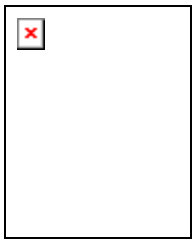
STATES OF JERSEY



ENVIRONMENT SCRUTINY PANEL: INDEPENDENT REVIEW – PLANNED INFRASTRUCTURE FOR IMPLEMENTING THE ISLAND'S WASTE STRATEGY (R.43/2008) – RESPONSE OF THE MINISTER FOR TRANSPORT AND TECHNICAL SERVICES

Presented to the States on 25th June 2008
by the Minister for Transport and Technical Services

STATES GREFFE

RESPONSE TO THE ENVIRONMENT SCRUTINY PANEL'S TECHNICAL CONSULTANT'S REPORT ON PLANNED INFRASTRUCTURE FOR IMPLEMENTING THE ISLAND'S WASTE STRATEGY AND CONSIDERATION OF POSSIBLE ALTERNATIVE APPROACHES

Ministerial Introduction

"I am pleased to provide States Members with Transport and Technical Services response to the Environment Scrutiny Panel's commissioned report on planned infrastructure to deliver the Island's Solid Waste Strategy.

I am very disappointed that the Environment Scrutiny Panel chose not to allow my Department access to the authors of their report – Juniper Consultancy Services – to discuss the concerns we have with their report in advance of the States consideration of P.72/2008 "Energy from Waste Facility: Establishment and Acceptance of Tender".

However, this response demonstrates the robustness of the procurement and technology review process undertaken since the approval of the Solid Waste Strategy in 2005.

The preferred solution of a proven, cost-effective, environmentally beneficial Energy from Waste facility is undoubtedly the best, most cost effective and robust waste disposal solution for the Island.

I commend this Report to States Members as further confirmation of this."

1.0 Executive Summary

1.1 The Environment Scrutiny Panel commissioned Juniper Consultancy Services Limited to produce a Report on Planned Infrastructure for implementing the Island's Waste Strategy and Consideration of Possible Alternative Approaches. The Report was launched at a public event at St. Helier Town Hall on 25th April 2008. The Department co-operated fully with requests for information for the review.

1.2 Whilst there is much that is useful and of support to the Department's implementation of the Solid Waste Strategy approved by the States in July 2005 (P.95/2005), there is also much that is either not accurate, unjustified, misrepresents the Department's position or is misleading.

1.3 The Department has attempted to address these concerns with the consultant who prepared the Report but has been refused access by the Environment Scrutiny Panel. The Minister for Transport and Technical Services was not issued with a draft Report for comment as recommended within section 11 of the Code of Practice for Scrutiny Panels and the Public Accounts Committee (P.198/2007): Amendment. This is unfortunate because it would have provided opportunity to correct many of the misleading and inaccurate statements within the Report prior to it being issued to the Public.

1.4 This response has therefore been issued to ensure States Members and the Jersey Public understand why the Preferred Solution being recommended by the Department in Report and Proposition P.72/2008 "Energy from Waste Facility: Establishment and Acceptance of Tender" offers the best solution for managing the island's residual non-inert waste.

1.5 There are many areas of agreement between the Department and the Juniper Report. Juniper accept that –

(i) "*there are practical constraints associated with achieving high levels of recycling on a small island*" (section 3.4 of the Juniper Report). **Significantly, Juniper do not suggest that a recycling rate higher than the 32% set in the Solid Waste Strategy for 2009 is appropriate for the Island. That rate has now increased by the Department to 36% by 2018**.

(ii) "*...it would not be in the best interests of Jersey to try to upgrade the current incinerator*." (section 3.17)

(iii) "*handling all of the Island's residual waste within a single EfW (Energy from Waste plant) is technically, commercially and environmentally sound*" (Section 3.32).

(iv) "*the seven criteria that have been built into the procurement process by T&TS for judging whether technologies are sufficiently proven and reliable are appropriate*." (Section 3.41).

(v) "*there are logistic and economic issues associated with the pan-island separate collection of food waste*" (Section 4.63).

1.6 This is to be welcomed because it provides reassurance to States Members and the Public that these areas have been addressed correctly by the Department. In addition, the Juniper Report identifies concerns about the Environment Scrutiny Panel's position on many areas of waste management.

1.7 However, some fundamental areas of disagreement with the findings of the Juniper Report remain.

1.8 In many cases where a challenge is provided by Juniper, this is because Juniper have not understood the information provided to them or because the information was not available, being commercially confidential in the period prior to tender evaluation, but then subsequently released to the Environment Scrutiny Panel. Additionally, to the Department's knowledge, Juniper do not have significant experience of directly procuring, commissioning or operating Energy from Waste facilities, which may explain why their view on a number of areas differs from the Department's who have this experience directly and through their Technical Consultant.

1.9 The fundamental areas of disagreement are –

(i) "*the practical steps adopted so far are insufficient to deliver and on occasion at odds with the Vision outlined within the (Solid) Waste Strategy*." (Section 4.109).

This statement is considered misleading by the Department. The Solid Waste Strategy must be considered in context and Juniper have chosen a poorly-referenced sound-bite to try to undermine the Strategy, which they later accept follows "*a standard approach consistent with International Best Practice*" (Section 3.3). The Department has successfully implemented the waste minimisation and recycling initiatives specified in the approved Solid Waste Strategy, a fact that is not acknowledged by the Environment Scrutiny Panel.

(ii) "*the EfW (Energy from Waste Plant) may face fundamental operational difficulties if residual waste volumes decline*." (Section 1.19)

The likelihood of waste decreasing in the foreseeable future on Jersey, as suggested by Juniper, is not considered realistic and this fact is supported in the Department's response by more relevant European examples than those suggested by Juniper.

(iii) "*TTS have failed to demonstrate that they have sized the EfW (Energy from Waste Plant) appropriately*". (Section 1.7)

The Environment Scrutiny Panel was provided with the evidence (in the form of a waste arisings model consistent with best industry practice) that demonstrates that the proposed Energy from Waste Plant was sized appropriately within the Solid Waste Strategy in advance of Juniper completing their Report. It is unfortunate that it appears that this evidence was not forwarded by the Environment Scrutiny Panel to Juniper in the period before the issue of their Report.

(iv) "*Separate collection and treatment of food waste – using anaerobic digestion – could… remove the need to procure an (Energy from Waste Plant) that is almost twice the capacity currently needed by the Island*." (Section 4.54)

As Juniper will be aware, their Report is inaccurate and their associated public presentation made on 25th April was misleading about the assumptions made by the Department in relation to sizing the proposed Energy from Waste Plant. The proposed plant does not have almost twice the capacity currently needed by the Island because this would assume that the plant required no maintenance at all.

