APPENDIX A

Isle of Wight Council

Waste Project

Outline Business Case

ISLE of WIGHT COUNCIL

Contents

Glossary

AONB	-	Area of Outstanding Natural Beauty
ATT	-	Advanced Thermal Treatment
AD	-	Anaerobic Digestion
ADLF	-	Anaerobic Digestion Loan Fund
C&D Waste	-	Construction and Demolition waste
C&I waste	-	Commercial and Industrial waste
CA Sites	-	Civic Amenity Sites
CIPFA	-	Chartered Institute of Public Finance and Accountancy
CfDs	-	Contact for Difference
CD	-	Competitive Dialogue
CFT	-	Call for Final Tenders
CHP	-	Combined Heat and Power
dMWS	-	draft Municipal Waste Strategy
Defra	-	Department of Environment, Food and Rural Affairs
DMR	-	Dry Mixed Recycling
DBFO	-	Design, Build, Finance, Operate
Eco-Island 2020	-	Sustainable Communities Strategy
EfW	-	Energy from Waste
FBC	-	Final Business Case
FiTs	-	Feed in Tariffs
HWRC	-	Household Waste Recycling Centre
IWC	-	Isle of Wight Council
IVC	-	In Vessel Composter
IWS	-	Island Waste Services (the incumbent provider)
IMW contract	-	Integrated Municipal Waste contract (the existing contract)
ISOS	-	Invitation to Submit Outline Solutions
ISDS	-	Invitation to Submit Detailed Solutions
ISRS	-	Invitation to Submit Refined Solutions
LATS	-	Landfill Allowance Trading Scheme
LECs	-	
MRB	-	Member Review Board
MRF	-	Materials Recovery Facility
MSW	-	Municipal Solid Waste
MEAT	-	Most Economically Advantageous Tender
MIS	-	Management Information System
MBT	-	Mechanical Biological Treatment
NPV	-	Net Present Value
NPC	-	Net Present Cost
O&M	-	Operating and Maintenance
Output Specification	-	Definition of Service Requirements included in Contract
OJEU	-	Official Journal of the European Union
OBC	-	Outline Business Case

Optimism Bias	-	A systematic tendency to underestimate project costs.
PwC	-	PricewaterhouseCoopers LLP
Putrescible	-	Describes waste that can rot; primarily food waste, consumable liquids, and animal bedding
PQQ	-	Pre Qualification Questionnaire
PFI	-	Private Finance Initiative
PWLB	-	Public Works Loan Board
PPP	-	Public Private Partnership
PA	-	Project Agreement
PM	-	Payment Mechanism
the Project	-	Waste Contract Procurement Project
ROC	-	Renewable Obligation Certificate
RRF	-	Resource Recovery Facility
SMT	-	Stakeholder Management Tool
SSSI	-	Site of Special Scientific Interest
SA	-	Sustainability Appraisal
Shadow Bid Model	-	a model prepared at the OBC stage using the same principles a bidder will use to price its bid to estimate affordability
SPV	-	Special Purpose Vehicle
SRF	-	Solid Recovered Fuel
Syngas	-	Synthetic gas
TUPE	-	Transfer of Undertaking – Protection of Employment
VfM	-	Value for Money
WTS	-	Waste Transfer Station
WIDP	-	Waste Infrastructure Delivery Programme
WDF	-	Waste Derived Fuel
WRATE	-	Waste and Resources Assessment Tool for the Environment
WEEE	-	Waste Electronic and Electric Equipment
WDA	-	Waste Disposal Authority
WCA	-	Waste Collection Authority

1. Executive Summary

1.1 Introduction

1.1.1 The Isle of Wight Council's current Integrated Municipal Waste Contract (IMW Contract) for waste management services is due to expire in October 2015. The Council has an obligation to provide waste services on the Island beyond this date and this Outline Business Case (OBC) considers the options available for the Council, evaluates those options and recommends a way forward. In addressing these options, the OBC focuses on procuring continuous improvement to the service that meets, as far as possible, the Council's environmental aspirations and affordability. This OBC is intended to provide the Isle of Wight Council Cabinet with a comprehensive assessment of potential future options and costs and a recommended option for procurement within the Council's affordability.

