee? – Does the States welcome a monopoly and if so how does it intend to control the undertaking?
- d.) Is there any need to regulate the States in terms of gate fee setting and will the States seek a guarantee on revenue income.

14.7 Strategic Partnership/Contract issues

- a.) If a strategic partnership what will the States be bringing to the partnership?
- b.) If the States is sharing risk through funding to what extent does it want to specify the technology?
- c.) Is there an intention to specify other outputs e.g. electricity generation, steam or other energy generation, track record, environmental credibility, land take, residue quantity and quality, waste acceptance criteria, landfill diversion, recycling levels, markets for residues, limitation on export, business continuity/resilience, others?
- d.) Will the States incentivise the contractor by open book accounting with share of pain and gain?
- e.) What form of partnership does the States want?

14.8 Notwithstanding the list above, there is benefit in starting with the fundamental outcome that resulted from the procurement workshop namely that the States should enter into a strategic partnership. A strategic partnership functions on the basis that for both partners to optimise their gain (rather than one partner benefiting at the other's cost) it is necessary to align desired outcomes and to assign risk to the partner best able to manage it. In addition it is desirable if both partners share the pain and gain and hence are incentivised to optimise the business.

14.9 When looking at strategic partnerships it is important to identify who can bring what to the table. In this case Guernsey needs the partner(s) to bring waste management skills, along with technology operation, build and maintenance skills. (Although the States could, with some technologies, elect to self operate as is the case in Jersey.) The States has three valuable commodities to contribute: Land, Waste (the raw product) and Finance (there is little doubt that the States can fund any capital expenditure, whether through use of Treasury money or through underwriting loans, more cheaply than the private sector).

- 14.10 This then provides a useful starting point for risk allocation and helps formulate answers to the other issues, the first of which is strategic resilience. The States does not just need a waste solution now but it needs it to last the strategy life (potentially 25 years) and it needs the ability to procure future waste solutions. In this respect the States must be careful in not giving up the commodities it can bring to a strategic partnership. As such it is strongly recommended that the States retains ownership of the land both for the long-term future but also in the event of a breakdown of the partnership. As such the Department recommends that the States retains ownership of the land and leases it to the partnership for the life of the contract but with step in rights during the life of the contract.
- 14.11 Whilst some suppliers have said they are able to fund the infrastructure they would provide, this presents a “Trojan horse” gift. In the first instance the private sector’s funding would cost more than public sector underwritten funding and hence result in higher gate fees thus costing Guernsey more. The gate fees could reach levels that require subsidy and hence effectively result in part funding by the States. Secondly it is likely to be much harder for the States to secure and exercise step in rights on a facility it has not funded hence compromising the strategic resilience requirement. Whilst PFI is adopted in the UK this is largely due to the fact that local authorities do not have the funds or the borrowing authority or capability to support major capital projects. In addition Central Government will only give local authority financial credits if the PFI rules are adopted. As such PFI in its truest sense is not available in Guernsey and the appropriate substitute is a PPP or public private partnership. There is no requirement for the private sector partner to provide the funding to a PPP and the driving force should be best value. Best value is most likely to be achieved through the States underwriting the funding of the project. The Department recommends that the States provides the funding (possibly by underwriting a loan) to the PPP.
- 14.12 Notwithstanding the fact that the funding risk sits primarily with the States, the Private Partner will demand an annual income to meet operating costs and a profit. The States also needs to be sure that its capital investment is working and that there is, if not an income on capital, at least a repayment of capital and interest. This, as for any project, is only possible if the project has a supply of the raw products. There remains, therefore, a need to ensure that the strategic partnership (the PPP) receives the waste. It is not sufficient to assume that the private waste hauliers and the Parishes will bring their waste to the facility. They will adopt whatever option presents to them best value. For some this may mean fly tipping or illegal burning. For others it may mean exploiting export routes. More realistically industrial premises may see the financial value in undertaking waste processing operations resulting in more or expanded Pointes Lane type facilities. For these reasons it is necessary to guarantee the strategic partnership a revenue stream and hence by default it is necessary to control the movement of the waste. The Department recommends that the States ensures, by legislation or other means, that Parish waste and other specified waste will be delivered to the facility.

14.13 It should be recognised that the above structure is very close to a monopoly, at least within the restricted area of waste treatment/disposal. As such, even with the States as one part of the partnership, there is a potential need to regulate activities and gate price. However, of equal significance is the function of a regulator to act as substitute competition ensuring an efficient and effective service. An independent regulator is, therefore, of assistance to the States as it operates, inter alia, as an independent scrutineer of operational efficiency. The Department recommends that the operation of the facility including the gate fee should be subject to regulation by an economic regulator and that the economic regulation approach should apply to waste sector near monopolies including, for example, scrap metal, MRF, dry recyclables facility and in vessel composting facility.

14.14 From the basic structure set out above it is possible to address each of the questions listed in sections 14.3 to 14.7.

A.) Should the contract include collection

No. Whilst a strategic partnership enables the option of moving other existing or required waste services into the partnership's operation the contract should not require this in the first instance. All the expert evidence and Government research suggests that these "complete service contracts" fail to deliver best value, fail to attract competitive tenders and fail to support local waste service providers.

B.) Should the contract include post collection/pre treatment sorting – MRF

Only to the extent required as part of the main treatment facility. As a separate service provision the comments above are equally applicable. However, some end disposal technologies can only operate if the waste first passes through a MRF designed to turn the raw waste into a product suitable as a feedstock for the disposal facility. In these cases the MRF is in effect part and parcel of the end treatment plant and hence would be included in the contract.

C.) Should the contract include ancillary services – Sewage, street cleaning, scrap metal, landfill operation, composting etc

No. See A above. However, the contract should include, within the waste streams, sewage sludge.

D.) Should the contract be limited to the key disposal infrastructure – MBT (mechanical biological treatment), CHP (Combined heat and power), ATT(advanced thermal treatment) etc.

Yes. See A above.

E.) Should the contract require recycling/recovery

There is no technical reason why this must be included. From an environmental perspective the issue is extremely complex. Only by carrying out full life cycle analysis of Guernsey's waste arisings could we be certain that recycling is in fact the best practical environmental option. However, part of any strategy must be public acceptability and there is little doubt that the current will of the States is to maximise recycling and recovery before disposal. Whilst this originated as an interim driver, it is now firmly embedded in many people's perceptions as a fundamental element of any long-term strategy. As such front end high recycling is considered desirable and this should be supported by requiring the end treatment facility contractor to extract recyclables from its waste residues. For example, an MBT plant may wish to remove inert recyclables from the "waste in" stream prior to the plant processing stages.

F.) Should it be a design build and operate contract

Yes. See 14.6 and 14.7 above.

G.) Should the operation be for the typical life of the plant (excluding retro fitting) i.e. 20/25 years.

Yes. Whilst this may introduce contract risk management issues resulting from changes in service delivery, waste type, legislation etc during the life of the contract, the strategic partnership approach coupled with the economic regulator will ensure these are managed in such a way as to optimise the benefits/costs to both parties.

H.) Should funding be by the States or the contractor.

States. Whilst financial risk transfer would put funding with the contractor this ignores the more complex issues surrounding risk transfer and results in loss of best value (see discussion above). The States should as a minimum, underwrite the financing of the facility.

I.) Where should ownership of land rest.

With the States. See 14.8 above

J.) Where should ownership of facility rest

With the States or the Partnership – Not with the Contractor. As funder of the facility and in recognition of the strategic resilience issue the States must have step in rights. This is readily achieved by States ownership of the facility but there are structures which could allow ownership to rest with the partnership but with subsequent infrastructure transfer to the States on completion of the contract.

K.) How do we envisage guaranteeing the contractor the required revenue income.

An economics regulator can set the gate fee to reflect return on capital. It remains necessary to ensure a waste stream at that gate fee hence the need to control waste movements. See 14.10 above.

L.) How do we envisage regulating gate fee.

Economics regulator. (See key decision 14.10 above)

M.) Is there any need to regulate the States in terms of gate fee setting and will the States seek a guarantee on revenue income.

Yes. An economics regulator can set the gate fee to reflect return on capital, operating costs and profit. It remains necessary to ensure a waste stream at that gate fee hence the need to control waste movements. See 14.10 above.

N.) What will the States be bringing to the partnership

Land, finance/funding, waste.

O.) If the States is sharing risk through funding to what extent does it want to specify the technology

The States might choose to specify criteria rather than technology. However, risk increases as the States divorces itself from technology choice whilst funding that technology and/or whilst allowing ownership of that technology to rest with the strategic partner. The Department has identified its preferred technology.

P.) Is there an intention to specify other outputs.

Yes. In addition to specifying the technology to be tendered the department believes the following outcomes should be addressed in the tender package.

- I. ENERGY RECOVERY. This need not be electricity but it must be deliverable and of actual benefit to offset existing use of non-renewable resources.
- II. TRACK RECORD. This links to the strategic resilience issue. The States must be confident that the facility will work on the type of waste presented and perform at the efficiency and costs quoted in the tender. This can only be demonstrated by a sound track record. The States must also be able, not only to step in and take over the facility, but also be able to acquire all the

spares, wear parts, manufacturing capability, labour etc to ensure the plant continues to operate.

- III. **IPPC CONFORMITY.** The plant must be capable of obtaining a licence from the Director of Environmental Health and Pollution .
- IV. **LAND TAKE.** With limited land availability and competing demands for Longue Hougue land take is a key issue.
- V. **RESIDUE QUANTITY AND QUALITY.** Many companies quote original diversion from landfill. However, unless the quantity and quality of resulting residue after treatment can be guaranteed this original diversion will be compromised as the residue is returned to landfill.
- VI. **WASTE ACCEPTANCE CRITERIA.** This is the counter side of the coin to residues. The amount of Guernsey's waste the facility can take is a key issue otherwise it may achieve 100% diversion of a specified waste stream but still leave many tonnes of waste untreated and destined for landfill. The facility must also accept sewage sludge.
- VII. **GUARANTEED MARKETS FOR RESIDUES.** Many suppliers will specify that the end product is suitable for a range of applications but leave that end product with the client to take to market. The markets don't materialise and the "product" is then land-filled.
- VIII. **LIMITATION ON EXPORT.** In light of the States resolutions a facility that relies heavily on export of waste for disposal (as opposed to waste for recycling) would not meet the strategic sustainable resilience criteria.
- IX. **BUSINESS CONTINUITY/STRATEGIC RESILIENCE.** The plant must have built in resilience either through baling and storage or through dual redundancy.
- X. **UK/Guernsey LAW.** A company that is not prepared to contract under the law of the land will be transferring risk back to the States.
- XI. **RECYCLING LEVELS.** Assuming that the States wishes to support high recycling as well as energy recovery, recycling targets will need to be set.

Q.) If strategic partnership with States funding, will the States incentivise the contractor by open book accounting with share of pain and gain?

This is a viable option but will need to be structured in light of the role of the economics regulator.

R.) What form of partnership does the States want, - Joint Venture Company, Golden share, others?

Defer decision. Legal advisors will structure the Partnership to deliver the criteria set out above.

14.15 The above analysis does not address the fundamental issue of cross subsidy and polluter pays. Whilst the economics regulator would ensure that gate fees represent competitive costs for the service provided there is no guarantee that those gate fees will be publicly acceptable. In addition it is possible that gate fees at one facility will be such as to drive companies and individuals to deliver their waste to another cheaper but perhaps less suitable facility. Economic gate fees may, for example, discourage certain recycling activities.

14.16 For example, if processing dry recyclables carries a true economic gate fee higher than the end disposal facility gate fee, there is a possibility that the dry recyclables MRF will have undersupply and the end disposal facility oversupply of waste. Whilst licensing the movements/destination of waste will exercise some control in this area, companies will always seek to exploit loopholes to minimise cost. As such it may prove necessary to artificially adjust gate fees through cross subsidy in order to best manage the waste streams.

14.17 The Department does not consider that this issue can be fully addressed until firm costs and hence economic gate fees can be set for the various facilities and services contributing to the overall strategy. However, as a principle, the Department believes that the polluter pays approach should be adopted but with cross subsidy within the waste services in order to drive the strategy in the desired direction. This is an issue which will require in depth study with and by the Economic Regulator.

14.18 The Department understands that, whilst it is a function of the Public Services Department to deliver the Waste Disposal Plan, the Strategic Property Unit will lead in the tendering and procurement of the key infrastructure. The Department has been advised that such substantial projects will, in future, be overseen by a Project Board of interested stakeholders. The Board firmly believes that the Environment Department should be represented on any such Project Board.

15. Waste Strategy

15.1 Having considered all the available information the Board has identified its preferred waste strategy as:

- A High recycling - supported by Mass Burn EfW or an MBT coupled to EfW - with extraction of recyclables from the waste residues - with export of hazardous waste - inert waste land reclamation and aggregate substitutes- with landfill of remaining residues.
- B The facility should be sized based on the waste arisings, diversion and growth predictions. With high recycling this would mean a Mass Burn EfW facility with an annual capacity of 70,000 tonnes or an MBT facility with a capacity of 70,000 tonnes supported by an EfW facility with a capacity of 40,000 tonnes.
- C The strategy to be delivered by the letting of a number of design build and operate contracts with the main disposal facility being procured through a 25 year design build and operate contract let through a strategic partnership.
- D The States to underwrite the financing of key facilities with income guaranteed by regulated gate fee and control of waste movements.
- E The strategy to be supported by the polluter pays principle but allowing for essential cross subsidies.

16. Soft Marketing

- 16.1 The Department's consultants have strongly advised that, due to the strength of the sellers' market, aggravated by the past track record of the States in failing to demonstrate a firm commitment to an identified waste strategy, Guernsey can expect to have great difficulty in engaging reputable tenderers. As a consequence Enviro recommends that prior to issuing tender documentation, Guernsey engages in a robust process of soft marketing. This will require Guernsey, possibly assisted by consultants, to go out to the relevant industry sectors with a view to demonstrating Guernsey's commitment and persuading companies to target their limited tendering resources towards Guernsey's project.

17. Supporting Infrastructure

- 17.1 The high recycling scenarios modelled by Enviro and favoured by the Department seek to divert waste away from end treatment thus maximising resource recovery whilst optimising facility size and minimising reliance on landfill. The modelling assumed 50% recycling of household waste from 2008 onwards. Whilst the Board supports the desire for high recycling and believes that Guernsey's current performance can be improved, it has serious reservations over the achievability and long-term deliverability of the 50% target. In addition any strategy which seeks to increase recycling significantly from Guernsey's current levels will require the construction of specialised facilities and the

procurement of specialised plant. As such the Board cannot commit to the 2008 date.

17.2 The Board recognises that the setting of the 50% target and the 2008 delivery date was driven by the need to protect the life of Mont Cuet. Whilst the Board accepts this objective as a principal driver the Board does not believe it should be delivered at any cost. This is especially the case as the Board is aware of increasing trends in Europe and elsewhere, to move away from non cost effective source segregation of recyclables. This trend, which is especially prevalent in Switzerland and is also being recognised in Germany, is partly in response to detailed life cycle analysis which demonstrates that driving for ever higher recycling targets is not always the best environmental option and is rarely the best financial option. The States has already indicated an acceptance of the need for more landfill in the future and the Board is of the view that the key driver should be to delay the commissioning of new landfill for as long as reasonably possible and to minimise the future reliance on that landfill. The Board also supports the principle of reasonable resource recovery. As such the Board supports increased recycling from current levels and the commissioning of waste diversion infrastructure but does not endorse the 50% target and the 2008 date which the Board believes to be unrealistic.

17.3 To significantly increase current recycling levels and the amount of waste diverted from landfill (and ultimately from end treatment facilities) the following waste services will probably be required:

- Island wide kerbside collection of dry recyclables;
- Commercial collection of dry recyclables;
- Dedicated processing facilities for dry recyclables;
- Rationalisation of bring banks;
- Collection facilities for green waste;
- In vessel composting facilities for green waste;
- Dedicated Civic Amenity Site(s)
- Collection services for mixed and/or bulky waste;
- Dedicated Materials Recovery Facility (for skip type waste);
- Improved scrap metal facilities
- Provision for WEEE processing
- Ongoing education and promotion activities

17.4 It will be appreciated that the construction necessary to deliver the above services requires significant amounts of land. Whilst Longue Hougue has, through an Outline Planning Brief and Planning Inquiry, been designated as the site for waste and bad neighbour activities, it is questionable as to whether or not sufficient land is available at Longue Hougue to meet the needs of all of the

above services. This is especially the case as, until the tendering exercise is complete and a contract awarded, the land take of the end treatment facility cannot be known. It is understood that MBT plants have much greater land take requirements, albeit with lower profile buildings, than Mass Burn EfW plants.

- 17.5 In addition to the uncertainty relating to land take requirements, the OPB for Longue Hougue requires a co-ordinated approach to be adopted to the layout design and development of the site. As such supporting infrastructure such as Dry Recycling facilities or a MRF cannot be constructed on Longue Hougue until the nature, size form and land take of the end treatment facility is known. Longue Hougue cannot be developed in an un co-ordinated ad hoc manner.
- 17.6 In balancing the reality of the above constraints against a desire to capture more recyclables and prolong the life of Mont Cuet the Board has identified a need for increased temporary facilities. There is, however, acceptance of the fact that the construction and operation of facilities, which are fit for purpose, but which have a temporary life pending the letting of longer-term design build and operate contracts, is not economically attractive to the private sector. As such the delivery of significant increases in waste diversion during the period 2007 to 2012 (the date on which long term facilities should be commissioned) presents major challenges. The key hurdle being the short term economic return on capital. This hurdle can be overcome if the States is willing to write off the unrecovered capital sums involved in providing such facilities. However, in the current economic climate the Board can only support this approach if the risk is carefully managed. In essence this requires the temporary facilities to have a life of between 3 and 5 years.
- 17.7 The Department has been working with the Treasury and Resources Department to let contracts for the construction of temporary facilities at Longue Hougue whilst minimising the financial exposure to the States. It must, however, be recognised that financial exposure is reduced by the length of time the temporary facility can operate but conversely the risk of compromising the long term end strategy and specifically the construction of the key disposal facilities increases the longer the temporary facilities operate.
- 17.8 As a consequence of the above the Board believes, and would stress, that there are very real constraints to enhanced waste diversion in the short term and that expectations should be adjusted accordingly.
- 17.9 As the procurement process progresses it may prove necessary to identify additional land either to accommodate the land take demands of the required waste facilities or to ensure the appropriate location of certain facilities, for example, Civic Amenity sites. These issues will need to be addressed as part and parcel of procuring the various contracts and services and may require focused Environmental Impact Assessments and/or Planning Inquiries to amend the Urban and/or Rural areas plans.

- 17.10 In addition to the physical requirements that result from the waste strategy it will be necessary to introduce new or amend existing legislation. This will be required firstly to bring about the position of “economic regulator” of the waste industry but also to control the movement of waste and hence guarantee a waste stream and income to the facilities. A detailed investigation into the options for delivering these needs is beyond the scope of this paper but will need to be carried out at an early stage to ensure that the necessary legal structure is in place to support the strategy.
- 17.11 It must also be recognised that the letting of significant waste contracts to the private sector will result in a reduction in waste operations carried on by the States. Not only will this have implications for staff management but will also result in a very significant loss of income to the Public Services Department. A loss that cannot be offset by savings in operational costs. As a consequence the Public Services Department will, in liaison with the Treasury and Resources Department, need to carefully examine and identify means of addressing the impacts of implementing the waste strategy.

18. Draft Interim and Long-Term Waste Disposal Plan

- 18.1 Under the Environmental Pollution (Guernsey) Law, 2004 part V, which was enacted by the Environmental Pollution (Guernsey) Law, 2004 (Commencement and Designation of Waste Disposal Authority) Ordinance, 2006 and amended by The Machinery of Government (Transfer of Functions) (Guernsey) (No. 3) Ordinance, 2006, the Environment Department is required to lay before the States draft Waste Disposal Plans.
- 18.2 The Draft Waste Disposal Plan attached to this report (**Appendix 8**) sets out the plan for delivering the preferred strategy as identified in this report. By formally endorsing the draft Waste Disposal Plan the States also indicates its support of the general strategy.
- 18.3 In preparing a draft Waste Disposal Plan the Department is required to consult with a number of bodies as set out in section 31 of the Law. The Department undertook this round of consultation during August and September. In preparing the draft WDP the Department has taken into consideration the consultation responses. However, the requirement to consult prior to the preparation of the draft plan, the need to prepare the draft Plan prior to the States considering the overarching strategy - including the proposed technology and procurement options - and the need to report back to the States within such a tight time frame, has meant that formal consultation on the content of the draft plan has not been possible.
- 18.4 If adopted by the States, it will be the function of the Public Services Department to implement the Waste Disposal Plan. This will require the transfer of the management of recycling operations from the Environment Department to the Public Services Department.

19. Relationship with other Major States Projects

- 19.1 As early as 1996 it was recognised that a liquid waste strategy should be resolved before the solid waste strategy as the sludge resulting from sewage treatment would constitute a solid waste stream to be dealt with in the solid waste strategy. The amount and form of the sludge would be dependent on the liquid waste treatment process adopted. Unfortunately the liquid waste strategy and commitment to specified treatment facilities has suffered similar uncertainty as the solid waste strategy.
- 19.2 In light of the above the former solid waste strategy assumed that sewage treatment would be introduced and that a solid sludge residue would have to be dealt with. The incinerator facility was, therefore, specified in such a way that it would be able to deal with sewage sludge should that become a waste stream. The Department has seen no evidence to suggest that this approach should not be carried forward into its proposed Waste Disposal Plan.
- 19.3 Whilst there is ongoing debate as to the suitability of alternative technology processes that could be used to treat Guernsey's sewage, the Department's understanding is that, if sewage is treated, it will be necessary to handle a resulting sludge.
- 19.4 More recently, on the back of proposals to develop the Eastern Sea Board it has been suggested that sewage and solid waste can be dealt with by a single plant. The Department has received no evidence to suggest that this is in fact the case and none of the Solutions Search responses made such a claim. It is, however, possible to co-locate two separate plants (treatment processes) within a single building and it is the Department's understanding that this is what formed the generic proposal presented as part of the waterfront development. However, this inevitably results in an increased footprint for the building and the increased land take displaces other facilities from Longue Hougue.
- 19.5 If the decision was taken to co-locate a sewage treatment plant and solid waste disposal facilities at Longue Hougue it would be necessary to find alternative locations for some or all of the following: the Scrap Metal facilities; MRF; Civic Amenity Site; Composting Facility; Dry Recyclables MRF. If such facilities are to be located on sites of alternative reclaimed land then it must be accepted that the procurement time line will expand whilst the necessary planning processes are undertaken and whilst that land is reclaimed.
- 19.6 The infrastructure necessary to deal with Guernsey's sewage and solid waste must be considered as strategically essential infrastructure. As such it is the Department's view that it should be procured as a strategic asset and its procurement should not be driven by or compromised by other potential development schemes. This is especially so when those other potential

development schemes have not be formally tested against or built into the island wide planning policies and framework.

- 19.7 The Department would strongly recommend the States not to become side tracked by the Eastern Sea Board development concept but to concentrate on the strategic needs and to identify its strategy for addressing those needs. Once a decision has been taken on the form of the waste strategy then it will be open to companies that meet the tender profile to tender for the provision of those facilities. If, at that stage, a tender is received which offers other facilities and which conforms with planning policy then those proposals can rightly be considered at that time.

20. Conclusions

- 20.1 The data on which the strategy is based and on which facilities are sized is robust.
- 20.2 The output of Enviros' waste audit work including investigations of scope for waste diversion and predictions of growth indicate that an end treatment facility with a capacity of 70,000 tonnes per annum is required provided high recycling is adopted (i.e. in line with that previously projected). Without high recycling a capacity of 100,000 tonnes per annum would be required.
- 20.3 Mass Burn EfW remains the technology front runner on grounds of sustainability, risk, and cost.
- 20.4 Although plant capacity has been confirmed, in accordance with previous projections, as 70,000 tonnes per annum, there is scope for the building mass to be smaller using fluidised bed or rotating kiln technology. Rotating kiln has attained UK IPPC licensing since being rejected by Guernsey at shortlist stage in 2003.
- 20.5 Mechanical Biological Treatment alone cannot provide a sustainable solution for Guernsey. The risk of markets not materialising is too great to rely on export of Refuse Derived Fuel or land application of the residue from Anaerobic Digestion. As a solution for Guernsey MBT must be coupled to EfW and the EfW component could potentially be one of the Advanced Thermal Treatments. Technology coupling introduces risks and may introduce additional waste rejects/residues rendering the solution unsustainable. This would need to be verified and costed during competitive tender.
- 20.6 Advanced Thermal Treatment alone cannot meet Guernsey's needs. The waste requires processing in order, as a minimum, to reduce the material size. Most ATT plants also require the pre-processing to improve the homogeneity of the waste feed stock. As such ATT must be coupled with some form of pre treatment.

- 20.7 Tendering Mass Burn EfW (including the rotating kilns/fluidised beds) alongside MBT coupled to EfW allows the States to cost and compare the risks and sustainability thus allowing procurement of the best option.
- 20.8 The most cost effective solution modelled requires high recycling. High recycling and EfW are not incompatible.
- 20.9 Procurement should not be based on an integrated complete service package but should be based on strategic partnership with the States procuring the design build and operation during the life of the facility.
- 20.10 Detailed consideration and investigation is required in order to prescribe the tender process and documentation.
- 20.11 Detailed consideration is required to establish the role of the Economic Regulator and the mechanism under which such a regulator will operate.
- 20.12 The industry is now in a sellers' market and the climate is not ideal for obtaining competitive tenders. Soft Marketing will need to be undertaken to convince potential tenderers that Guernsey is committed to procuring a solution and that it is worth their while committing resources to tender for the Guernsey project.
- 20.13 High recycling will require expansion of existing and the introduction of new initiatives. This will necessitate the construction of dedicated facilities including: In Vessel Composting, Civic Amenity Sites, Dry Recyclables MRF, Mixed Waste MRF, improved Scrap Metal facilities
- 20.14 Permanent supporting waste infrastructure cannot be located on Longue Hougue in advance of further developing the planning issues surrounding the development of the main disposal facility.
- 20.15 In the interim, temporary recycling and segregation facilities will be required to significantly enhance current waste diversion figures. Whilst commissioning these facilities is extremely problematic, facilities should be commissioned whenever reasonably practicable.
- 20.16 High recycling will require an ongoing commitment to promotion and education and a commitment to ongoing resource allocation. In the interim and pending the procurement of long term facilities the financial resource requirement is largely centred on the operational costs of continuing and expanding the existing services and in particular the collection of recyclables. An additional annual expenditure in the order of £1,000,000 accumulating against the Public Services Department Budget should be assumed.

21 Joint Jersey Facility

- 21.1 In May 2005 the States considered a joint Guernsey/Jersey report on the costs and risks of procuring a single waste disposal facility serving both islands. The States directed (resolution 3 Billet D'Etat V,2005):

“ to agree to continue to investigate the potential of working jointly with Jersey as set out in paragraph 11.10 and report back to the States at the earliest opportunity;”

Paragraph 11.10 referred:

“Export to Europe as an interim solution becomes more valid if it is an essential element of the long-term disposal route, for example, future export to the joint Jersey/Guernsey facility. This option is fully detailed in the joint report commissioned by the Environment Department and Jersey’s Public Services Department (appendix 6). It should be noted that export to a jointly owned facility does not appear to carry a high level of savings and the savings that might be accrued may not warrant the additional risks. It is not at all clear whether the joint solution offers both islands the best value for money. This option requires further consideration by both islands during the next few months.”

- 21.2 The opening sentence of the above paragraph and the reference to the linkage between export to Europe with Export to Jersey is particularly note worthy. In January 2006 the States considered the Department’s further report on the options of a Joint Facility with Jersey the States agreed:

- 1.) *that a joint Channel Island incineration facility does not present an acceptable long-term strategy for Guernsey.*
- 2.) *that to contract now for Jersey’s spare capacity between 2010 and 2014 is a high risk strategy that should not be adopted*
- 3.) *to continue to investigate short-term export to Europe under the provisions of an Annual Renewable Agreement and to report back to the States before entering into a contract for export*

- 21.3 In June 2006 the States considered the Department’s report of export of waste to Europe and rejected the department proposal to “ *export, for landfill, 30,000 tonnes of waste per annum to France for a minimum period of 3 years.*” Taken jointly, and noting the interdependency of export to Jersey with export to Europe, the above States resolutions have effectively closed the door on the joint Guernsey/Jersey facility option. Nevertheless, before finalising this report the Department has once again met with the Jersey representatives.

- 21.4 There are potentially two mechanisms by which Guernsey can share a facility with Jersey. The First is, through a joint venture company to jointly procure the construction and operation of a plant sized to meet the needs of both islands. This is the option that was examined in detail and reported in the Departments May 2005 report referred to above. The conclusion of the work carried out jointly by Jersey consultants Babbie Fichtner and Guernsey consultants Ramboll was that whilst the joint facility constructed and operated over 25 years should generate a financial saving over the split solution this saving carried with it a number of risks.
- 21.5 Of greater significance is the fact that the saving accrued to Jersey whilst the cost to Guernsey increased. This was due to the fact that Jersey benefited from the savings of a joint facility whilst the joint facility savings to Guernsey were more than offset by the additional capital and operating costs of exporting the waste. This can be seen in the Net Present Value costs shown below.

	NPV Guernsey	NPV Jersey
Guernsey facility	107,906,010	xxxxxxxxxx
Jersey facility	xxxxxxxxxx	116,295,209
Joint facility	59,483,951*	104,113,274*
Export facility	61,361,151	xxxxxxxxxx
Total NPV	120,845,102	104,113,274

* apportions the total joint facility NPV in the ratio 60,000tpa : 105,000tpa. ie Guernsey pays 60/165 ths.

NPV for Guernsey increases by 12% and NPV for Jersey decreases by 10.5% if joint venture.

- 21.6 A joint facility is only viable if it derives benefit to both islands. Jersey has consistently held the understandable view that to construct a joint facility and receive Guernsey's waste there must be a reward for Jersey. This materialises in the reduced NPV of a joint facility over the single Jersey facility. Jersey has, therefore, been understandably unprepared to give up that NPV saving in order to reduce/offset Guernsey's additional costs.
- 21.7 It can, therefore, be seen that in addition to the inherent risks with export of waste to an off island facility, Guernsey would also be picking up higher costs than the Guernsey only facility. For these reasons the joint facility was rejected by the States. There has been no material change in the available information and hence the Environment Department remains unable to recommend adoption of this option.
- 21.8 The second mechanism available to exploit a shared facility would be for Guernsey to purchase Jersey's spare capacity whilst that spare capacity exists. This is in essence a delaying option, the intention of which would be to delay commissioning of a Guernsey facility during which time the developing technologies may become proven whilst at the same time optimising the

operation of the Jersey facility by running it at close to full capacity through receipt of some of Guernsey's waste. As the Jersey projected waste growth occurred, the amount of waste that could be received from Guernsey would reduce until the point at which the Guernsey facility came on line. It is this second option that Jersey referred to in media coverage in September 2006.

- 21.9 At a meeting held in October 2006 Jersey advised that should Guernsey wish to buy Jersey's spare capacity, the Jersey facility could potentially accept up to 20,000 tonnes of Guernsey waste (reducing annually) for a few years. There can be no certainty over the exact nature of the offer as the available spare capacity depends on waste growth in Jersey. However, for the purpose of modelling, the optimistic view of 20,000 tonnes per annum export for up to 10 years has been taken. This has been modelled against the most optimistic targets set out in the waste disposal plan of aggressive recycling in Guernsey aimed to achieve a waste reduction to 46,000 tonnes per annum before 2012, the date of commissioning of the proposed Guernsey facility.

Action/Date	Tonnes landfilled at Mont Cuet	Tonnes exported to Jersey	Tonnes Capacity remaining at Mont Cuet	
2007	48,000	0	350,000	
2008	46,000	0	302,000	
2009	46,000	0	256,000	
2010	46,000	0	210,000	Less than 5 years life remaining
2011	46,000	0	164,000	
2012 (Jersey plant operational)	26,000	20,000	118,000	
2013	26,000	20,000	92,000	
2014	26,000	20,000	66,000	
2015	26,000	20,000	40,000	
2016	26,000	20,000	14,000	
2017	14,000	20,000	0	Landfill full and 12,000 tonnes un-accommodated

- 21.10 It will be noted that for this "Jersey spare capacity" option then in 2012, when the Jersey facility is expected to be operational, Guernsey would still be land-filling 26,000 tonnes per annum as opposed to the minimal quantity if a Guernsey plant had been commissioned.
- 21.11 In order to protect a 5 year strategic reserve to support the Guernsey facility when eventually commissioned, then even at the lower annual tonnage of 46,000 tonnes, it can be seen that using Jersey's spare capacity does not allow Guernsey

to defer procurement of its own facility. If Guernsey were to sacrifice all of its 5 year strategic reserve before commissioning its own facility, then export to Jersey would only extend the life of the landfill by 2 years. i.e without export and without an alternative facility Mont Cuet would be full around 2015 were as with export to Jersey of 20,000 tonnes per annum commencing in 2012, Mont Cuet would be full around 2017. This very short period of extension does not warrant the investment in export facilities or the risk involved in delaying procurement of the Guernsey facility or the risk of sacrificing all of Guernsey's strategic reserve.

- 21.12 As a consequence, and in light of the States previous decisions in respect of export, the Environment Department does not consider the offer to share Jersey's capacity or to commission a joint facility as viable options.