The Department's formal response has explained why the alternative solution of collecting and composting kitchen waste in an Anaerobic Digestor proposed by the Juniper Report would be more costly, risky and of dubious environmental benefit given that there is no current viable disposal route for kitchen waste derived compost on the Island.

(v) "*…while moving grate incineration has a number of advantages, it has one significant disadvantage, a lack of flexibility to adapt to moderate changes in the amount of waste requiring treatment*." (Section 3.60).

The Department is baffled by this statement because it contradicts the Department's own twenty five years experience, that of its Technical Adviser, and the majority of jurisdictions procuring disposal technology across Europe and is not evidenced within the Report.

The proposed Energy from Waste facility of 105,000 tonnes per annum has two lines, each of which has a capacity of 52,500 tonnes which can be operated at 70% capacity without detriment. This means that the minimum capacity of the plant without having to shut down is approximately 70% of 53,500 tonnes per annum = 36,750 tonnes.

(vi) "*We conclude that the energy benefits from the EfW (Energy from Waste Plant) are not significant*" (Section 3.146).

The Juniper statement has been based upon simplistic assumptions, which significantly underplay the reality of the electricity market in Europe and on the Island, and the generation capacity of the proposed Energy from Waste plant, which amounts to around 7% of local power demand, does have significant energy benefit for the Island.

(vii) "*some technology options seem to have been eliminated in the basis of incorrect or outdated information*." (Section 1.11).

These statements within the Juniper Report are based upon a misrepresentation of the procurement process followed by the Department. The Department issued an expression of interest advertisement in the Official Journal of the European Community in August 2003. This advertisement invited solutions for the total non-inert waste stream but did not make any requirement in relation to treatment technology type. Juniper's criticisms of the wording of the Technology Review Report prepared for States Members to demonstrate that all available waste technologies had been considered do not fairly reflect the open and robust review undertaken by the Department.

1.10 In addition, Juniper identified a number of alternative technology solutions which they proposed offered some advantages over the proposed Energy from Waste facility. These have been considered in turn and rejected by the Department.

1.11 In the case of Fluidised Bed Incineration and smaller "modular" Energy from Waste, three companies offering proven technology were Invited to Tender. In the case of Slagging Gasification, this technology is more expensive than the preferred solution of Energy from Waste and is not being actively promoted in Europe by its suppliers. In the case of Mechanical Biological Treatment, Juniper acknowledge the many disadvantages of the technology for the Island, not least that there is no sustainable outlet for the residue produced by such facilities off-Island. The Department considers that the significant additional cost does not out-weigh the dubious benefits suggested by Juniper of sanitising the waste for storage on-Island.

1.12 In summary, the Juniper Report confirms many of the key positions taken by the Department and contains some sensible proposals for improving waste management which are already being progressed by the Department. Unfortunately, the Report also contains many misleading statements and inaccuracies. The approach to the review taken by the Environment Scrutiny Panel means that the Department has had no choice but to counter these in the strongest terms to reassure States Members and the Public that the right solution is being proposed by the Department.

TRANSPORT AND TECHNICAL SERVICES RESPONSE TO RECOMMENDATIONS WITHIN THE ENVIRONMENT SCRUTINY PANEL REPORT ON PLANNED INFRASTRUCTURE FOR IMPLEMENTING THE ISLAND'S WASTE STRATEGY AND CONSIDERATION OF POSSIBLE ALTERNATIVE APPROACHES

Environment Scrutiny Panel Recommendations (Section 4.109)

There are **no formal recommendations** within the Juniper Report. Instead the following "optimal approach" is identified, which the Department is responding to as formal recommendations.

Recommendation 1

The Administration should recognise that "the practical steps adopted so far are insufficient to deliver, and on occasion, (are) at odds with the Vision outlined within the (Solid) Waste Strategy".

Ministerial Response

The Department considers that the Solid Waste Strategy approved by the States sets out an integrated approach to sustainable waste management and does not accept that the practical steps are at odds or insufficient to achieve this integrated approach. The Department has implemented the waste minimisation and recycling initiatives within the Strategy as requested by the States and has exceeded the recycling target for 2007 by over 3%. More can always be done, and further resources will be required to enable the 32% target for 2009 and 36% target for 2018 to be achieved.

Recommendation 2

A political consensus between Parishes and the States (is recommended) to adopt a more pro-active, integrated approach towards the collection of waste on the island involving source separation, separate collection of dry recyclables and kitchen waste, possibly offset by less frequent collection of residual waste.

Ministerial Response

The Department agree that a consensus between the Parishes and the States would be required for the development of an efficient and environmentally beneficial collection system for waste on the Island and is actively working with the Parishes to develop clean recyclable kerbside collection rounds. However, the collection of kitchen waste is not recommended because there is no viable disposal route for compost derived from such waste on the Island. In addition, the collection of residual waste on alternate weeks has not proved popular with the Public in the United Kingdom and is not assumed or required within the Department's recycling assumptions.

Recommendation 3

A more positive attitude towards driving forward recycling (stressing the opportunities rather than the barriers, however real the latter may be) (is recommended).

Ministerial Response

The Department has actively promoted recycling in a positive way through its successful Waste Management and Recycling Team and has achieved a lot of very positive media coverage. In addition, the approach taken by the Environment Scrutiny Panel, which has, on occasion exaggerated the financial potential and benefits of recycling, has required the Department to point out the reasonable limits of this method of waste management. This is not because the Department does not recognise the crucial role of recycling or the need to promote it positively. The Juniper Report sets out sensible and realistic proposals for increasing recycling in many cases and the Department welcomes this.

Recommendation 4

More consideration of political and practical initiatives towards waste minimisation (is recommended).

Ministerial Response

The Department has actively promoted waste minimisation in a positive way through its successful Waste Management and Recycling Team – a fact acknowledged by the Public, but unfortunately not by the Environment Scrutiny Panel. The Department accepts that more can always be done to minimise waste and accepts that the Juniper Report is a useful contribution to the political debate on this subject.

Recommendation 5

More encouragement of private sector recycling initiatives, perhaps in conjunction with the Parish collection system (is recommended).

Ministerial Response

The Department successfully promotes private sector recycling initiatives. Indeed, the majority of recycling activities on Island are already delivered by private sector companies. Where there is little profit motive for private sector companies, but environmental benefit is demonstrable and can be sustainably maintained, there is likely to remain a place for States operated or subsidised services. However, the general ambition of this recommendation is accepted by the Department.

Recommendation 6

More consideration by the States of their policies on commercial waste pricing and new obligations on businesses to be responsible for their own wastes and a re-evaluation of the policy of accepting unsorted commercial waste free of charge that is delivered to the Bellozanne site (is recommended).