1.2 Strategic Context

1.2.1 The Council's strategic approach to managing waste is governed by the principles of treating waste as a valuable resource, reducing non-essential landfill waste to a minimum and seeking sustainable and cost effective solutions. This approach is further supported by the waste hierarchy where it is desirable to manage waste as high-up in the hierarchy as possible (see Figure 1). The Council has obligations as a Waste Collection and Waste Disposal Authority, to provide waste services without interruption at the end of the current contract in 2015. In preparing for the procurement of a future service, the Council needs to take full account of both current and future expected legislations and the Council's own strategic plans.

Figure 1: Waste Hierarchy

1.2.2 As a Unitary Authority, the Council has the duties and powers associated with a Waste Collection Authority and a Waste Disposal Authority, under the Environmental Protection Act 1990. The duties include collection, treatment and disposal of household waste and a duty to provide civic amenity sites where residents can deposit household waste free of charge. The Council also has a duty to collect and dispose of other non-household wastes when requested. In discharging these duties, the Council is required to comply with various items of legislation, the most recent being the Controlled Waste Regulations 2012, which classifies waste as household, commercial or industrial and prescribes the types of household waste for which a collection charge can be made.

1.3 Scope

1.3.1 A new waste service that replaces the existing contract must deliver all of the Council's statutory obligations. The Council currently operates the following services:

- Collection Service;
- Recycling Service; and
- Disposal Service – this includes Civic Amenity Sites, creating fuel from waste for gasification and landfill.

1.3.2 These services are currently delivered through an integrated contract; however, the procurement and scope options are open for a future contract, and could also include re-use and minimisation services and management and client interface including call centre functions. The Project Team have therefore considered a series of options for future delivery of collection and disposal services.

1.3.3 In addition to its statutory requirements, the Council has the option to consider the inclusion of collection and treatment of Commercial and Industrial waste in future waste service; this has the potential to increase the volume and third party income, take a much more holistic approach to dealing with overall waste on the Island and could become an additional source of income.

1.4 Waste Infrastructure – Current and Future Needs

1.4.1 At the end of the current Integrated Municipal Waste Contract, the existing provider Island Waste Services (IWS) will be returning the following assets to the Council:

Assets	Residual life
Seven recycling collection vehicles subject to novation of the lease	2018
Domestic Wheelie bins (around 45,000)	2024
Food waste caddies (69,000 small; 65,000 large)	2018
Bring Bank recycling wheelie bins (200+ at mini recycling sites)	Various
	Return date
Forest Park including Resource Recovery Facility (RRF), offices and Civic Amenity Site	2015
Lynnbottom site including Waste Transfer Station and Civil Amenity Site	2015
Afton Marsh Civil Amenity Site	2015

Figure 2: Isle of Wight Council – current waste assets

1.4.2 The Resource Recovery Facility is at the end of its operational life; the Council is entitled to acquire, at residual value, this asset at contract end, or require the current provider to dismantle and remove it. In addition, the Council made investments in the provision of domestic wheelie bins, food caddies when the new collection system was introduced in January 2012. These are set to last until around 2024, 2018 respectively; the current budget allocations allows for the continuous replacement of recycling bags.

1.4.3 The Windrow Composting site, and Standen Heath landfill are owned and operated by IWS and will not revert to the Council. The gasification facility on the Island is a private sector operator (Energos) owned operation set up on the Island and this may continue to be operated privately at the end of the current IWS contract.

1.4.4 It is clear that the current waste infrastructure on the Island is either third party controlled, or outdated and not-fit for purpose for a future service provision post

2015. Therefore, any consideration for the provision of a future waste collection and treatment service should take into account the investment needed to construct the necessary infrastructure on the Island, or purchase services that are provided by infrastructure off the Island, or a mixture of the two.

1.5 Collection and Treatment Appraisal Options

1.5.1 The Project Team initially considered 16 collection and 19 treatment options and these have been evaluated and narrowed down to three collection and eight treatment options using agreed technical evaluation criteria that reflects national and local strategies and objectives. The options considered and the evaluation criteria used to narrow the selection are fully explained in the Economic and Financial Case of this OBC. The short-listed options were then financially modelled using current market prices to provide an estimate of future costs for the provision of collection and treatment services, including costs for support functions, Call Centre function, upgrade and operation of Civic Amenity Sites and Mini Recycling sites.