22. Recommendations

The Environment Department recommends the States to:

1. Endorse the waste arisings and growth projections as set out in Appendix 3
2. Commit to strive towards high recycling as set out in paragraph 17.2
3. Endorse the desired facility plant capacity as set out in paragraph 15.1 B
4. Agree to the technology preference as set out in paragraph 13.1
5. Endorse the principles of the Procurement Strategy as set out in section 14
6. Agree to the output criteria as listed in paragraph 14.14 P
7. Approve the draft Waste Disposal Plan as set out in Appendix 8.
8. Direct the Public Services Department to appoint engineering and legal consultants to assist with the preparation and issue of tender packs, the assessment of tenders and post tender negotiation.
9. Direct the Environment Department, in accordance with Strategic Policy 31 of the 2006 Strategic Land Use Plan, to make provision for those facilities identified in the waste disposal plan, as adopted by the States, through review of the detailed development plans.
10. Direct the Public Services Department to seek planning approval and ensure provision of, at the appropriate opportunity, In Vessel Composting, Civic Amenity Sites, Scrap Metal Facilities, Dry Materials Recovery Facilities and Mixed Waste Materials Recovery Facilities.

11. Direct the Public Services Department to report back to the States, in due course, on the delivery, where reasonably practical, of interim waste processing facilities and services as set out in section 17.
12. Approve the appointment of a recycling officer as a permanent established post.
13. Direct the Commerce & Employment Department to investigate and report back on the role and mechanisms for setting up an economic regulator as set out in paragraph 14.13
14. Direct the Environment Department to investigate and report back on mechanisms and legislation to regulate waste movements hence guaranteeing a waste stream to the facilities as set out in paragraph 14.12
15. Direct the Director of Environmental Health and Pollution, as a matter of urgency, to advise the Environment Department, as to additional legislative provisions required under the Environmental Pollution (Guernsey) Law, 2004 to give effect to the above recommendations.
16. Direct the Public Services and Environment Departments to investigate the costs and human resource impacts of the above recommendations on their departments and to make appropriate recommendations to the Treasury and Resources Department which shall take the final decision on the transfer of capital, revenue, and human resources.
17. Direct the Treasury and Resources Department, paying particular regard to paragraph 20.16, to make necessary funds and establishment available to implement the above recommendations.
18. Direct the Public Services Department to ensure that the Environment Department is represented on the Project Board as set out in paragraph 14.18.

Yours faithfully

B M Flouquet
Minister

Appendix 1
Work Stream Matrix

WASTE STRATEGY ASSESSMENT
Action List – Index (as at 12 October 2006)

Work Stream No:	Title of Work Stream
1	Export of Waste/Duly Motivated Requests
2	Joint EfW Facility with Jersey
3	Appointment of Consultant
3a	Waste Data, Projections and Markets (Phase 2)
3b	Modelling/Scenarios and Assessment of Technologies (Phase 3)
4	Alternative and Emerging Technologies
5	Air Pollution Monitoring
6	Staff - Recycling Officer
7	Finance - Revenue and additional Staff Costs
8	Waste Disposal Plan
9	Composting Facility
10	Civic Amenity Sites
11	Solutions search for complete Waste Management and Disposal solutions
12	PR Campaign
13	Recycling Sites
14	Cardboard Recycling
15	School Recycling Facilities (inc ODL Education Pack)
16	WEEE Scheme - Pilot
17	Glass Recycling
18	Kerbside Recycling - Pilot
19 & 20	Commercial Recycling - Promotion (including commercial award - KGGA)
21	Landfill Gate Fees
22	Waste Wood
23	PET Bottle Recycling
24	Skip Materials Recovery Facility
25	Ad hoc Recycling/Minimisation Initiatives
26	Hazardous Waste Disposal
27	Waste Water Stone
28	Strategic Procurement objectives
29	Funding Strategy
30	Fly-tipping
31	Dry Recyclables Facility
32	Waste Procurement Panel - Criteria Setting
33	States Report

**Work Stream No 1
Export of Waste/Duly Motivated Request**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed? Y/N	Date considered by Board
1.1	Confirm only 'Black Bag' Waste for UK DMR. Attach AR paper on costings of Waste Transfer Station previously submitted.	Approved	DESO	1.2	Yes	28-Jun-2005
1.2	Draft UK DMR - only black bag (which we can't sort at present) and only interim solution	Complete	PM	1.4		
1.3	Establish competent authorities - List in ED/WSA/EXPORT	Complete	CO	1.5		
1.4	Consult UK, DEFRA, Foreign Office and Regulator	Complete	CO	None		
1.5	Submit DMR	Pending discussions with Europe	PM	1.11		
1.6	Establish procedures for sending waste to France and Germany - undertaken by ISL end of Sept 05.	Complete	PM	None		
1.7	Ask companies in France and Germany if they would accept waste and seek 1 year ARA on behalf of Guernsey. Sent via OJEC, published on 13/9/05. Copy of advert also sent to corporate entities which had previously expressed an interest.	Complete - Chase PD wc 7/11/05, give deadline of one month to respond	PD			
1.7.1	Write to Mindest and Le Havre re: waste export (informing them of OJEC add)	Complete - letter sent 3.10.05				

1.8	Write to French and German authorities to request guidance notes or a template ARA	Complete	PM			
1.8.1	Chase French and German authorities	Complete. France reply rec'd 9.1.06	PM	1.12		
1.9	Information packs sent to companies (including Mindest and SITA) on 19 October 2005	Complete	PD			
1.9.1	Further questions raised by Mindest on 20 October 2005 - response sent on 25 October.	Complete	PD			
1.9.2	Chaser sent to Mindest on 12 January. Response received on the same day apologising for the delay in responding and informing the Department that the company did not think it could build an offer.	Complete	PD			
1.9.3	Clarification from Mindest sought (again on 12 January) - Mindest informed the Department that they now had a capacity issue.	Complete	PD	1.14		
1.10	Prepare paper showing costs of shredder and baler which could be located at Mont for short term export of waste. Noted not most efficient or effective way.	Complete	PD/PM			
1.11	Draft DMR ready to go to UK - check with WRO	Complete	PM	1.11.1		
1.11.1	Send DMR to UK (via official channels) and to Environment Agency direct. 2 Feb 2006	Complete	PM	1.15		
1.12	FRANCE - 9.1.06 - confirmed that Gsy require commercial contract before applying for ARA with Regulator. Request any forms/guidance notes from French regulator	Complete	PM			

1.13	SNN French Regulator - meeting on 24 February.	Complete	CO/PD			
1.14	Following consultation with interested companies, the Department identifies SITA SNN as the preferred supplier - March 2006	Complete	PD/PM			
1.14.1	Meetings held with SITA on 20 & 21 March 2006 to discuss export arrangements, facilities in France etc	Complete	CO			
1.14.2	SITA revisit shipping costs	Complete	SNN			
1.14.3	Sita submitted outline proposal (key element, waste must be baled and containerised).	Complete - SITA asked to examine bale/container/ship options	PD			
1.14.4	Establish Shipping Costs	Complete	PD			
1.14.5	Outline proposal and costs received from SITA - to be included within States report	Complete	CO			
1.15	Response received from UK Environment Agency on 16 May 2006 - DMR refused. Gsy could reasonably acquire technical capacity.	Complete	CO			
1.16	Members considered a draft States report for the export of waste, dated 17th May 2006.	Approved, subject to minor changes	CO	Yes		6-Jun-2006
1.17	States Report considered by States at its meeting held on 26 July 2006 (Billet D'État XIII 2006) - rejected export option.	Complete	CO			
	WORK STREAM COMPLETE					

**Work Stream No 2
Joint Facility with Jersey**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
2.1	Seek views of Policy Council	Complete	CO	2.2		
2.2	Letter/meeting with Jersey to explain Guernsey's current position. Happy to continue looking at possibility of joint facility, but will not be able to commit to facility until investigations have been completed on Alt and Emerging Technology (Parkinson amendment)	Arrange meeting after Jersey States has debated Jersey Waste Management Plan	CO	2.2.1		
2.2.1	Meeting with Jersey, in Jersey, on Wed 17th August 2005	Meeting Held	CO	2.2.2		
2.3	Update Board on Jersey meeting - Jersey need commitment by Spring 06	August Meeting	Bd CO		yes	23-Aug-2005
2.4	Report back to States	Draft policy letter considered by the Board on 13/09/05 and 15/11	CO		yes	13 Sep 05 and 15 Nov 05
2.4.1	States Report revised to reflect PSD letter, dated 24 November	Approved	CO		yes	29-Nov-2005

2.4.2	States Report - Billet d'État II, 2006, Item 7.	States approved recommendations - could not commit to Joint Facility. Also agreed to continue looking at options to export to Europe.	CO			
	WORK STREAM ON HOLD PENDING OUTCOME OF ENVIROS REVIEW AND STATES DECISION ON PREFERRED LONG TERM SOLUTION			33.4		
2.5	Jersey, in media statement, indicate that the Spring 06 commitment has been extended. Arrange meeting with Jersey to explore Developments. Meeting Scheduled for 11 October 2006		CO			
2.6	Prepare Addendum to Report (or States Letter) re Update on Jersey Position.		CO			

**Work Stream No 3
Appointment of Consultants**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
3.1	Liaise with Defra over appointment of their consultant Enviros	Complete	PD	If No - 3.3 If Yes - 3.4	-	-
3.2	Draft brief (develop terms of reference)	Complete	PD	3.2.1		
3.2.1	Meeting with Enviros held on 23 June 2005 to discuss brief	Complete	CO/PD			
3.3	Works Proposal received from Enviros (letter dated 4 July 2005). Considered by the Board.	Approved	CO	3.3.2	Yes	28-Jun-2005
3.3.1	Gather Documentation and send to Enviros	Background info CD sent 10/08/05	PM	None		
3.4	Request consultancy budget from T&R - Memo sent 6th July 2005	Complete - Partial budget of £100,000 approved by T&R	DESO	3.4	-	-
3.5	Enviros appointed on 10 August 2005 to carry out Phase 1 - critique of all the available information.	Complete	CO	3.5.1	Yes	26-Jul-2005
3.5.1	Meeting with Enviros on 20 September 2005	Complete	CO/PD	3.5.2		
3.5.2	Enviros Phase 1 work completed in October 2005	Complete	PD	3.5.3		

3.5.3	Meeting with Enviro held on 18 October 2005 to discuss programme of work	Complete	CO/PD	3.6		
3.6	Enviros submit proposed works programme (letter dated 27 October 2005) detailing 5 tasks - 1. Validation of Waste Data, 2. validation of projected Waste Arisings, 3. Review of Markets for Recycled Material, 4. Technologies and 5. Modelling. - Send to Board Members for comment	Approved	CO			
3.6.1	Following Board comments - revised works programme considered	Approved	CO		yes	29-Nov-2005
3.7	Create New Work Stream: 3a - Waste Data, Projections and Markets (Phase 2)	Complete	ESO			
3.7.1	Create New Work Stream: 3b - Modelling/Scenarios and Assessment of Technologies (Phase 3)	Complete	ESO			
3.8	Following completion of Phase 2 - proposed additions to Works Programme, Enviro letter dated 11 April 2006, new tasks under phase 3 and proposed new tasks: 6. Waste Audits and 7. Procurement Workshop	Complete	CO/PD			
3.9	Considered by the Board - agreed against a full waste audit, however, agreed for Enviro to undertake sensitivity analysis on previously waste audit data (see Work stream 3a). Approved Task 7 (see Work stream 28) .	Approved	- PD		Yes	25-Apr-2006
3.10	Meeting held with Enviro to discuss final draft reports and presentation to the Board - 19 July 2006	Approved	CO			

3.11	Following completion of Works Programme - Enviro present its final reports and findings to the Department at a meeting held on 5 September 2006	Completed	CO	Yes	5-Sep-2006
3.12	Board agreed to recommend options 2 and 4 of Enviro Modelling Scenarios - MBT or Incineration, both with high recycling	Complete	CO	Yes	6-Sep-2006
3.13	Draft States Report	See Work stream 33	CO		
	WORK STREAM COMPLETE				

**Work Stream No 3a
Waste Data, Projections and Markets (Phase 2)**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
3a.1	Revisit previous waste audits to see what work streams could be carried out in advance of Enviros proposed work	Complete	PM	None		
3a.1.1	Import Data - do Customs and Excise now have a computer system	No Computer system - would take 3-4 man months to redo	PM	None		
3a.1.2	Ask Mayside, Gsy Recycling and any other people who process/recycle waste for data of tonnages handled. Note: Private companies have given an undertaking to assist with waste problem	Complete	PM	None		
3a.2	Letter sent to Enviros confirming Phase 2 and 3 work.	Complete	CO			
3a.3	Meetings arranged with Enviros on 30 Nov to 2 Dec - Project Team	Complete	PD/PM			
3a.3.1	Arrange meetings for Enviros with Environmental Health, Commerce and Employment, Policy Research Unit and Chamber of Commerce - to be undertaken between 30 Nov and 2 Dec	Complete	PM			

3a.4	Following Enviro visit/meetings - updated information supplied to Enviro by Project Team as and when requested (December/January)	Complete	PM			
3a.5	Audit/Analysis meeting with Enviro (Project Team) on 12 February 2006 to discuss draft of findings.	Complete	CO/PD			
3a.6	Meeting held on 24 March to discuss final draft of reports and proposed new work - e.g. update to composition audit data.	Complete	CO/PD			
3a.7	Agreed to put forward proposal for composition audit - Enviro letter received 11 April (see 3.9). Board considered composition audit and rejected. Agreed to carry out sensitivity analysis instead.	Complete - Complete rejected	-CO/PD	3a.9	Yes	25-Apr-2006
3a.8	Board noted Enviro Reports 1 and 2.	Complete	CO/PD		Yes	25-Apr-2006
	PHASE 2 COMPLETED					
3a.9	Following Board decision against Waste Composition (see work stream 3a7) - Enviro requested and agreed to carry out sensitivity analysis on previous waste composition audit data	Complete				
3a.9.1	Sensitivity analysis work (for use within modelling report) completed in August 2006	Complete				
	WORK STREAM COMPLETE					

**Work Stream 3b
Modelling/Scenarios and Assessment of Technologies (Phase 3)**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
3b.1	Following completion of Phase 2 work - Project Team Meeting with Enviro to discuss Phase 3 - modelling scenarios and assessment of technologies - 24 March 2006	Complete	CO/PD			
3b.2	Scenarios (7) to Board and approved	Approved	CO		Yes	11-Apr-2006
3b.3	Agree assumptions for modelling report with Enviro	Complete	PD			
3b.4	Draft modelling reports reviewed	Complete	CO/PD			
3b.5	Meet Enviro re modelling report and assumptions	Complete	CO/PD			
3b.6	Draft Final Modelling report to Board	Complete	CO		Yes	5-Sep-2006
3b.7	Draft Final Technologies report to Board	Complete	CO		Yes	5-Sep-2006
	WORK STREAM COMPLETE					

**Work Stream 4
Alternative and Emerging Technologies**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
4.1	Terms of reference to DEFRA	Complete	PD	4.2		
4.2	Undertaken as part of Enviros' Review - Task 4 - Report on new technologies for the treatment of residual waste.	Complete	CO			
4.3	Presentation of report to Board at same time as solutions search work	Complete	CO	11		
	WORK STREAM COMPLETE (also see work stream 3b)					

**Work Stream 5
Air Pollution Monitoring**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
5.1	Budget cost service	Received	PD			
5.2	Review funding with T&R to continue Air Pollution Monitoring, as agreed by the States	Funding from old EfW Vote (States Resolution)	CO/PD			
5.3	Explore the option of BoH taking over monitoring station	Agreed to retain at present.	PD			
5.4	Chase invoice with reference to service of station	Quote for re-commissioning and 1 yr mnce contract requested 4.1.06	PD			
5.4.1	Add cost to letter to T&R - approximately £5,000	Complete	ESO			
5.5	Check functionality of station (how to retrieve data).	Station Re-Commissioned.	PD			

**Work Stream 6
Staff - Recycling Officer**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
6.1	Draft job description for Recycling Officer	Draft completed	DESO	None	No	
6.2	Submit to HR and T&R (for budget)	Memo sent to T&R on 6 July and HR on 2 August 2005	DESO	6.2.1		
6.2.1	HR has agreed Grading and draft job description now finalised. Post will now be circulated internally	Sent to HR to circulate on 18/8/05	DESO	6.3		
6.2.2	Chase T&R weekly for funding from end of September	Complete	ESO			
6.3	Advertise internally	Complete	ESO	6.4		
6.3.1	Two applications received. However neither applicant was short listed for interview	Complete	DESO			
6.4	Chase T&R for funding for post	Response received from T&R will consider as part of total end of year budget package.	DESO	6.4.1		

6.4.1	Confirmation received from T&R for three year post on 09/11/05 - considered by Board	Complete	n/a	6.4.2	yes	15-Nov-2005
6.4.2	Review Job description and re-submit to HR for re-circulation internally	Complete	CO/ DESO			
6.4.3	No applications received	Complete	n/a			
6.4.4	Board agreed to advertise post in Guernsey Press	Complete - 4 applicants short-listed			yes	7-Feb-2006
6.5	Interviews held on 30 March 2006	Completed	DESO/ ESO			
6.6	Jan Dockerill appointed - commenced employment on 15 May 2006	Complete	DESO/ ESO			
6.7	Board introduced to Recycling Officer	Complete	ESO		yes	30-May-2006
	WORK STREAM COMPLETE					

**Work Stream 7
Finance - Revenue and additional Staff Costs**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
7.1	Submit early budget requests for specialised work streams (PR Campaign, Recycling Officer and Cardboard on Recycling Facilities)	Memo sent to T&R on 6th July	CO	7.2		-
7.1.1	Response received from States Treasurer on 20 July 2005 - requested meeting to discuss.	Complete	CO			
7.2	Letter sent to T&R dated 1 August 2005, requested consultancy budget of £150,000 to appoint Enviros	Complete	CO			
7.3	Letter sent to T&R dated 18 August 2005 providing provisional costs for all WSA work streams and requesting budgets.	Complete	CO/ESO			
7.4	Response received from T&R dated 6 September - budget of £100,000 received for Enviros consultancy work only	Complete	CO			
7.5	Chaser memo sent to T&R - Response received on 5 October 2005. T&R refers to previous Department increases.	Noted	CO	7.5.1		

7.5.1	Response to T&R from CO, dated 10 October 2005 - explains requirement for previous increases to Environment's Budget have been forced upon the Department - refers again to States direction to increase Department's budget	Complete	CO				
7.6	General agreement reached w/c 24 October to provide budget of £500,000 for WSA work (in addition to £100,000 previously received) in 2006 budget, to be offset against the additional income being received at the Waste Disposal sites. Wont be confirmed before Budget debate	Complete					
7.7	Set up cost centres	Complete	DFA	7.3			
7.8	Budget work streams to cost centres	Complete	DFA	7.4			
7.9	Create Spreadsheet to monitor costs of all new initiatives	Complete	ESO/ Martyn	7.5.1			
7.5.1	Submitted to T&R to set up budgets	Complete	Martyn				
7.6	Budget received 1/1/06 and costs centres set up	Complete	Martyn/ ESO				
7.7	Allocate £500,000 against relevant cost centres	Complete	ESO				
7.8	Agree to ring-fence money against essential cost centres e.g. Recycling Officer salary	Approved	CO		Yes		13-Jun-2006
	WORK STREAM COMPLETE						

**Work Stream 8
Waste Disposal Plan**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
8.1	Create work stream for Strategic Procurement - No. 28	Complete	ESO	None		
8.2	Review appropriateness of EU waste catalogue	Complete	PM	8.2.1		
8.2.1	Write to Waste Regulation Officer confirmed his acceptance for us to adopt EU waste catalogue	Complete	PM	3.1		
8.3	Inert Disposal - Prepare States Report for Board	Complete	CO	8.3.1	Yes	26-Jul-2005
8.3.1	Draft States Report	Complete	CO	8.3.2		
8.3.2	Inert Disposal - Consult PSD	Letter sent 29 July 2005 - CHASE PSD	CO	8.3.3		
8.3.3	Final draft of States Report to Board	Approved	CO	8.3.4	Yes	6-Oct-2005
8.3.4	Inert Disposal - Report considered at the States Meeting held on 30 November 2005	Agreed with recommendations	CO	None		
8.4	Explore reversing the burden of proof - duty of care re: littering/fly-tipping/waste processing	Own Work Stream No 30	SESO	30		
8.5	Explore with Treasury hypothecation of waste taxes	Complete	CO/ DESO	None		

8.6	Re-read WMP extract any other work streams	Complete	PM	None		
8.6.1	Re-read ISL's original reports	Complete				
8.7	Create inter-departmental policy team to establish strategic objectives against which the Solutions search responses will be judged, in conjunction with the strategic procurement objectives.	Complete	CO			
8.7.1	Invite Scrutiny to attend meetings of the policy team	Complete	CO			
8.8	Start Work on "Waste Disposal Plan" report, which will support the preferred waste disposal solution.	Complete	CO			
8.9	Draft WDP to Board	Complete	PM	Yes		26-Sep-2006
8.10	Final draft of WDP to Board	Complete	PM	Yes		10-Oct-2006
8.11	Append to States Report	Complete	CO			
	WORK STREAM COMPLETE					

**Work Stream 9
Composting Facility**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
9.1	Present statement of issues paper to Bd. Highlight Planning, EIA, Procurement and Funding Issues. Give estimate of cost/size	Complete	SESO PM	9.6	yes	15-Nov-2005
9.11	During discussions - EnviroS advised that the States should not proceed with in-vessel composting until the outcome of the modelling work	Noted	CO			
9.2	Advice from planning re site	Send Memo to FPM listing actions from meeting - COMPLETE sent 24/8/05	ESO	9.2.2		
9.3	Confirm Input - speak to producers (will they use facility? Gate price)	To be undertaken by EnviroS as part of Market Development work (3a)	PM			
9.3.1	Report considered by the Board on 25 April 2006	Complete				

9.4	Identify end user - farmers etc	To be undertaken by Enviro as part of Market Development work (3a)	PM				
9.5	Explore options for interim solution (check status of PSD trials at Mont Cuet)	Noted - Following discussions with PSD - progress with trials at Chouet	ESO with PM				
9.6	Paper to Board explaining issues with progressing with Long Term composting facility (in-vessel or otherwise) without knowing what end disposal facility will be procured.	Complete - 1st Paper (PM) 2nd Paper (CO)	1st compete	Yes		13-Dec-2005	
9.7	Agreed to support an interim solution of window composting	In progress - Trials being carried out at Mont Cuet using old FV screen	PM/ ESO	yes		13-Dec-2005	
9.7.1	Arrange meeting with Members of PSD Board	Complete	CO	Yes			
9.8	Draft report to States reflecting the Board's position in respect of the decisions.	To be included within end of year States report. Completed	CO				
	WORK STREAM COMPLETE						

**Work Stream 10
Civic Amenity Sites**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
10.1	CA Site originally proposed at Longue Hougue. Plans already drawn up. Update costs.	Pending discussion with WRO on spec	PM	10.1.1		
10.1.1	Examine Planning implications	Pending advice from Planning following meeting held on 3 August	DESO	10.1.2		
10.1.2	Consider procurement contract operation issues	see 10.1.3	PM	10.1.3		
10.1.3	Prepare Briefing Paper for Board - Board agreed to temporary facility pending long-term solution debate	Complete	PM	10.1.4	Yes	28-Jun-2005
10.2	Examine Planning implications - speak to Forward Planning Section	Waiting for advice from Law Officers	DESO/ DOPP			
10.2.1	Establish Costs, get budget - Memo sent to DCO PSD on 05/07/05 requesting meeting - Meeting held with PSD and GTS staff on 18/07/05	Complete	ESO			
10.2.2	Consult with the Waste Regulation Officer - Memo sent to WRS on 06/07/05	Complete	ESO	10.2.3		

10.2.3	Board informed of costs due to required regulations - Board requested meeting with BoH to discuss CA Site and licensing of other waste management facilities	- Complete Regulator invited to Board meeting	- CO		Yes	26-Jul-2005
10.2.4	Arrange for the John Cook and Simon Welch to attend the Board meeting on 15/11/05	Complete	PA			
10.2.5	Prepare briefing paper re development of temporary site and MRF at Longue Hougue for Board members and the Regulator for discussion at the Board meeting.	Complete - Agreed to seek licensing for site	ESO	10.6	yes	15-Nov-2005
10.3	PSD agreed to investigate longer opening hours at Mont Cuet CA Site on Saturdays and the charging structure	Due to additional staff costs, PSD could not support longer opening hours.	CO	None	yes	7-Feb-2006
10.4	Assess current site at Mont Cuet, what is accepted, what items could be accepted (i.e. car batteries, tyres, oil) and could it be relocated: Green Waste Site, Headland, Hazardous Waste Site, Creve Coeur	Complete	PM/ ESO	None	No	-
10.5	Skip for Green Waste has been placed outside of Waste Site and available 24/7	complete	No Action			
10.6	Specification for CA Site sent to Simon Welch in early March, expecting response by w/c 20 March.	complete	PM	10.6.1		
10.6.1	Response received from Regulator	complete	N/A			

10.6.2	Draft paper for consideration by the Board taking into account regulators requirements - even with basic facility, still require upgrade to access and hard-standing, costs therefore very high in terms of potential diversion.	Complete	PM	10.6.2		
10.6.2	Board agreed to reject proposals for a temporary CA site	Complete	N/A	10.7	yes	25-Apr-2006
10.7	Board agreed to proposals to place Metal and Green Waste Skips at sites around the island	Approved	ESO		Yes	25-Apr-2006
10.7.1	Letters to all parishes asking for locations for skips.	Completed	RO			
10.7.2	Metal Skips rotated around island (two locations every fortnight) - First skips located at Salerie and Forest on 1st July 2006 and fortnightly thereafter at other locations until further notice	On-going	RO			
10.7.3	Green Waste Skips located at Martels Garden World on 6 July 2006.	On-going	RO			

Work Stream 11
Solutions search for complete Waste Management and Disposal solutions

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
11.1	Consult Policy Council on way forward	Complete	CO	11.3		
11.2	Prepare paper for Bd - Proposed Way Forward	Approved way forward	CO		Yes	14-Jun-2005
11.3	Arrange meeting with Minister, Deputy Parkinson and Staples to discuss ED proposed way forward.	complete	CO			
11.4	Arrange ED Bd meeting and invite all States Members to present the Dept's suggested interpretation and way forward of the Parkinson amendment	Complete - held on 27 July 2005	CO			
11.5	Draft Advert to be circulated asking for expressions of interest.	Approved by Board. Ad in GP, UK & EU journal, World Bank	PD	11.6	Yes	28-Jun-2005
11.6	Identify advert routes - Check, does IWM have international audience?	Complete	PD	11.6.1	Yes	28-Jun-2005
11.6.1	Contact companies on Department Database	Complete	PD	None		
11.7	Prepare project brief (list of questions) to circulate to Solutions Search expressions of interest.	Approved, subject to minor changes	PD	11.7.1	Yes	26-Aug-2006

11.7.1	EOI pack sent to T&R for approval/comments	Considered on 21 September, waiting response. Approved	CO/PD			
11.7.2	Issue EOI pack	complete 25.10.05	PD			
11.7.3	Send list of interested companies to all States Members asking them to inform Dept of any companies which they are aware of which haven't been contacted - by return.	Complete	DESO			
11.7.4	Responses received	Complete	PD			
10.7.5	Set assessment criteria (see work stream 32)	Complete	CO			
11.8	Appoint Assessment Panel - Martin Thornton, PD Jones, Tony Pickford, ISL rep, Enviros rep and Andrew Ozanne	Complete	CO	28	Yes	07-Mar-2006 & 11-Apr-2006
11.8.1	Assessment Panel, using criteria set by Waste Procurement Panel (work stream 32), assess responses	Complete	PD			
11.9	Board Paper on how to tie in Solutions Search work stream with Enviros modelling work.	Noted	CO		Yes	25-Apr-2006
11.10	Assessment Panel Report to Board	Complete	PD		Yes	5-Sep-2006
11.10.1	As proposed, the Board agreed to attach Assessment Panel Report to the States Report	Noted - Report Stream 33	States CO		Yes	5-Sep-2006
	WORK STREAM COMPLETE					

**Work Stream 12
PR Campaign**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
12.1	Arrange meeting with CMA PR to discuss promotion of waste minimisation and recycling initiatives (as agreed by the States) and general messages. Aimed at the public and businesses.	Complete	CO	12.2	No	
12.2	CMA to prepare PR brief	Ongoing	DESO	12.2.1	Yes	
12.2.1	Submit brief to Bd for approval	Complete	DESO	12.2.2		
12.2.2	Request budget from T&R	Memo sent to T&R on 6th July 2005	DFA	None		
12.2.3	Send Letter to T&R (Deputy Trott) requesting funding	Drafted 10 August 2005	ESO/ SESO	None		
12.3	Explore joint Channel Island Campaign		DESO	None	Yes	
12.4	Paper to Bd re core curriculum education pack on waste strategy	Complete approved	-CO		Yes	
12.4.1	Verify use of unspent EfW PR budget	Rejected	DFA			
12.4.2	Appoint ODL to complete Education Pack (see Work Stream 15) and Commercial Waste Management Award (see Work Stream 19)	Complete	ESO/ SESO			

12.5	Meeting with CMA PR to discuss way forward using National Campaign logo and other materials	Meeting held on 23/09/05	ESO/ SESO	12.6		
12.6	Board paper on campaign logo and slogan	Considered by Board on 13/09/05	SESO	12.7	Yes	13-Sep-2005
12.7	Meet CMA and Image to take forward use of logo	Met CMA on 23/09 and Image on 26/09	SESO/ ESO	12.7.1		
12.7.1	Present Logo (with 'for Guernsey' added) to Board for information	Complete	ESO			
12.8	Presentation to Board on PR brief	Complete approved	- DESO/ ESO		Yes	29-Nov-2005
12.9	Logo launched at Start of Kerbside	Complete	ESO			
12.9.1	Media requested to use with all articles regarding Recycling and waste minimisation	Complete	ESO			
12.10	Bus back adverts approved and sent to Island Scan to be created. Contact Hannah Beacom, Island Coachways	Complete	ESO			
12.11	Adverts in Press/Radio	In progress	RO			
12.12	Waste Minimisation and Recycling Leaflet - Island wide drop	In progress	RO		Yes	29-Aug-2006
12.13	Promotion of Waste and Recycling Issues	Ongoing	RO/ ESO			

**Work Stream 13
Recycling Sites**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
13.1	Review coverage in relation to usage of sites	Complete	SESO	None	No	
13.2	Assess new sites identified by Parishes - Creux Mahie, Fauquet Valley Campsite and L'Aumone	L'Aumone not suitable. Creux Mahie would require a hard standing. Campsite dependent on commercial recycling policy	SESO/ ESO	None	No	
13.3	Identify any potential new sites, i.e. Checkers, M&S St Martins, New Co-op St Sampson's, SCFH	On-going.	SESO/ ESO	None	No	
13.4	Review range of materials collected	Cardboard and PET being considered	SESO/ ESO	14 & 23		
13.5	Examine scope for mini banks (reduced range and/or volume of materials)	Cost implications - part of long term strategy?	SESO/ ESO	25.3		
13.6	Explore recycling bins at beaches	Would require additional staff to service	ESO			

13.7	Seek permission to relocate bins at the Clock Tower	Complete - retain in current position. Clothing bank added	ESO			
13.8	Improve location of bins at Salerie	Complete	ESO			
13.9	Relocate bins at Richmond Shopper (closed) to Perelle Garage	Green Eurobins relocated. Approval sort from Fire Brigade to move paper bank.	ESO			
13.10	Try to secure bring site in Checkers car park	Ongoing - Being considered as part of changes to entrance/exit	DESO			
13.11	New/additional textile banks added at Salarie Corner, Manor Stores, Co-op St Martins and Clock Tower	Complete	ESO			
13.12	Concerns from Deputies over visual impact of L'Ancrese - consider alternative sites or expanding sites in the vicinity.	Complete	ESO			
13.12.1	After consideration, only option to split site - put suggestion forward to Deputies involved	Complete - waiting for a response	ESO			
13.13	Due to CAA regulations, height barrier installed at Spotters Car Park. URGENT - find alternative site in area to relocate banks (especially Cardboard).	Noted	ESO	13.13.1		
13.13.1	Due to need to move, agreed to relocate at Longfrie	Complete	ESO			

**Work Stream 14
Cardboard Recycling**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
14.1	Meet with Mayside - Identify sites for cardboard bins. Proposal - ED to purchase bins and Mayside to service at £50/t	Complete	SESO/ ESO	14.2		
14.2	Paper to Bd re: recommended sites	Approved Sites but agreed to go out to tender following interest from other companies	SESO/ ESO	14.5	Yes	26-Jul-2005
14.2.1	Advert to be placed in Gsy Press	Expressions of interest by 19th August - COMPLETE	of ESO			
14.2.2	Draft Tender Docs - need to check if Servicing and Baling/Export as one contract or split into two.	Complete - just one contract	ESO			
14.2.3	Issue Tender Docs	Issued - respond by 16 September	ESO			
14.2.4	Tenders received from two companies. Review tenders. Submit paper to the Board on 25/10/05	Mayside Approved	ESO		Yes	25-Oct-2005

14.3	Memo to T&R for Funding (see work stream 7)		Funding received for 2006	ESO			
14.4	Seek permission from private land landowners		Complete	SESO/ ESO			
14.4.1	Contact Safeway (Mr Cardwell) to arrange site visit to discuss location of bins		After 09/08/05	ESO			
14.4.2	Site meeting with reps of Torteval Douzaine re Les Buttes site		Not carried out- bins placed at L'Eree	ESO			
14.5	Scheme launched December 2005		Complete	ESO			
14.6	Meeting with Mayside to discuss servicing problems due to the success of the scheme and tonnages being received (above predicted)		Held on 16 March	DESO/ ESO			
14.6.1	Due to success of scheme, agreed to purchase another 5 large banks to be located at most popular sites.		Complete	DESO			
	WORK STREAM COMPLETE						