Ministerial Response

The Minister for Planning and Environment has been considering the options for some form of commercial waste charging for the Island as part of proposals for Environmental Taxes, with the full co-operation of the Department. Any such charging would have to be proportionate, appropriate and fair and provide demonstrable environmental benefits. The proposals for Environmental Taxes are not being pursued at present. The Department clearly stated in the Solid Waste Strategy that the costs of increased recycling will require investment in infrastructure.

Recommendation 7

More focus on boosting rates of commercial recycling through more effective source separation (is recommended).

Ministerial Response

The proposed Energy from Waste Facility includes a Bulky Waste Facility that will separate out all ferrous metal from shredded waste prior to incineration. In addition, the enclosed facility will offer much more opportunity for source separation and recycling of commercial waste. This key facility does not appear to have been acknowledged by Juniper within their Report even though its specification was included as item 3 of the "Documentation Reviewed" Appendix and was explained within the Environmental Impact Assessment (item 33). This is unfortunate as a review would have indicated that many of the proposals for increased recycling within the Juniper Report are actively being progressed by the Department and will continue to be so.

Recommendation 8

A move away from mass burn incineration towards source separation and in relation to the residual fraction a

combination of a simple fuel preparation / sanitisation process and a far smaller EfW (Energy from Waste Plant) using modular small scale technologies (is recommended).

Ministerial Response

The Department's formal response has explained why the alternative solution of a "sanitising" (mechanical biological treatment) plant and smaller modular Energy from Waste plant proposed within the Juniper Report would be more costly, risky and of dubious environmental benefit to the Island, particularly when compared to the proven, lowest cost, environmentally beneficial preferred solution of an appropriately sized Energy from Waste facility.

Recommendation 9

Separate processing of commercial and household kitchen waste at an Anaerobic Digestion facility and institution of trials on co-processing green waste compost and Anaerobic Digestate to make a soil improver optimised for Jersey soils and agricultural practices (is recommended).

Ministerial Response

The Department's formal response has explained why the alternative solution of collecting and composting kitchen waste in an Anaerobic Digestor proposed by the Juniper Report would be more costly, risky and of dubious environmental benefit given that there is no current viable disposal route for kitchen waste derived compost on the Island. The Department has undertaken to keep this under review and will do so regularly. The Department is unclear of the precise recommendation with regard to the trial indicated and was unable to discuss this with Juniper as the Environment Scrutiny Panel has refused access to them.

Recommendation 10

Re-engagement with Jersey Potato (suppliers) and United Kingdom supermarkets to bring up to date policies on land-spreading of properly certified, high quality composts that derive from source separated foods (is recommended).

Ministerial Response

The Department has actively re-engaged with suppliers of Jersey Potatoes to confirm their position with regards to kitchen waste derived composts in advance of submitting its preferred solution to the States for approval. The supermarket protocols for Jersey have not been relaxed and in one case have become more stringent. The importance of the Potato industry to Jersey and previous concerns about foot and mouth on the Island make the Supermarkets and Potato suppliers understandably nervous about this compost product. Nevertheless, the Department sees benefit in continuing to engage with both parties, when appropriate, to promote the use of all waste derived composts which meet agreed standards.

TRANSPORT AND TECHNICAL SERVICES RESPONSE TO RECOMMENDATIONS WITHIN THE ENVIRONMENT SCRUTINY PANEL REPORT ON PLANNED INFRASTRUCTURE FOR IMPLEMENTING THE ISLAND'S WASTE STRATEGY AND CONSIDERATION OF POSSIBLE ALTERNATIVE APPROACHES

2.0 Areas of Agreement

2.1 Juniper Consultancy Services (Juniper) are a respected company with experience of reviewing waste management technologies.

2.2 However, to the Department's knowledge, Juniper do not have significant experience of directly procuring, commissioning or operating Energy from Waste facilities, which may explain why their view on a number of areas differs from the Department's who have this experience directly and through their Technical Consultant.

2.3 The Juniper Report is a useful contribution to the debate concerning the implementation of the Solid Waste Strategy. In a large number of areas their Report confirms the Department's position. Indeed, a careful reading of the document indicates that Juniper accept that in the majority of cases the Department's position may be the correct one for the Island.

2.4 This is to be welcomed because it provides reassurance to States Members and the Public that these areas have been addressed correctly by the Department. In addition, the Juniper Report throws up concerns about the Environment Scrutiny Panel's position on many areas of waste management.

2.5 Key areas of agreement include that:

(i)	"*we accept TTSD's view that there are practical constraints associated with achieving high levels of recycling on a small island*" (section 3.4).

2.6 Juniper have challenged the Department to demonstrate further that the recycling rates set within the Solid Waste Strategy are appropriate for the Island. **But, significantly, Juniper have not suggested that a higher recycling target is more appropriate**. In almost all areas the Department has initiatives to increase recycling in the ways suggested by Juniper. The Minister for Transport and Technical Services has now set a higher 36% recycling target for 2018 based on the latest recycling and housing growth information that was not available in time to be considered within the Juniper review.

2.7 The challenge presented to reach 36% recycling is significant. By 2035, because of the anticipated increased number of households with the accompanying growth in waste, 36% of total waste will be almost double the amount of recycling tonnage currently collected on the Island.

2.8 36% recycling will require the introduction of kerbside collection systems similar to the one operating in the Parish of St. John across the Island by 2010. These services will need to ensure that 70% of residents participate and that 70% of the available materials are captured, this is equivalent to some of the higher performing collections in Europe.

2.9 In addition, 36% recycling will require significant increases in the "bring" bank collection system, a larger capacity Re-use and Recycling Centre, much more commercial recycling and green waste composting.

2.10 The cost of recycling at 36% will be significant. With the exception of aluminium cans, mobile phones and high quality office grade paper, (all low volume materials) the States has to subsidise the recycling of all waste on the Island. This is different to the United Kingdom where considerable subsidies for recycling exist to offset the additional costs. The cost of kerbside recycling in Wales in 2007, for example, was an average of over £200 per tonne. This compares with the current cost of Parish residual waste collections, which exclude the cost of bulking, transport and reprocessing, and are understood to be between £30 and £80 per tonne. The cost of treatment through the Energy from Waste facility is

approximately £85 per tonne by comparison.

(ii)	"*...it would not be in the best interests of Jersey to try to upgrade the current incinerator." (section 3.17). "the arguments for replacement are reasonable*" (Section 3.18).

2.11 This contradicts the previous views of members of the Environment Scrutiny Panel that the Bellozanne incinerator should continue to be used. Juniper accept that the Bellozanne plant is "*one of the most polluting facilities of its type within Western Europe*" (Section 3.14) and that retrofitting "*would be costly and may not...consistently result in reduced emissions. The operational availability may also remain poor*." (Section 3.16).

(iii)	"*In our opinion, handling all of the Island's residual waste within a single EfW (Energy from* Waste plant) is technically, commercially and environmentally sound" (Section 3.32).