1.6 Achieving Value for Money

1.6.1 Technology in the waste services industry has changed in the last decade and considerable innovations are being made in recycling and energy creation from waste. There has been significant investment in waste infrastructure on the mainland in the recent past, some of which are operating below capacity. The Project Team has therefore considered both On-Island and Off-Island options and a combination of the two to provide the most economically advantageous waste service for the Island.

1.6.2 The following High-level Procurement Options have been considered:

A. Continue with current services

This would require the extension of the existing contract with the current service provider; there are however no extension provisions currently permissible under the contract. The resulting arrangement would continue to utilise end of life infrastructure; furthermore any

extension of the existing contract would not be in compliance with Procurement Directives, or the Council's own Standing Orders.

B. Upgrade current infrastructure

This would require the existing infrastructure to be upgraded and utilised to provide a future service. A competitive tender process could be used to seek a new contract with a service provider who is required to utilise the refurbished assets. However, competition would be unnecessarily restricted, as some potential providers would not wish to use the current infrastructure. This scenario would also limit the introduction of new technologies and methodologies. Shortcomings in current contract and performance would continue including treatment and disposal capacity limitations and a higher landfill requirement.

C. Procure new collection and treatment services

This would require the procurement of new collection and treatment services. A number of technologies and methodologies have been identified from the waste services market that can meet the Island's specific requirements in a cost effective and environmentally sustainable manner; the short-listed technologies and methodologies are detailed in the Economic and Financial Case). This provides the Council with base options that can be compared with services offered by bidders during the procurement stage. However, it is recommended that the collection and treatment services are not specified and bidders are requested to comply with the outcome and outputs required to a tight specification for a pre-defined affordability envelope.

1.7 Service Delivery Options

1.7.1 There are four different types of waste the Council needs to deal with – food, green, recyclables and residual.

1.7.2 Under the current Integrated Municipal Waste Contract:

- Food waste: a small proportion of food waste is transported to a Anaerobic Digestion plant on the mainland, the majority of food waste goes to gasification, or landfill on the Island;
- Green waste: composted at the Windrow composter operated by IWS;
- Recyclables: bulked at Lynnbottom and shipped to a Material Recovery Facility at Totton for onward transport for resale; and
- Residual waste: the treatment of residual waste takes place locally, using the gasification plant operated by a private sector operator on the Island or land filled.

1.7.3 However, the opportunity now exists to consider the use of purpose built facilities either on or Off-Island as existing facilities used by the current IWS contract are at the end their serviceable life (see paragraph 1.4.1 above).

1.7.4 On the assumption that Option C to procure new collection and treatment services (see paragraph 1.6.2 above), is likely to be an acceptable approach to procuring future waste services, the Project Team has conducted an appraisal to assess the collection and treatment options that may be offered by the bidders. These options have been evaluated to consider the technical viability and likely affordability. Whilst these are indicative solutions to help define affordability, the procurement process will offer the flexibility for the bidders to propose suitable service delivery solutions without any constraints, provided they meet the output specification and stay within the affordability framework set by the Council.

1.7.5 The following key conclusions are drawn from the technical and financial assessment:

- Treatment of food and green waste is best provided on the Island as the relatively low cost of capital investment required for food and green waste treatment facilities on the Island (£1.5m – £2.5m) outweighs the cost of transporting these wastes to a mainland facility; and
- The cost and environmental impact of sorting recyclables at either an on or Off-Island Material Recovery Facility (MRF) is broadly similar. Hence, an Off-Island MRF has been assumed.

1.7.6 The treatment of residual (black bag) waste is likely to be the key factor that will influence the future waste service contract. The Project Team has therefore further refined the options to assess their affordability as set out in section 1.8 below:

- Residual waste treatment on the Island; or
- The utilisation of already operating Off-Island residual waste treatment facilities.