**Work Stream 15
School Recycling Facilities (inc ODL Education Pack)**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
15.1	Arrange meeting with Education re setting up recycling facilities in Schools - ask them what will work operationally - who will empty banks, how/when material can be collected etc	Letter sent to Education on 11/07/05 - meeting with Peter Dobson on 30/8/05	ESO	15.1.2	No	-
15.1.1	Explore sponsorship with Crystal PR	Complete - PWC agree to sponsor collection bins in all classrooms	ESO			
15.1.2	Education to send proposal memo to Head Teachers asking if they would be interested in having paper recycling bins around schools.	Complete	Education			
15.1.3	Education reviewed refuse collection and agreed to take on long-term funding of paper recycling (as cheaper than waste disposal)	Complete				
15.1.4	ESO to explore with Mayside if they would be interested in collecting bags of mixed paper from schools	Complete	ESO			
15.2	ODL to prepare proposal regarding Education Programme	Proposal received dated 10/06/05	ODL			

15.3	Prepare Board paper regarding Education Programme and ODL Proposal	Approved	CO		Yes	28-Jun-2005
15.4	Inform ODL that proposal has been approved	Complete	CO			
15.4.1	Meeting to establish timetable	Meeting held on 9/8/05				
15.5	Meeting with Education to discuss way forward and in particular how Mayside would collect the material. P.	Held on 17/10/05	ESO			
15.5.1	Fax to Mayside asking best way to collect, cost of bins etc	Sent 18/10/05 - Response received	ESO			
15.5.2	Paper to Board outlining costs - proposal for Env Dept to supply containers for classrooms and external storage and Education to pay for collection and recycling costs	Approved	ESO		Yes	15-Nov-2005
15.6	Bins on island and distributed to Schools during March/April 2006 (jointly publicised with Jersey Scheme in May)	Complete	ESO			
	WORK STREAM COMPLETE					

**Work Stream 16
WEEE Scheme – Pilot**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
16.1	Identify options for WEEE recycling.	Complete - write to companies who have previously expressed an interest.	ESO	16.2		
16.2	Seek quotes for a pilot WEEE scheme - How would they propose undertaking scheme? And where?	Complete	ESO	16.2.1		
16.2.1	Only one proposal received to fragment equipment, therefore, minimal diversion from landfill achieved	Agreed to look at alternative options.	ESO/RO	16.3		
16.3	With States Purchasing Officer - identify routes for IT equipment and include as best practice policy	Complete	ESO			
16.4	Following agreement not to proceed with Temporary CA Site - the Board agreed to proposals to place Metal Skips at sites around the island.	Approved	ESO/RO		Yes	25-Apr-2006
16.5	WEEE material, computers and televisions, segregated from material delivered to Fontaine Vinery	Noted	N/A			
16.6	PSD seeking agreement with local companies to take computers delivered to Mont Cuet CA site	In progress	N/A			

**Work Stream 17
Glass Recycling**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
17.1	Glass Transportation Contract (GTC) - Seek Tenders to renew contract to deliver glass to the UK for Recycling.	Complete	ESO	17.2		
17.2	GTC - Paper to Board - Recommend Trial Period for Huelin Renouf	Complete	ESO	17.3	Yes	26-Apr-2005
17.3	GTC - Huelin Renouf undertaking 1 month trial	Complete - trial a success	ESO	17.3.1/17.4		
17.3.1	GTC - Huelin Renouf contract to begin on 1st July 2005	On-going	ESO			
17.4	GTC - Write to current contractor to inform unsuccessful	Complete	ESO	None		
17.5	Plate Glass Crushing - Meet with Bob Fisher to discuss crushing of stockpile of glass at Belgrave Vinery.	Complete	ESO			
17.6	Liaise with Waste Regulation Officer over use of crushed glass - requires Leachability tests	Complete	PM			
17.6.1	Arrange for two loads of Bottle Glass to be crushed and Leachability Tests carried out	Complete	ESO			
17.6.2	Leachability Tests carried out (by Waste Regulation Officer) and sent to Severn Trent for analysis.	Complete	ESO			

17.6.3	Results received on 24 August 2005 - Results indicate minimal contamination - therefore suitable as substitute aggregate. However, WRO expressed concerns that the material would have to be reduced to a similar size as the sample (4mm) and screened to remove any paper/plastic/bottle tops etc	Complete				
17.7	Glass Crushing - Letter to Ronez to arrange meeting to discuss use of glass as aggregate substitute	Complete	ESO	17.7.1		
17.7.1	Ronez indicate material would have to be 3mm or below - current 'stone crusher' unable to reduce material to this size	Complete				
17.8	Glass Crushing - Silly Isles use crushed glass as an aggregate substitute - research	Complete	ESO	None		
17.9	Investigate alternative equipment to get a finer crush - Check out 'Krystaline'	Quotes obtained	ESO/ PM			
17.10	Seek Expressions of interest to carry out crushing of glass on-island -	Advert in Gsy Press on 2-5 November	ESO	17.19		
17.10.1	Hire 'Krystaline' equipment and trial crushing of bottle glass from Depot	Approved	PM/ ESO		Yes	15-Nov-2005
17.10.2	Contact made with Silly Isles and Remade Scotland to discuss use and cost of 'Krystaline' crushers they use.	Complete	PM			
17.11	Draft Tender Doc	Drafted - send out on 18 November	ESO			

17.11.1	Tenders received		Put on hold pending outcome of glass crushing trials at Depot				
17.12	Krystaline crusher on island (Jan 06)		WDRM developing PM layout at Bulwer Ave				
17.12.1	Machine needs to be raised to carry out trials -extension legs made.		Complete			WDRM	
17.12.2	Following successful trials - agreed that two conveyors required to scale up operation. One to feed material into the crusher and second conveyor to collect crushed material and feed into one-tonne bags. Quotes sought - orders placed in May 2006		Complete			WDRM/ ESO	
17.12.3	Delivery date for conveyors - w/c 9 October 2006					WDRM	
17.13	PSD show crushed material - in principle agreement to trial it's use as backfill		Pending			ESO/ WDRM	

**Work Stream 18
Kerbside Recycling - Pilot**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
18.1	Following Minister and CO visit to Bodmin Kerbside Collection System - prepare outline report for ED Board on potential operational option to collect dry recyclables on Guernsey	Approved proposal	CO		Yes	14-Jun-2005
18.2	Check number of households serviced and tonnage collected per vehicle with Bodmin (Cornwall)	Complete - Notes of conversation with PD Smith prepared	SESO			
18.3	Check with Tony Cullington capacity to accept more textiles through kerbside	Complete - Letter sent to Tony on 05/07/05	SESO			
18.4	Check with Mayside that they can accept paper (in plastic bags) and cardboard from a kerbside scheme	Letter sent to Mayside on 05/07/05 - Confirmed agreement in letter dated 11/07/05	SESO			
18.5	Confirm Recycling Depot accept cans and glass in bags - speak to Waste Disposal and Recycling Manager	Yes	ESO			

18.6	See if we can place Half Height Hooklift in Recycling Depot for collection of PET through Kerbside scheme	No - consider other options when PET introduced	ESO	23		
18.6.1	Small Plastic bottle bank to be located on site	Complete	ESO			
18.7	Letter to Parishes	Letter sent to Parishes on 30/06/05 - St Peter Port, St Sampson's, Castel, St Martins and Forest have confirmed they wish to participate	CO	18.8		
18.8	Prepare Board paper seeking approval to provide the collection service centrally and charging the parishes the 'saving' in reduced residual waste.	Approved proposal	SESO		Yes	13-Sep-2005
18.9	Send letter to Douzaines outlining new approach and prepare papers for meeting	Complete	ESO/ SESO			
18.10	Attend meeting of the Island Douzaine Council to explain Kerbside proposals	Minister, SESO and ESO attended the Island Douzaine Council meeting on 28/09/05	ESO/ SESO			
18.10.1	Send letter to Parishes updating them on the outcome of the Island Douzaine Council meeting and inviting them to now submit a round(s).	Complete	ESO			

18.10.2	Round received from St Peter Port.	Complete	ESO			
18.11	Meeting with SWD regarding quoting for undertaking the kerbside recycling trial	Meeting held on 07/09/05	ESO/ SESO			
18.11.1	Paper to Board - recommend round in St Peter Port	Approved	ESO	Yes		13-Dec-2005
18.12	Source coloured plastic sacks	Complete	ESO			
18.13	Investigate alternative storage for glass to free up space in the Recycling Depot for processing of collected material	Complete	ESO			
18.14	Meeting with St Peter Port Constables on proposed rounds 1/11/05 - identified preferred round	Complete	ESO			
18.15	Establish the number of properties on the proposed St Peter Port round	Complete - 1300				
18.15.1	Create Information Packs to be sent out to all households together with sacks for first collection.	Complete				
18.5.2	Confirm delivery date with Guernsey Post	complete				
18.16	Kerbside bags for the collection of clothing received from Salvation Army.	Complete	ESO			
18.17	Kerbside Scheme launched on 13 February 2006	Complete	ESO			
18.17.1	Systems put in place to record weight of materials. Collection bins for paper and cardboard placed at Fontaine. Procedure put in place for re-supply of bags and missed collections.	Complete	ESO/S WD			
18.18	Assess scope for expansion at reception facilities and with contractor	Complete	ESO			

18.19	Meeting with St Peters constables to discuss second round - held on 21 March	Complete	ESO				
18.19.1	Proposed start date of 26 April 2006 - arrange packs with Image, identify post codes with Parish, delivery by Gsy Post etc	Complete	ESO				
18.19.2	St Peters Round started on 25/4/06 (first pick up on 26/04/06)	Complete	ESO				

**Work Stream 19 & 20
Commercial Recycling - Promotion (including commercial award – KGGA)**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
19.1	Arrange meeting with Chamber of Commerce to discuss contacting CoC members to find out what is currently being recycled by the commercial sector and what the limiting factors are for not recycling	Complete	PM	19.2		
19.2	Prepare a questionnaire and covering letter to be sent out to ascertain what is being recycled and what the hurdles to more recycling are. On-line questionnaire produced by a member of the CoC.	Complete - results used by RO to identify key areas	ESO			
19.3	Ministerial Meeting with Contractors to discuss possibility of setting up waste specific collections for recyclables from commercial premises	Complete	Minister /CO			
19.3.1	Identify existence of spare capacity at existing facilities to receive recyclables from commercial premises	Limited available Recycling Depot and Mayside. However, would look to accommodate wherever possible	SESO/ at ESO	19.8		
19.4	Set up Producer Responsibility Groups (PRGs)	In progress	SESO			

19.5	ODL to draft Corporate Waste Management Award proposal	Proposal prepared by ODL for Board	CO			
19.5.1	Board paper regarding Corporate Waste Management Award together with ODL proposal	Approved	SESO	Yes		26-Jul-2005
19.5.2	Request to T&R for funding	Letter sent 19/8/05 - funding received in 2006 - funding from Env Dept in 2005	ESO			
19.5.3	Appoint ODL	Complete	ESO			
19.5.4	Meet ODL to discuss workshop	Meeting held on 31/08/05	SESO			
19.5.5	Hold workshop to scope project - project titled Keep Guernsey Green Award	Workshop held on 22/09/05	SESO			
19.6	Prepare business information pack	On-going	ESO/RO12			
19.6.1	Discuss with Mayside the establishment of an office recycling route for the collection of magazines and newspapers.	Letter sent to Mayside on 20/07/05	ESO			
19.7	Write to all States Department's (Ministerial level) to say that we have to lead by example and proposing establishment of a Producer Responsibility Group	Letter sent	ESO/DESO			
19.7.1	Memo to all Chief Officer re meeting on 4 November	Sent	ESO			

19.7.2	Meeting held, representatives to identify current waste streams and disposal/recycling/reuse routes.	Complete	ESO				
19.7.3	Next meeting scheduled for 14 January 2006	Complete	ESO				
19.8	Calculate a charge for commercial waste hauliers for the delivery of glass to the Recycling Depot.	Complete	SESO/ ESO				
19.8.1	Letter sent to hauliers informing them that loads of colour segregated glass would be accepted at the Recycling Depot at a charge - sent 12 October 2005	Complete	SESO/ ESO	12			
19.8.2	Prepare a draft agreement for the commercial use of the Recycling Depot.	Complete	ESO				
19.9	Seek Board approval of commercial recycling policies	Approved	SESO		Yes		13-Sep-2005
19.10	Invite Island Waste reps to a meeting with the Minister to discuss charges	Complete - meeting held on Friday 7 October	ESO				
19.10.1	Letter to Island Waste following meeting	Complete	ESO				
19.11	Meeting with individuals interested in starting a commercial collection round for recyclables.	Complete	Jan/ESO				
19.12	Board considered options in relation to commercial recycling - noted only way forward through heavy promotion and advice	Complete	CO		yes		7-Feb-2006
19.12.1	COMMERCIAL RECYCLING INFORMATION SHEETS - WASTE AUDIT, ASSESSMENTS AND POLICIES	Complete	CO				

19.12.2	Meeting with Gsy Press - Articles Gsy Press on 22, 23 and 24 March	Complete	CO			
19.12.3	Create Commercial Recycling information pack to be sent out to business, include website links, information sheets, case studies, example waste audit sheets	Complete	ESO/RO			
19.13	Meeting with Chamber of Commerce (29 June 2006) - introduction and possible work areas (such as PRGs)	Complete	RO			
19.14	Letters/emails (via Chamber) to all construction industry and associated trades, offering advice - 1 August 2006	Complete	RO			
19.14.1	Further information sent to companies who made contact and two meetings held	Complete	RO			
19.15	Visits to St Peter Port retailers. Introduction and information gathering exercise.	On-going	RO			
19.16	Chamber of commerce meeting – Agreement to pursue joint approach to set up PRG for construction(1 st) and hospitality (2 nd)	Complete - held on 16 August	RO			
19.17	Meeting with St Peter Port Services to discuss services offered	Complete	RO			
19.18	Meeting with RF Mills - information gathering exercise	Complete	RO			
19.19	Meeting with the Co-op - what they do	Complete	RO			
19.20	Meeting with States Departments - Advice on Recycling	In progress	RO			

19.21	KGGA - update to Board - August 2006 - confirm pilot stage in progress, some companies nearing completion. Seven assessors and eight companies taking part. Ask Board to give approval to officially launch once first pilot companies have been verified.	Approved	ESO	Yes	29-Aug-2006
19.21.1	Consider Award (CoFE students have prepared designs)	In progress	DESO		

**Work Stream 21
Landfill Gate Fees**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
21.1	Ask the Board to consider whether to advise the Public Services Department to continue with the proposed increases for 2006 and 2007, as previously agreed, or to increase the standard gate fee to £100 per tonne, as of 1st January 2006.	Approved	ESO	21.2	Yes	14-Jun-2005
21.2	Ask Board to recommend to the Public Services Department that the parishes be charged the same rate as other hauliers as of 1st January 2007 (unfortunately, this can not be achieved from 1st January 2006 as the parish rates have already been set).	Approved	ESO		Yes	14-Jun-2005
21.3	Take paper back to the Bd explaining implications of delaying increase in gate fees	Approved	SESO		Yes	28-Jun-2005
21.4	Letter to PSD recommending that the next increase in landfill gate fees should be £25 plus RPI, as previously agreed, taking the gate fee to approximately £86/tonne to be implemented on 1st January 2006. Also, to recommend to the Public Services Department that the parishes be charged the same rate as the other hauliers with effect from 1st January 2007.	Letter sent to PSD on 12/07/05 - Response received. PSD agreed to increase, but not to change agreement with Parishes	ESO			

21.5	Memo from PSD confirmed Board's decision to increase landfill gate fees by a further £25 in 2007 - standard fee at Mont Cuet now £115 per tonne.	Noted	n/a			
	WORK STREAM COMPLETE					

**Work Stream 22
Waste Wood**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
22.1	Establish how much wood could be extracted at the Waste Segregation Facility - look at previous records held	Previous records do not indicate type/quality of wood	PM	22.1.1		
22.1.1	Protocol for a wood specification audit drafted.	Complete	PM	22.1.2		
22.1.3	Draft letter to CoC asking if companies produce packaging timber and how they dispose of it.	Letter sent on 19/09/05	PM	22.7		
22.2	Discuss with Enviro proposal of placing skips at Fontaine Vinery and Mont Cuet for the segregation of clean wood to establish how much wood could be recycled.	Direct approach to producers favoured, then incorporation into other audits	PM			
22.3	Seek expressions of interest from companies interested in operating a pilot scheme for the reuse/recycling of waste wood.	Pending outcome of 22.2	PM	None		
22.4	Explore markets for recycled wood	Complete	PM	None		

22.5	Explore use of relief work for wood chipping		Requires facility established at Sheltered Workshop Collings Road already produces kindling	- SESO/ that ESO	None		
22.6	Set up Waste Wood skips at CA Site(s)		Complete	SESO/ ESO	None		
22.6.1	Wood segregated at Fontaine - on inspection, extremely poor quality. Good wood already segregated and taken by hauliers, show organisers etc	n/a		ESO			
22.7	CoC forward company report from Island Waste on waste wood. But did not consult with members.	n/a		CO			
22.8	Letter to PSD - recommend charging pallets at Contamination Rate to encourage hauliers/public to separate wood.	at Complete - PSD considering on 14 September		ESO			
22.8.1	Meeting re recycling pallets – Haulier and shipper	Complete		ESO/RO			
22.8.2	PSD confirmed would apply contamination rate – will be introduced on 1 November 2006	Complete – Notice Sent to hauliers		ESO/ RO			

Work Stream 23
PET Bottle Recycling

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
23.1	Recommend way forward as part of Kerbside recycling. Paper to Bd	Complete	CO	18.1	Yes	14-Jun-2005
23.2	Investigate use of reverse vending machines	Cost Prohibitive at this stage	SESO/ ESO	None	No	-
23.3	Investigate market acceptance and specification for chipped PET rather than baled (? value/tonne compared to baled)	No market in the UK	SESO/ ESO	23.3.1	No	
23.4	Check how many PET bottle are needed to make a Bale - Mayside and RECOUP	Complete - standard bale = 20,000 bottles	SESO/ ESO	18	No	
23.5	Letter to Mayside asking to confirm report from Deputy de Lisle that they can accept PET bottles at facility	Complete - letter sent 26/10/05	ESO			
23.5.1	Following confirmation from Mayside, seek expressions of interest for the collection of PET bottles	Complete - advert in press on 2-5 November	ESO	23.5.2		
23.5.2	Draft Tender Docs	Drafted - sent return date of 16 December	ESO			

23.5.3	Paper to Board		Complete	ESO			24-Jan-2006
23.5.4	Approved by Board to appoint contractor		complete	ESO/ DESO			
23.5.5	Acceptance of Contract 17 March 2006 (delay due to concern over current site and finding future site)		Complete indicated start date of end of April 2006	- ESO			
23.5.6	Confirm proposed private sites with Landowners. Due to concerns with site, no banks placed at L'Anresse and no alternative site identified in the North of the Island		Complete	ESO			
23.6	Contractor indicates delay in providing banks - new start date of end of May		Noted	ESO			
23.7	Scheme launched on 5 June 2006.		Complete	Jan/ ESO			
	WORK STREAM COMPLETE						

Work Stream 24
Skip Materials Recovery Facility

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
24.1	Seek advice from Law Officers on the use of States Land by private companies for the sorting of waste	Complete	DESO			-
24.2	Identify potential sites for private sector facility	Complete	CO			
24.2.1	Plot potential sites on Longue Hougue	Plan produced	PD			
24.2.2	Check with DOPP re planning implications	Waiting for advice from Law Officers	DESO			
24.3	Waste Segregation Facility - Consult with Douzaine re extending opening hours at facility. Joint letter from PSD and ED	Letter sent	ESO	24.3.1		-
24.3.1	Agreed to extend hours from 3rd October on a trial basis	Complete	ESO			
24.4	Locate facility in the UK which successfully sorts C&D waste and arrange visit	2 facilities located in SW	PM	24.4.1		
24.4.1	Provide details of two facilities located in SW, Portsmouth and Liskard, with a view of a possible visit	On hold	PM	24.5		
24.5	Explore with T&R service level agreements to be attached to land lease	Complete	DESO			

24.5.1	Investigate licensing requirements with Waste Regulation Officer	Complete	DESO			
24.6	Letter to WRO over specifications	Complete	SESO/ DESO			
24.7	Letter to T&R - any other land around 6000 sq/m which would be zoned for waste sorting facilities	Only Longue Hougue identified	DESO	24.7.1		
24.8	Env Dept confirmed Longue Hougue only suitable land - inform T&R to tender area of land - Env Dept can advise where necessary	Letter sent to T&R	CO			
24.8.1	T&R and Env Dept agree joint approach in seeking tenders (with advice from Law Officers). Board Paper dated 6 December 2005	Approved way forward	CO		Yes	13-Dec-2005
24.9	Expressions of interest sought and Tender documents drafted and sent to interested companies	Complete	DESO			
24.9.1	Closing date for tenders - 7 April 2006	Complete	CO			
24.10	Tenders considered by the Board who resolved not to support the tender proposal and to recommend accordingly to T&R	Agreed not to approve	CO		Yes	25-Apr-2006
24.11	T&R informed Env Dept it had rejected tender on 24 May 2006	Complete	CO			
24.12	Paper on alternative option for providing skip sorting facilities - Board agreed to recommend to T&R to investigate	Complete	CO		Yes	25-Apr-2006

24.12.1	Costs of slab and fencing plus regulation and maintenance still prohibitive	Complete	CO			
24.13	Board rejected offer from contractor to operate Fontaine Vinery Waste Segregation Facility	Complete	CO	Yes		30-May-2006
24.14	Following confirmation from T&R that it had rejected tender from MRF - Board agreed that Minister and Chief Officer could open discussions with the preferred tenderer to see if an agreement could be sought.	Complete	CO	Yes		30-May-2006
24.15	Amended proposal for temporary MRF received on 24 July 2006	Complete	CO			
24.15.1	Letter from Department explaining areas which still needed to be resolved	Sent 17 August 2006	CO			
24.16	Revised proposal received from Contractor dated 13 September 2006.	Pending further consideration	CO			

**Work Stream 25
Ad hoc Recycling/Minimisation Initiatives**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
25.1	Consider setting up dry recyclable collections round for States departments	Partially Complete - Further rounds pending discussions with States Departments	ESO			
25.2	Prepare list of other Waste Minimisation Initiatives not recommended/included in States report, for example, Recycling in SCFH, Real Nappies	On-going	ESO			
25.3	Investigate with Contractor the feasibility of establishing an office collection service for newspapers and magazines.	Letter sent on 20/07/05.	ESO			
25.3.1	Contractor indicates not keen, however, will discuss with businesses who raise it	Complete				
25.4	States IT Equipment Recycling	Included in Procurement Policy				
25.4.1	Meet Purchasing Co-ordinator and Network Services Manager to discuss Contractors proposal for recycling all States IT equipment	Meeting held on 18/08/05.	on SESO			
25.4.2	Set up a States PRG to tackle IT and other waste types in States departments	Complete	SESO			

25.4.3	Purchasing Co-ordinator to obtain quotes from other local companies	complete	Gill Symes			
25.4.4	Purchasing Co-ordinator to write memo to all Department's providing information about IT equipment recycling routes and appealing to Department's environmental consciences to 'do the right thing'.	complete - memo sent	Gill Symes			
25.5	Re-visit battery and fluorescent tube recycling options	In progress	ESO/RO			
25.6	Real Nappies	Complete	ESO/RO			
25.7.1	Seek views and support of Health and Social Services Minister regarding various real nappy promotional initiatives	Letter sent on 31/08/05	SESO	25.7.2		
25.7.2	Minister to meet Guy Schianschief, MD of Bambino Mio and Chairman of the Real Nappy Alliance	Meeting and PR on 27/09/05	SESO			
25.7.3	Meet the Chief Midwife to discuss idea of using real nappies only on the ward	Complete	RNA			
25.7.4	Real Nappy week, end of April - produce leaflet - use posters and text from WEN material	Complete	ESO/ CMA			
25.7.5	£20 vouchers offered until end of June 2006 for parents wishing to use real nappies - redeemable through Real Nappy Advisor	Complete	ESO			
25.7.6	Scheme extended to end of the year	Complete	ESO	Yes		30-May-2006

25.8	Composting Kits - following success of composting kit scheme undertaken in 2005 - the Board agreed to purchase a further batch of kits for sale at cost via local garden centres	Complete	ESO		yes	11-Apr-2006
25.8.1	Composting Kits distributed to Garden Centres	Complete	ESO			
25.9	Promotion of Free-Cycle Guernsey site and support of Guernsey's Press Ecycle initiative	On-going	RO			
25.10	Inclusion of condition to provide recycling banks for events held on Department Land	Complete	RO/ LMO			

**Work Stream 26
Hazardous Waste Disposal**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
26.1	Hazardous Waste Disposal - options to be examined once preferred technology solution has been identified and resulting quantity and nature of hazardous waste is understood	Pending	CO			-
26.2	Investigate on-island disposal options	Pending				
26.3	Investigate export potential to UK	Complete - Export to UK legally acceptable provided no available options on-island				

**Work Stream 27
Waste Water Stone**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
27.1	Submit background papers to working group - 19/7/05	Complete	CO			
27.2	Attend Meetings and represent Board - 22/9/05, 20/7/05, 24/8/05, 21/9/05, 19/1/06, 3/3/06	Complete	CO/ Minister			
27.3	Assist as necessary in report drafting	Complete	CO			
27.4	Report to Policy Council	Complete	Policy Unit			
27.5	Report to States - BILLET D'ÉTAT - XV 2006 - 27 September 2006	Complete Approved Recommendations	- Policy Unit			
	WORK STREAM COMPLETE					

**Work Stream 28
Strategic Procurement objectives**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
28.1	Flag up issues with Policy Council	Complete	CO	28.2		
28.2	Report to Bd on proposed way forward	Complete	CO	28.3	Yes	14-Jun-2005
28.3	Subject to Bd decision, meet with T&R to explore in detail. Try to get agreement for cross-departmental group	Meeting arranged for 31/8/05	CO	28.5		
28.4	Write to the Chief Minister seeking the Policy Council's views regarding how best to take this forward.	Approved Letter to Council	Draft CO		Yes	13-Sep-2005
28.5	Letter send on 2 June 2005 to Policy Council (chaser sent on 3 October). PC considered at meeting on 7 November 2005	Approved way forward - Env to jointly prepare States Report	N/A			
28.6	New Work Stream created for Criteria Setting - WSA 32	Complete	ESO			
28.7	Letter to T&R dated 9th November 2005 (chaser sent on 19 December) - request initial meeting to discuss proposed way forward and need for States report to address strategic procurement issues – creation of Waste Procurement Panel.	Complete - Waste Procurement Panel Work Stream No. 32	CO			

28.8	Waste Procurement Seminar (Enviros) - invitation to all States Members to discuss the issue of procurement. Meeting to be held on 25 May 2006	Complete	CO		Yes	11-Apr-2006
28.9	Ministerial Meeting to examine options	Complete	CO			
28.10	Procurement Options - Board Paper setting out need for the Board to consider procurement analysis options.	Complete	CO		Yes	Aug-06
28.11	Procurement Strategy to be encompassed in States Report	Complete	CO		Yes	Sep-06

**Work Stream 29
Funding Strategy**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
29.1	Examine producer charging for all household waste	Pending decision on Strategy & Technology including future rate of landfill and scope for cross subsidy	SESO	None		
29.2	Explore with T&R future use of any additional increases in landfill gate fees to fund initiatives	Letter dated 19/8/05	CO	None		

**Work Stream 30
Fly-tipping**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
30.1	Explore reversing the burden of proof - duty of care re: littering/fly-tipping/waste processing		SESO			
30.2	Set up cross departmental working group - WRO, PSD, Home Dept, Law Officers, Env Dept		CO			
30.3	Confirm list of laws to be included in Home Department's States Report (Billet D'État XVII) on fixed penalty notices for, among other things, fly-tipping, littering and miss-use of public banks.	To be considered at October Meeting	SLMO			

**Work Stream 31
Dry Recyclables Facility**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
31.1	Assess capacity for processing increased volume of dry recyclables resulting from expanded recycling schemes	Complete	ESO			
31.1.1	Need to guarantee more spare capacity to bale plastic bottles immediately on collection	Complete	ESO	23 & 17		
31.2	Secure lease at Recycling Depot (with T&R)	Complete - lease from 1/1/06	ESO			
31.3	Set up SLA with SWD in relation to Recycling Operations	In progress	ESO			
31.4	Examine proposals for expansion of private sector dry recyclables	Complete	CO			
31.5	Refer resource requirements to T&R for approval	On-going	CO			

**Work Stream 32
Waste Procurement Panel - Criteria Setting**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
32.1	Waste Procurement Panel - Board considered extended Board to include Deputy Ogier and Deputy Guille and a representative from T&R	Complete	CO		yes	10-Jan-2006
32.2	T&R response dated 11 January 2006 - agreed that Deputies Parkinson and Dorey to take active interest in this matter.	Complete	CO			
32.3	Board Meeting held on Tuesday 17th January prior to first Waste Procurement Group meeting - Set agenda and terms of reference.	Complete	CO		Yes	17-Jan-2006
32.3.1	Source examples of other criteria	Complete - Hong Kong criteria circulated to Panel for information.	CO			
32.4	Waste Procurement Panel Meetings held on 18 Jan, 1 Feb, 8 Feb, 15 Feb, 1 Mar, 8 Mar and 15 Mar 2006.	Complete	CO			
32.4.1	At the meeting held on 15 March 2006 - Members noted that Environment would invite Martin Thornton, Enviro and ISL to sit on assessment panel. The Panel agreed that no further meetings were required.	Complete	CO			

32.5	Criteria approved and weighted for assessing expressions of interest. Deputies Parkinson and Dorey to present to T&R for approval.		CO			
	WORK STREAM COMPLETE - SEE WORK STREAM 28					

**Work Stream 33
States Report**

Action No.	Action	Status	Lead Officer	Link to Action	Bd Decision Needed?	Date considered by Board
33.1	Draft States Report - incorporating extracts from reports, recommending options 2 and 4 of Enviros' Modelling exercise, MBT or Incineration with high recycling.	Complete	CO			
33.2	Board to consider draft report on 19 September 2006	Complete	CO			
33.3	Incorporate suggested amendments/alterations from Board	Complete	CO			
33.4	Board to consider revised report 26/9/06 and 1st draft of appendix 8 - Draft Waste Disposal Plan	Complete	CO/PM		Yes	26/09/2006
33.5	Board to consider final version of appendix 8 - Draft Waste Disposal Plan	Complete	PM		Yes	10/10/2006
33.6	Submit report to Policy Council by 13 October 2006		CO			
33.7	Considered by States (December)		CO			

Appendix 2

2 June 2005

Deputy L Morgan
 Chief Minister
 Policy Council
 Sir Charles Frossard House
 PO Box 43
 La Charroterie
 St Peter Port
 GY1 1FH

Dear Deputy Morgan

The Future of Solid Waste Disposal in Guernsey

As a result of the May States debate there are two issues on which the Environment Department would welcome the comments of the Policy council before moving forward.

The first relates to Deputy Parkinson's amendment and the potential tendering of an output-based specification. The second relates to progressing discussion with Jersey on the joint facility option.

Deputy Parkinson's amendment directed the Environment Department to seek from "...waste management and related operators...complete packages of waste disposal solutions...". The explanatory note stated that this was "...to ensure that the States become fully appraised of all the alternatives to mass burn..."

Having considered the explanatory note and the actual wording of the amendment along with the various comments in the house one is led to interpret the States direction as follows.

The Department has not been tasked to tender an output-based specification but rather has simply been tasked to find out what technologies and management packages are being used globally which may meet Guernsey's needs. It should be noted that nothing in the amendment refers to tendering, value for money assessments or best practical environmental options. The inference is that this exercise will supplement the information that will be derived from working with DEFRA. By asking potential suppliers to quote from reference plants it should, in many cases, be possible to obtain information on waste handled, residues created, reliability performance, emission levels etc, and indicative costs. It should also be possible to ask specific questions which will be important in determining whether the proposed package/solution is likely to meet the strategic requirements which will ultimately form part of a detailed output based specification. However, this would constitute no more than a fact finding mission. The Department would not tender a solution or enter into negotiations with preferred

bidders. In effect there would be no firm indication of costs or contract form. If this approach was adopted then at a later date it would be necessary to actually tender the output based specification once all the strategic contract issues had been determined.

Whilst the above constitutes, in my view, an accurate interpretation of the amendment it is not particularly productive and may well delay the date on which a final waste disposal solution is approved.

The alternative approach would be to tender an output based specification from the outset. However, this would not only require the strategic contract issues to be addressed (please see below) but would also be in conflict with resolution 5, which requires the Department to work with DEFRA consultants. It would not be reasonable to globally go to tender on an output based specification whilst at the same time work with DEFRA to examine plants and technology solutions from specific suppliers.

As a consequence I must conclude that the first approach detailed above is that which the States intended. This however, presents its own problems. In particular it is necessary to give the industry at least an indication as to what might or might not be included in a “complete package of waste management and disposal”. Whilst for many technology suppliers the company will only wish to promote its technology solution, for the larger waste management companies (BIFFA, SITA, OYNX, etc) the company will want to know if the package will include refuse collection rounds, street cleaning, sewage management, materials recovery facility operation, landfill operation, scrap metal operation etc. The content of the “complete package” is but one of the strategic contract issues that will need to be resolved before an output based specification can be let but is key to any initial contact with the industry.