2.12 Juniper accept that the Department's preferred solution of one Energy from Waste facility would be sensible, but challenge the Department to review that other waste technology options are less advantageous.

"*It is quite possible that once such a review had been conducted, using a single large EfW (Energy from Waste plant) will have indeed been shown to be the optimal approach*." (Section 3.38).

2.13 The Department has developed a **Cost Comparison Report** (included as Appendix 2 to Report and Proposition P.72/2008) and has updated its **Technology Review Report** (presented to all States Members on 5th June 2008 via the States Greffe) which the Department believes address the challenge provided by Juniper.

2.14 In addition, the Department provided the Environment Scrutiny Panel with additional commercially confidential information available following the tender process for the proposed replacement Energy from Waste facility and wished to discuss this with Juniper to demonstrate to them on a professional level that the preferred solution was indeed optimal. The Department has been denied access to Juniper by the Environment Scrutiny Panel.

(iv)	"*...we believe that the seven criteria that have been built into the procurement process by T&TS for judging whether technologies are sufficiently proven and reliable are appropriate*." (Section 3.41). "*We recommend that, in considering the merits of alternative approaches the (Environment) Scrutiny Panel should apply the same seven tests*." (Section 3.42).

2.15 Juniper completely accept that the test employed by the Department of whether a waste technology is proven is correct, i.e. "demonstrated on the same scale on the same (waste feed) for at least two years at two or more commercial reference facilities".

2.16 Further, Juniper confirm that the Environment Scrutiny Panel, in considering alternative technologies, have failed to consider sufficiently whether the technologies proposed are proven against this test. The Department has worked to this test, (of whether technology is proven consistently), since the beginning of the development of the Solid Waste Strategy and have been frustrated that much time has been spent reviewing and re-reviewing technologies that have been demonstrated not to match this test.

2.17 For example, none of the three residual waste treatment technologies presenting at the launch of the Environment Scrutiny Panel Public Exhibition on 25th April 2008 met this test.

(v)	"*the £75.5 million the (Solid) Waste Strategy recommends allocating*

for a new EfW (Energy from Waste plant) is as good a preliminary estimate as any other for the possible cost of such a facility." (Section 3.48). "*Actual tendered prices for Energy from Waste Plants have, in the meantime risen sharply: some current quotes are coming in much higher than had been antic*ipated" (Section 3.49)

2.18 Juniper accept that the cost estimates developed by the Department within the Solid Waste Strategy were valid and warned that, for external reasons, tendered prices would be higher, as indeed proved to be the case. Juniper challenged the Department to provide a full financial analysis of the alternative options.

2.19 The Department have done so within the **Cost Comparison Report** (included as Appendix 2 to Report and Proposition (P.72/2008) and have included the alternatives specifically suggested by Juniper within the analysis to address this concern.

2.20 The Cost Comparison report demonstrates that the Preferred Solution is at least **£0.5 Million per year** cheaper than the next cheapest alternative technology treatment type, when capital and operating costs are taken into account.

2.21 Juniper accept that their alternative option to use a smaller modular Energy from Waste Plant "*using technology sized for current needs*" (Section 4.92) may cost more than the Department's Preferred Solution. The Department's Cost Comparison Report demonstrates that if waste continues to grow as projected, the Juniper modular alternative could cost **£42.3 Million** more than the Preferred Solution.

(vi) "*We accept that there are logistic and economic issues associated with the pan-island separate collection of food waste*" (Section 4.63).

2.22 Juniper have understood the Department's view "*that there is no guaranteed land available for the disposal of any bio-solid wastes in Jersey*" (Section 4.81), but challenge the Department as to whether a viable land bank could be developed and to keep the option open to commence food waste collection and composting.

2.23 Within the approved Solid Waste Strategy (P.95/2005) (page 59) the Department is committed to reviewing whether kitchen waste should be composted and could be implemented at a further stage and to ensuring that the proposed enclosed Composting Facility should be capable of expansion to accommodate kitchen waste if this is considered appropriate and permitted by health requirements.

2.24 The option of composting kitchen waste is therefore still open to the Island, will continue to be reviewed by the Department and indeed may prove to be essential if waste grows faster than currently projected, or the recycling of other materials cannot be achieved to the levels required such that the proposed Energy from Waste facility has insufficient capacity for waste without kitchen waste composting.

2.25 The Department has again reviewed the disposal route for kitchen waste derived composts with the agricultural industry on the Island. The supermarket protocols which farmers on the Island are required to work to for spreading kitchen waste derived composts remain in place and in one case have become more stringent. Given these requirements, it remains the Department's view that there is not a viable, guaranteed outlet for such kitchen waste derived composts and it is not in the Island's interests to collect such material at present.

(vii) "*Political initiatives to minimise the quantity of residual waste requiring processing (are required)*." (Section 4.94)

2.26 The Juniper Report contains some valid statements about financial incentives, changes in collection frequency and initiatives in the commercial sector, with which the Department broadly concurs.

3.0 Areas of Disagreement

3.1 In many cases where a challenge is provided by Juniper, this is because Juniper have not understood the information provided to them or because the information was not available, being commercially confidential in the period prior to tender evaluation. This commercially confidential information has subsequently been released at the earliest possible opportunity under confidentiality agreement to the Environment Scrutiny Panel. It is unfortunate that it appears that not all the information provided to Environment Scrutiny Panel was provided to Juniper in the period before the issue of their Report. In addition, the Department has sought to meet with Juniper to discuss the additional information but have been denied access by the Environment Scrutiny Panel.

3.2 The Key areas of disagreement with the conclusions of the Juniper Report are that:

(i)	"*the practical steps adopted so far are insufficient to deliver and on occasion at odds with the Vision outlined within the (Solid) Waste Strategy*." (Section 4.109).

3.3 This statement is incorrect and misleading. Juniper are correct to state that the Vision within the Solid Waste Strategy (P.95/2005) sets out a desire to change "*so we produce only the minimum amount of rubbish*." (Section 1.0. Page 4), although the quote is not accurately referenced by them.

3.4 However, it is misleading to state that the practical steps are at odds with the Vision within the Strategy. As Juniper will be aware, the Strategy should be considered in total and sound bites should not be used without their true context. The same page of the Strategy as the Vision clearly states that "*Jersey produces too much waste and it is growing year on year. It is accepted that the growth in the number of households, rather than the growth in population, is a more accurate indicator of the growth in waste. The number of Jersey households has risen by about 10,000 in the last 20 years and this trend is set to continue*." (Section 3.0 Page 4)

3.5 The Approved Solid Waste Strategy required the implementation of a large number of waste minimisation and recycling initiatives. Progress towards this implementation has been good and consistent with that set out within the Solid Waste Strategy. This progress is summarised within the Report and Proposition P.72/2008 now before States Members within "Appendix 1 - Solid Waste Strategy Progress Report". For example, the recycling rate achieved in 2007 of 30% is 3% higher than targeted within the Solid Waste Strategy and all Waste Electrical and Electronic Equipment is now diverted from the Bellozanne incinerator.