1.7.7 An On-Island treatment of residual waste will require investment in new assets to provide treatment facilities locally. Residual waste (black bag) treatment facilities have a relatively high capital investment cost (£30m – £40m). The transport of waste will be confined to the Island and hence the carbon footprint of transport element will be relatively low compared to an Off-Island treatment.

1.7.8 The use of an Off-Island location for the treatment of residual waste is likely to involve using available capacity at already operating mainland treatment facilities. If Off-Island residual waste treatment facilities are utilised, the Island will need some infrastructure to bulk and transfer the collected wastes for onward transport Off-Island. Using current market prices from recent procurement by other local authorities services, these options have been estimated, mirroring how bidders are likely to price for services.

1.7.9 The section below (see 1.8) on affordability provides a comparison of likely cost of treating residual waste on or off of the Island; it also assumes (based on section 1.7 above) that food and green waste are treated on the Island and recyclables are bulked locally and sent to a Material Recovery Facility Off-Island.

1.8 Affordability

1.8.1 Options for treating residual waste either Off-Island, or On-Island were assessed to provide an estimate of cost of providing future services starting in 2015. The following table (Figure 3) provides a high-level summary of:

1.8.2 Service Option A made up of:

- Collection Service;
- Recyclables: Bulked on the Island sent to an Off-Island MRF;
- Food and Green Treatment : On-Island; and
- Residual Waste Treatment: Off-Island.

1.8.3 Service Option B made up of:

- Collection Service;
- Recyclables: Bulked on the Island sent to an Off-Island MRF;
- Food and Green Treatment : On-Island; and
- Residual Waste Treatment: On-Island.

1.8.4 Detailed analysis is provided in the Economic and Financial Case of this OBC.

	Current Integrated Waste Management Contract Budget £m	Service Option A Off-Island Residual Waste Treatment £m	Service Option B On-Island Residual Waste Treatment £m
Collection and Recycling (Collection service and treatment of food, green recyclable waste)	xxxx	xxxx	xxxx
Disposal (treatment) Contract	xxxx	xxxx	xxxx
Landfill Tax Current £64/tonne	xxxx	xxxx	xxxx
Total Annual Service Cost	xxxx	xxxx	xxxx

Figure 3: Options for on/Off-Island treatment

1.8.5 Whilst a new contract is likely to be in place by October 2015 when the current contract expires, there is clearly inadequate time to build any new assets needed for the treatment of waste. Hence an interim service is required to provide continuity of waste service for the Islanders. The cost of the interim services has been included in the estimate above.

1.8.6 Figure 3 above illustrates that Service Option B using On-Island residual waste facilities (similar to the current contracted), has an estimated cost of £xxxx per annum, at 2012 prices and inflated annually thereafter.

1.8.7 The service Option A, that utilises Off-Island residual waste treatment facilities has an estimated cost of £ xxxx per annum at 2012 prices and inflated annually thereafter.

1.8.8 The waste service market continues to innovate and find new ways of treating waste and making the end by-products more valuable. It is therefore vital to provide a challenging framework for the waste market to compete and it is suggested that for the procurement process, the affordability envelope above is reduced by xxxx% from the estimated costs (to approximately £ xxxx per annum i.e. £ xxxx less xxxx %); this would allow room for further negotiations during the tender process and potentially procure a service that provides waste services contract at a possibly reduced cost from the current contract.

1.9 Procurement Strategy

1.9.1 The procurement of waste services is likely to be complex involving a number of technologies, different levels of risk transfer and varying service levels to meet affordability. It is therefore recommended that the competitive tender process is followed to meet the Island's specific requirements. Furthermore, the procurement is sufficiently complex to require the Council to follow a Competitive Dialogue (CD) process.

1.9.2 Public sector procurement is governed by legislation set by the European Union mandating three core principles:

- Equality of treatment between all potential bidders;
- Non-discrimination; and
- Transparency.

1.9.3 The Council is therefore required to advertise its requirement in the Official Journal of the European Union (OJEU), and via a Pre-Qualification process will be able to select successful applicants to commence the procurement stage.