I have listed (attached) some of the other strategic contract/procurement issues that need to be addressed before an output based tender process could be adopted. I would suggest that in order to avoid delay at a later date these procurement and strategic property issues are debated by the States as soon as possible and in that respect I would hope that the Treasury and Resources Department with the full assistance of the Environment Department would lead on the preparation of this essential States report.

I should advise that the views of the Law Officers have been sought on the need or otherwise to address these strategic issues and it has been confirmed that normal practice, and the industries expectation would be for these issues to be resolved before going to tender. The Law Officers have tentatively suggested the appointment of Deloitte and Touche or PWC to assist the States in addressing these issues and preparing for an output-based specification.

I should be grateful to receive the Policy council’s view on taking this most important issue forward.

The second issue on which I would welcome the Policy Council’s views is perhaps far simpler. The Department is directed to continue discussions with Jersey over a joint facility and report back as soon as possible. However, in order to firm up many of the

unknowns significant expenditure will be required and ultimately a project specification for a joint facility put out to tender. It is my understanding that Jersey is unlikely to be willing or able to wait for Guernsey to carry out all the work necessary, as a result of the States resolutions including the Parkinson Amendment, in order to form a view on the merits of a joint facility against any other solution package offered by the industry. As such, I strongly suspect that the need for Jersey to push ahead and tender its own strategy will mean that the joint facility is dismissed, by Jersey, as an option. I therefore, strongly suspect that this could only be avoided if Guernsey and Jersey were to progress the investigations and tendering of a joint facility in advance completing investigations into alternative solutions.

As a consequence, I should be grateful to receive the Policy Council's views on whether or not all other solutions should be investigated with DEFRA prior to committing additional resources to the tendering of a joint facility with Jersey.

Yours sincerely

B M Flouquet
Minister

cc Minister, Treasury and Resources Department

(NB The three reports from Enviro, which are listed below, are published in two separate volumes which accompany this Billet'd'État

Appendix 3 Enviro Report – Waste Strategy Review – Data, Projections and Markets

Appendix 4 Enviro Report – Modelling of Selected Waste Treatment and Disposal Scenarios

Appendix 5 Enviro Report – New Technologies for the Treatment of Residual Waste)

Appendix 6

5 July 2005

Dear States Member

Waste Management

Following the States debate in May and the approval of Deputy Parkinson's amendment, I wrote to the Chief Minister seeking the Policy Councils views on the way forward. In that letter I set out the issue as follows.

Deputy Parkinson's amendment directed the Environment Department to seek from "waste management and related operators" [i.e. not technology suppliers] "complete packages of waste disposal solutions" [i.e. did not provide for suppliers of elements of a solution]. The explanatory note stated that this was "to ensure that the States become fully appraised of all the alternatives to mass burn". [i.e. examining a specific element rather than the totality of the waste management issue.]

I commented that having considered the explanatory note and the actual wording of the amendment along with the various comments in the house one was led to interpret the States direction as follows.

The Department has not been tasked to tender an output-based specification but rather has simply been tasked to find out what packages are being used globally which may meet Guernsey's needs. It should be noted that nothing in the amendment referred to tendering, value for money assessments or best practical environmental options. The inference I drew was that this exercise would supplement the information that will be derived from working with DEFRA.

In putting forward this interpretation I recognised that an alternative approach would be to tender an output based specification from the outset. However, this would not only require the strategic contract issues to be addressed (please see attached for the type of issues that the States will, in due course, need to consider) but would also be in conflict with resolution 5, which required the Department to work with DEFRA consultants. It would not be reasonable to globally go to tender on an output based specification whilst at the same time continue work with DEFRA to examine plants and technology solutions from specific suppliers.

As a consequence I concluded that the first approach detailed above was what the States had intended. I noted, however, that this presented its own problems. In particular it would be necessary to give the industry at least an indication as to what might or might not be included in a "complete package of waste management and disposal". Whilst for many technology suppliers the company would only wish to promote its technology solution, for the larger waste management companies (BIFFA, SITA, OYNX, etc) the

company would want to know if the package included refuse collection rounds, street cleaning, sewage management, materials recovery facility operation, landfill operation, scrap metal operation etc. The content of the “complete package” is but one of the strategic contract issues that would need to be resolved before an output based specification could be let but is key to any initial contact with the industry.

However, I took the view that the intention of the States was not to constrain the Department to a complete package but rather to cast the net wide and that, therefore, despite the words of the amendment, elements of a package would need to be considered alongside complete packages, and technology suppliers, designers and promoters would need to be considered alongside operators. In this way many of the problems outlined above could be overcome.

I observed that by taking a broad brush approach and by asking the potential suppliers, of the elements of or the full packages of a solution, to quote from reference plants (that might exist) it should, in many cases, be possible to obtain information on waste handled, residues created, reliability performance, emission levels etc, along with some base line costing. It should also be possible to ask specific questions which will be important in determining whether the proposed elements, package or solution would be likely to meet the strategic requirements which would ultimately form part of any detailed output based specification. However, this would constitute no more than a fact-finding mission. The Department would not tender a solution or enter into negotiations with preferred bidders. In effect there would be no firm indication of costs or contract form. If this approach were adopted then at a later date it would be necessary to actually tender the output-based specification once all the strategic contract issues had been determined and the States had considered the output of the global search.

The Policy Council acknowledged that there was no definitive interpretation of the amendment but that it was essential that the Department took this work stream forward in a way that had the majority of the States Member’s support. The Policy Council agreed that the flexible approach of casting the net wide was desirable and it was agreed that it would be desirable if the Department could set out the procedure for moving this forward preferably with the support of the proposer of the amendment and to seek the support of the States as a whole.

Having met with Deputies Parkinson, Staples and Ogier, the following procedure has been formulated. Before adopting this course of action the Department will advise the Scrutiny Committee of the intended way forward and seek its views.

- a) The Department will advertise on the Official Journal of the European Community and the World Bank digital sites as well as relevant UK trade journal [Institute of Waste Management] and the Guernsey Press. The advert will invite companies to lodge an expression of interest in dealing with Guernsey’s waste.
- b) The advert will also be sent direct to companies logged as having expressed an interest with the Department.

- c) The advert will also be sent direct to companies logged as having expressed an interest to the Independent Panel of Inquiry and for which contacts are available on the Panel's web site.
- d) Those companies referred to in b and c above would be advised that unless they indicated otherwise they would receive the information pack in due course.
- e) Whilst the advert is being placed and Companies are responding, a brief will be prepared which would be issued to any Company expressing/retaining an interest.
- f) The brief will not set out criteria but will ask pertinent questions. For example, instead of requiring that the Company submitting the proposal can demonstrate the existence of one or two demonstration plants having operated over a number of years, the brief would simply ask whether or not demonstration plants could be quoted and if so, details of those demonstration plants and contact details of the clients. Similarly, the brief will not require Companies to present complete waste package solutions, but will ask Companies to indicate which elements of the waste handling system they are interested in. This approach will ensure that the doors remain open to all comers but that the Department receives valuable information which can be, at a later date, determined against specified criteria rather than simply allowing Companies to send glossy brochures and selected elements of information which may prove of little benefit to the States in any evaluation process.
- g) Before issuing the pack of questions (Brief), the questions will be submitted for consultation with the Treasury and Resources Department and the Policy Council.
- h) The brief will be sent to all Companies or persons lodging/retaining an expression of interest and those Companies will be asked to complete the questions within a prescribed time period.
- i) In parallel with the above process, the Department, with the Treasury and Resources Department will prepare a report for consideration by the States dealing with the strategic issues as attached.
- j) Once the States has set the procurement criteria and addressed the strategic issues, the two work-streams can come together allowing all expressions of interest to be evaluated against the criteria set by the States.

As a result of the above, the Department should be able to prepare a report for the States identifying those solutions which meet the criteria set by the States, those that partially meet the criteria and those which should not be considered further. It would be open for the Department to identify generic or company specific solutions. The advice and findings of DEFRA will be fed into this process, thus ensuring that the States ultimately receives all the information and advice required both within the Department's propositions and within the amendments lodged.

I am sure you will appreciate that this approach does not accord with the exact wording of the amendment but has been identified as the best way forward and has the support of the proposer of the amendment. Nevertheless, I would not wish to waste the time of this Department and of the States in taking forward this amendment in a way that does not have the support of the majority of States Members. As a consequence I am taking this rather unusual if not unique approach of consulting every member.

I should be grateful if you would, therefore, indicate whether you:

- 1) Support the approach as set out above
- 2) Reject the approach
- 3) Require a presentation by and discussion with the Department before arriving at a decision.

You will appreciate the urgency of all matters relating to our waste problem and hence I should be grateful if you would respond with in 7 Days of the date of this letter.

Yours sincerely

B M Flouquet
Minister

Appendix 7
Solutions Search Evaluation Criteria and Evaluation Results

To
 The Minister
 Environment Department
 States of Guernsey
 Sir Charles Frossard House
 St Peter Port
 Guernsey GY1 1FH

Dear Sir,

We have pleasure in enclosing the report of the scoring panel.

Report of the findings of the Scoring Panel on Expressions of Interest submitted in relation to the provision of arrangements for the Managing the Treatment and Disposal of Non-Inert Waste Arisings from the Island of Guernsey.

1. Introduction

- 1.1 In January 2006 the Waste Procurement Panel – Criteria Setting (‘Waste Procurement Panel’) comprising those States members and officers listed in Appendix A met with the purpose of developing a list of criteria by which expressions of interest received for the waste solution could be assessed. Expressions of interest had been invited as part of a twin track approach to informing States members as they considered the options and made a decision, scheduled for late 2006, as to the procurement of a solution dealing with the management treatment and disposal of non-inert waste.
- 1.2 The Waste Procurement Panel met weekly thereafter, during which they debated a series of criteria by which to assess the submissions, and attached scores and weightings to those criteria and individual sections.
- 1.3 This led to the preparation of and agreement to an Assessment Criteria and Scoring Sheet, a copy of which is annexed as Appendix B. The scoring sheet sets out instructions to the scoring panel as to how they were to approach the task of scoring the expressions of interest received.
- 1.4 The Environment Department Board selected the Scoring Panel, which was made up of:

John Lucas, of Enviros Consulting Limited a leading environmental consultancy, and the Company retained by the Environment Department to carry out a report and modelling into waste solutions;

Tony Pickford, a Director of Mercator, a financial and accountancy practice based in Guernsey;

Mike Betts a director of Integrated Skills Limited, Environmental Managers, and who has previously undertaken environmental consultancy work for the States of Guernsey.

In addition the scoring panel were supported by Alan Richards, Project Director with Guernsey Technical Services, and Martin Thornton, a Solicitor with the Law Officers of the Crown.

- 1.5 The scoring panel with the two officers met continuously from Monday 15th to Thursday 18th May at Sir Charles Frossard House to score the 34 expressions of interest received.

2. Methodology

- 2.1 The Panel scored each expression of interest as a joint exercise, to allow debate between themselves on the relative merits or demerits of the proposal and to try and achieve consistency. In some cases it was necessary to review some previously allocated scores to ensure consistency. Where appropriate a formula or test was agreed by the panel so as to ensure consistency of approach. Some illustrations are given in the text that follows. Rules were also adopted to deal with particular difficulties arising in relation to the instructions given. For example where no information was provided in the expression of interest, and such information was not requested in the invitation by the Department, an average score of 2 was given.
- 2.2 It was agreed that where any comment was needed, it would be set out in this report. As a general point, the Panel did find assessing some of the expressions of interest against the criteria particularly difficult and comments are made where appropriate.
- 2.3 It was also noted that this exercise was not intended to score a particular submission in the way that a tender would be scored. It was the case that what was being elicited were generic solutions – the question was not whether the solution produced by a particular tenderer was better or worse than the solution offered by another tenderer, but how did each proposed solution measure up against what was regarded as important by the Waste Procurement Panel (and entrenched in the criteria and weighting) to enable it to be compared against a solution of a different type or between technologies within the same type. The objective was that if a particular generic solution emerged as a clear leader when

measured against the criteria, a full tender competition between providers of that solution would then be held.

- 2.4 This analysis therefore follows that objective and will seek to compare different generic types and different technologies within each generic type.

3. Summary of Scores

A full list of scores is listed as Appendix C. What follows is an executive summary of the main findings:

- 3.1 The first Table shows the list of scores without section weighting. The individual scores for each of the criteria are the weighted scores.

- 3.2 The second Table shows the list of scores with section weighting. The section weighting was:

Economic	30%
Environmental	40%
Risk	20%
Social	10%

Table 1 – Scores and positions without Section Weighting

No Section Weighting				
Position	Company	% of max points	Score (max 525)	Solution Type
1	Agrivert	61.90	325	Compost
2 =	TEG	60.57	318	Compost
2 =	Lurgi	60.57	318	EfW mass burn
4	Loyd	60.19	316	Compost
5	Energos	59.24	311	EfW Gasification
6 =	Cyclerval	58.10	305	EfW mass burn
6 =	Earthtech	58.10	305	EfW mass burn
8	WRG	56.95	299	EfW mass burn
9	CNIM	55.62	292	EfW mass burn
10	Bedminster	55.24	290	MBT/Compost/depolymerise
11 =	Bowen Worldwide	54.86		MBT/EfW Gasification
11 =	ART	54.86	288	MBT/EfW mass burn
11 =	HLC	54.86	288	MBT/Gasification
11 =	New Earth	54.86	288	MRF/Compost
15	Compact Power	54.67	287	EfW Gasification
16	Cambridge Recycling	53.14	279	Compost
17	Enviroarc	52.57	276	EfW Gasification
18	Universal Services	51.43	270	EfW Gasification
19	SRS	50.48	265	Compost/RDF
20	Oaktech	47.81	251	AD/generation
21	Recycled Refuse International	47.24	248	Autoclave/EfW Gasification
22	Stewart Thermal	47.05	247	EfW mass burn
23	Thermeco	46.86	246	MHT/EfW Gasification
24	Fernwood	46.29	243	Autoclave/Incinerate
25	Guernsey Consortium	45.71	240	MRF/CA/Compost
26	Nehlsen	35.81	188	MBT/export
-	Alternative Use Plc	*	0	

Table 2 –Scores and positions with Section Weighting

With Section Weighting							
Position	Company	% of max points	Section (%)				Solution Type
			1 Ec	2 En	3 R	4 S	
1	TEG	66.28	24	24.28	12.00	6.00	Compost
2	Energos	64.29	24	23.72	11.07	5.50	EfW Gasification
3	WRG	63.75	24	23.59	10.67	5.50	EfW mass burn
4	Agrivert	61.40	18	24.97	12.93	5.50	Compost
5	Loyd	60.11	18	24.28	11.33	6.50	Compost
6	Recycled Refuse International	56.76	24.00	17.79	9.47	5.50	Autoclave/Gasify
7	Bedminster	56.66	18.00	23.72	8.93	6.00	MBT/Compost/depolymerise
8	ART	56.45	18.00	24.41	8.53	5.50	MBT/ EfW mass burn
9	New Earth	56.36	18.00	22.90	9.47	6.00	MRF/Compost
10	Compact Power	56.27	18.00	24.14	8.13	6.00	Gasification
11	Cambridge Recycling	55.19	18.00	23.59	7.60	6.00	Compost
12	Lurgi	54.60	12.00	24.97	12.13	5.50	EfW mass burn
13 =	Cyclerval	52.82	12.00	23.72	11.60	5.50	EfW mass burn
13 =	Earthtech	52.82	12.00	23.72	11.60	5.50	EfW mass burn
15	Oaktech	51.33	18.00	20.00	7.33	6.00	AD/generation
16	CNIM	51.07	12.00	23.17	10.40	5.50	EfW mass burn
17	Fernwood	50.29	18.00	19.72	7.07	5.50	Autoclave/Incinerate
18	Enviroarc	48.92	12.00	23.59	7.33	6.00	EfW Gasification
19	Thermeco	44.87	12.00	20.14	7.73	5.00	MHT/EfW Gasification
20 =	Bowen Worldwide	44.69					MBT/EfW Gasification
20 =	HLC	44.69	6.00	23.59	9.60	5.50	MBT/EfW Gasification
22	Guernsey Consortium	44.08	12.00	17.38	11.20	3.50	MRF/CA/Compost
23	Universal Services	42.19	6.00	21.79	8.40	6.00	EfW Gasification
24	Stewart Thermal	39.11	6.00	19.17	8.93	5.00	EfW mass burn
25	SRS	35.66	0.00	21.79	7.87	6.00	Compost/RDF
26	Nehlsen	31.22	6.00	15.72	6.00	3.50	MBT/export
	Alternative Use Plc	-					

3.3 The following table shows a summary of results by Company:

Company	Non Weighted		Weighted		Solution Type
	Score	Pos	Score	Pos	
TEG	60.57	2 =	66.28	1	Compost
Energos	59.24	5	64.29	2	Gasification
WRG	56.95	8	63.75	3	EfW mass burn
Agrivert	61.90	1	61.40	4	Compost
Loyd	60.19	4	60.11	5	Compost
Recycled Refuse International					
	47.24	21	56.76	6	Autoclave/Gasify
Bedminster	55.24	10	56.66	7	MBT/Compost/depolymerise
ART	54.86	11 =	56.45	8	MBT/ EfW mass burn
New Earth	54.86	11 =	56.36	9	MRF/Compost
Compact Power					
	54.67	15	56.27	10	EfW Gasification
Cambridge Recycling	53.14	16	55.19	11	Compost
Lurgi	60.57	2 =	54.60	12	EfW mass burn
Cyclerval	58.10	6 =	52.82	13 =	EfW mass burn
Earthtech				13 =	EfWmassb urn
	58.10	6 =	52.82		
Oaktech	47.81	20	51.33	15	AD/generation
CNIM	55.62	9	51.07	16	EfW mass burn
Fernwood	46.29	24	50.29	17	Autoclave/Incinerate
Enviroarc	52.57	17	48.92	18	EfW Gasification
Thermeco	46.86	23	44.87	19	MHT/EfW Gasification
Bowen Worldwide					
	54.86	11 =	44.69	20 =	MBT/EfW Gasification
HLC	54.86	11 =	44.69	20 =	MBT/EfW Gasification
Guernsey Consortium					
	45.71	25	44.08	22	MRF/CA/Compost
Universal Services					
	51.43	18	42.19	23	EfW Gasification
Stewart Thermal					
	47.05	22	39.11	24	EfW mass burn
SRS	50.48	19	35.66	25	Compost/RDF
Nehlsen	35.81	26	31.22	26	MBT/export
Alternative Use Plc			-		EfW Gasification
Grosvenor Waste Solutions			-		MRF

3.4 The following Table shows different Solutions offered and results by Solution type

Company	Non Weighted		Weighted		Solution Type
	Score	Pos	Score	Pos	
TEG	60.57	2 =	66.28	1	Compost
Agrivert	61.90	1	61.40	4	Compost
Loyd	60.19	4	60.11	5	Compost
Cambridge Recycling	53.14	16	55.19	11	Compost
New Earth	54.86	11 =	56.36	9	MRF/Compost
Guernsey Consortium	45.71	25	44.08	22	MRF/CA/Compost
SRS	50.48	19	35.66	25	Compost/RDF
Grosvenor	-	-	-	-	MRF
Energos	59.24	5	64.29	2	EfW Gasification
Compact Power	54.67	15	56.27	10	EfW Gasification
Enviroarc	52.57	17	48.92	18	EfW Gasification
Universal Services	51.43	18	42.19	23	EfW Gasification
Alternative Use plc	-	-	-	-	EfW Gasification
Recycled Refuse International	47.24	21	56.76	6	Autoclave/EfW Gasify
Fernwood	46.29	24	50.29	17	Autoclave/Incinerate
Bedminster	55.24	10	56.66	7	MBT/Compost/depolymerise
ART	54.86	11 =	56.45	8	MBT/EfW mass burn
Thermeco	46.86	23	44.87	19	MHT/EfW Gasification
Bowen Worldwide	54.86	11 =	44.69	20 =	MBT/EfW Gasification
HLC	54.86	11 =	44.69	20 =	MBT/EfW Gasification
Nehlsen	35.81	26	31.22	26	MBT/export
WRG	56.95	8	63.75	3	EfW mass burn
Lurgi	60.57	2 =	54.60	12	EfW mass burn
Cyclerval	58.10	6 =	52.82	13 =	EfW mass burn
Earthtech	58.10	6 =	52.82	13 =	EfW mass burn
CNIM	55.62	9	51.07	16	EfW mass burn
Stewart Thermal	47.05	22	39.11	24	EfW mass burn
Oaktech	47.81	20	51.33	15	AD/generation

4. Summary of each expression of interest

The following expressions of interest were received and are listed in no particular order of merit although each solution types are listed together.

Company	TEG Environmental PLC			
Solution	In vessel composting. Green waste, household and catering food waste. 12000-15,000 tonnes per year.			
Scores	Non Weighted	Position	Weighted	Position
	60.57	2 =	66.28	1
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	This solution assumes source separated waste and claims that 99% of such waste is therefore recycled to compost. It is a serious player in the market but is restricted in the type and management of the waste it can handle.			

Company	Agrivert Limited			
Solution	In vessel composting. Green waste, woody horticulture, cardboard, source segregated. No quantities given as the waste to be handled.			
Scores	Non Weighted	Position	Weighted	Position
	61.90	1	61.40	4
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	This solution assumes source separated waste but gives no data as to %age amounts recyclable. Again this is a only partial solution as to the type and management of the waste it can handle and there are particular doubts as to whether the type of waste will fall within the household waste stream.			

Company	Richard Loyd			
Solution	Windrow Composting. Agricultural and horticultural and garden waste. Clean wood waste. 7,200 tonnes per year.			
Scores	Non Weighted	Position	Weighted	Position
	60.19	4	60.11	5
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	This is a very limited solution to a particular waste stream. Again there must be doubt as to whether there will be sufficient quantity of agricultural horticultural and garden waste within the household stream.			

Company	Cambridge Recycling Services			
Solution	Alternative solutions offered. This can either be In vessel composting for garden and catering waste, or anaerobic digester for horticultural and catering waste or a MBT plant and CHP (combined heat and power) for residual wastes. No data was given as to the categories and quantities of waste to be managed.			
Scores	Non Weighted	Position	Weighted	Position
	53.14	16	55.19	11
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	Very little data was supplied with this proposal at all although there was just sufficient to enable it to be scored.			

Company	New Earth Solutions Limited			
Solution	Enclosed windrow composting or shredder, and materials recycling facility, separate recyclables, compost, and screen to remove metals, plastic grit and glass. Categories of waste green garden waste, kitchen waste cardboard OR unsegregated household and commercial waste. No volumes given.			
Scores	Non Weighted	Position	Weighted	Position
	54.86	11 =	56.36	9
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	This was evaluated as a composting solution, but other alternative technologies offered.			

Company	Guernsey Consortium			
Solution	<p>This solution was scored individually and then analysed as a composite solution and compared against similar technology. The consortium consists of</p> <p><i>RF Mills Limited</i>: Kerbside collection of source separated recyclables and residuals, either in wheelie bins or mixed recycle bags – household waste, no liquids rubble or bulky metals;</p> <p><i>Island Waste Limited</i>, Materials Recycling Centre (at Longue Hougue), dry waste excluding household residue, commercial kitchen and hazardous waste</p> <p><i>Civic Amenity Limited</i>: 3 Civic Amenity Sites at Longue Hougue, Pointes Lane and the Airport for domestic use only. Paper, books, cardboard, wood, plastics, metals, glass, rubble, fridges tyres and batteries.</p> <p><i>Guernsey Recycling Limited</i>, Metal shear / fragmentiser, iron and steel scrap, ELV's Tyres, batteries, WEEE and non ferrous metals.</p> <p>Mayside Recycling:</p> <p>West London Composting: In vessel composting, of biodegradable waste, paper, cardboard and manure.</p>			
Scores	Non Weighted	Position	Weighted	Position
	45.71	25	44.08	22
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	<p>RF Mills was not able to be scored individually since it is a collection contract, but was reviewed as part of an overall solution with remainder of the consortium. West London composting required 11,000m² of land for its plant, which was of concern. Further, although this consortium was offered as a composite solution, there was concern that it was unable to deal with approximately 50% of the waste arisings and therefore might be seen only as a partial solution.</p> <p>Scores below are the composite scores.</p>			

Company	SRS Limited			
Solution	Mechanical sorting. In vessel bio drying to produce compost or RDF. Categories of waste dealt with given as MSW, C& D and C&I.			
Scores	Non Weighted	Position	Weighted	Position
	50.48	19	35.66	25
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	This solution was dealing with inert waste and metals with plastics removed for recycling. No data was given for quantities. In fact this company supplied little in the way of data and therefore was difficult to score.			

Company	Energos			
Solution	Shred, remove metals, gasify, steam turbo- generator. Deals with all waste shredded to <150mm. (No metals)			
Scores	Non Weighted	Position	Weighted	Position
	59.24	5	64.29	2
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	There was some concern over reliability. It would be necessary to purchase two modules each taking 40,000 tonnes.			

Company	Compact Power Limited			
Solution	Waste shredding, extraction of recyclables, preparation of fuel floc, pyrolysis/gasification, steam boiler and turbo alternator. Will take parish, C&I and C&D waste			
Scores	Non Weighted	Position	Weighted	Position
	54.67	15	56.27	10
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	This process will generate hazardous waste (fly ash), which will require disposal off Island.			

Company	EnviroArc			
Solution	Shred, screen, air separate, metals removal, briquette the waste, Shaft gasifier, (cupola furnace), plasma chamber and electricity generation (no data given on method).			
Scores	Non Weighted	Position	Weighted	Position
	52.57	17	48.92	18
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	EnviroArc indicated that there would a joint venture construction company - no details were supplied.			

Company	Universal Services/Waste and Energy Solutions			
Solution	Shred waste, shaft gasifier (cupola furnace), gas engine electricity.			
Scores	Non Weighted	Position	Weighted	Position
	51.43	18	42.19	23
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	This solution requires the import of 760kg/hr coke, 234 kg/hr of limestone and 176 kg/hr of cast iron scrap. It claims to take all types of waste up to 30,000 tonnes per year.			

Company	Recycled Refuse International			
Solution	Autoclave, sort, gasify and generate electricity. Household waste, shredded C&D, green and woody waste. Ferrous and non ferrous cans and plastics would be removed from the waste.			
Scores	Non Weighted	Position	Weighted	Position
	47.24	21	56.76	6
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	The word 'could' was in high evidence in their submission rather than 'will' or 'does' in relation to types of waste to be managed and treated.			

Company	Fernwood Waste Recycling Limited			
Solution	Autoclave, sort, produce RDF, incinerate, steam boiler, turbo generator. 72,000 tonnes per year potential capacity. Claims to take the 52,000 tonnes per year currently going to landfill.			
Scores	Non Weighted	Position	Weighted	Position
	46.29	24	50.29	17
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	No input energy identified so the panel assumed a deduction from that generated. The panel also assumed that the process was similar to incineration and scored this aspect in the same way to the other mass burn solutions. The panel was also sceptical of the figure given for the required land area required for the process.			

Company	Bedminster International (UK) Limited			
Solution	Rotating vessel digester for MSW producing biofuel or compost, followed by MRF to extract recyclates and plastics. Plastics to processed in depolymerisation plant to produce diesel fuel. Claims to be capable of dealing with all waste currently going to landfill. 7800 tonnes per year of plastics, 5800 tonnes per year of recyclates and 21600 tonnes compost or RDF to be removed from waste stream.			
Scores	Non Weighted	Position	Weighted	Position
	55.24	10	56.66	7
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	No energy production figures given and this would depend on whether a separate solution for energy production was included 'on back end' to use RDF. There was also concern over the amount of compost produced as to whether there would be a market for this. Concern was expressed over sustainability since it will turn on the ability to find markets for the by products given the scale. Is this 'reliably managing' the waste stream?			

Company	Advance Recycling Technologies Limited			
Solution	Production of RDF – incineration – steam turbo generator or by way of alternative aerobic digester - compost production. Claims to deal with MSW, trade and commercial and selected industrial waste. Ferrous and non-ferrous metals and plastics removed from waste stream.			
Scores	Non Weighted	Position	Weighted	Position
	54.86	11 =	56.45	8
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	Requires 3 ha of land. Are 6 RDF plants currently in operation.			

Company	Thermeco Limited			
Solution	Initial sort to remove bulky items – mechanical heat treatment (Fairport Engineering /Orchid process) – remove recyclables – produce RDF – gasify –gas engine – generate electricity. Sized for 50,000 tonnes per year. Claims to deal with MSW and light commercial waste. Cannot handle bulky or hazardous waste. Claims that there will be 15-20 % recyclates from incoming waste, with residual waste going to landfill.			
Scores	Non Weighted	Position	Weighted	Position
	46.86	23	44.87	19
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	There is a claimed build time of 12 months, which the panel was sceptical about. The recyclates produced would depend on the development of markets. Is there sufficient diversion from landfill?			

Company	Bowen Worldwide			
Solution	Shred – hand pick recyclables – magnet separate ferrous metals – eddy current separate non-ferrous – waste pelletizer – gasifier – steam boiler –steam turbo alternator. 50,000 tonnes per year. Household MSW, industrial wood and plastics shredded bulky items.			
Scores	Non Weighted	Position	Weighted	Position
	54.86	11 =	44.79	20 =
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	This company was proposing a similar solution to HLC (see next summary) but did not supply the information in a form enabling analysis and the panel had therefore little to proceed with. They appear to be using a credible US supplier, but the company proposing the solution, Bowen, has no waste management experience. The US supplier has one plant operating in the US. The weighted scores were therefore given the same scores as HLC, but this submission would need to be treated with care.			

Company	HLC Environmental Projects Limited			
Solution	Sorted and unsorted MSW, industrial and commercial waste – composting – RDF – gasification (Energos) –steam boiler – turbo generator. Also a civic amenity site operation. Claims to deal with household, garden waste, source separated dry recyclables, metals, commercial waste, C& D dry waste. Claims to recycle or 38% of the waste and therefore the issue of markets would need to be looked at. Residue would be disposed to landfill.			
Scores	Non Weighted	Position	Weighted	Position
	54.86	11 =	44.69	20 =
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	There is evidence of other plant operating within UK and therefore the panel felt that this company was worth talking to concerning the process.			

Company	Nehlsen & Co Limited Guernsey			
Solution	30,000 tonnes per year MBT plant at Longue Hougue, export of recyclates and RDF. 60,000 tonnes per year recycling and crushing operation for C&I, C&D and skip waste. Claims to deal with all household and commercial waste. Any inert and unsaleable products would be disposed to landfill.			
Scores	Non Weighted	Position	Weighted	Position
	35.81	26	31.22	26
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	Very little data supplied. This solution required the States to finance the capital cost and proposed an indicative operating fee of £9.5m per year.			

Company	Waste Recycling Group Limited			
Solution	Recycling and Energy Centre. Shred, metal removal, energy recovery (using Energos/Cyclerval/CNIM technology) Claims to deal with all household, C& I and C&D waste. 2-3% (by weight) removal of metals but not economic to remove anything else.			
Scores	Non Weighted	Position	Weighted	Position
	56.95	8	63.75	3
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	Comprehensive solution from the largest UK waste disposal operator. Two plants operating in the UK. The solution is build own and operate so no capital costs and a projected gate fee of £60 per tonne. Build programme of between 24 – 30 months.			

Company	Lurgi UK Limited			
Solution	Mass burn or fluid bed energy from waste. Claims to deal with all MSW, C&D and C&I. Ferrous and non-ferrous metals will be removed. 22% bottom ash and 3% by weight fly ash. Fly ash to be dealt with by hazardous waste treatment or export.			
Scores	Non Weighted	Position	Weighted	Position
	60.57	2 =	54.60	12
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	The same solution as previously negotiated. Indicative costs and operating arrangements as agreed previously. 20 months build period for previous proposal but 30 months for different size or technology. Walk in solution.			

Company	Cyclerval UK Limited			
Solution	Oscillating kiln Energy from waste plant. Claims to deal with Parish C&D and C&I waste. No data given on extent of recyclates from process. Similar bottom ash (20 –23%) and fly ash (3-5%) to Lurgi with the fly as to be dealt with by hazardous waste treatment or export.			
Scores	Non Weighted	Position	Weighted	Position
	58.10	6 =	52.82	13 =
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	Jersey are currently looking at Cyclerval technology.			

Company	Earthtech			
Solution	Energy from Waste plant using Cyclerval technology. Flue gas treatment by dry lime. Claims to deal with Parish and C& I waste. No pre-sorting unless requested. Removal of Ferrous and non-ferrous metals. 225 Kg/tonne bottom ash and 50 kg/tonne fly ash, with the fly ash to be dealt with by hazardous waste disposal/export. Earthtech would operate as turnkey contractor.			
Scores	Non Weighted	Position	Weighted	Position
	58.10	6 =	52.82	13 =
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	The same solution as that proposed by Cyclerval. Issue therefore as to why one would go to Earthtech as opposed to Cyclerval (the manufacturer) if this solution were selected save only for significant price savings. Similar capital costs quoted to Cyclerval (£40m) but an annual operating fee of £2m given as oppose to a gate price for Cyclerval of £30-60£ per tonne.			

Company	CNIM			
Solution	Mass burn energy from waste plant. Claims to deal with Household C&I healthcare waste sewage sludge. Ferrous metal would be recovered from process. 20 – 25% bottom ash. 800 tonnes per year of hydroxide sludge if ash washed or 5% fly ash (requiring hazardous disposal) if dry system used.			
Scores	Non Weighted	Position	Weighted	Position
	55.62	9	51.07	16
Relevant Information	Full or Partial Solution?	Full	Fails	No
Comments:	Indicative capital cost (2003) of £70m with an annual operating cost of £3m per year.			