3.6 The Solid Waste Strategy also assumed that external waste minimisation measures would have a positive impact on the amount of waste increase on the Island. The Solid Waste Strategy assumed that total non-inert waste would increase by 2.6% per annum until 2010 and then reduce to 2% per annum, including the growth resulting from increased numbers of household. This reflects a reasonable assumption of the potential impact of legislative waste minimisation measures. The fact that total non-inert waste has grown by 9% since 2004 indicates that the projections within the Solid Waste Strategy are robust.

(ii)	"*the EfW (Energy from Waste Plant) may face fundamental operational difficulties if residual waste volumes decline (as they did in Germany when it implemented similar policies to those contained in Jersey's Waste Strategy*." (Section 1.19)

3.7 The Department is surprised at this Juniper statement. The Department's Technical Adviser indicates that the temporary reduction in waste disposed of in incinerators in Germany quoted by Juniper was caused by the proposed imposition of an almost total ban on landfill of waste. This resulted in landfill operators trying to maximise the use of their available landfill space before the ban was imposed, and caused waste to be diverted from incinerators. As Jersey has no landfill capacity, such a situation is not possible on the Island, and the Juniper comparison therefore appears inappropriate.

3.8 The European Thematic Strategy on the Prevention and Recycling of Waste (2007) is perhaps a more reliable and comprehensive source of information on waste variation in the European context.

"***Despite considerable progress which has been made overall waste volumes are growing and the absolute amount of waste going into landfill is not decreasing***."

3.9 The likelihood of waste decreasing in the foreseeable future on Jersey, as suggested by Juniper, is not considered realistic.

(iv)	"*In our view, TTS have failed to demonstrate that they have sized the EfW (Energy from Waste Plant) appropriately. Insufficient evidence was provided that their decision was properly informed by formal quantitative up to date modelling mass flows into the EfW under a range of scenarios*." (Section 1.7)

3.10 The Solid Waste Strategy was produced following the development of a waste arising model (the "Solid Waste Strategy Model") that used best available information in 2004 to project the impact of recycling initiatives on overall waste growth under a number of scenarios. This model has been updated with the latest non-inert recycling and waste growth information on an annual basis by the Department.

3.11 In the briefing meetings held with Juniper it was agreed to provide the most up to date version of the model available containing 2007 data. This document is listed in the Juniper Report, Appendix 1 as Item 8 "Updated (2007) Solid Waste Strategy Model".

3.12 On 12th March 2008, the Department informed Environment Scrutiny Panel Officers that the 2007 version of the model would require revisions to incorporate updated household information from the States Statistics Unit.

3.13 On 13th March 2008, Environment Scrutiny Panel Officers indicated that the original 2005 version of the model upon which the Solid Waste Strategy was based was more urgently required for the Juniper Review. This was provided by the Department on 13th March 2008.

3.14 The Environment Scrutiny Panel were also forwarded a provisional version of the 2007 model incorporating "Imagine Jersey" population scenarios to indicate that a smaller capacity plant was being considered by the Department.

3.15 The States Statistics Unit provided updated household numbers informed by the Housing Needs Survey 2007 to the Department on 25th April 2008 - the date on which the Juniper Report was launched. This new information indicated a reduction in the expected increase in the number of households projected for 2035 from 52,100 households in the original 2005 Solid Waste Strategy Model to 46,200 households.

3.16 The 2007 recycling returns confirmed that the recycling rate had reached 30.4%, 3.4% higher than the projected within the Solid Waste Strategy model.

3.17 Following receipt of the updated household and recycling information, the Solid Waste Strategy Model was updated and confirmed that a smaller capacity plant of 105,000 tonnes could be considered compared to the 126,000 tonnes per annum plant projected as required within the Solid Waste Strategy.

3.18 The updated model received Ministerial Approval on 19th May 2008 (MD-T-2008-0035) and was subsequently forwarded to the Environment Scrutiny Panel.

3.19 The timing of the Juniper Report and the release of the updated States Statistics Unit household information was unfortunate for the Juniper Review. However, the Environment Scrutiny Panel has been provided with the latest available information to the Department throughout and the Environment Scrutiny Panel was provided with the evidence that demonstrates that the proposed Energy from Waste Plant was sized appropriately within the Solid Waste Strategy in advance of Juniper completing their

Report.

3.20 The statement made by Juniper in section 3.7 of their Report:

"*We are concerned that a formal model has not been made available for review since this is the primary technical input required to underpin the calculation of the optimum sizing of the EfW (Energy from Waste) plant, which is currently being procured*."

is therefore completely inaccurate, and their further statement in Section 3.7 that:

"*The document has not been provided and it is not clear whether Officers have chosen not to make it available or that it did not exist (although we understand that the Scrutiny Panel Officer was informed that the reason for the delay in providing it was because an Officer was waiting for input information which implies that some analysis was being prepared post-hoc*"

is considered wholly inappropriate.

(iv)	"*Separate collection and treatment of food waste – using anaerobic digestion – could play a significant role in managing Jersey's waste not least by helping remove the need to procure and EfW (Energy from Waste Plant) that is almost twice the capacity currently needed by the Island*." (Section 4.54)

3.21 The Juniper Report is inaccurate and the associated public presentation made on 25th April was misleading about the assumptions made by the Department in relation to sizing the proposed Energy from Waste Plant.

3.22 The Juniper Report states that –

"*The normal capacity of the proposed plant is nearer 160,000 tpa (Tonnes per annum). This compares with the existing quantities of residual waste being processed at Bellozanne of about 74,000 Tpa*" (Section 3.100)

3.23 Juniper are aware that the capacity of any Energy from Waste plant is driven by its availability. The 160,000 tpa figure quoted would assume that the facility was available constantly and required no maintenance. This assumption is meaningless and to present this information at a public event as Environment Scrutiny Panel did on 25th April is therefore misleading.

3.24 Later in the Report, Juniper indicate that operational availability for modern incinerators "*usually averages about 91% in practice*." (Section 3.101). It is not clear on which evidence Juniper base this assumption, **as it is not evidenced in the Report**, and the Department wished to challenge this directly with Juniper but were refused access by the Environment Scrutiny Panel.

3.25 The Department's Technical Adviser, who it is believed has considerably more commissioning and operational experience of Energy from Waste plants than Juniper, indicates that an annual average availability of 85.6% was measurable for established United Kingdom Energy from Waste plants. This figure is based upon the operational availability of the plant at its full design capacity.