1.9.4 The Competitive Dialogue process enables the bidders to refine their proposals over time and gives the Council opportunities to derive significant value from reflection on the Council's own requirements and levels of risk transfer. The Competitive Dialogue process is likely to be made up of the following stages: Invitation to Submit Outline Solutions (ISOS); Invitation to Submit Detailed Solutions (ISDS); Invitation to Submit Refined Solutions (ISRS) and the Call for Final Tender. It is estimated that a minimum of 28 months will be required for the procurement stage for the appointment of a Service Provider and additional period for the provision of any necessary infrastructure (if the solution is dependent on new infrastructure being built). A detailed procurement timescale is set out in the Commercial Case, it is therefore likely that some form of Interim Service may be needed between the end of the current contract and start of the new waste services post 2015.

1.10 Procurement Stage Budget

1.10.1 It was highlighted in the Budget Strategy report to Cabinet on 13 December 2011, that it would be prudent to set aside £1.25m for 2012/13 and 2013/14 to meet external costs in relation to the procurement of a new waste collection and disposal contract. In the Budget report to Council on 29 February 2012 £1m was set aside from net savings in the overall Council Budget and a further £250k has been set aside from net savings in 2012/13. It is projected that this will be sufficient to meet the procurement stage up to the contract being let in 2015.

1.10.2 This gives a total available budget, including internal staffing budgets of £2.97m. Of this, £1.03m has already been committed leaving a further £1.94m for the procurement stage of the Waste Project.

1.10.3 The current budget for the collection and disposal of waste is £9.65m per annum.

1.11 Contract Term – Collection and Treatment Services

1.11.1 Typical contract terms for collection services are 7 – 15 years; these usually include best value reviews around the seven year point, coinciding with standard vehicle leasing periods. Best value reviews will allow the Council to

continuously update the collection contract in line with legislation current at that time, technology and any other innovation that is available in the industry, and the benefits of these changes are shared between the Council and the Service Provider using a predetermined formulae.

1.11.2 Treatment contracts are generally longer term in nature, reflecting the likely higher investment in infrastructure required; typical periods are often in the region of 25 – 30 years. However, the use of Off-Island infrastructure for the treatment of residual waste would mean that infrastructure investment is lower and primarily associated with a transfer station and the treatment of food and green waste on the Island. Therefore, a shorter term treatment contract could be a cost effective solution. Contract length should be a key topic during procurement and the actual period should be determined through Competitive Dialogue within a range of 15 to 25 years. The final agreed term should be long enough to maximise efficiencies from bulk capacity purchase from Off-Island treatment facilities and to obtain certainty of service continuity.

1.11.3 It is recommended that the Contract duration for Waste Treatment services be in terms of multiples of Waste Collection service terms. The key risk for a Waste Treatment Service contract is the volume and quality of waste that the Council can guarantee to the service provider. It is vital that the Collection Service collects separated waste streams that are appropriate to the Treatment services contract. This will ensure the waste volume and quality risk is passed to the service provider under a single collection and treatment contract. In devising such an arrangement, the collection services can be required to be renewed at a repeat cycle of seven years within an overall combined collection and treatment contract of 21 years (three renewals), with all renewal benefits shared with the Council at pre agreed levels. Such an approach will give the service provider the longer term horizon needed to make large investments, achieve greater year on year efficiencies that are shared with the Council and allow the waste volume risk (a key risk for an Island based service), to be passed to the service provider, to enable them to select the most appropriate treatment option.

1.12 Community Interest Company

1.12.1 The above procurement approach provides the flexibility for the waste service market to provide the most suitable solution for the Island. This approach will also allow any potential organisations that could offer the services via a Community Interest Company (CIC). In a CIC model, a CIC will become the service provider and could decide to offer these services both on and off the Island, procuring necessary sub contracts to support its offerings. The procurement options will be open enough for CIC to select its partners and offer the best value for money options. The CIC would be expected to bid an Annual Service Cost that is within the Council's affordability limit; within that bid, the CIC would identify a percentage or a fixed sum that will be used to support community interest. A commercial company which does not want to support community interest will bid minimum or nil contribution to community support. The procurement process will set out the evaluation criteria that will be used to select the service provider and key requirements for cost, service quality, risk transfer and community interest contributions will be used in the selection of the final service and service provider.