Company	Stewart Thermal			
Solution	Material Recycling Facility plus Civic Amenity Site – recyclable removal – production of RDF – grate incinerator – steam boiler – turbo alternator. Claims to be able to deal with 58,000 tonnes per year currently land filled. Will remove ferrous and non-ferrous metals but no data on other recyclables.			
Scores	Non Weighted	Position	Weighted	Position
	47.05	22	39.11	24
Relevant Information	Full or Partial Solution?		Fails	
Comments:	Requires 3.8 ha of land. No allowance for energy input in the front end process within information supplied. No data given on final residues (bottom/fly ash) and panel therefore assumed similar to mass burn technology.			

Company	Oaktech Environmental			
Solution	Arrowbio process. Hydro mechanical sorting – anaerobic digestion – methane gas production – gas engine – electricity generation. Claims to deal with all household waste and commercial food waste. Ferrous and non-ferrous cans would be recycled together with plastic bottles and plastic film. Residues of 71kg/tonne digestate and 200KG per tonne non-recyclables to landfill. Digestates to be used as soil improver.			
Scores	Non Weighted	Position	Weighted	Position
	47.81	20	51.33	15
Relevant Information	Full or Partial Solution?	Partial	Fails	No
Comments:	One plant operating in Tel Aviv. Capital cost of £15m with £20-25 operating costs			

Company	Alternative Use PLC			
Solution	Shred, dry, gasify, gas engine generate electricity.			
Scores	Non Weighted	Position	Weighted	Position
	x	x	x	x
Relevant Information	Full or Partial Solution?		Fails	Yes
Comments:	No information supplied. DVD sent of Company but not possible for Panel to evaluate. One plant to be designed for New Delhi.			

Company	Grosvenor Waste Limited			
Solution	Material Recovery Facility, based on kerbside collection of recyclables composting and energy recovery.			
Scores	Non Weighted	Position	Weighted	Position
	x	x	x	x
Relevant Information	Full or Partial Solution?		Fails	Yes
Comments:	No response to questionnaire and therefore panel unable to evaluate.			

5. Analysis and comment

5.1 It may be seen from the above tables that in broad terms there are 4 different types of solution offered within the expressions of interest although undoubtedly these technologies overlap and incorporate different processes with them:

- Composting, with or without other recycling activities such as a materials recycling facility and/or civic amenity site;
- Energy from waste using gasification/pyrolysis. This generally entails shredding waste as fuel for the gasification process that then drives a steam turbine or gas engine to produce energy
- Energy from waste using mass burn technology.
- Mechanical biological treatment (MBT) with a variety of final treatments.

5.2 Looking at the overall scores, composting and other recycling activities generally scored well both in the non-weighted scores awarded by the panel in relation to the criteria and those scored as weighted in accordance with the instructions from the Waste Procurement panel. This is hardly surprising since such technologies are going to be less expensive to build, are, in the main, going to be more environmentally friendly since they do not produce unwanted hazardous residues, and both as to risk and social criteria are acceptable. However the main issue over the composting/recycling submissions is their inability to deal with the whole waste stream and as such are only partial solutions. They of course also do not provide energy recovery from the process and therefore scored badly in those areas. Their value would seem to be in assessing whether there is any synergy with other submissions as part of a completely integrated solution. Recycling may be viewed as an end in itself as distinct from disposal. It is certainly arguable that some of the waste stream can be beneficially diverted to composting and recycling but the need to identify stable, long-term markets for the recycled products still remains a significant issue.

5.3 These limitations are true of the consortium bid put forward by Guernsey Consortium, which sought to cover a broad range of activities, (including collection) but scored poorly on account of the management issues that it would bring, that it was not a complete solution and that environmentally it had drawbacks in that it did not deal with the total waste stream and required a number of sites and additional resources.

5.4 Mass burn energy from waste submissions scored consistently better than gasification processes. Rather interestingly, the criteria weighting had a lowering effect on mass burn energy from waste, but with gasification it improved scores and made little difference in the other two. This indicates that even despite the significantly higher costs of mass burn energy from waste this provides a comprehensive solution to the waste stream, but that there is an impact in terms of the economics and the environment in adopting such technology. In the social criteria the effect is marginally better than in even the recycling and composting solutions, because although the technology solutions scored less on skill levels, traffic impact and impact on the community was felt to be higher. None of the proposals were thought to aid or prevent waste minimisation efforts.

5.5 There was little to choose between gasification based technologies. The weighting impacted in both directions – some technologies lost places because of the weighting but others improved. This would indicate that of these solutions each would need to be looked at very carefully on a company-by-company basis. As a group they all generally ranked behind composting/recycling and mass burn energy from waste. (The two exceptions Stewart Thermal – Energy from Waste and Cambridge Recycling – composting both scored poorly).

5.6 As between those companies offering the composting solution the two leading contenders were TEG and Agrivert (In vessel composting) and a local supplier Richard Loyd (windrow composting) also scoring well. These were however the simpler technologies. As soon as a MRF and civic amenity solutions were introduced the scores lowered considerably below other more substantial technologies.

5.7 On the gasification solution Energos scored significantly better than any other gasification process. Compact Power came in significantly behind Energos on this technology.

5.9 Of the MBT, Bedminster and Advanced Recycling Technology were the better scoring submissions with a considerable gap between them and the other MBT solutions which generally scored poorly.

5.10 Of the mass burn energy from waste technologies WRG came out ahead of Lurgi, which suffered badly as a result of the weighting. All the mass burn energy from waste technologies performed well with the exception of Stewart Thermal.

5.11 Two companies could not be scored because of insufficient information. These were Alternative Use plc and Grosvenor. Accordingly both were failed. However these ‘fails’ were not because inherently there was anything wrong with them, but because the Panel had insufficient information to judge. In the circumstances therefore they should not simply be ruled out in any future competition purely as a result of this exercise.

6. Summary

In summary, the Scoring Panel considers that the exercise has been useful in the following respects:

1. In being able to focus on issues of principle that will need to be reviewed in accordance with a waste solution for Guernsey.
2. The conclusions are not surprising and reflect what it is thought was already known, namely that in order to obtain a complete solution some form of technology is going to be required and that viewed against the criteria set, with weightings towards environment and risk, the MBT combined with energy recovery solutions performed well in general.
3. It might be possible to attach to MBT technology recycling and composting solutions so as to make better use of resources since it is clear that those technologies are the ones that meets the aspirations of the Waste Procurement Panel, but without exception they are not and do not claim to be full solutions.
4. As between the other technologies, Mass burn Energy from waste appears to meet the criteria more successfully than gasification and MBT.

If you require any further clarification please do not hesitate to notify us.

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for and on behalf of the Scoring Panel

date:

Appendix A – Criteria Setting Panel Membership

Deputy B Flouquet, Chairman

Deputy I Rihoy

Deputy J Le Sauvage

Deputy D De Lisle

Deputy C Brock

Mr R Bisson

Mrs M Levrier

Deputy C Parkinson

Deputy G Guille

Deputy M Dorey

Deputy S Ogier

Mr S Smith, Chief Officer

Mr A Ford, Director of Environmental Services and Operations

Mr A Richards, Project Director, Guernsey Technical Services

Mrs R Bowyer, Director, Strategic Property Unit

Mr M Thornton, Law Officers of the Crown

Mr D Armstrong

2.10	<p>Quantity of final residues for disposal How much final residue (Kg per tonne) has to be disposed of on-island or exported?</p>	If yes to higher quantities of residues - score low. If low score high						5		
2.11	<p>Land Requirements What is the total land area required?</p>	The more land needed the lower the score.						3		
2.12	<p>Sustainability Is the process capable of reliably managing the waste stream on a long term basis without creating a legacy problem?</p>	If yes - score high. If no score low						5		
2.13	<p>Adaptability to changing waste inputs Can the process adapt to changing quantity/type of waste?</p>	If yes to adaptability to quantities and types - score high. If no score low						3		

SECTION 3 RISK (Weighting 20%)

Criteria	Not addressed 0	Below expectations 1	Average but Acceptable 2	Good 3	Very Good 4	Exceptional 5	Score	Weighting	Total Weighted score	Automatic Fail
3. Risk Criteria										
3.1 Evidence of/from similar solutions in commercial operation Is the same process in operation elsewhere? How long has it been in commercial operation?								5		
	If there is evidence of this solution (proposal specific) score high. If no or limited evidence score low. If prototype score 1									
3.2 Availability of financial guarantees Can the Contractor provide financial guarantees to ensure sufficient funds for completion of the project by others if necessary?										
	If yes - score 5. If no score 1									
3.3 Availability of performance guarantees. Is the Contractor prepared to provide guarantees of process performance on pain of damages?										
	If yes score 5. If no score 1									

		If yes score 5, if no score proportional to acceptability										
3.4	Project Timescale Is the timescale from ordering to commissioning acceptable?											3
3.5	<i>Ability to support technology on-island.</i> Complexity/simplicity and maintainability of process	Simplicity and maintainability on Island – score high. Complex and off Island specialist support required score low										
3.6	<i>Reliability of markets for by-products.</i> Are there secure outlets for any by-products produced by the process?	The more the outlets are secure the higher the score										
3.7	<i>Contract flexibility.</i> Is the Contractor rigid as to the form of contract to be used, or prepared to discuss alternatives?	Yes	No									2
3.8	<i>Ownership/Funding flexibility.</i> Is the contractor rigid as to the project ownership and funding or prepared to discuss alternatives?	Rigid	Flexible									2
For information purposes only												
For information purposes only												

3.11								The more commonality the higher the score.							
3.12								The more scaleable the process the higher the score							
3.13								The wider the operable range the higher the score							
								The wider the operable range the higher the score							

**Commonality of process/
solution with Jersey**
Are there any features in common with a Jersey solution that bring economic or operational benefit

Scalability
Can the process be scaled up or down in capacity?

Operable capacity range
Does the process have a wide or restricted operating range?

SECTION 4 –SOCIAL (Weighting 10%)

<u>Criteria</u>	Not addressed	Below expectations	Average but Acceptable	Good	Very Good	Exceptional	Score	Weighting	Total Weighted score	Automatic Fail
4.	0	1	2	3	4	5				
Social Criteria	Lower employee numbers means higher score									
4.1	Employment and skills How many staff are required?									
								4		
4.1 (a)	What skill levels are proposed?									
	High	No	Medium	No	Low	No				For Information only
	Indicate available numbers as to the skills level required									
	The more additional/intrusive traffic movement created – the lower the score									
4.2	Traffic impact Will the proposal create additional/intrusive traffic movement?									
								4		
4.3	Effect upon the community How will the proposal demand significant change in community behaviour so as to create opposition?									
	The more opposition likely to be created the lower the score.									
								4		

	The more the process aids minimisation the higher the score	
4.4 Impact upon waste minimisation. Will the proposition aid or prevent waste minimisation efforts?	4	
Totals:		

NOTES ON THE SCORING MECHANISM

Points Awarded	Judgement Guidance
5	Exceptional. Exceeds expectations or stipulated criteria
4	Very Good. Will meet expectations or stipulated criteria
3	Good. Will meet most expectations or stipulated criteria
2	Average but acceptable. Basic but workable.
1	Below expectations. Unlikely to meet criteria
0	Poor, or has not been addressed. Applicant may be asked to provide information on this subsequently and score reassessed.

EXPRESSIONS OF INTEREST ASSESSMENT AND EVALUATION
METHODOLOGY**1. Introduction**

1. Applicants have been invited to submit expressions of interest in relation to the provision of arrangements for managing the treatment and disposal of non-inert waste arisings from the Island of Guernsey.
2. The process is not a tender. The purpose is to understand the range of options that are available and to assess the desirability or otherwise of the solutions offered and to identify companies who may be suitable to contract for the type of arrangement or arrangements that is or are selected by the States of Deliberation.
3. Once that assessment has been undertaken, a report will go to the States who will decide whether a competitive tender will be held in relation to the placing of contracts. In the event that a competitive tender is held, it is probable that new companies will be admitted to the tender process, but it is intended that applications submitted by new companies will also be judged in the light of these criteria, either by these criteria being taken forward into the tender bid evaluation process or in some other way.
4. Potentially there is a wide range of solutions that may be offered, and therefore it may not be possible to compare like with like. Therefore the Waste Procurement Panel has drafted an objective list of criteria by which to test and analyse each expression of interest. Dependent on the

quality and type of expressions of interest offered, it is possible that only one or two options may be selected to go forward, or alternatively a large number of different solutions might be assessed as being suitable for further evaluation. Therefore there are no maximum or minimum numbers of applicants who might be selected, subject only to the constraints of the resources available to properly evaluate the expressions and take the matter forward to the next stage.

5. The evaluation panel will consist of :

- Tony Pickford
- Andrew Ozanne
- John Lucas, Enviros Consulting
- Mike Betts, Integrated Skills Ltd

In addition the panel will be entitled to receive advice and guidance from Alan Richards of Treasury and Resources Department and Martin Thornton of the Law Officers who will each attend panel sessions.

6. All members of the Panel will evaluate all of the criteria using their judgement as to how the proposed expression best meets the criterion set out in the above table using the scoring mechanism.

7. The weighting has been applied to each specific group of criteria and within each group to the individual criterion. Partial solutions may be compared against and with other partial solutions and assessed for synergy with other partial solutions. Full solutions will be compared against other full solutions.

2. Instructions to the Scoring Panel

1. Only the white boxes should be completed. On some of the criteria there is an option to mark the proposed solution as an automatic fail and in which the judgement of the scorer is that the proposal would not be acceptable under any circumstance by reason of this factor. Each automatic fail will then be scrutinised by the Panel, and the Panel will then collectively decide whether that automatic fail should stand or not.

2. Where a 0 has been scored, the Panel will determine whether this is because the applicant has failed to address the issue or has done so but the proposal is poor. In the former case the Panel may, but is not obliged, to invite the applicant to submit their comments on any such criteria and those comments will then be evaluated and the applicants score adjusted accordingly.

3. Each criterion has assistance given to the intention behind the scoring i.e. whether it is to be marked high or low and panel members shall comply with that instruction. Each criterion is part of a matrix and therefore each criterion judged in the light of that criterion alone and not by reference to other issues. For example in assessing the risk for a solution using new technology, there may be a lower risk for tried and tested technology and therefore in so far as *risk* is concerned should score well. However that same technology in examining *environmental* factors might not be as efficient as newer technology and therefore not score so well in that environmental section. However those matters must be assessed independently of each other.

3. Weighting

1. The group criteria and their weightings are as follows:

Group of criteria	Weighting
1. Financial	30%
2. Environmental	40%
3. Risk	20%
4. Social	10%

The reasoning behind this apportionment is that whilst *financial* criteria are clearly an important aspect of the solution, this is a factor that becomes more important at the next round of the process. In terms of the evaluation of the *type of solution* that may be adopted by the States, any final decision on the generic solution to be adopted will be a straightforward cost/benefit analysis. So whilst it is self evident to ensure that any solution is affordable, this factor is not seen to be as important *at this stage of the process* in assessing what the options are. The process is designed to assess each generic type of solution and analyse the cost of that solution. At the next stage of detailed tender, value for money and overall costs will be much more crucial in selecting a solution.

Environmental criteria on the other hand are extremely important in evaluating the type of option to be adopted. A cheap but environmentally damaging option should not score as highly as a low cost environmentally beneficial solution or even a higher cost environmentally friendly solution. Therefore the environmental grouping of criteria has been given a higher group weighting.

Risk is of course paramount but risk is an issue that includes *unacceptable* risk and *manageable* risk. The automatic fail process within the score sheet is designed to remove any proposals that have unacceptable risk, but the acceptability of other risk will depend on who assumes it and the cost attributed to that risk. Those matters therefore are controllable and assessable.

Social criteria again are of fundamental importance because of the need to ensure that the proposed solution will be acceptable to the Island's residents. However this group has been weighted lower because the first level of protection is in the environmental criteria and may therefore be seen as supplemental to those environmental consideration.

It was recognised by the Waste Procurement Panel, that the giving of weightings to groups of criteria was extremely difficult and therefore to some extent a compromise, and that there will need to be some sensitivity analysis undertaken when reviewing scores of individual expressions of interest. It was to be noted that the process is looking at generic solutions rather than specific proposals at this stage.

2. The individual weightings are shown in the scoring sheet.
3. The methodology for calculation is shown on the attached sample illustration and allows scores to be reviewed both by reference to the group weighting and without group weighting.
4. **Assessment**
 1. The scorings are indicative only, and are used as a first stage evaluation of expressions of interest to more readily discard those of least merit. It is also hoped that the scoring mechanism will assist identification of particular issues that may be useful in compiling a waste strategy.
 2. Once the initial round has been completed those through to the next round will then undergo assessment and evaluation so as to analyse their strengths and weaknesses. The panel reserve the right to discard high scoring entries and keep lower scoring entries if those decisions can be justified.
 3. Following the scoring exercise a report will be prepared for submission to the Environment Department Board. That report will identify any issues of risk or particular synergies that might benefit from further exploration, that the Panel felt should be drawn to the attention of the Department.

Appendix C – Company List and Scores

No section weighting	% of max	Type
Agrivert	61.90	Compost
TEG	60.57	Compost
Lurgi	60.57	EfW
Loyd	60.19	Compost
Energos	59.24	Gasification
Cyclerval	58.10	EfW
Earthtech	58.10	EfW
WRG	56.95	EfW
CNIM	55.62	EfW
Bedminster	55.24	MBT/Compost/depolymerise
Bowen Worldwide	54.86	MBT/Gasification (Note 1)
ART	54.86	MBT/EfW
HLC	54.86	MBT/Gasification
New Earth	54.86	MRF/Compost
Compact Power	54.67	Gasification
Cambridge Recycling	53.14	Compost
Enviroarc	52.57	Gasification
Universal Services	51.43	Gasification
SRS	50.48	Compost/RDF
Oaktech	47.81	AD/generation
Recycled Refuse International	47.24	Autoclave/Gasify
Stewart Thermal	47.05	EfW
Thermeco	46.86	MHT/Gasification
Fernwood	46.29	Autoclave/Incinerate
Guernsey Consortium	45.71	MRF/CA/Compost
Nehlsen	35.81	MBT/export
Alternative Use Plc	*	(Note 2)

Weighted by section		
Alternative Use Plc	*	(Note 2)
TEG	66.28	Compost
Energos	64.29	Gasification
WRG	63.75	EfW
Agrivert	61.40	Compost
Loyd	60.11	Compost
Recycled Refuse International	56.76	Autoclave/Gasify
Bedminster	56.66	MBT/Compost/depolymerise
ART	56.45	MBT/EfW
New Earth	56.36	MRF/Compost
Compact Power	56.27	Gasification
Cambridge Recycling	55.19	Compost
Lurgi	54.60	EfW
Cyclerval	52.82	EfW
Earthtech	52.82	EfW
Oaktech	51.33	AD/generation
CNIM	51.07	EfW
Fernwood	50.29	Autoclave/Incinerate
Enviroarc	48.92	Gasification
Thermeco	44.87	MHT/Gasification
Bowen Worldwide	44.69	MBT/Gasification
HLC	44.69	MBT/Gasification
Guernsey Consortium	44.08	MRF/CA/Compost
Universal Services	42.19	Gasification
Stewart Thermal	39.11	EfW
SRS	35.66	Compost/RDF
Nehlsen	31.22	MBT/export

Note 1 - Not assessed separately but same generic solution as HLC

Note 2 - Not assessed due to insufficient data.

Appendix 8

States of Guernsey
Waste Disposal Plan

October 2006

Table of Contents

1	Purpose of Waste Disposal Plan	3
2	Context.....	3
2.1	Project History.....	3
2.2	Legal.....	3
2.3	Global, European Union and national context.....	4
3	Waste arisings	6
3.1	Composition of waste arisings.....	8
3.2	Tonnages landfilled at Mont Cuet	9
3.3	Forecasts.....	10
4	Current practices	11
4.1	Summary table.....	11
4.2	Mont Cuet.....	12
4.3	Longue Hougue	12
4.4	Waste sorting facilities	13
5	Drivers of change.....	14
6	Target setting, objectives of the WDP	15
7	Facilities needed.....	16
7.1	Bring Scheme	16
7.2	Bulk Refuse Collection.....	17
7.3	Civic Amenity Site	17
7.4	Kerbside Recycling	18
7.5	Composting	18
7.6	Materials Recovery Facility.....	18
7.6.1	Dry recyclables interim MRF	19
7.6.2	Skip waste interim MRF	19
7.6.3	Fontaine Vinery MRF.....	20
7.6.4	Long term MRF	20
7.7	Hazardous Waste Disposal	20
7.8	Residual waste treatment.....	21
7.9	Landfill capacity.....	24
8	Implementation	25
8.1	Public bodies with responsibility for waste management.....	25
8.1.1	Director of Pollution Control.....	25
8.1.2	Economic Regulator	25
8.1.3	Environment Department.....	25
8.1.4	Public Services Department.....	26
8.1.5	Douzaines	26
8.1.6	Commerce and Employment Department.....	26
8.1.7	Health and Social Services Department.....	26
8.2	Timelines	27
8.3	Site.....	29
8.4	Legislation.....	31
8.4.1	Control of Environmental Pollution	31
8.4.2	Economic Regulator	31
8.4.3	Domestic refuse collection container.....	31
8.5	Charging Policies	32
8.6	Other supporting policies	32
8.7	Procurement.....	32
9	Plan Monitoring and Revision	33
10	Appendix 1.....	34
11	Appendix 2.....	35

1 Purpose of Waste Disposal Plan

To describe facilities and policies that will enable Guernsey to manage solid wastes generated by the community over the forthcoming 25 years.

2 Context

2.1 Project History

In May 2005, the States considered the Environment Department's response to the findings of the Panel of Inquiry. A number of resolutions were passed, including an instruction to determine a solid waste management strategy.

This Waste Disposal Plan presents the findings of that research and is primarily based upon the work of waste strategy consultants to DEFRA, Enviro, who undertook a review of waste arisings, forecast changes in arisings and a review of technologies appropriate to Guernsey.

2.2 Legal

The Waste Disposal Plan fulfils a legal requirement in accordance with section 31 of the Environmental Pollution (Guernsey) Law 2004. The committee (Environment Department) is required to produce a Plan describing the quantities of various wastes and their means for disposal.

The Environmental Pollution (Guernsey) Law (approved by the States in March 2004) is designed to establish a comprehensive and unified legislative basis for managing and protecting the environment by ensuring that activities which may give rise to environmental pollution, such as waste management activities, are subject to proactive controls. In December 2003, the States resolved to approve the establishment of the Office of Director of Environmental Health and Pollution Regulation in order to carry out the functions, exercise the powers and perform the duties created or arising under this law.

The Environmental Pollution (Guernsey) Law is an enabling law which will allow the States to introduce environmental protection measures by Ordinance, as and when considered appropriate. The Environmental Pollution (Guernsey) Law, 2004 (Commencement and Designation of Waste Disposal Authority) Ordinance, 2006 was introduced in Billet XIII of 2006, which provides specific legislation required to regulate the management of waste. For example, the Waste Ordinance requires persons carrying out 'prescribed operations' (*i.e.* those operations which, in the opinion of the States, may involve a risk of environmental pollution) to obtain a licence and to carry out that operation in accordance with the conditions to which that

licence is subject. The Law states that the following operations may be prescribed by an Ordinance, irrespective of the nature or composition of the waste concerned:

- the collection, removal, transportation or handling of waste when carried out by way of business or as a public service;
- the sorting, processing, treating, storage or disposal of waste in any circumstances; and
- the provision or operation of any activity, plant or equipment for the sorting, treatment, processing or disposal of waste.

In the context of organisational and contractual issues, the licensing system encourages a level playing field in terms of the standards to which companies operate.

The Environmental Pollution (Guernsey) Law requires the designation, by ordinance, of a Waste Disposal Authority, to be responsible for carrying out functions conferred on it by or under the Environmental Pollution (Guernsey) Law or any other enactment. These functions include:

- To make arrangements for and ensure the operation of Guernsey's public waste management system
- To monitor the creation of waste in Guernsey
- To keep under review the systems for collection, transportation, sorting and recycling of waste
- To identify the best practical environmental options for the disposal of waste
- To comply with the current waste disposal plan
- The Public Services Department is Guernsey's Waste Disposal Authority.

Other Guernsey legislation is described in Appendix 1.

2.3 Global, European Union and national context

Research undertaken by Enviro and drafting of the WDP has had due regard for the following well-established waste management principles:

- Proximity (waste should be dealt with as near as possible to its source);
- Best Practical Environmental Option (the option which causes the least damage to the environment as a whole at an acceptable cost);
- Waste hierarchy (best economic and environmental outcomes are generally achieved if waste is, in order of preference, reduced, reused, recycled, treated

and lastly, disposed. Local factors may mean this rule of thumb does not hold true in all circumstances for all wastes.)

- Polluter Pays (or alternatively ‘User Pays’, whereby those who make use of waste management facilities should pay for the service. The intention is that people and organisations that directly bear the cost of waste management will be inclined to create less waste.);
- Sustainability (the means of dealing with wastes should not negatively impact upon the next generation of islanders, hence the WDP should have a 25 year planning period).

Guernsey is not obliged to comply with European Directives on waste management. Nonetheless, in accordance with the principles listed above, these Directives are regarded as best practice for determining the content of the WDP. Compliance may be required by the Director of Pollution Control, particularly for the following:

- Landfill Directive, concerned with limiting the environmental impact of landfill sites, notably by ensuring that they are used only for disposal of treated waste.
- Waste Incineration Directive, concerned with emissions from incineration processes in accordance with World Health Organisation requirements.

More detailed descriptions of these Directives are given in Appendix 2.

3 Waste arisings

The quantity of waste created by households and businesses in Guernsey, *prior to any separation, processing or recycling*, is termed Waste Arisings.

Waste arisings in Guernsey in 2004 were assessed to be (taken from Table 38 of Enviro report Modelling of Selected Waste Treatment and Disposal Scenarios):

Waste Arisings Categories	Sub-categories	2004 Base data (t)
Household waste		
	Mixed Domestic refuse (Parish waste)	16,438
	Paper ¹	2,342
	Glass	1,510
	Tins and cans	88
	Textiles	261
	Metal ²	230
	Garden ³	1,179
	Bulk Refuse ⁴	4,147
	Total Household Waste	26,195
Commercial and Industrial waste		
	Commercial Paper	2,730
	Mixed ⁵	24,609
	Separate Metals ⁶	5,770
	Electrical and Electronic	1,600
	Batteries, oils, fluorescent tubes ⁷	842
	Asbestos	304
	Other Hazardous	74
	Total Commercial and Industrial	35,929
Other Non-Household		
	Hospital and other healthcare	566
	Water Treatment Sludge	275
	Abattoir	300
	Animal Manure	6,000
	Farm Plastics	22
	Tyres	300
	Horticultural	5,000
	End of Life Vehicles	2,285
	Total Other Non-household	14,748
Construction and Demolition ⁸		
	Inert	154,000
	Mixed	53,913
	Total Construction and Demolition	207,913
Total Waste Arisings On Guernsey		284,785

Table footnotes

1. 133t of card collected at the CA site and 2172t of paper collected via bring sites
2. Metal collected via the public from the CA site
3. Garden waste collected at the Chouet composting site.
4. Total household waste arisings from previous work [Enviros 2006b] has been re-adjusted for all flows & further information. This now includes metal collected at the CA site
5. Mixed C&I waste includes all direct C&I waste into Mont Cuet and rejects from Fontaine Vinery MRF. Adjustments to exclude any double counting [Enviros 2006b] (e.g. healthcare, abattoir outputs disposed at Mont Cuet (288t) & fragmentised metal from ELV (820t Source: Guernsey metals estimate) and water treatment sludge (275t) and farm plastics (22t).
6. Adjusted to exclude metal collected at the CA site
7. ISL predictions as no information was available.
8. Breakdown of C&D waste summarised from previous report [ISL 2004]. Mixed C&D inclusive of aggregates from Ronez (45,000t in 2004) and 8,913 tonnes of builders waste into Mont Cuet). Longue Hougue accepted 154,000 tonnes for a 12 month period in 2004.

3.1 Composition of waste arisings

This table shows percentage composition of various waste streams and, as described in the footnotes, recyclable materials that are currently separated are added back in. For example, 'Household' includes materials collected by the bring scheme, therefore this composition *does not* correspond to waste sent to landfill. Consideration of the total waste stream in this manner allowed different approaches to waste collection and separation to be assessed.

Taken from Table 2 of Enviros report on Modelling of Selected Waste Treatment and Disposal Scenarios.

Material	Waste Source				
	Household	Civic Amenity Site	Commercial and Industrial	Construction and Demolition	Other non-household
Glass	12	1	2	1	0
Paper & card	37	4	15	1	0
Metal	4	9	25	5	15
Plastic	12	1	10	1	2
Textiles	4	2	5	1	0
Green waste	1	46	2	2	34
Other Organics	17	10	15	0	41
Timber	0	8	0	5	0
WEEE	0	0	0	0	0
Potentially hazardous	0	0	0	0	0
Miscellaneous combustibles	4	6	10	0	0
Miscellaneous-non combustibles	2	13	16	85	0
Hazardous waste	0	1	0	0	8
Fines	7	0	0	0	0
Total	100	100	100	100	100

Sources:

Household residual: Average of Guernsey's residual waste composition (as determined by WRC in 1996) adjusted to include collected recyclates.

Civic Amenity Site: CA Residual Waste Composition (Eunomia Research et al. 2001) adjusted to ensure the modelling reflects practices on the Island and green waste collected at Chouet.

Commercial and Industrial: Guernsey Waste Model (ISL, 2004).

Construction and Demolition: From Guernsey Waste Model (ISL, 2004), adjusted with the bulk analyses results conducted by the States of Guernsey

Other non-household: Composition calculated by the known composition and items within these waste streams

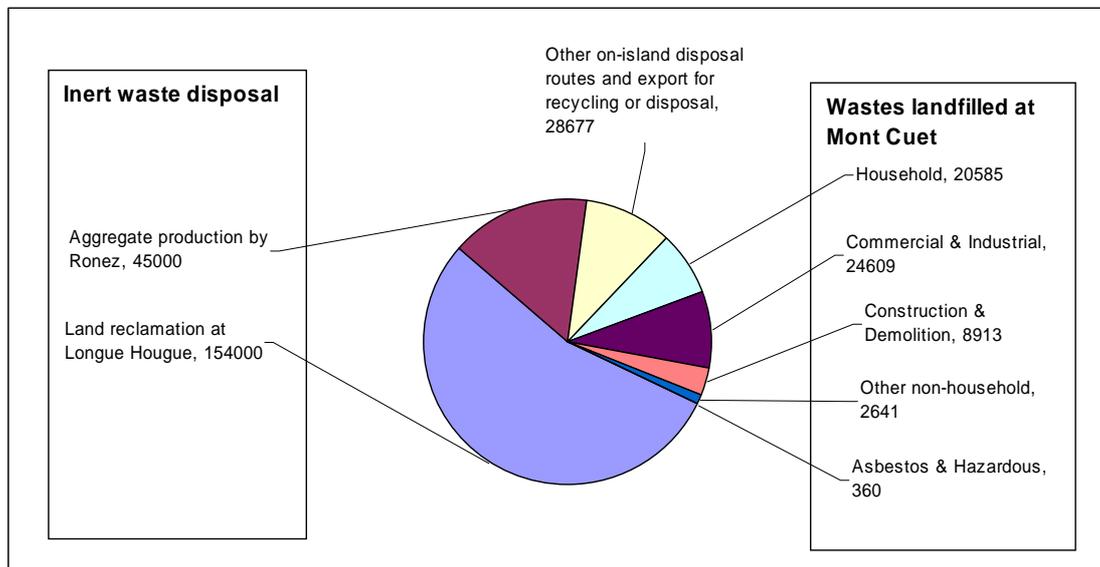
3.2 Tonnages landfilled at Mont Cuet

This Plan describes facilities and policies to manage waste that would otherwise be landfilled. It should be noted that this is a smaller tonnage than Waste Arisings because of the effect of recycling and diversion, hence this is termed *residual waste*.

Taken from Table 1 of Enviros report on Modelling of Selected Waste Treatment and Disposal Scenarios.

Categories of Waste in to Mont Cuet	Tonnes in 2004
Household waste (parish, bulky and CA)	20,585
Commercial and Industrial waste	24,609
Asbestos and Hazardous	360
Construction and Demolition	8,913
Others non-household	2,641
Total	57,108

The chart below summarises disposal routes, tonnages are shown based upon the preceding tables.



3.3 Forecasts

Enviros calculated the following annual growth rates for wastes arisings. These values were based upon consultation with local sources and by comparison with similar communities.

Forecasts also took account of anticipated new wastes. For example, it was assumed that sewage treatment will be introduced, resulting in the generation of sludge. In practice, the quantity from this source is too small to influence determination of the solid waste strategy, nonetheless it was included in the modelling.

It should be stressed these growth rates apply to waste *arisings*, which include all waste from a particular sector. Recycling and separation will suppress growth of arisings to a certain extent, the remaining material is referred to as *residual waste*.

Taken from Table 4 of Enviros report on Modelling of Selected Waste Treatment and Disposal Scenarios.