3.26 The Department has 25 years operating experience for Energy from Waste plants. This has informed the 80% availability assumption that has been taken in relation to the whole life of the plant. The lower figure is assumed for the following reasons:

(i) The availability of a plant on Jersey will be lower than on mainland Europe as expert maintenance staff and materials are not so readily available.

(ii) In some cases, plant outages will be much longer than is assumed within average availability percentages, for example, due to an unexpected failure or a longer outage required to carry out significant work. A normal annual planned outage on mainland Europe will be about 3 weeks. However, in later years this will be extended and can last much longer. **In mainland Europe, waste is diverted to other facilities or landfill during these periods. Jersey does not have this option and so the capacity of the plant must be sufficient to address this difference**.

(iii) Jersey has a seasonal variation in waste quantity, with more waste occurring in summer (partially due to increased tourism). The capacity of the proposed Energy from Waste plant has to deal with this variation in waste quantity, as there is no alternative plant or outlet for non-inert waste available.

3.27 **These reasons have led the Department taking a prudent approach to sizing the capacity of the proposed Energy from Waste plant, as it is not considered professionally acceptable to recommend a solution which could leave the Island without a reliable means of disposal for all of its waste. The assumption taken by the Department means that the proposed Energy from Waste plant should provide sufficient capacity for the next twenty five years**.

3.28 The Juniper Report, supported by the Environment Scrutiny Panel, suggests an alternative which the Department considers a high risk approach, procuring a plant sized for today's needs and expanding the plant if waste increases as projected by the Department.

> "*The EfW can be constructed with a single line…or with much smaller lines*" (Section 4.45).

3.29 It has already been noted that this would cost approximately £42.3 Million more than buying the right sized facility now. In addition, further capacity if needed would take considerable time to procure and commission. It is unrealistic to imply that this additional capacity can just be added on quickly, as has been established on the Island when this was necessary for the Bellozanne incinerator. In the Department's view, this approach runs the risk of leaving the Island with an unacceptable storage problem for non-inert waste on the Island.

3.30 As previously indicated, the Department has also reduced the capacity recommended for the proposed plant from the 126,000 tonnes per annum within the Solid Waste Strategy to 105,000 tonnes per annum in response to increasing recycling rates and revised household numbers. However, this reduced capacity still assumes a prudent availability of 80% over the life of the proposed plant.

3.31 It is important to note that the revised design capacity of the proposed smaller Energy from Waste plant (15 tonnes per hour) is smaller than the design capacity of the current Bellozanne incinerator (17.5 tonnes per hour).

> (v) "…*while moving grate incineration has a number of advantages, it has one significant disadvantage, a lack of flexibility to adapt to moderate changes in the amount of waste requiring treatment*." (Section 3.60).

3.32 The Department is baffled by this statement within the Juniper Report because it contradicts the Department's own experience and that of its Technical Adviser **and is not evidenced within the Report**.

3.33 The statement also goes against the preference of the vast majority of jurisdictions currently procuring waste treatment plants. For example, the Department's Technical Adviser indicates that 18 new conventional Energy from Waste facilities are expected to be procured in the United Kingdom alone over the next two years.

3.34 The proposed Energy from Waste facility of 105,000 tonnes per annum has two lines, each of which has a capacity of 52,500 tonnes which can be operated at 70% capacity without detriment. This means that the

minimum capacity of the plant without having to shut down is approximately 70% of 53,500 tonnes per annum = 36,750 tonnes. The Department considers it extremely unlikely that, given the expected growth in households projected in future, that changes in waste generation will occur such that waste halves from that currently disposed of at the Bellozanne incinerator.

3.35 In the unlikely event that waste did not grow as expected, the demand on the proposed Energy from Waste facility would be lower and the life-time of the plant may be longer.

3.36 **In the view of the Department's Technical Adviser, the use of a grate based (conventional Energy from Waste) system appropriately sized, offers the greatest flexibility of any waste management system other than landfill**. The proposed Energy from Waste facility can deal with changes in waste composition and unforeseen changes in recycling or other waste streams.

3.37 For example, in the event that it is no longer considered acceptable to dispose of treated sewage sludge to land on the Island, the proposed facility can accept this waste stream without detriment to operational efficiency.

3.38 The Juniper Report uses this perceived inflexibility of conventional Energy from Waste facilities to suggest that recycling and composting would be discouraged once the new facility was in place (Section 3.114) and to suggest that it may become almost essential to secure alternative feed-stocks from elsewhere (e.g. Guernsey) – even at extreme unfavourable prices – to maintain the operational integrity of the facility (Section 3.126).

3.39 The Department wished to ask Juniper for evidence to support its statements, evidence which is significantly not provided in the Report, but has been refused access by the Environment Scrutiny Panel to do so. The Department considers the un-evidenced statements on discouraging recycling and the need for alternative feed-stocks to be misleading.

(vi)	*"We conclude that the energy benefits from the EfW (Energy from Waste Plant) are not significant and that, as currently planned, there is a mismatch between the Energy Policy as it relates to utilising EfW in Jersey and the practicalities of what is being delivered by TTS."* (Section 3.146).

3.40 At the time when Juniper were writing their Report, the Department had not concluded its negotiations with the Jersey Electricity Company (JEC). At that time, two options were possible, one where a steam turbine would be provided within the Energy from Waste facility and a second option where a steam turbine would be provided by the JEC within their La Collette Power Station. Juniper were informed that the Department would await tenders to confirm which steam turbine option offered best value.

3.41 Following receipt of tenders, the preferred solution is for a steam turbine provided by the Department. This solution offers the best financial position for the States and also provides flexibility for any future Combined Heat and Power requirement.

3.42 Information relating to the tariff arrangements operated by the JEC is not in the public domain and is treated confidentially by the Department. However, information relating to the power generation and income potential of the proposed Energy from Waste plant has been provided under confidentiality agreement to the Environment Scrutiny Panel. This clearly shows that the assumptions stated within the Juniper Report are significant understatements of the energy benefit from the proposed facility.

3.43 For illustrative purposes, the market price in 2007 based upon a predominantly nuclear base load averaged 3.2 pence / Kilowatt Hour compared to the 1.9 p/kWh indicated within the Juniper Report. The gross electrical output of the proposed Energy from Waste plant is 683 kWh / tonne compared to the 600 kWh / tonne indicated within the Juniper Report. The parasitic load of the proposed Energy from Waste plant is not the 33% assumed within the Juniper Report. The plant will have a net electrical output of 595 kWh / tonne of waste compared to the 400 kWh / tonne indicated within the Juniper Report. **It is of great**

concern that Juniper do not recognise that a plant capable of generating 7% of the Island's electricity from non-fossil fuels is seen as significant.

3.44 The perceived mismatch suggested within the Juniper Report concerns the commitment by the Department to review the feasibility of Combined Heat and Power from the plant as part of the wider East of Albert Regeneration.