Waste source	Years	
	2001-2011	2012 onwards
Household	2.25%	2.75%
Commercial and Industrial	1.65%	2.75%
Construction and Demolition	-3.0%	0.0%
Other non-household	-0.78%	0.04%

4 Current practices

4.1 Summary table

Description	Location	Operator
Collection		
CA Site	Mont Cuet	Public Services Department
Household waste collection		Douzaine-appointed contractors
Other waste collection		Private sector hauliers
Recycling Activities		
Kerbside recycling trial	Selected rounds in St Peter Port and St Pierre du Bois	Public Services Department under contract to the Environment Department
Recycled aggregate production	Les Monmains	Ronez Ltd
Bring scheme for cans and glass	Various	Environment Department
Bring scheme for textiles	Various	Salvation Army
Sorting and dispatch of cans and glass from bring scheme	Bulwer Avenue	Environment Department
Metals (including end of life vehicles)	Bulwer Avenue	Guernsey Recycling (1996) Ltd
Non-ferrous metals only	North Side	St Peter Port Services Ltd
Oils	North Side	St Peter Port Services Ltd
Petrol	Bulwer Avenue	Fuel Supplies Ltd
Paper, cardboard and PET	Leale's Yard	Mayside Reclamation
Tyres		Sarnia Autos
Waste Electrical and Electronic Equipment	Bulwer Avenue and Fontaine Vinery	Guernsey Recycling (1996) Ltd and Scrap-It
Batteries	North Side	St Peter Port Services Ltd
Separation		
Waste Segregation Facility	Fontaine Vinery	States Works Department under contract to the Environment Department
Waste Segregation Facility	Pointes Lane	Island Waste Ltd
Sorting of waste collected by hauliers	Various	Hauliers not using facilities at Fontaine Vinery or Pointes Lane
Treatment		
Animal Carcass Incineration	Longue Hougue Incinerator	Commerce & Employment Dept
Healthcare Waste Incineration	Princess Elizabeth Hospital Incinerator	Dept of Health & Social Services
Hazardous Waste collection and disposal	Various	Commerce & Employment Dept
Disposal		
Inert landfill	Longue Hougue	Public Services Dept
Putrescible landfill	Mont Cuet	Public Services Dept
Green waste composting	Chouet	Public Services Dept

4.2 *Mont Cuet*

Mont Cuet is an engineered landfill at the site of a former quarry. It is administered and operated by the Public Services Department. The site is operated under the terms of a voluntary licence which is regulated by the Director of Pollution Control.

Mont Cuet is designated for the disposal of putrescible refuse and so a penalty charge is applied to loads which contain significant quantities of inert material. Vehicles are weighed on entering the site and then directed to the active cell for tipping, followed by compaction.

On opening in February 1998, the site had a capacity of 974,000m³ based on completion to ground level. The actual capacity of the site will be dependent upon the final contours agreed with the licensing authority. However, a standard profile has been used to gauge void remaining.

Surveys are conducted twice a year to monitor the volume of fill material. According to the most recent survey in September 2006, the site is approximately half full. Taking into account forecasts of future waste generation and a continuation of current recycling practices, Enviros estimate the site will be full in 2014.

Enviros have been commissioned by PSD to undertake an investigation of the effects of settlement upon tipping life at Mont Cuet. At the time of writing, results are expected early in December 2006.

A grout curtain is installed on the northern and western edges of the site to restrict movement of sea water into the site. A gravel base layer and drainage network collects leachate which is transferred to a treatment plant for aeration and settlement prior to marine discharge. Performance of the leachate treatment plant is routinely checked to ensure compliance with the licence requirements.

Landfill gas is monitored and collected in order to fuel a power generating facility located by the leachate treatment plant.

4.3 *Longue Hougue*

Longue Hougue is a marine reclamation scheme located to the south of St Sampsons Harbour. In addition to the provision of industrial land the scheme is part of a long term aim to provide deep water harbour facilities for commercial shipping. A stone bund has been constructed to enclose an area of sea into which inert waste is tipped. The site is administered and operated by the Public Services Department under a licensing agreement with the Director of Pollution Control.

Only inert waste is accepted at this site as the material has direct contact with the marine environment and sea water can move freely through the bund. Construction

and demolition wastes suitable for tipping include hardcore, stone, concrete, gravel, sand, rockwool and sub- and top soils (if free of vegetation).

Vehicles are weighed into the site and directed to the tipping area. If, after emptying the vehicle, putrescible material is found in the load, this material will be reloaded and taken to Mont Cuet at the customer's expense.

The original capacity of the site when it opened in August 1996 was 1.3 million m³. There is currently a commitment to allow the second half of the site to continue to be used for pleasure craft moorings while reclamation continues. The timescale for completion of Longue Hougue is heavily dependent on activity levels in the construction industry.

Strict control to ensure acceptance of solely inert waste is crucial to restrict the adverse environmental impact of this site by the dispersion of suspended solids into the sea.

In November 2005, the States resolved to continue depositing inert waste at Longue Hougue for land reclamation.

4.4 Waste sorting facilities

An Environment Department-administered and PSD-operated waste sorting facility is situated at Fontaine Vinery. Recyclable and inert materials are separated from mixed loads before the residue is sent for disposal at Mont Cuet.

Island Waste Ltd undertakes sorting of skips at their premises in Pointes Lane. Other skip operators undertake sorting at their own yards.

5 Drivers of change

Landfill capacity is of vital importance to the island because, irrespective of the choice of waste treatment technology or the extent of recycling, there will always be a quantity of waste that requires disposal.

Historical waste management policy and practices were unsustainable by leaving the island reliant upon a dwindling capacity of landfill. Current projections suggest that Mont Cuët will be completely full by the year 2014. Beyond this date, no other site has been identified for putrescible waste landfilling owing to conflict with other land uses, such as housing and water catchment.

Landfilling untreated waste is also contrary to contemporary waste management practices as described in EU legislation. According to the Landfill Directive, some form of pre-treatment is necessary before waste may be landfilled. Options include manual segregation of recyclable materials, composting and incineration for energy recovery.

The Panel of Inquiry recommended that a void equivalent to 5 years of tipping is reserved for strategic purposes, implying that Mont Cuët should cease operation in 2009. If this recommendation is adopted the shortage of landfill capacity becomes critical.

Various means to extend landfill available to the island have been explored:

- A ‘blank sheet of paper’ approach to identifying potential landfill waste sites was undertaken and results included in Billet XX of 2003. This exercise concluded that any future landfill would be constructed in close proximity to conflicting land uses, such as water catchment, housing and recreation. Odour, vermin and noise would make any such landfill highly intrusive.
- PSD has undertaken investigations to identify potential locations for landfill after Mont Cuët has been completed. At the time of writing, results from Enviro's investigations into the effects of settlement within Mont Cuët were being awaited and Falla's Fields (to the south of Mont Cuët) had been tentatively identified as a means to extend the current landfill site.
- Collaboration on waste treatment with Jersey was rejected by the States in February 2006.
- A request made in January 2006 to export waste for disposal in the UK was rejected by the UK authorities on the grounds that Guernsey possessed sufficient resources to manage its own waste.
- Export of waste for landfilling in France was rejected by the States in July 2006.

In September 2006, the States considered the findings of the Waste, Water and Stone working party and resolved that Les Vardes quarry (the last remaining quarry of an appropriate size and location for landfill) should be reserved for water storage after stone extraction has ceased at the site.

In summary,

- all waste management techniques, processes and policies leave some quantity of residue that must be landfilled
- contemporary legislative standards prohibit landfilling of untreated waste
- the island's current landfill site at Mont Cuet will be full in 2014
- the last remaining significant stone quarry, at Les Vardes, has been designated by the States for water storage after stone extraction ceases
- other land uses such as water catchment, housing and recreation mean that any landfill on Guernsey will be highly intrusive
- PSD investigations conducted in 2006 did not identify further sites for landfill in Guernsey, other than modest extensions to the capacity of Mont Cuet
- export of waste to Jersey, the UK and France have been rejected, either by States resolution or by UK regulatory authorities

As there are no routes to transfer residual waste off-island and options for on-island landfill are limited or non-existent, future waste disposal strategy must have the objective of conserving void within Mont Cuet in a manner that complies with contemporary standards for environmental protection.

6 Target setting, objectives of the WDP

Targets are used to

- determine the specification of new facilities
- provide benchmarks against which performance can be measured

Targets adopted by the Waste Disposal Plan are

- to achieve recycling of waste which is on a par with or better than the best UK authorities
- to divert waste from landfill such that Mont Cuet will last in excess of 25 years from January 2007
- to comply with appropriate legislative standards as determined by the Director of Pollution Control
- to achieve implementation of the new strategy by 2012, preceded by temporary facilities until that date

7 Facilities needed

A description of Guernsey's waste management strategy cannot focus upon facilities or policies in isolation from one another. It is necessary to view the strategy as a *system* of mutually supporting parts. Enviro assessed the suitability of processes and policies by comparing several *scenarios*, where each scenario consisted of a viable system.

The scenario to be adopted by Guernsey consists of measures to achieve high recycling and one of two possible methods for treating residual waste.

'High recycling' is described below, residual waste treatment methods are discussed in section 7.8.

The high recycling aspects focus on UK best practice. Household recycling rates are based on those reported for St. Edmundsbury Borough Council. Commercial and industrial and construction and demolition recycling rates were based on information from the Environment Agency. These rates have been applied to Guernsey's waste. To achieve this, a combination of methods and processes that typically involve the source separation of recyclable materials (*e.g.* metals, glass, plastic and paper) from household and commercial waste sources is required. This may be achieved through a combination of kerbside collection of recyclates, civic amenity sites, composting and bring sites, supported by legislative and financial instruments. Other complementary facilities include MRFs (materials recovery facilities), with associated bulking and baling facilities; together with facilities for the onward dispatch of the baled materials. Therefore high recycling will require extensive infrastructure to achieve the required diversion from landfill. Performance will be heavily dependent upon the existence of appropriate markets for the recycle materials, either on Guernsey or overseas. It should be emphasised that the application of current best practice recycling rates for MSW to all Guernsey's waste represents an extreme step and a significant change in recycling performance for the island.

The following facilities and activities will need to be evaluated.

7.1 *Bring Scheme*

Bins are currently provided across the island for the public to deposit recyclable waste. Materials collected are colour-segregated glass bottles, cans, paper, cardboard, PET bottles and textiles.

Bins for glass and cans are currently operated by the Environment Department. Mayside operate the bins for card, paper and PET bottles under contract and subsidy to the Environment Department. Textiles banks are operated by the Salvation Army.

The bring scheme will need to be reviewed in light of experiences from any expansion of kerbside recycling. It is envisaged that bring banks will need to be

retained for the benefit of, for example, householders in flats that do not have access to the kerbside collections.

7.2 Bulk Refuse Collection

The Environment Department currently operates a free collection and disposal service for householders wishing to dispose of furniture, cars and other large items. Metal items collected by this service are separated for recycling. The service offers a convenient means for removal of items that are too large to be transported by householders.

With any expansion of Civic Amenity Sites (see section 7.3), the Bulk Refuse Scheme will need to be reviewed. In particular, the free disposal service is inconsistent with the charging policy at Mont Cuet and with the Polluter Pays ethos. Nonetheless, any rationalisation measures will need to recognise the value of the Bulk Refuse Scheme as a disincentive for fly-tipping, as a source of employment for people attending the sheltered workshop and as a service for householders that do not have the means to transport bulky items of refuse. This may entail, for example, introduction of a small charge for the service in conjunction with penalties as discussed in section 8.5.

7.3 Civic Amenity Site

A Civic Amenity (CA) site is a facility for the public to deposit waste items which would not be acceptable in their normal household waste collection service. Various types of waste may be accepted at these facilities, for example, bulky refuse (such as old furniture), special wastes (such as engine oil or batteries) or large quantities of unmixed wastes (such as off-cuts of timber).

Separate containers are provided to enable segregation of wastes according to the most appropriate disposal or recycling route. Therefore a CA site performs two functions:

- provision of a convenient route for refuse disposal, thereby removing an incentive for inappropriate disposal by fly-tipping or burning
- reduction of waste sent to landfill

A basic CA site is provided at Mont Cuet. The Outline Planning Brief for the IWMP at Longue Hougue makes provision for a fully specified CA site in the south west corner.

In addition to the site at Longue Hougue, the facilities at the Mont Cuet will site need to be reviewed. Depending upon performance of these sites, consideration will need to be given to establishing further CA sites in the south and west of the island.

In the short term, it is noted that PSD consider Fontaine Vinery could accommodate a CA site.

7.4 Kerbside Recycling

In order to achieve recycling performance on a par with the best UK authorities it is likely to be necessary to increase public participation. Collection of recyclable materials at the households, known as kerbside recycling, offers greater convenience than the bring scheme and can therefore yield greater diversion of waste from disposal.

A trial commenced on 14 February 2006 with 1300 properties in St Peter Port. On 26 April 2006 a further 450 properties in St Pierre du Bois were included. By the end of July 2006 these schemes had collected a total of just over 72 tonnes of recyclable materials. The trial was undertaken by the States Works Department utilising labour from the CEPS scheme.

Island-wide adoption of kerbside recycling would require additional resources and coordination with the Parish collection contractors. It is recognised that introduction of this new service would have to be coordinated with existing contractual arrangements, therefore a phased introduction may be preferred, with, for example, 50% of properties served by 2009 and all properties, where reasonably practicable, served by 2012.

7.5 Composting

Adoption of a high diversion rate for green waste is likely to require collection of organic material in kitchen waste. Best practice composting of this material requires use of an in-vessel system in order to control emissions and maintain quality. It is recommended that initial operations only focus on garden and horticultural waste, and that extending the process to more problematic organic materials such as kitchen waste is considered for introduction at a later stage.

Although organic material may be processed in a mechanical/biological treatment plant (MBT), the output cannot be used as compost and could only be sent to landfill. An in-vessel composting system allows organic material that is free of contaminants (*e.g.* other items of waste such as metals, glass, plastic, oils) to be turned into a compost of sufficient quality that it can be applied to agricultural land.

In-vessel systems are sophisticated facilities that represent a significant advance over existing green waste management arrangements, and would therefore require a commensurate increase in resources.

7.6 Materials Recovery Facility

A materials recovery facility (MRF) houses operations that process incoming waste so that it may be recycled and/or directed to an appropriate treatment facility. Separation is achieved by a combination of manual and automated sorting. Bulking and baling machinery will also be present to prepare separated materials for onward transport.

For some residual waste treatment technologies, preparation of waste prior to treatment is an integral part of the process. For example, advanced thermal treatment technologies typically require the waste to be reduced into small fragments and homogenised.

Construction of a MRF at Longue Hougue should also take into account the architecture and construction needs (*e.g.* lay up areas) of a residual waste treatment facility.

For both of the above reasons, the specification of a MRF must be completed in conjunction with the tendering process for residual waste treatment technology (section 7).

However, a MRF is critical for the achievement of high recycling targets set by this Plan. Therefore it is anticipated two interim MRF solutions described below, will be in operation before the long term infrastructure is commissioned.

7.6.1 Dry recyclables interim MRF

Dry recyclables from kerbside collections and bring banks (paper, cardboard, glass, metals and PET) need to be prepared, baled and shipped. These materials may also be collected from commercial sources *e.g.* paper from offices. The existing facilities are under-sized and with limited security of tenure. In order to meet recycling targets, it will be necessary to provide new facilities that are capable of achieving the required performance.

7.6.2 Skip waste interim MRF

Compared to the dry recyclables MRF, these facilities would deal with commercial waste rather than household waste (although they would also deal with skips collected from householders). It is intended to provide a service to skip hauliers that do not have access to other sorting facilities. The facilities should reduce the quantity of residual waste requiring treatment by removal of inert and recyclable materials such as metal and timber.

In addition to supporting the general policy towards improved recycling, such facilities are driven by other factors:

- existing facilities at Pointes Lane and Fontaine Vinery are subject to several operational constraints, such as their proximity to housing
- the States supported an amendment in May 2005 to provide a dedicated facility for sorting of skip waste

A dedicated skip waste MRF, albeit on an interim basis, is therefore proposed as a means to meet both of the above needs.

It is, however, recognised that it may not prove to be feasible to proceed with this MRF. For example, construction of long term facilities at Longue Hougue may occupy the majority of available land. In this case, alternative methods to overcome the limitations of Fontaine Vinery and Pointes Lane should be explored, such as installation of mechanised sorting equipment.

7.6.3 Fontaine Vinery MRF

Fontaine Vinery MRF will need to continue to be operated by PSD to offer a service to skip hauliers. Once the long term MRF is operational, this facility and those described in sections 7.6.1 and 7.6.2 will need to be decommissioned.

7.6.4 Long term MRF

As discussed in section 7.6, the long term MRF should be specified in conjunction with a residual waste treatment facility.

7.7 Hazardous Waste Disposal

Around 1,500 tonnes p.a. of hazardous waste are currently created. Of that approximately 400 tonnes of asbestos are land-filled on-island and the remainder is exported to specialist facilities in the UK. Of the hazardous wastes that are currently exported, 1,000 tonnes p.a. of oils may be suitable for disposal in the on-island energy from waste facility.

Both of the methods for residual waste treatment described in section 7.8 will incorporate emissions cleaning equipment in order to comply with legislative standards. The pollutants removed from waste by these processes become concentrated and therefore have to be treated as hazardous waste.

Consequently, when residual waste treatment becomes operational, somewhere in the region of 2,000 tonnes p.a. of hazardous waste will be created.

Options for dealing with hazardous waste are:

- a specially engineered facility within an existing landfill
- a dedicated on-island facility specifically for hazardous wastes
- export to off-island specialist facilities

Selection of the most appropriate option is a complex decision which should therefore be addressed using a number of investigations, culminating in an Environmental Impact Assessment.

7.8 Residual waste treatment

By 2012 it is estimated that 44,179 tonnes per annum of residual waste will require treatment after the various waste minimisation and recycling measures have been applied. Enviro's modelling suggests this will have risen to 70,667 tonnes p.a. by 2031. (Reference Tables 47 and 50 Appendix 4)

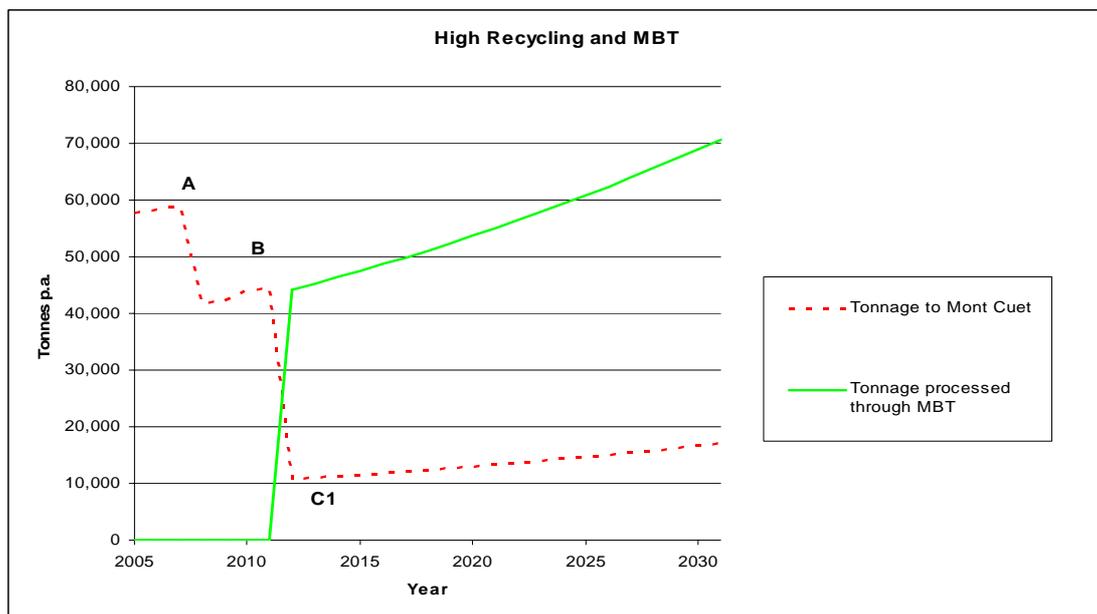
Residual waste will be treated by one of the following methods:

- **Either** mechanical/biological treatment (MBT) with the end-product subsequently processed for energy recovery either by mass burn incineration or advanced thermal treatment (such as gasification or pyrolysis)
- **Or**, energy from waste by mass burn incineration

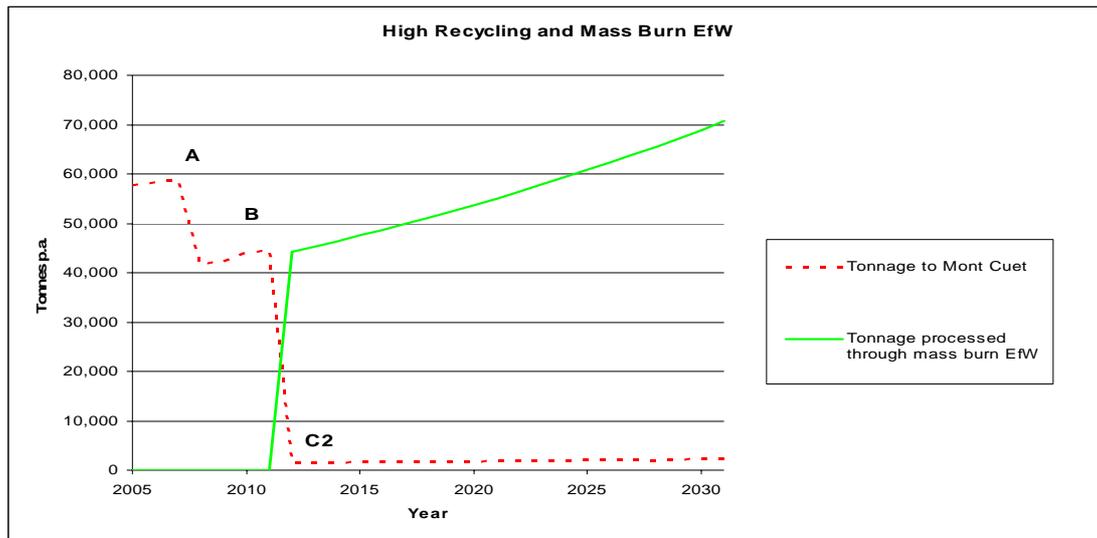
Tenders for both methods will be sought.

Treatment end products will be disposed to landfill or at specialist off-island facilities. Alternatives to landfill disposal, such as use of incinerator bottom ash in construction, will be investigated and promoted (section 8.6).

The charts below show the forecast tonnages to be sent to Mont Cuet and to treatment facilities over the duration of the plan. Figures for both of the above scenarios are shown.



Source: Table 47 of Enviro's report Modelling of Selected Waste Treatment and Disposal Scenarios



Source: Table 50 of Enviro report Modelling of Selected Waste Treatment and Disposal Scenarios

Points A, B, C1 and C2 on the graphs above are noted:

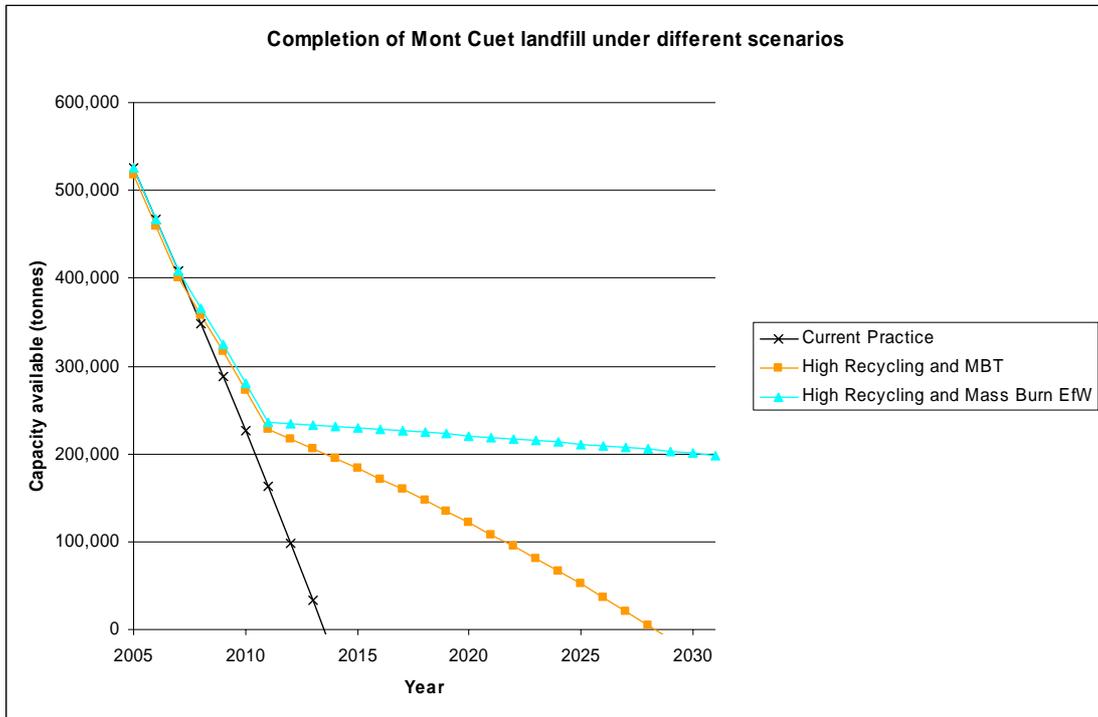
A: Tonnage into Mont Cuet decreases with the introduction of measures to achieve high recycling from 2007.

B: Inputs to Mont Cuet are considerably reduced with the commissioning of residual waste treatment facilities in 2012.

C1: Ongoing inputs to Mont Cuet consist of wastes rejected by the MBT process.

C2: Mass burn EfW produces a lower quantity of rejects to landfill than the MBT-based scenario, shown by C1.

The effect of both scenarios upon Mont Cuet’s life are compared to the current situation in the graph below:



Completion dates for Mont Cuet are therefore forecast as:

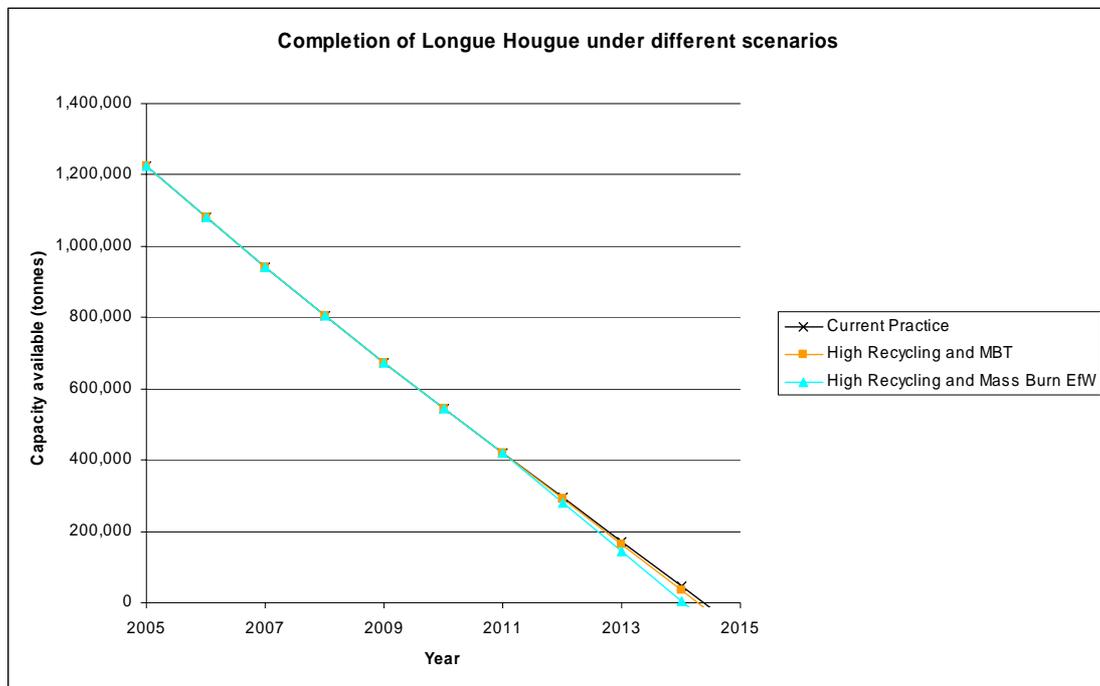
Current practice	2014
High Recycling and MBT	2029
High Recycling and Mass Burn EfW	2031+ (significantly beyond duration of this plan)

The tendering process for treatment technologies will seek confirmation of the assumptions and anticipated performance in these models.

7.9 Landfill capacity

As discussed in section 5, every waste treatment system will require landfill capacity. Under the proposed scenario above, Mont Cuet will last beyond the 25 year horizon of this plan. Nonetheless, methods to further increase the lifespan of the site will be explored on an ongoing basis, for example, evaluation of alternative methods of covering waste.

However, according to Enviro calculations, Longue Hougue could be full around 2015. Forecasting a closure date must be treated with caution as it is dependent upon the volatile nature of the construction industry. Therefore planning a follow on site must be informed by an ongoing process of site surveys and forecasts of construction sector activity.



8 Implementation

8.1 *Public bodies with responsibility for waste management*

8.1.1 *Director of Pollution Control*

The Waste Regulator, under the Environment Pollution (Guernsey) Law, is the Office of the Director of Environmental Health and Pollution Regulation, who has responsibility for licensing new and existing waste management activities.

8.1.2 *Economic Regulator*

The economic regulator will have responsibilities for establishing charges as described in section 8.5.

The economic regulator will act to ensure that users are getting appropriate value from operators of waste management facilities and will also ensure that service providers are achieving an equitable return on investment. The regulator is particularly applicable to long term contracts (in the region of 7 years duration or more) which are needed to guarantee return on investment for service providers.

Amongst other tasks, the economic regulator will

- scrutinise charges
- act as a shadow competitor
- compare incumbents against similar service providers

In benchmarking service providers, the regulator will include consideration of capital depreciation and investment when evaluating gate fees.

8.1.3 *Environment Department*

Under the Environment Pollution (Guernsey) Law, the committee has responsibility for strategic planning and policy formulation in relation to solid and liquid waste (predominantly through revision and publication of future editions of the Waste Disposal Plan).

The Department currently has managerial responsibility for the bulk refuse collection service and the bring scheme for glass, cans, paper, cardboard and PET. This will ultimately transfer to PSD.

The Environment Department review planning applications and set land use policy.

8.1.4 Public Services Department

Under the Environment Pollution (Guernsey) Law, the PSD is the Waste Disposal Authority.

PSD provides staff and specialist resources for the operation of waste management facilities owned and operated by the public sector, including:

- landfill operations
- operation of Fontaine Vinery Waste Segregation Facility
- bulk refuse collection service
- household waste collection
- street cleansing
- sewer cleansing
- coastal detritus collection

PSD will have responsibility for procuring the facilities and services described in this Plan.

PSD will set gate fees under the authority of the economic regulator, in accordance with the policies described in section 8.5.

8.1.5 Douzaines

The Douzaines are responsible for collecting rates to fund the collection and disposal of domestic (“dustbin” or “black bag”) waste. The Douzaines also issue tenders and appoint refuse collection contractors.

8.1.6 Commerce and Employment Department

Undertakes hazardous waste collection and disposal, either on-island or by export to specialist facilities in the UK, and also administers operation of the animal carcass incinerator at Longue Hougue.

8.1.7 Health and Social Services Department

Operates clinical waste collection from private and public sector healthcare premises and disposal at the Princess Elizabeth Hospital incinerator.

8.2 Timelines

All the scenarios assume that a decision on the waste management option will be concluded in 2007. On the basis that after a decision is taken, design and planning will require 1-2 years followed by 2-3 years of construction, facilities will be operational in 2012, possibly before.

In order to make all efforts to conserve void within Mont Cuet, waste segregation and recycling services and facilities may be procured in 2007 to be operational by 2008, as described in section 7. These facilities would enable 4 years of progress towards the achievement of higher recycling levels, until permanent facilities begin operations in 2012.

A chart showing possible milestones throughout the life of the early part of the plan is presented below.

Facility	Action	2007	2008	2009	2010	2011	2012	2013	2014	2015
Bring Scheme	Rationalise bring scheme to complement kerbside collection	✓								
Bulk Refuse Collection	Review bulk refuse scheme to complement CA sites	✓								
Civic Amenity Sites	Review Mont Cuet CA site						✓			
	Provide CA site at Longue Hougue						✓			
	Evaluate additional CA sites								✓	
Kerbside Recycling	Phase 1 expansion			✓						
	Phase 2 expansion						✓			

Facility	Action	2007	2008	2009	2010	2011	2012	2013	2014	2015
Composting	Procurement begins	✓								
	Commissioning			✓						
Interim MRFs	Procurement begins	✓								
	Decommission					✓				
Hazardous Waste Disposal	Evaluation and EIA	✓								
	Implementation of selected disposal route			✓						
	Operation commences						✓			
Residual Waste Treatment	Procurement begins	✓								
	Construction begins			✓						
	Commissioning						✓			
Inert Waste Disposal	Commence identification and preparation of follow-on site to Longue Hougue				✓					
	Longue Hougue complete (new site commences)									✓
Landfill	Mont Cuet reaches full capacity under current policy								✓	

In the long term, key dates are:

- 2024 If an MBT-based treatment process is selected, identification of additional landfill capacity should be commenced as Mont Cuet is forecast to close 5 years later, in 2029.
- 2031 Commence research and procurement process for replacing residual waste treatment facility which will reach end of 25 year lifespan in 2037.

8.3 Site

A planning inquiry held in December 2001 resulted in the production of an Outline Planning Brief (OPB) for Longue Hougue. This designates an area for the provision of an Integrated Waste Management Facility (IWMMF) comprising:

- Energy from Waste Facility (EfW)
- Materials Recovery Facility (MRF)
- Civic Amenity Site
- Metal Recycling facility (scrapyard)

The Environmental Impact Assessment conducted prior to the 2001 Planning Inquiry produced an Environmental Statement specifying the conditions to be met by operators at Longue Hougue. Compliance with the Environmental Statement will be a requirement for tenders for facilities procured under this Waste Disposal Plan.

Further details of each of the above are given in section 7. Figure 1 shows a site plan which gives a preliminary indication of probable land requirements for each activity.



Figure 1 Indicative land allocation within Longue Hougue

Key

- | | |
|--------|---|
| Area 1 | Waste Treatment Facility and Civic Amenity Site |
| Area 2 | MRF and Scrapyard |
| Area 3 | Land reclamation with ash and inert material |

8.4 *Legislation*

In addition to the background given in section 2.2, the following legislation has particular relevance to the implementation of this Plan.

8.4.1 *Control of Environmental Pollution*

Further to the description in section 2.2, this law provides the means for:

- government to determine strategic waste management objectives (by formulation and endorsement of this Plan)
- appropriate environmental and public health protection standards to be applied (through the authority of the Director of Pollution Control)
- ensuring ongoing compliance of facilities with those standards (by issuing waste management licences to operators)
- protecting the investment of service providers by prosecution of service providers that infringe licence conditions and those operating without a licence

8.4.2 *Economic Regulator*

Introduction of the economic regulator will require new legislation, possibly by extending the powers of the Office of Utility Regulation.

8.4.3 *Domestic refuse collection container*

Although black bags are generally appropriate to presenting domestic waste for collection, problems occur when bags are broken by scavenging animals, either because the bags are too flimsy or because they have been left out for a number of days before collection.

Existing legislation is problematic because plastic refuse sacks ('black bags') are not specified as suitable containers for domestic refuse collection, nor is the law enforced.

The legislation will be updated to control by Order the use of plastic bags of a specified gauge. Specific container requirements for kerbside collection will also be taken into consideration.

8.5 Charging Policies

Charges for waste management services will be set by the operator of the facility, subject to the authority of the economic regulator, such that they achieve the objectives of this plan. (Note that the gate fee for the residual waste treatment facility will be set by the economic regulator, see section 8.7)

A range of instruments may be applied, for example:

- pay-by-weight systems for domestic refuse, which incentivise separation of recyclable materials by householders
- cross-subsidisation of waste management facilities, where gate fees could be manipulated to favour usage of more costly facilities (such as a MRF) over cheaper ones (such as landfill) while still achieving overall cost recovery.
- penalties for activities that threaten achievement of the plan's objectives, such as contaminating collections of recyclable materials with other wastes

Charging policy must have the flexibility to apply such instruments, in order to achieve outcomes in accordance with the objectives of this plan (section 6) and with the principles of

- cost recovery
- Polluter Pays

PSD and the Environment Department will develop policies that determine how the economic regulator should set gate fees.

8.6 Other supporting policies

Waste management licensing (section 8.4.1) and charging policies (section 8.5) are powerful methods to reinforce the objectives of the Plan.

States Departments will adopt and promote green procurement policies to maximise the use of end-products from local waste facilities, examples include:

- amendment of construction specifications to incorporate the use of crushed glass and bottom ash.
- use of compost from in-vessel composting on States-owned land
- use of energy recovered at waste treatment facilities

Departments will also make every effort to use recycled materials produced elsewhere *e.g.* office paper.

8.7 Procurement

The transition from the current situation to the future strategy has been closely examined, particularly because the nature of waste management facilities entails commitment of significant resources to services that must reliably safeguard

environmental and public health. It is necessary to procure facilities in a manner that satisfies the long term needs of the community and the contractor.

Procurement is concerned with the extent of services provided, duration of contract, funding arrangements, provision and ownership of assets and finally, contractual arrangements. Choices made within these options will have consequences for user behaviour, allocation of risk and operational performance.

The approach to procurement for waste management facilities can be summarised:

- Only services concerned with the treatment of residual waste will be included in the contract, rather than a wide-ranging contract covering many services. An exception would be inclusion of a MRF where this was an integral part of the treatment facility (e.g. an MBT plant requires carefully pre-processed feed).
- The contract will specify services to design, build and operate for 25 years.
- Funding will be underwritten by the States.
- Land will be owned by the States and plant and buildings will be owned either by the States or by a Partnership.
- An economics regulator will regulate gate fee and legislative controls in order to control waste movements, thereby guaranteeing revenue for the facility operator(s).
- The contract(s) will specify performance criteria, rather than giving requirements for particular technologies. However, preferred generic technologies have been identified in order to exclude higher risk technologies.

9 Plan Monitoring and Revision

Waste generation and composition will be determined by population and economic trends over forthcoming years. As the Plan is intended to remain valid over the next 25 years, projections made now will be checked and, if necessary, waste management infrastructure will have to respond. Furthermore, emergence of new treatment technologies and legislative standards may supersede parts of the Plan.

To ensure that the WDP remains appropriate to the island's needs, a review will be undertaken every five years. The review will take into account the same factors as used to compile this first edition, insight gained from experience and performance monitored against targets specified in section 6 of the Plan and measurable policy objectives specified within the Sustainable Guernsey report.

10 Appendix 1

Other Guernsey legislation relating to waste management comprises:

- The Loi Relative à la Santé Publique, 1934 and its 1936 Ordinance;
- The Refuse Disposal Ordinance, 1959 and its Amendments and Orders of 1963 and 1964 respectively; and
- The Parochial Collection of Refuse (Guernsey) Law 1958, as amended;
- The Trans-frontier Shipment of Waste Ordinance, 2002.
- The Environmental Pollution (Guernsey) Law, 2004;
- The Island Development (Guernsey) Laws, 1996-1990.

A number of pieces of planning legislation and policy have an influence upon the WDP.

The Island Development (Guernsey) Laws, 1966-1990 are the overarching laws that gives rise to the Strategic and Corporate Plan. The Environment Department must take into account the Strategic and Corporate Plan when reviewing or preparing Detailed Development Plans. The Urban Area Plan (Review No.1) and Rural Area Plan (Review No.1) are the two current Detailed Development Plans covering the Island and contain land use policies governing waste management activities.

Within the Urban Area Plan, the Longue Hougue Outline Planning Brief governs the development of the area designated as an Integrated Waste Management Facility. Policies EMP8 and WWM6 of the Urban Area Plan specifically require the submission of a Compliance Document to satisfy the Outline Planning Brief and Environmental Statement.

The Rural Area Plan (Review No.1) contains no specific provisions for waste infrastructure. Policy RE15 deals with safeguarding areas for mineral extraction. Policy RD1 recognises that new developments which are ‘essential to the public interest, health, safety or security of the community’ may be allowed in the Rural Area subject to conditions, including the absence of alternative suitable sites. Policy RD2 deals with provision of minor infrastructure.

The Island Planning (Guernsey) Laws, 1966-1990 will be replaced by the Land Planning and Development (Guernsey) Law, 2005, when enacted. The new law introduces, *inter alia*, Subject Plans which enable certain policy areas, such as waste, to be dealt with on an island-wide basis. This opens up an alternative means of formulating land use policies for waste management should this prove appropriate.

The Land Planning and Development (Guernsey) Law will also play a role in regulating waste management by prohibiting unsightly land use and similarly, the law will also regulate against nuisance or loss of use arising from disposal of rubbish, abandonment of vehicles or items. In this sense, the planning laws are complementary to the waste licensing powers of the Environmental Pollution Law. The Planning Law maintains conformity with land use and aesthetic standards and the Environmental Pollution Law mitigates any adverse effect upon the environment and public health.

11 Appendix 2

Landfill Directive

The UK Environment Agency summarises requirements of the Directive as:

- Sites are to be classified into one of three categories: hazardous, non-hazardous or inert, according to the type of waste they will receive
- Operators demonstrate that they and their staff are technically competent to manage the site and have made adequate financial provisions to cover the maintenance and aftercare requirements of the site
- Higher engineering and operating standards will be followed
- Biodegradable waste will be progressively diverted away from landfills
- Certain hazardous and other wastes, including liquids, will be prohibited from landfills
- Pre-treatment of wastes prior to landfilling will become a requirement

Waste Incineration Directive

The Directive applies to incineration and co-incineration plants. Co-incineration plants include plant where waste is used as a fuel or is disposed of at a plant where energy generation or production is the main purpose. A plant will only be an incineration plant or a co-incineration plant if it burns waste as defined in the Waste Framework Directive. Such wastes will include municipal waste, clinical waste, hazardous waste, general waste and waste derived fuels.

The Directive sets out items such as:

- operating conditions, including gas temperatures and residence times,
- emission limit values for a range of substances to air and water including dioxins,
- emission monitoring requirements, using the World Health Organisation Toxicity Equivalency Factors

Appendix 9 – Glossary

Terms used in the WDP and commonly encountered in waste management.

Advanced Thermal Treatment

The processing of waste using gasification or pyrolysis technologies. Gasification is the process whereby carbon based waste is heated in the presence of some air/oxidant or steam to produce a combustible synthetic gas, known as syngas. The process is based on the reforming process used to produce town gas from coal. Pyrolysis involves the heating of organic wastes in the absence of oxygen at lower temperature than gasification, to produce a mixture of gaseous and in some instances liquid fuels. Both processes generate a solid residue. The solid residue (a char or slag) from certain ATT processes may be appropriate for recycling applications as a low grade aggregate, after further treatment. Gasification and pyrolysis technologies may be combined in a single facility (for example the solid residue from a pyrolysis process being fed into a gasification process). The fuel-rich products may be burned in a gas engine or traditional combustion plant to produce energy, or may be used as a feedstock for chemical processes. Both Gasification and pyrolysis require a pre-sort to ensure only conforming waste enters the process. Non-conforming waste will be sent direct to landfill.

Anaerobic Digestion (AD)

A process whereby biodegradable material is encouraged to break down in the absence of oxygen. Material is placed in to an enclosed vessel and in controlled conditions the waste degrades, typically into a digestate (slurry or sludge), liquor and biogas. The digestate may be further processed to produce a compost or soil conditioner, or in some circumstances, may be combined with other combustible wastes to produce a refuse derived fuel (RDF). The liquor may be re-circulated within the reactor system, or may be discharged to an appropriate effluent treatment plant. The biogas may be used (after cleaning) in a gas engine, or other appropriate energy recovery plant/process to produce electricity and/or heat.

Best Practical Environmental Option (BPEO)

This term was coined by the Royal Commission on Environmental Pollution. It describes a method for assessing the suitability of processes in terms of their effect upon the whole environment (emissions to land, water and air) and it also takes account of the costs of processes. The objective is to identify the process which causes the least environmental damage at an acceptable cost.

Bring system, also bring bank

Collection of recyclable materials by the provision of bins in public locations.

Calorific Value (CV)

The amount of energy released when combustible matter is burned. Significant to design of energy from waste facilities because the plant specification is matched to the CV of the incoming waste. Hence waste composition and forecasting studies are used to inform the design process.

Collection

The process of picking up wastes from residences, businesses, or a collection point, loading them into a vehicle, and transporting them to a processing site, materials recovery facility, transfer station or landfill.

Department for Environment, Food and Rural Affairs (DEFRA)

DEFRA is the United Kingdom government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities. Responsible for strategy development and research in respect of waste management.

Disposal

The final placement of waste into a permanent location, possibly after recycling, treatment or other process.

Dry recyclables

Recyclable materials that are relatively clean and easily handled, especially applicable to kerbside. A term intended to contrast with the operational needs of handling waste with a high content of organic material *e.g.* odour and leachate considerations.

Economic regulator

The economic regulator will act to ensure that users are getting appropriate value from operators of waste management facilities and will also ensure that service providers are achieving an equitable return on investment. Amongst other tasks, the economic regulator will scrutinise charges, act as a shadow competitor and compare incumbents against similar service providers.

Energy from waste plant

A process whereby the energy content of waste is released and captured. This may be through a traditional mass burn incineration process or by advanced thermal treatment technologies coupled with energy and/or heat recovery. EfW facilities may incorporate district heating systems, particularly for industrial parks or nearby residential areas. See Advanced Thermal Treatment and Mass Burn Incineration.

Environmental Impact Assessment

An activity designed to identify, predict, interpret and communicate information about the impact of human actions on human health and well-being, including the well-being of the ecosystems on which human survival depends. Proposers of certain scheduled developments are required to submit a planning application with an accompanying environmental statement, evaluating the likely environmental impacts of the development, together with an assessment of how the severity of the impacts could be reduced. The purpose of environmental impact assessment (also referred to as environmental assessment) is to ensure that the environmental effects of a proposed project are fully considered before it is implemented.

European Union (EU) legislation

The European Union has issued legislation (known as Directives) on a wide range of environmental issues which have considerable implications for the member states of the EU. Failure to comply can result in financial penalties for the respective governments. In the context of waste management in Guernsey, the island is not obliged to follow any of these laws but they do represent contemporary standards.

Fly tipping

Illegal dumping of waste, distinguished from littering by the larger quantities of waste and the scope for commercial gain.

Gross Domestic Product (GDP)

The community's total output of goods and services. GDP is a reflection of affluence, and hence consumption of resources which in turn influence the generation of waste.

Hazardous waste

Materials which have an increased potential to cause harm or pollution when compared to other wastes. For example, healthcare waste, pesticides and oils are considered to be hazardous.

High Recycling

A scenario used by Enviro in modelling Guernsey's future waste strategy. The scenario sees Guernsey aspiring to diversion of recyclable materials on a par with the best UK authorities, resulting in a reduction of residual waste requiring further treatment. This is a combination of methods and processes that typically involve the source separation of recyclable materials (*e.g.* metals, glass, and paper from domestic waste sources). This may be achieved through a combination of kerbside collection of recyclables; civic amenities sites; and bring sites. Other complementary facilities include MRFs (materials recovery facilities), with associated bulking and baling facilities; together with facilities for the onward dispatch of the baled materials. High recycling scenarios would be heavily dependent upon the existence of appropriate markets for the recycle materials (either on the Island or offshore).

Inert waste

Waste which does not rot (*e.g.* stone, hardcore, granite, brick, concrete, glass, soil, etc). In Guernsey's context, these wastes are destined for disposal at Longue Hougue in order to avoid unnecessary void consumption at Mont Cuet. Large items of inert waste are accepted by Ronez for crushing to produce an aggregate substitute.

Integrated Waste Management

Addressing and interrelating all environmental, legislative, organisational, economic, social and technical issues for all solid waste streams

Integrated Waste Management Facility

An area at Longue Hougue land reclamation site which has been designated for waste management activities and associated facilities. In addition to the energy from waste

plant, designated uses for this area include a civic amenity site, a MRF and a scrap metal yard.

In-vessel composting

Composting is a biological process in which micro-organisms convert biodegradable organic matter into a stabilised residue known as compost. The process uses oxygen drawn from the air and produces carbon dioxide and water vapour as by-products. The term 'in-vessel composting' is used to cover a wide range of systems all of which feature a means to enclose the waste and thereby achieve a higher degree of control than is possible with open methods such as windrow composting. In-vessel systems can be broadly categorised into five types: containers, silos, agitated bays, tunnels and enclosed halls.

Kerbside recycling

Term used to describe collection of recyclable materials directly from domestic properties. Commonly collected materials include paper and cans, but may also include textiles and green waste. The added convenience compared to bring systems improves participation and hence achieves greater recovery of recyclable materials than bring banks.

Landfilling

The final placement of waste at a site with engineered features to protect the surroundings from gas and leachate emissions.

Materials Recovery Facility (MRF)

A site to which mixed waste is delivered and, within an enclosure, subjected to a number of mechanical and manual processes to separate elements of the waste depending upon their value as recyclable materials or other properties. The resulting components are then directed to the appropriate facility or prepared for transfer to recyclable material markets.

Mass burn incineration

Mass burn incineration recovers energy released by the combustion of residual waste, allowing the production of electricity via a boiler turbine set, with waste heat being available for district or industrial heating where appropriate.

Mechanical Biological Treatment (MBT)

A generic term for mechanical sorting/separation technologies used in conjunction with biological processes such as composting or anaerobic digestion. MBT is usually applied to residual waste streams, after any kerbside or source separation has taken place. MBT may be applied in situations where the facility is expected to handle several different wastes streams (such as domestic and commercial wastes). The facility may be used for one or more of the following:

- To extract materials that may be recycled (usually metals, potentially also glass and plastics);

- To separate/prepare a combustible fraction for use as a fuel (often known as Refuse Derived Fuel (RDF), see below);
- To separate/prepare the organic component for use as a type of soil conditioner (after composting/biological treatment); and,
- To treat the biodegradable element to render it more 'stable' for deposit into landfill (for example by composting it).

Mechanical Heat Treatment (MHT)

The autoclaving of mixed wastes, often seen as a pre-processing stage for further treatment of waste, rather than a treatment process in its own right. In terms of diverting waste away from landfill, approximately half of the incoming waste remains in the organic floc. Outlets for floc are in development, with production of an RDF currently being the most likely option.

Modelling

The suitability of different waste management systems is assessed by creating a mathematical model that incorporates data on current waste tonnages, future trends and the performance of different technologies for collection, recycling and treatment. The model can give predictions about the effect on landfill utilisation and cost in order to guide decisions on the choice of waste strategy. Sensitivity analysis involves varying the assumptions used in the model to determine the robustness of the conclusions.

Private Finance Initiative (PFI)

The Private Finance Initiative specifies a method, developed initially by the United Kingdom government. It provides central government financial support to local authorities for "Public-Private Partnerships" (PPPs) between the public and private sectors. The PFI differs from privatisation in that responsibility for "public service" aspects of the project – *e.g.* clinical responsibility in hospitals - remains in the public sector. PFI cannot exist as such in Guernsey as it is a UK legal and funding mechanism.

Proximity Principle

The requirement to treat wastes close to where they are produced, the objective being to prevent problems and pollutants being transferred to another jurisdiction. This principle is embodied in waste management law which restricts the movement of wastes between communities.

Putrescible waste

Waste which rots (*e.g.* household scraps, vegetation, timber, paper, etc), only accepted for disposal at Mont Cuet, although vegetation from horticultural sources is accepted at Chouet green waste site.

Recyclate

Term used to describe recyclable materials that have been separated from waste *e.g.* glass bottles in a bring bank, metals recovered by magnetic separation from the incoming waste stream to an MBT plant.

Recycling

The process of taking waste and treating it in a manner to manufacture a new product.

Reduction

Taking measures to cut down the quantity of waste generated by an individual, a group or organisation. E.g. purchasing re-usable rather than disposable products.

Refuse Derived Fuel (RDF)

A fuel produced from combustible waste that can be stored and transported, or combusted directly on site to produce heat and/or power. RDF may be burnt in a traditional incinerator/combustion plant, relevant industrial processes, or may be used as a source of fuel in an advanced thermal treatment plant (*e.g.* a gasifier or pyrolysis plant).

Re-use

Putting an item to the same, or a similar, use rather than disposing of it. E.g. food packaging such as jam jars can often be re-used.

Residual waste

The quantity of waste remaining after reduction, separation and recycling measures have been applied *i.e.* that which requires treatment and disposal. See also Waste arisings.

Segregation

Also referred to as separation. Removal of elements from a mixed waste according to value or property. May occur in a Materials Recovery Facility or can be undertaken by the waste producer.

Sensitivity analysis

See modelling.

Soft marketing

Identification of potential suppliers and demonstration of buyer commitment necessary to secure return of tenders of an appropriate standard.

Waste arisings

Waste produced by the community as measured at the earliest point of generation *i.e.* the total quantity that will then be subject to separation, recycling, treatment and disposal.

Waste composition

Information which describes the materials within waste and can be used to determine appropriate techniques for managing that waste. Composition data is gathered by a number of techniques, ranging from visual inspection to detailed laboratory analysis.

Waste Disposal Authority

In Guernsey, the Public Services Department is the Waste Disposal Authority. It is legally required to implement the Waste Disposal Plan.

Waste Disposal Plan

A document required under the Environmental Pollution (Guernsey) Law, 2004 that sets out strategy and identifies infrastructure and operations to be implemented for long term management of waste by the Waste Disposal Authority.

Waste Regulator

Waste management operations are subject to a licensing system whereby a number of requirements are set by the Office of the Director of Environmental Health and Pollution Regulation, which has the role of Waste Regulator. These requirements ensure that operations meet contemporary standards for health and safety and environmental protection.

(NB The Policy Council has received the attached Minority Report dated October 2006 from Deputy D de Lisle.

The Policy Council has sought the views of the Environment Department on the Minority report and a letter dated 1 November 2006 from the Department is also attached.

Minority Report on Solid Waste Management

Submitted by Deputy David de Lisle, Ph.D

October 2006

- 1.1 I disagree with the view taken by the Environment Board in that I cannot support the technology preference of the Board for Mass Burn EfW or MBT coupled with EfW as set out in paragraph 13.1 or the view that they should be competitively tendered nor can I agree to the same in the draft waste disposal plan as set out in appendix 8. There exist lower cost, lower risk alternatives which will achieve the same result without incineration and are more appropriate to a small, densely populated island community. There is a better way to that of Mass Burn incineration or coupling MBT with Energy from Waste plant. Incineration could be shown to be another example of the States of Guernsey burning the financial resources of the people of Guernsey. The funds could be better spent on the education of our young people or on state of the art medical facilities. As a result I would like to present the following minority report to be laid before the Policy Council and the States of Guernsey.

- 1.2 Over the past year Guernsey has successfully reduced the amount of waste going to landfill and the Environment Department has been regularly caught out by the enthusiasm with which islanders have adopted new recycling initiatives, the desire to do more, and the call for short term interim measures and trials to be replaced by a commitment to recycling. We need to build on the success of the past year and continue along the road to reduce-reuse-recycle as an alternative waste strategy to landfill and incineration.

- 1.3 At the same time we need to emphasize strengthening producer or supplier responsibility to ensure all packaging is recyclable, and build on efforts to minimise waste and maximise recovery, thereby changing our ways so that we produce far less waste in the first place and make a major shift from disposal to re-use and recovery. It would mean that in a few years all our waste would be recycled, reused and composted (including land reclamation). Any indication that the end solution is incineration would thwart our efforts at recycling and our taking action on producer responsibility.

2.0 Experience elsewhere

- 2.1 Many jurisdictions have achieved considerable progress in just a few years towards Zero Waste through advanced recycling and composting without MBT or Mass Burn. The Canadian city of Edmonton now prevents 70% of household waste from going into landfill through composting and recycling. Halifax, Nova Scotia, has successfully achieved 60% diversion through strong public support for separation at source of recyclable and compostable materials. Canberra, Australia increased diversion from 22% to 66% in just six years and many regions in the USA now recycle and compost 50% or more of their waste. These

jurisdictions have shown that it is possible to recycle and compost well over 50% of their waste streams with existing product design.

- 2.2 In San Francisco and other parts of California where concerns over emissions and residuals have led to a strong backlash against incineration and high temperature conversion technologies, the focus is on maximizing resource management and potential, and introducing strong regulatory support and producer responsibility legislation. Residual materials, which are hazardous or costly to recycle are gradually being phased out and replaced by new clean materials that can be returned to use efficiently and effectively. The States should not expect mass burn to be considered again before opportunities for recycling and composting have been fully explored and put permanently in place.
- 2.3 In contrast to the above, the UK government's latest plan has a pathetic recycling target of 33% by 2015 and allows councils to build scores of dangerous incinerators to burn the rest. And this approach is entrenched in the waste disposal plan supported by the Environment Board which is primarily based on the work of Enviros, the waste strategy consultants for the UK Department for Environment, Food, and Rural Affairs (DEFRA). This continues despite proof that cleaner, alternative, greener and more forward looking solutions exist and despite waste management principles that call on jurisdictions to choose the option that least damages the environment and the notion that best economic and environmental outcomes are achieved if waste is in order of preference reduced, reused, recycled, treated and lastly disposed.

3.0 Zero Waste

- 3.1 The immediate imperatives behind the drive for Zero Waste and the international movement in this direction are environmental and ecological and the determination to avoid the mistakes of the past. It entails re-designing products and change in the way waste is handled, so products last longer, materials are recycled, or in the case of organics, composted. Waste is in the process of being designed away. There is a new awareness of the dangers to human health of waste landfills and incinerators. For example, landfills are major producers of methane, and polluters of water tables whilst incinerators produce greenhouse gases, and are a source of heavy metals, particulates and dioxins. Zero waste strikes at the cause of this pollution.

4.0 Problems with incineration

- 4.1 Friends of the Earth opposes incineration for the 80% of municipal solid waste that can be recycled or composted for the following reasons:
- It destroys valuable resources
 - It exacerbates climate change as more fossil fuel energy is used to replace the materials burned through mining, manufacturing, and transportation. Energy from burning waste is non renewable.

- It undermines recycling schemes by demanding long term delivery—to make a return on capital investment, a contract requires an agreed amount of waste for at least 25 years
 - It produces emissions of nitrogen oxides, particulates, heavy metals and dioxins, all of which are potentially harmful to human health
 - It produces bottom ash which may contain heavy metals and dioxins present in the waste burnt.
 - It also produces fly ash which is undisputedly toxic, containing pollutants such as heavy metals and dioxins.
 - It is a much more capital intensive and costly approach than recycling
 - It creates more noise and traffic. Incinerators can also be regarded as eyesores.
- 4.2 There is general agreement that incineration combined with recycling cannot work as part of the transition to Zero Waste as incinerators need high calorific waste to operate efficiently, particularly where there is energy recovery. It is a known fact that the recycling of paper, card and plastics remove the very waste materials the incinerator needs. As a result incineration as a mass waste disposal option for Guernsey can only be considered as an option of last resort after all efforts to reuse and recycle are exhausted.
- 4.3 Enviro made the point very clearly in their report that there could be considerable resistance to incineration and that the States of Guernsey should consult with the people first over the environmental impacts and plant emissions and residuals. They indicated that the outputs through incineration of waste were thus: 4% of the material waste and a further 3 to 5% of waste categorised as metals would be diverted as not suitable for the plant; 20 to 30 % of the output would be bottom ash which needs to be land filled or shipped; a further 3 to 5 % would be fly ash which may have to be shipped off island; and then there is air pollution. Even with state of the art cleansers, serious concerns remain that low level pollutants, including toxic dioxins will still be produced and emissions of nitrogen oxides and heavy metals are potentially dangerous to human health. These toxic residues do not solve the waste problem rather they create a new problem. Despite this there has been no consultation with the people.
- 4.4 Moving from land fill to incineration makes no environmental sense at all – neither method is sustainable and both can seriously affect the health of every man woman and child; the air we breathe, the water we drink and bathe in, the soil we grow our crops in and our cattle graze on. There exist viable and job-creating alternatives to throwing valuable resources into holes in the ground or burning them in polluting incinerators. Incineration is not clean; it wastes resources and energy and will undermine more progressive initiatives for the next quarter of a century. We need to conserve resources not waste them.

- 4.5 In the evaluation of submissions from the global search, composting and recycling achieved very high scores and the panel commented that this was hardly surprising since such technologies will be less expensive to build and more environmentally friendly since they will not produce unwanted hazardous residues and are acceptable from the point of view of risk and social criteria.

5.0 Waste reduction

- 5.1 There is an opportunity for immediate and significant reduction in waste. The Enviros models for waste were based on data for 2004 with a projected growth of 1 to 3%. However, in the last few years there has been stabilisation in waste, with a slight decline this year in the amount of household waste, while during the same period there has been a significant drop in the total waste going into Mont Cuet quarry from 57,000 to 49,000 tonnes even though we are now importing waste from Alderney. The volume taken up in the quarry has also been reduced from 66,000 to 41,000 cubic meters (Appendix 1). This has had the effect of extending the life of the quarry from 8 to 13 years. With further increases in tip charges next year and new initiatives in recycling one can assume that this trend will continue.
- 5.2 In May 2005, the Environment Department estimated that the additional diversion of waste through recycling was limited to a theoretical maximum figure of 19,300 tonnes per annum to give a residual of 39,000 tonnes to landfill. The recycling rate was set at 35% for parish and commercial waste in these calculations. However, given the reduced quantity of waste going into Mont Cuet, and using a 50% recycling target which Enviros are recommending, the theoretical residual would fall to 23,000 tonnes and at 80% recycling the residual declines even further to 17,000 tonnes (Appendix 2). These are significant diversions of waste from Mont Cuet. Add to that what may be saved in terms of cover material and the quarry life is extended significantly. Shipping waste off island has been suggested again on an interim basis which if implemented would give time to reduce our waste stream even further, to promote on-island separation, recycling and composting and evaluate the longer term.
- 5.3 By introducing incineration, there will be a requirement to landfill the residual ash which can be as high as one-third of the weight of the original refuse in mass burn. The high amount of residual waste for disposal is a key issue with the existing proposal. It is worthy to note that the SETA Isle of Man Mass Burn incinerator is processing 50,000 to 58,000 tonnes a year (and working at 70 to 80% capacity). The residual bottom ash constitutes 25 % of the input or about 14,500 tonnes a year and is transported to the Balla Salla landfill site on the Isle of Man. This has been a controversial issue. The fly ash, which constitutes 4% or 2,500 tonnes, has to be transported at great cost off the island (just short of £1 million) to Merseyside because of its toxicity. In all, the residue from the incineration process totals approximately 17,000 tonnes.

- 5.4 When applied to our local situation, the quantity of the residual waste through incineration does not appear to differ greatly from the residual waste left after recycling 80% which, as outlined above, is estimated at 17,000 tonnes. This would suggest that recycling provides an alternative way forward without the financial costs and health and environmental risks of incineration. But notwithstanding this, surely our prime concern is to divert rubbish from the Mont Cuet quarry not to fill it with residual waste from incineration. This would be a backward step.
- 5.5 Whether we can or should dump the residual bottom ash in the existing quarry is highly debatable due to the toxicity of the residual waste and the very real threat to precious water supplies on our small, densely populated island. It is worth noting as one example that the Swiss today face a huge cost of remediation (estimated at 5 billion Swiss francs) from contamination of ground water directly attributed to landfill sites where concentrations of toxic substances have leached into once usable groundwater and functional wells.

6.0 Suggested Approach

- 6.1 The above suggests that we are being rushed into a decision by a Department wedded to incineration. Bringing in an incinerator into Guernsey of the size touted – 70,000 tonnes – would monopolise the waste business and could cut out existing businesses as well as deter new entrants.
- 6.2 Guernsey needs to make the critical shift from the traditional ‘burn and bury’ disposal options proposed in the report of the Environment Board to active pollution and disposal reduction programs like recycling and composting. This approach is not only environmentally desirable it is also economically superior and less expensive than the traditional disposal oriented systems. The government should channel its resources and energies into intensive waste segregation, recycling and composting. This is the only lasting and genuine solution to the problem.
- 6.3 We are far better concentrating our efforts on maximising resource management and potential where source separation of wet from dry recyclables will be employed to compost the organics and dismantle and recycle materials, thus avoiding landfill and incineration. By means of a materials recycling facility (MRF) using conveyors and balers in combination with an in-vessel composting system for biological treatment we can deal with kitchen and food wastes together with sewage sludge. A practical possibility exists for dealing with all our waste without incineration.
- 6.4 In association with the above we need to become more proactive in introducing stronger regulatory controls to minimise or reduce the waste generated in the first place such as packaging, and introduce strong landfill bans on recyclables, organics and wood. We should encourage the return of materials brought into the island that have no local reuse, recycle or compost value or attach an

advance recycling or composting fee to the product to make the supplier more responsible for the end product than now is the case.

- 6.5 In that the MRF and in vessel composting plant and civil amenity sites are key to reducing waste at the quarry, the procurement of an in-vessel composting plant needs to be immediate and not wait until 2009. Additionally, it needs to focus on more than garden and horticultural waste and should include food waste and organic materials, both household and commercial. We need to procure a permanent MRF in 2007. Kerbside recycling should be extended island wide immediately rather than 50% by 2009 and the rest by 2012. There is no excuse for the lack of consultation with the people as well as the relevant authorities before coming to the States (18.3).
- 6.6 I maintain that the island needs to commit to 50% recycling of household waste by 2008 (17.1); that we segregate all recyclables not only a part of them (17.2); and that the facilities to carry out this work should be developed immediately (17.5); that a permanent MRF not temporary facilities are built (17.6); that the way forward for recycling has to be pro-active and positive (17.8); and that we should do without the cost of an economic regulator (17.10) and save the additional expenditure that this will entail.
- 6.7 Guernsey is in a unique position as it has only just embarked on a course of developing its waste management policy. Let us build on the success in recycling and begin to eliminate waste at source and progress along the path towards the truly sustainable goal of zero waste. Incineration only creates waste and impedes entrepreneurs, businesses, governments from innovations in waste prevention, reuse, recycling and composting.
- 6.8 Let the island of Guernsey be truly green and an example for others to follow. Why burn our resources and finance 'has been' policies and old technologies. Let us lead by example and give our children a heritage in sound economic and environmental management and let us leave something that they can truly build on so that they inherit the very best of what we have to offer today for an even better tomorrow.
- 6.9 In respectfully submitting these thoughts I would ask that this minority report is attached to any Billet on this subject to be laid before the States.