3.45 The Department has completed its commitment within Policy 33 of the draft Energy Policy "Fuel for Thought" to consider the thermal efficiency of the tendered processes and their recovery for end uses. The three tenders received were all for conventional Energy from Waste facilities, so the differences in thermal efficiency were small, but financially significant, whereas the potential for recovery from end uses was broadly similar.

3.46 In addition, the Department has considered the energy efficiency of Energy from Waste technologies within the Technology Review Report (presented to all States Members on 5th June 2008 via the States Greffe). This confirms that a conventional moving grate Energy from Waste facility has comparable net electricity efficiency to other alternative thermal technologies suggested within the Juniper Report.

3.47 The Department has previously conducted a study into District Heating from the Bellozanne incinerator. In addition the Department has, as part of the procurement, reviewed the potential for Combined Heat and Power off-take from the proposed Energy from Waste facility and has confirmed that this is feasible. This information, which was also provided to Juniper, confirms that, if required, a high pressure de-superheater station could be introduced before the steam turbine to allow steam take-off for Combined Heat and Power.

3.48 However, any Combined Heat and Power off-take would reduce the steam available for electricity production and the income received for electricity generation.

3.49 The States are also committed under draft Energy Policy 34 to conduct a feasibility study of the potential for Combined Heat and Power / District Heating prior to submission of a detailed planning application for the East of Albert / La Collette II development area. This can only be meaningfully conducted once a detailed heat load and mass energy balance of the proposals for these regeneration projects is known.

> "*…it could be argued that using the EfW (Energy from Waste plant)… to produce some of the Island's electricity displacing an equivalent amount of imported nuclear energy, would have a net adverse effect on climate change*" (Section 3.142)

3.50 This statement within the Juniper Report is a simplistic view that does not reflect the realities of European energy production. Whether Jersey produces any electricity or not will have insignificant impact on French nuclear power production. If Jersey does not take French nuclear power, it will be diverted somewhere else in Europe, displacing other European generation capacity. Electricity generated from an Energy from Waste facility is partially renewable as approximately 68% of the waste input is from bio-degradable waste and is considered renewable. Generating renewable energy on Jersey will undoubtedly reduce fossil fuel generation elsewhere and have a net positive impact on climate change.

3.52 In addition, the Department's Technical Consultant has considered the Carbon Dioxide impact of alternative waste treatment technologies. Those relying upon export of residues such as Refuse Derived Fuels (which subsequently require thermal disposal) or those without confirmed sustainable markets for residues (which are likely to require landfill) will have significantly worse Carbon Dioxide impacts than the preferred solution of an on-island Energy from Waste facility due to the significant Carbon Dioxide impact of transporting waste.

3.53 In summary, the Department believes that the proposed Energy from Waste facility offers a significant energy benefit for the Island and that there is no mismatch between the Department's position and the draft Energy Policy.

(vii) "*some technology options seem to have been eliminated in the basis of incorrect or outdated information*." (Section 1.11). "*…a key factor in determining the suitability of facilities has been the ability of the proposed process to deal with the whole waste stream. This criterion has been used to eliminate a number of technologies which are considered proven and commercially available but have been rejected because they can only process part of Jersey's Waste stream*." (Section 3.44).

3.54 These statements within the Juniper Report are based upon a misrepresentation of the procurement process followed by the Department.

3.55 The Department issued an expression of interest advertisement in the Official Journal of the European Community in August 2003. This advertisement invited solutions for the total non-inert waste stream but did not make any requirement in relation to treatment technology type. Eleven expressions of interest were initially received – these included alternative technology solutions. Indeed, a gasification technology and a non-conventional incineration technology were invited to submit bids by the Department.

3.56 The Technology Review Report that was prepared for States Members in October 2005 was produced to demonstrate that all available waste technologies had been considered by the Department and the suitability of these technologies for providing a total solution for waste disposal in Jersey.

3.57 The Technology Review Report was not used to determine the wording of the expression of interest advertisement. It was produced following the review of expression of interest companies. If integrated solutions involving combinations of technology had been proposed in response to the expression of interest these would have been considered on their merits.

3.58 Juniper state that the "*commercial reality is that most potential bidders would have taken soundings locally about the underlying preferences of T&TS Officers and their advisers to ensure that they only incur the very significant costs of submitting a proposal if they have a level of confidence that it will not be rejected for being out of line with the underlying preferences of key decision makers*." (Section 4.108).

3.59 The Department's Officers and Technical Advisers have been involved in the procurement and commissioning of many different technology types, including alternative technologies such as Mechanical and Biological Treatment and Mechanical Heat Treatment as well as different forms of non-conventional Energy from Waste. The Juniper Statement is not based upon evidence, does not reflect the robustness of the procurement and waste technology evaluation process followed by the Department and is considered inappropriate.

(viii) "*We have identified a number of alternative thermal processing configurations which offer some advantage over moving grate incineration…we feel that the issues identified in our report make it inappropriate to award a contract for the type and size of EfW (Energy from Waste) plant envisaged until after those issues have been evaluated in greater detail*." (Section 1.14).

3.60 Section 4 of the Juniper Report suggests a number of alternative technology solutions. The Department had previously considered these within the review of technologies that took place between 2003 and 2005 and which is summarised within the Technology Review Report (presented to all States Members on 5th June 2008 via the States Greffe). In addition, the Department has reviewed seven combinations of technology, including those suggested within the Juniper Report within its Cost Comparison Report (Appendix 2 to P.72/2008).

Fluidised Bed Incineration

3.61 Juniper suggest that Fluidised Bed Incineration may have specific advantages to Jersey, being able to be operated intermittently to deal with variations in waste quantity or variation in the Calorific Value (CV) of waste.

3.62 The Department invited one of the companies included within the list of potential Fluidised Bed Incinerator suppliers suggested by Juniper in Section 4.12 to tender. The company considered submitting its Fluidised Bed technology, but determined that a moving grate based solution was more suitable to the type and variation in waste on Jersey. None of the other companies listed by Juniper responded to the Department's expression of interest.

3.63 The Department's Technical Adviser has worked on the two fluidised bed incinerators operating in the United Kingdom and considers the Juniper suggestion that this technology is more suitable to be a high risk for the Island. The Department's Technical Adviser's considerable experience indicates that fluidised bed incinerators are very sensitive to changes in waste fuels and suffer similar limitations to moving grate systems when they are turned on and off. Daily stopping and starting of such technology, as suggested by Juniper, leads to problems in the gas paths and higher emissions.

3.64 Juniper admit that fluidised bed incineration "*has a relatively poor market image in the UK*" (Section 4.16) leading to concerns about the robustness of the technology and that "*the limited number of suppliers actively promoting such technology in the United Kingdom market could potentially be an issue in attracting a wide cross-section of bids for a relatively small project in Jersey and therefore may impact upon the Island's negotiating position in terms of price*." (Section 4.19).