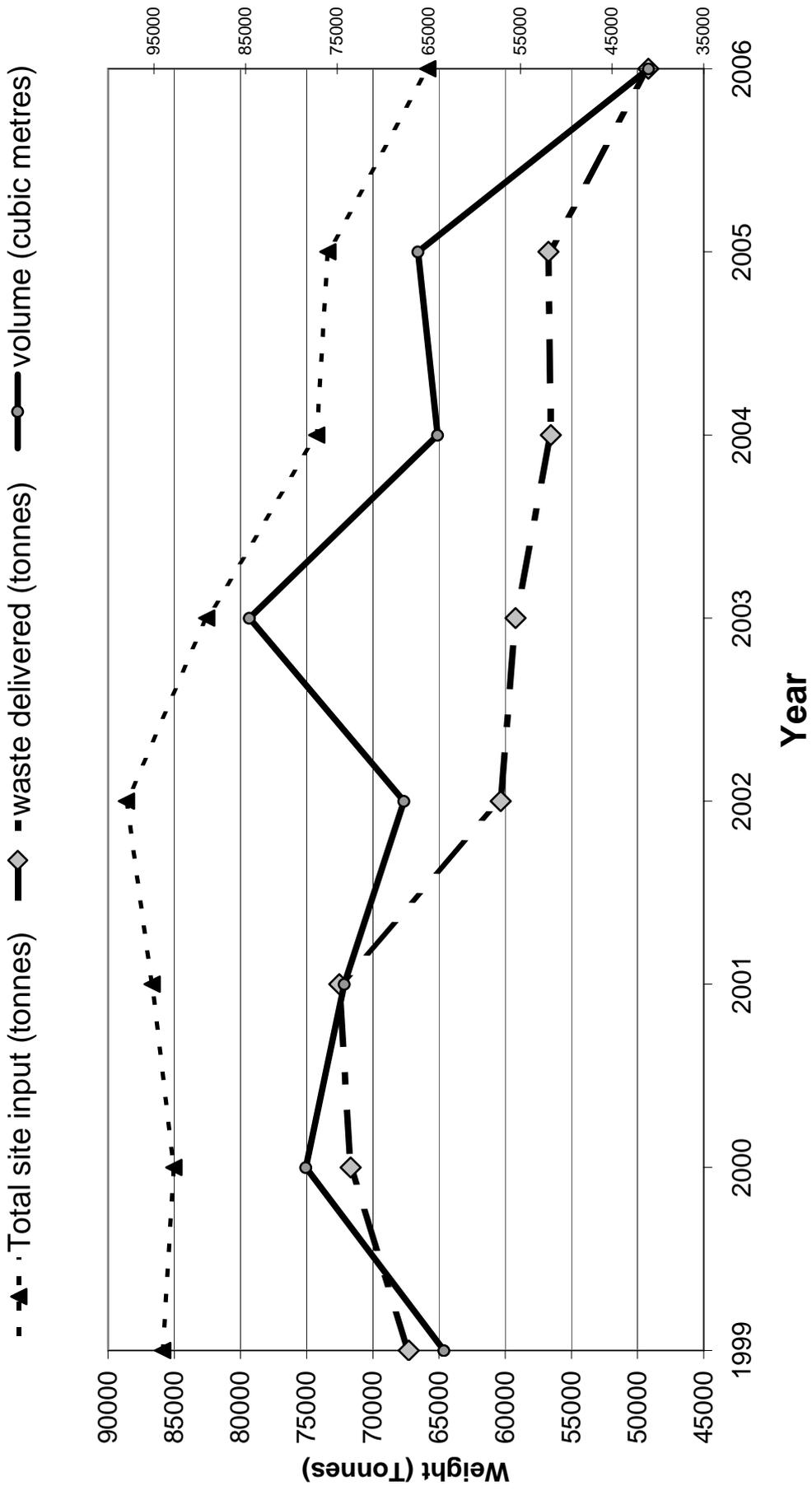
7.0 Recommendations

- 7.1 Adopt a Zero Waste policy and set a target of zero waste for all household and commercial waste in the island by 2020 (50% recycling by 2010, 75% by 2015);
- 7.2 Channel energies into resource recovery, intensive waste segregation, recycling and composting;

- 7.3 Abandon any notion of mass burn EfW incineration or MBT coupled to EfW plant;
- 7.4 Require source separation for all generators of waste and all waste materials;
- 7.5 Procure a permanent materials recycling facility (MRF) immediately to handle household and commercial recyclable materials;
- 7.6 Supplement home composting with doorstep collection of organic waste and procure an in-vessel compost plant immediately to focus on garden and horticultural materials, food waste and organic materials;
- 7.7 Establish a permanent waste management facility site and civic amenity sites without further delay to handle the sorting of mixed waste, recyclables, household and commercial, organics, reuse, wood, metal and regulated materials;
- 7.8 Introduce island wide commercial collection of recyclables;
- 7.9 Introduce permanent kerbside collections of wet and dry recyclables and reusable and repairable products to every household without delay;
- 7.10 Introduce strong regulatory control to minimize or reduce the waste generated in the first place;
- 7.11 Open up waste planning to greater public participation, education and promotion;
- 7.12 Use landfill charges to fund zero waste programme.

APPENDIX 1

Mont Cuét Inputs - Trend is down!



APPENDIX 2

NET WASTE - AT DIFFERENT RECYCLING RATES

RECYCLING RATE: LOW - 35%

2004 - BASED ON 2004 Tonnage				
	Tonnage	Recycling rate	Additional recycling	Net waste
A - compact parish	14,962	35%	3,350	11,612
A - compacted commercial	8,907	35%	3,100	5,807
B - already pre segregated	12,832	30%	4,850	7,982
C - not currently pre-segregated	17,249	80%	8,000	9,249
D - not suitable for diversion	3,255	0%	-	3,225
Total	57,205		19,300	37,875

MEDIUM - 50%

RECYCLING AT 50%				
	Tonnage	Recycling rate	Additional recycling	Net waste
	14,962	50%	6,030	8,933
	8,907	50%	4,454	4,454
	12,832	30%	3,850	8,982
	17,249	80%	12,100	5,149
	3,255	0%	-	3,255
Total	57,205		26,433	30,772

HIGH - 80%

RECYCLING AT 80%				
	Tonnage	Recycling rate	Additional recycling	Net waste
	14,962	80%	11,389	3,573
	8,907	80%	7,126	1,781
	12,832	30%	3,850	8,982
	17,249	80%	12,100	5,149
	3,255	0%	-	3,255
Total	57,205		34,464	22,741

2006 - BASED ON YEAR TO DATE Tonnage

	Tonnage	Recycling rate	Additional recycling	Net waste
A - compact parish	14,809	35%	3,296	11,513
A - compacted commercial	7,209	35%	2,523	4,686
B - already pre segregated	10,386	30%	3,116	7,270
C - not currently pre-segregated	13,961	80%	8,000	5,961
D - not suitable for diversion	2,635	0%	-	2,635
Total	49,000		16,935	32,065

	Tonnage	Recycling rate	Additional recycling	Net waste
	14,809	50%	5,953	8,856
	7,209	50%	3,605	3,605
	10,386	30%	3,116	7,270
	13,961	80%	11,169	2,792
	2,635	0%	-	2,635
Total	49,000		23,842	25,158

	Tonnage	Recycling rate	Additional recycling	Net waste
	14,809	80%	11,267	3,542
	7,209	80%	5,767	1,442
	10,386	30%	3,116	7,270
	13,961	80%	11,169	2,792
	2,635	0%	-	2,635
Total	49,000		31,319	17,681

ENVIRONMENT DEPARTMENT

The Chief Minister
 Policy Council
 Sir Charles Frossard House
 La Charroterie
 St Peter Port

1st November 2006

Dear Sir

Waste Disposal Plan – Minority Report from Deputy D de Lisle

1. The Environment Department is pleased to be able to respond to the points made in Deputy De Lisle's minority report on waste. Deputy De Lisle's report contains no recommendations on which the States can be asked to vote nor does it provide counter argument to specific recommendations made within the Environment Department's own report. As a consequence my Department's response can only address the generality of the observations made by Deputy de Lisle.

2. Deputy de Lisle refers to and argues in favour of the "Zero Waste" approach to waste management. He supports his arguments through reference to a number of other jurisdictions having adopted this approach. He concludes that, as a consequence, Guernsey does not need to invest in end treatment infrastructure, other than recycling and composting facilities, and lays a number of unsupported criticisms against the technologies proposed in the Department's report. These three elements of the minority report are addressed seriatim.

The Zero Waste Approach

3. The Environment Department does not take issue with the Zero Waste approach and Deputy De Lisle does not stand apart from the Board in seeing the value of this philosophy. However, it must be recognised that the Zero Waste approach is indeed a philosophy and is not, as it would appear Deputy De Lisle might be suggesting, an objective or target in its own right. Zero Waste does not mean we will have no waste.

4. The Zero Waste philosophy grew out of the Total Quality Management approach adopted by the NASA space programme in order to manage risk. States members may be well versed in the development of quality control but in view of the fact that Deputy De Lisle's report places so much weight on the Zero Waste approach it is perhaps worth setting out the basics.

5. Historically quality control was based on examining components or products, as they came off the production or assembly line, for defects. Managers strove to drive

down the number of defects and hence rejects but this was done reactively. In essence, if a particular defect occurred at an unacceptable frequency then steps were taken to change the production process to try and reduce the frequency of that defect.

6. The Total Quality Management approach embracing quality circles put quality (and hence defect and risk management) on a proactive footing. The approach required production designers and engineers to ask the questions “what can go wrong with this and how can I engineer or design it so that that can’t go wrong?” The philosophy was to strive towards zero defects not through postproduction checking and control but through input based quality control and continuous improvement engineering out the potential for a defect in the first place.

7. This Total Quality Management approach has now been widely adopted in many other industries and is a standard risk management tool. However, it can readily be seen, sadly even from a number of tragic events in the NASA programme, that the approach and philosophy does not guarantee freedom from defects or failure.

8. Transferring the TQM approach to waste management resulted in the coining of the phrase “Zero Waste”. As a philosophy it readily transposes to waste management. Under TQM one tries not to react to defects in the end product but rather to engineer out the defect. Under Zero Waste one treats the existence of waste as a defect i.e. something to be engineered out as opposed to dealing with the waste as an end problem.

9. Thus in the aircraft industry, for example, airline seats are designed as a single metal chassis where the strength comes from the shape and form of the metal rather than the size and bulk. Two legs are formed as a very lightweight channel with holes or voids where metal is not needed for added strength. The use of raw material is, therefore, much reduced compared to a four legged solid tube chair and hence the amount of waste resulting in the future is also much reduced. The reality is that the airline industry did this to manage weight rather than waste but the end effect is the same. The bottling industry is currently looking at import/export of contents in bulk with local centre bottling using lighter weight thinner glass bottles. Again the intention is to have less waste (in this case glass waste) in the future.

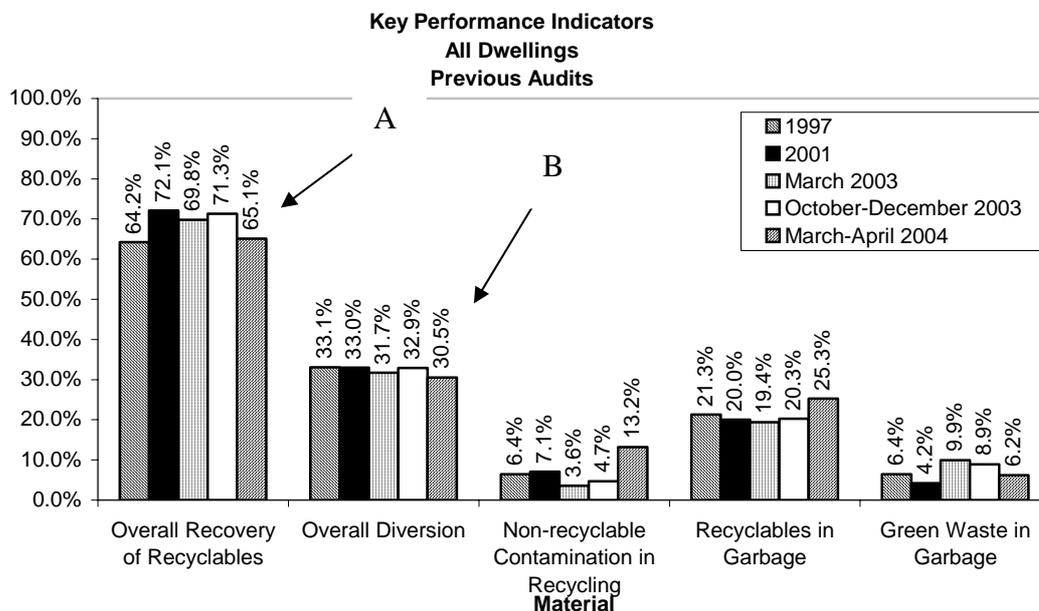
10. These examples, and many more, demonstrate a number of fundamentals of the “Zero Waste” philosophy. First, it is possible with Government, Industry and Public will to reduce the amount of waste generated through engineering that waste out at the manufacturing stage. Second, because it is a front end proactive approach the majority of the success sits at the point the product is manufactured i.e. in countries that can control the manufacture and distribution rather than in small importing jurisdictions. Third, even where industry is already leading (perhaps driven by other incentives) waste still occurs at the end of the product’s life. Fourth engineering out waste is a long slow process and even with exponential growth in take up the world will have to deal with a lot of waste for many years to come.

Reference Jurisdictions

11. In support of the Zero Waste approach Deputy De Lisle refers to a number of jurisdictions that have reduced the amount of waste land-filled. Even if one does not examine those statements or those statistics any further, the facts as presented by Deputy De Lisle further demonstrates the third and fourth fundamentals set out in the paragraph above. All the reference jurisdictions, having adopted the Zero Waste philosophy, still produce significant amounts of waste that must be treated or land-filled. However, a closer examination of some of the statistics released by the zero waste jurisdictions themselves (as opposed to the Green Party or other environmental web sites) demonstrates a less optimistic picture.

12. **Canberra** - According to the Green Party, Canberra aims to be waste free by 2010 and has made rapid progress increasing its recycling rate by 92% in 200/2001 compared to 1995/1996. Deputy de Lisle states that Canberra increased diversion from 22% to 66% in just six years. However, unless one knows exactly what these figures relate to and the formula used to generate the ratios, reliance on them can be very misleading if not dangerous. More useful data can be sourced direct from the Canberra Government public documents.

13. Canberra has commissioned auditors to examine their waste arisings. The charts below [ref: ACT JRG/ACT Nowaste Canberra Results] speak for themselves. Diversion is not 66% as suggested by Deputy de Lisle but is actually nearer 30%. (Arrow B)

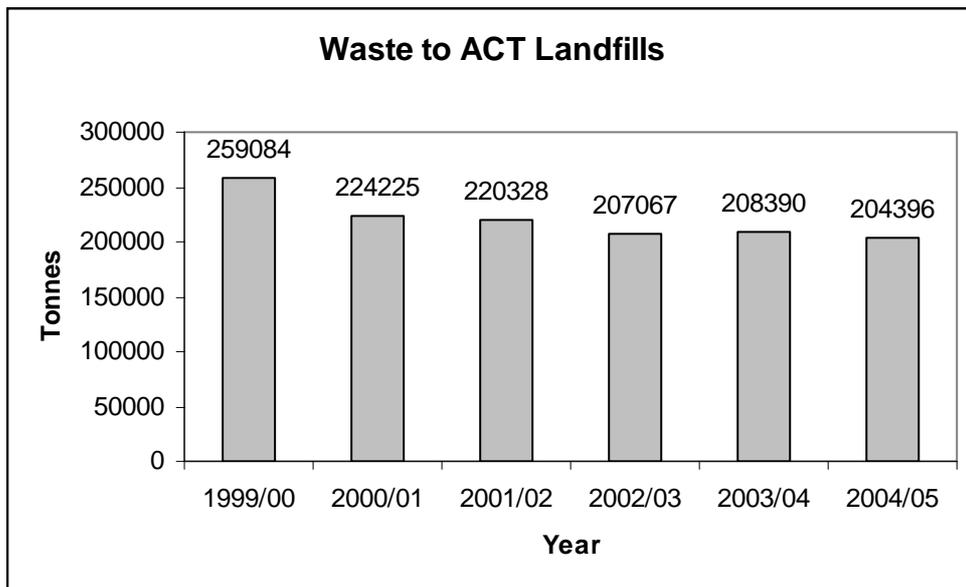


14. The 65/66% statistic (Arrow A) refers to the amount of recyclables captured as a percentage of the theoretical maximum amount of recyclables that could be captured and is not a ratio of waste diversion from landfill.

15. These figures only look at part of the picture namely that waste which is recovered for recycling. The other element, which is perhaps of greater importance to Guernsey, is the waste that is not recovered and continues to be land-filled. In terms of waste going to landfill Canberra is quoted as saying

“ although resource recovery is going up, waste generation is also increasing meaning waste to landfill is decreasing incrementally. Reducing 250,000 tonnes to 204,000 tonnes has taken 5 years and now the decrease is slowing so recycling is only keeping pace with increased generation”

The Landfill chart over that 5 year period is published as follows.



16. **Seattle** - The City of Seattle (one of those “other parts of California” referred to in Deputy De Lisle report) adopted the Zero Waste Philosophy in 1998. According to the Green Party Seattle, in 1995, recycled 44% of its total waste with the aim of recycling 60% by 2008.

17. Seattle’s own figures state that recycling sank from 45% in 1995 to a low of 38% in 2003. Whilst Seattle strives to regain past performance and to push towards its 60% target Seattle is a case in point where adopting a “Zero Waste “ strategy is no guarantee of reduced waste let alone no waste.

18. **Halifax Nova Scotia** – Deputy de Lisle comments that Halifax “has successfully achieved 60% diversion”. However, the Halifax Regional Municipality 2005 Annual report provides the following figures. 19,400 tonnes of recyclables; 40,800 tonnes of compost; 159,800 tonnes of residual refuse; 85,200 tonnes of Construction and Demolition waste. Composting and Recyclables, therefore, only equates to 60,200 tonnes of a total waste stream of 305,200 tonnes i.e less than 20%. Even if one was to exclude C&D waste on the optimistic assumption that this was all inert, the figures only represent a diversion from landfill of 28%.

19. The confusion demonstrated by this data, and most of that quoted by those who rely on recycling statistics to argue against treatment technologies, is that the recycling performance and diversion from landfill rates rarely relate to the total waste stream. In many cases the recycling performance relates to the amount of recyclates collected as a percentage of the theoretical total of recyclates that could be collected (see Canberra above) rather than as a percentage of the total waste stream. In other cases landfill diversion is quoted as a percentage of black bag household waste rather than all landfill waste. In yet other cases the percentage of recyclates recovered is actually a performance figure for a dry recycling facility and relates to the total amount of the recyclates leaving the facility (having been separated into material types ready for shipment to reprocessing facilities) as a percentage of the total recyclates that entered the facility. This reflects the fact that many facilities that accept source segregated recyclates from bring or kerbside schemes can not achieve 100% separation of the mixed dry recyclates into the individual material types and hence a proportion is rejected back to landfill.

20. **Edmonton** – Deputy de Lisle states that the Canadian city of Edmonton prevents 70% of household waste from going to landfill. Conversely the Edmonton 2004 Waste Management review – official publication – provides the following figures. Total amount of recyclables collected 43,733 tonnes; Total amount of garbage collected 218,823 tonnes. The report also carries the following table which demonstrates the City's continued reliance on landfill:

Characterisation of Material Received at Clover Bar Landfill – 2004

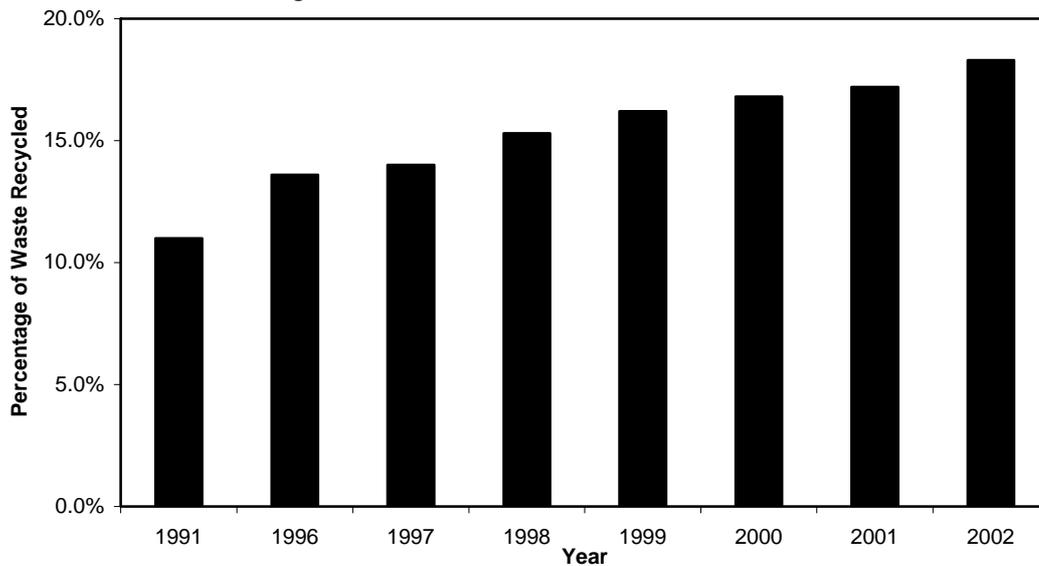
Item	Tonnes
Commercial	23288
Household	47488
Compost discards	68533
Grit	1464
Construction and Demolition	12156
Special Handling	1631
Material Recovery Facility residues	3326
Municipal waste other than household	119
Soil	19219
Contaminated soil	59
Wood	63
Sump waste	17
Yard waste	179
Total	177502

For Edmonton over 80% of the 218,823 tonnes of total waste still goes to landfill.

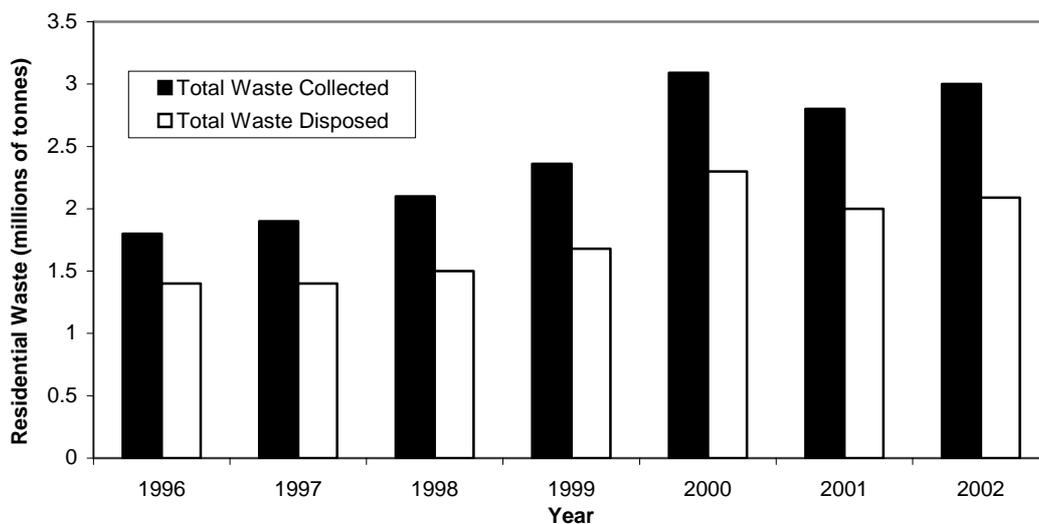
21. The quoted percentage of discards from composting and residue from the Materials Recovery Facility is also informative. This demonstrates a point made by Enviro, namely that these “clean” technologies generate significant rejects back to landfill.

22. **Canada** - For Canada as a whole the data is set out in the published report “Growth, the Economy and the Urban Environment” which sets out quality of life indicators.

**Chart 9 Residential Waste Recycled as a Percentage of Total Waste Collected
QOLRS Average - 1991, 1996-2002**



**Chart 11 Solid Waste - Residential Waste Collected and Disposed (After Diversion),
All Reporting QOLRS Municipalities - 1996-2002**



23. These indicators clearly show that residual waste for disposal continues to rise and reinforces the observation made by Canberra in Australia—namely that recycling is only keeping pace with increased generation.

24. **Auckland** - Whilst Deputy de Lisle does not refer to Auckland in New Zealand, this is another “Zero Waste” jurisdiction often quoted as a reference of good practice. In 2000/2001 Auckland generated 968,096 tonnes of waste. In 2003 the figure for this Zero Waste jurisdiction had risen to 1,050,000 tonnes. This should not be taken to mean that Auckland had failed to increase recycling and waste diversion but rather that waste growth outstrips the efforts of these “demonstrator” jurisdictions.

The need for end treatment infrastructure

25. Deputy de Lisle concludes, on the basis of Zero Waste, that Guernsey does not need to invest in new infrastructure other than composting and recycling facilities. Notwithstanding the fact that the above government published figures totally undermine any such conclusion, Deputy de Lisle has also failed to take into account the resources available to his reference jurisdictions and the technologies and facilities available to support those jurisdictions in their efforts towards zero waste. Virtually all of the reference jurisdictions have substantial landfill reserves and some are in the process of bringing new landfill on line. High technology materials recovery facilities and sophisticated composting plants have been built and in addition these large jurisdictions have ready access to reprocessing facilities for, for example, oil, tyres, paint and electronics. This then runs counter to Deputy de Lisle’s claim that procurement of capital intensive treatment technology undermines the Zero Waste philosophy and also runs counter to his claim that end treatment and recycling/diversion can not work hand in hand as part of an integrated strategy.

26. To put it bluntly, one cannot put forward reference jurisdictions as being shining lights in recycling and waste diversion and at the same time criticise the use of infrastructure by those jurisdictions to achieve those levels of diversion.

27. Deputy de Lisle seeks to strengthen his argument against treatment technology by listing some 8 bullet points of criticism. It is not my Department’s intention to comment on each of those points. Firstly Deputy de Lisle has not substantiated any of those claims and has provided no supporting evidence. For example, no evidence is presented in support of the claim that end treatment technology generates more noise and traffic, or that bottom ash will contain heavy metals. Secondly, Deputy de Lisle appears to have ignored the expert views of the World Health Organisation and numerous studies into the health risks (or rather absence of health risks) associated with incineration. Thirdly, all of the inaccuracies quoted by Deputy de Lisle have been thoroughly debated in the past.

28. Deputy de Lisle has, misquoted Guernsey’s own statistics in order to support his position. Under the heading “waste reduction” Deputy de Lisle states that there has been a stabilisation in waste with a decline in household waste. The actual available figures are presented in the sustainable Guernsey report. Waste produced per capita

continues to rise and Parish waste rose from 14,903 tonnes to 15,699 tonnes between 2004 and 2005. To date the 2006 Parish waste tonnage is running at 11721 tonnes compared to 11751 tonnes for the same period in 2005 (a negligible reduction of 30 tonnes) whilst at the same time recycling of household waste has increased from 19.8% to 25.4%. Once again this hard data demonstrates that the drive for higher recycling can only keep up with increases in waste generation.

29. Deputy de Lisle's proposed solution is for a massive increase in recycling and waste diversion. In appendix 2 of the minority report the figures for "mid" 50% and "high" 80% recycling of **all** landfill waste is set out. Taking into account the hard data set out in this response and noting that even Deputy de Lisle's reference jurisdictions are struggling to achieve even close to the "low" diversion rate of 35% of **all** waste from landfill, his proposed solution relying on a 50% or 80% diversion of **all** waste from landfill and abandoning the procurement of treatment facilities is a strategy which moves beyond the threshold of optimistic but laudable to that of reckless risk.

Conclusion

30. The Environment Department does not dismiss the Zero Waste approach. It is a logical, environmentally defensible and reasonable approach. The Environment Department accepts that Governments have a role to play in encouraging industry to adopt this philosophy but recognises that in the main that encouragement must come from the larger jurisdictions and that Guernsey will have very little influence over, for example, the packaging industry. More importantly and more realistically the Environment Department recognises that Guernsey is facing an acute waste problem rather than a chronic one.

31. The Waste Disposal Plan proposed by the Department seeks to address that acute problem during the life of the plan. Developing Zero Waste strategies for Guernsey will no doubt have a role to play in future refinements of the waste disposal plan and will no doubt contribute to dealing with Guernsey's (as part of the wider global community's) future chronic waste problem. However, A Zero Waste philosophy cannot achieve actual zero waste in Guernsey within a time frame that addresses Guernsey's acute waste problem. The hard facts released by Deputy de Lisle's own reference jurisdictions amply demonstrate that Zero Waste is a "long game plan" and that, in the absence of significant landfill resources, abandoning the procurement of end treatment facilities in favour of total reliance on increased recycling is a strategy that could not be countenanced by any responsible Government.

Yours sincerely

B M Flouquet
Minister

NB The Policy Council recognises the immense amount of work which the Environment Department has undertaken in order to present this comprehensive report to the States. It firmly supports the report and trusts that States Members will now be in a position to take the strategic decisions on the Island's future solid waste disposal, as outlined in the report.

In regard to the Minority report submitted by Deputy De Lisle, the Policy Council fully endorses the views expressed thereon by the Environment Department in its letter dated 1st November 2006.)

(NB The Treasury and Resources Department has no comment on the proposals.)

The States are asked to decide:-

Whether, after consideration of the Report dated 12th October, 2006, of the Environment Department, they are of the opinion:-

1. To endorse the waste arisings and growth projections as set out in Appendix 3
2. To commit to strive towards high recycling as set out in paragraph 17.2
3. To endorse the desired facility plant capacity as set out in paragraph 15.1 B
4. To agree to the technology preference as set out in paragraph 13.1
5. To endorse the principles of the Procurement Strategy as set out in section 14
6. To agree to the output criteria as listed in paragraph 14.12 P
7. Approve the draft Waste Disposal Plan as set out in Appendix 8.
8. To direct the Public Services Department to appoint engineering and legal consultants to assist with the preparation and issue of tender packs, the assessment of tenders and post tender negotiation.
9. Direct the Environment Department, in accordance with Strategic Policy 31 of the 2006 Strategic Land Use Plan, to make provision for those facilities identified in the waste disposal plan as, adopted by the States, through review of the detailed development plans.
10. To direct the Public Services Department to seek planning approval and ensure provision of, at the appropriate opportunity, In vessel composting, Civic Amenity sites, Scrap Metal facilities, Dry Materials Recovery Facilities and Mixed Waste Materials Recovery Facilities.

11. To direct the Public Services Department to report back to the States, in due course, on the delivery, where reasonably practical, of interim waste processing facilities and services as set out in section 17.
12. To approve the appointment of a recycling officer as a permanent established post.
13. To direct the Commerce and Employment Department to investigate and report back on the role and mechanisms for setting up an economic regulator as set out in paragraph 14.13
14. To direct the Environment Department to investigate and report back on mechanisms and legislation to regulate waste movements hence guaranteeing a waste stream to the facilities as set out in paragraph 14.12
15. To direct the Director of Environmental Health and Pollution, as a matter of urgency, to advise the Environment Department, as to additional legislative provisions required under the Environmental Pollution (Guernsey) Law, 2004 to give effect to the above decisions.
16. To direct the Public Services and Environment Departments to investigate, the costs and human resource impacts of the above recommendations on their departments and to make appropriate recommendations to the Treasury and Resources Department which shall take the final decision on the transfer of capital, revenue and human resources.
17. To direct the Treasury and Resources Department, paying particular regard to paragraph 20.16, to make necessary funds and establishment available to implement the above decisions.
18. To direct the Public Services Department to ensure that the Environment Department is represented on the Project Board as set out in paragraph 14.18.

IN THE STATES OF THE ISLAND OF GUERNSEY ON THE 1st DAY OF FEBRUARY 2007

(Meeting adjourned from 31st January 2007)

**The States resolved as follows concerning Billet d'État No I
dated 8th December 2006**

ENVIRONMENT DEPARTMENT

WASTE DISPOSAL PLAN

After consideration of the Report dated 12th October 2006, of the Environment Department:-

1. TO NEGATIVE THE PROPOSITION to endorse the waste arisings and growth projections as set out in Appendix 3.
2. To commit to high recycling for household and commercial waste, with a target of 50% and a 2010 delivery date.
3. To direct the Public Services Department:
 - (a) to introduce significant price increases on all mixed/contaminated loads arriving at Mont Cuet;
 - (b) to review existing charges at the Fontaine separation facility;
 - (c) to publish the revised charges as soon as practicable.
4. To agree to seek competitive tenders for the design, build and operation of either
 - (a) A Mass Burn Energy from Waste Facility, or
 - (b) A Mechanical Biological Treatment plant coupled to an Energy from Waste facility, which facility may be a Mass Burn or Advanced Thermal Treatment plant

such facilities, whether through procurement of successive modules or not, to have the capacity to deal with the waste arisings to be endorsed, but that tenders for any, or any combination, of MHT, MBT and ATT should also be considered.

5. To endorse the principles of the Procurement Strategy as set out in section 14.
6. To agree to the output criteria as listed in paragraph 14.14 P

7. To approve the draft Waste Disposal Plan as set out in Appendix 8.
8. To direct the Public Services Department to appoint engineering and legal consultants to assist with the preparation and issue of tender packs, the assessment of tenders and post tender negotiation.
9. To direct the Environment Department, in accordance with Strategic Policy 31 of the 2006 Strategic Land Use Plan, to make provision for those facilities identified in the waste disposal plan as adopted by the States, through review of the detailed development plans.
10. To direct the Public Services Department to seek planning approval and ensure provision of, at the appropriate opportunity, In vessel composting, Civic Amenity sites, Scrap Metal facilities, Dry Materials Recovery Facilities and Mixed Waste Materials Recovery Facilities.
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16. To direct the Public Services and Environment Departments to investigate the costs and human resource impacts of the above recommendations on their departments and to make appropriate recommendations to the Treasury and Resources Department which shall take the final decision on the transfer of capital, revenue and human resources.

17. To direct the Treasury and Resources Department, paying particular regard to paragraph 20.16, to make necessary funds and establishment available to implement the above decisions.
18. To direct the Public Services Department to ensure that the Environment Department is represented on the Project Board as set out in paragraph 14.18.

K.H.TOUGH
HER MAJESTY'S GREFFIER