3.65 The Department agrees with both of these conclusions and believes that this technology does not offer any advantages over conventional Energy from Waste technology in the Island context.

Slagging Gasification Technology

3.66 The Juniper Report suggests that Slagging Gasification technology should have been considered for Jersey chiefly because it has the potential to produce a higher quality aggregate from its ash than conventional moving grate technology and a greater ability to adjust to changes in the Calorific Value of waste if it varies over time.

3.67 Juniper accept that the technology is expensive and has a low net energy efficiency (Section 4.27). The Department has countered the claim that the energy generation of the proposed Energy from Waste facility is insignificant (See paragraph 3.43 above).

3.68 Juniper also accept that "*attempts to commercialise the technology in Europe have been largely unsuccessful*" (Section 4.28). The Department's Technical Adviser considered that it would be inappropriate to recommend a technology which could not provide any adequate European references, despite the considerable subsidies that are available in Europe for promoting such technologies, and the Department concurs with this view. It would be commercially unwise and legally dubious to attempt to specifically attract such technologies to the Jersey procurement in preference to others that responded actively to the expression of interest.

3.69 The Department's Technical Adviser considers that, as the bottom ash produced by a conventional Energy from Waste facility can readily be recycled as a secondary aggregate (as already happens across Europe), there are limited advantages to Slagging Gasification in this respect and these do not offset the additional costs involved. In addition, the Department has demonstrated that conventional moving grate technology is more flexible than Juniper contend (see Paragraph 3.34 above).

3.70 In summary, Slagging Gasification does not appear to offer any environmental or financial advantages over the preferred solution of conventional moving grate Energy from Waste and is not being actively promoted in Europe in any case.

Modular Energy from Waste

3.71 The Department largely agrees with Juniper's conclusions about the potential of smaller scale Energy from Waste technologies. Both of the two smaller scale modular technologies listed in Section 4.35 of the Juniper Report were invited to tender by the Department.

3.72 Both companies decided to withdraw from the procurement, largely for commercial reasons, and both have subsequently secured positions as preferred suppliers on contracts elsewhere.

3.73 In the case of Close-Coupled Gasification technology, this technology receives subsidies under the Renewables Obligation in the United Kingdom, which provides it with a competitive advantage there. In addition, the company experienced difficulty fitting the modular technology in the space available.

3.74 In relation to the Oscilating Kiln technology, the technology company concerned withdrew from the joint venture that had been invited to tender, indicating that other European opportunities were more likely to prove successful.

3.75 The Department disagrees fundamentally with Juniper that employing such smaller scale technologies in a phased manner offers any advantages for the Island. The cost of procuring a third stream later compared to the correct sized plant now has been projected to be approximately £42.3 Million more in the Department's Cost Comparison Report (Appendix 2 to P.72/2008).

3.76 Adding a third stream to the Bellozanne Facility in 1992 should serve as a warning to the Island. It was difficult to add a third stream due to a lack of space available and the additional stream created considerable operational and maintenance problems, still being experienced to this day.

3.77 Jersey is a small Island and space is at a premium. Both the existing Bellozanne site and the proposed La Collette site are constrained and narrow. Neither site has space to install a third stream without significant and costly excavation and civil works. Designing a third stream in now would add significantly to the cost of any solution. The procurement to add a third stream would be likely to attract a very limited number of suppliers and it will be difficult to maintain competition, which would further reduce the value for money of such a proposal, compared to the cost of procuring the right-sized facility now.

3.78 The other advantages for a smaller capacity plant set out in section 4.51 of the Juniper Report are also rejected by the Department. There are no operational difficulties if there is insufficient waste to feed the proposed Energy from Waste facility (see paragraph 3.34 above). Waste growth is expected on Jersey largely linked to household increases and waste minimisation initiatives are unfortunately unlikely to have sufficient effect on waste arisings in the lifetime of the proposed facility to make a significant difference to the capacity required. The capacity of the Energy from Waste facility will not discourage recycling. The Department has calculated that increases to 40% recycling, for example would only reduce the capacity of plant needed to 101,000 tonnes from the proposed 105,000 tonnes.

3.79 The Department's updated Technology Review Report has indicated that no new proven technology types have emerged since the original report was produced in 2005. This casts doubt over the Juniper recommendation to delay investment in a proven waste technology now to give time for "*potentially more attractive new technologies*" which are (currently) insufficiently proven to build a successful track record. (Section 4.51).

Mechanical and Biological Treatment

3.80 The Juniper Report identifies many disadvantages with this technology for the Island in Section 4.41 of the Report which the Department concur with. However, Juniper contend that creating a fuel offers more security than the Department's preferred solution of an appropriately sized Energy from Waste facility.

3.81 Juniper assert that biological treatment of the waste would enable it to be sanitised and stored safely which would remove the need for a second line and would enable the capacity of the Energy from Waste

plant to be smaller (Section 4.45) and suggests two technologies that might be suitable (Section 4.46).

3.82 The Department's Technical Adviser has considerable experience of both the processes proposed by Juniper as being suitable for the Island, but fails to see their advantages for Jersey. The main output stream is Refuse Derived Fuel which requires thermal treatment. Juniper accept there is no sustainable outlet for exporting this material off-island.

3.83 The Department consider that the reduction in tonnage by approximately 25% from mechanical and biological treatment would not significantly reduce the thermal capacity of Energy from Waste plant required for disposal on-Island either and the Department's Cost Comparison Report indicates that this option would cost up to £1.88 Million per annum more that the preferred solution of a single Energy from Waste facility.

3.84 Procuring a Mechanical Biological Treatment plant and a smaller Energy from Waste plant would take significantly more space than a single appropriately sized Energy from Waste Plant and the Island's waste stream, which contains a high content of bulky construction / demolition waste is not well-suited to a Mechanical Biological Treatment process.

3.85 In addition, even in combination with Anaerobic Digestion for collected kitchen waste, long term storage of treated waste from a Mechanical Biological Treatment, as suggested by Juniper, to permit possible export in the event of a plant failure or as a mechanism to deal with future capacity problems, is considered environmentally unacceptable, particularly when considered against the relatively small proportional cost of providing two streams of sufficient capacity as is proposed by the Department.

Conclusions

4.1 In summary, the Juniper Report confirms many of the key positions taken by the Department and contains some sensible proposals for improving waste management which are already being progressed by the Department.

4.2 Unfortunately, the Report also contains many misleading statements and inaccuracies. The approach to the review taken by the Environment Scrutiny Panel means that the Department has had no choice but to counter these in the strongest terms to reassure States Members and the Public that the right solution is being proposed by the Department.