1.13 Landfill Capacity

1.13.1 The landfill at Standen Heath is owned and operated by Island Waste services (IWS) as part of the Integrated Municipal Waste Contract. Municipal waste that is not recycled, composted or treated at the gasification facility is sent to landfill. The Standen Heath site also takes in waste privately from the commercial and industrial sector and the construction and demolitions sector. This asset will not revert to the Council. IWS will continue to own and operate Standen Heath Landfill Site and are required by the Environmental Permitting Regulations to monitor and treat landfill gasses and Leachate arising from the site. In the event that the site becomes financially unviable, IWS cannot cease the operation of the site without the Environment Agency's consent and will continue to hold environmental responsibility.

1.13.2 Separate to the Integrated Municipal Waste Contract, IWS have a contract with the Council to operate and maintain the Leachate Treatment Plant and

Landfill gas Utilisation Plant that treat gas and Leachate from both Standen Heath and Lynnbottom sites. The Council receives royalties on any energy created from landfill gas from Lynnbottom Landfill.

1.13.3 Although the Council has no statutory duty to provide a landfill site, it is not a practical option not to have an operational landfill on the Island and for that reason, the Island Plan Core Strategy has identified a parcel of land for the construction of a new landfill. The cost of constructing a new landfill, with appropriate capacity at the site identified in the Island Plan Core Strategy is estimated at a capital cost of £18.7m; and there will be additional annual operational and maintenance costs for operating the landfill.

1.13.4 Between 2006 and 2012 the volume of wastes received at Standen Heath Landfill has significantly decreased and the Project Team have considered the need for a replacement landfill, using current landfill rates and low, medium and high rates of waste growth and factoring in achieving national and local diversion from landfill targets through better waste management.

1.13.5 Based on the survey of current void space and following waste diversion to landfill scenario, the expected void space capacity is predicted as follows:

- Low Waste growth scenario: landfill capacity will be reached around 2046;
- Medium Waste growth scenario: landfill capacity will be reached around 2027; or
- High Waste growth scenario: landfill capacity will be reached around 2022.

1.13.6 Where the Island's waste is treated will have a direct influence on the void fill rate. Treating all of the Island's residual waste off the Island would significantly reduce landfill demand and extend the expected life of Standen Heath Landfill into the mid 2040s. In the worst case, if we continue to treat residual waste on the Island as the Council currently does, the landfill is likely to last approximately another 10 years.

1.13.7 The Project Team will continue to monitor the landfill void fill rate up to the end of the current Integrated Municipal Waste Contract and will reassess if

there is a requirement for the Council to provide additional landfill in 2015.

1.14 Programme Delivery

1.14.1 The Council has put in place a governance structure made up of a Project Board and a Member Review Board to oversee the progress of this project. A dedicated Project Team has been established since April 2012 with a combination of procurement expertise from the Highways PFI team and waste subject matter experts to develop the project to the Outline Business Case stage. Should the Project be approved to move towards the next stage towards procurement, then, it is recommended that current arrangement for governance and a dedicated Project Team should continue through to the appointment of a new Service Provider.

1.15 Summary

1.15.1 Following a detailed study of technical options and capacity of the waste services market, the Project Team draws the following conclusions:

- the Council must procure a new waste service to replace the current contract in 2015 to meet its obligations;
- the Council should consider procuring a mix of On and Off-Island treatment options to achieve the best value whilst not prescribing technology solutions;
- inform the waste market of a financial affordability envelope that helps to define affordable waste services; and
- include Commercial waste in the procurement.

1.16 Recommendations

1.16.1 It is recommended that the Cabinet consider the following options:

- Commence procurement of a replacement waste service contract;
- Follow a Competitive Dialogue Procurement process both to comply with procurement regulations and to achieve the best combination of waste services within an affordable budget;

- Define an annual budget limit for the contract of £xxxx (which is equivalent to a xxxx% reduction from the estimated costs following the interim service period) for a mixed On/Off-Island approach (see paragraph 1.8.8); this will be achieved through appropriate specification and procurement negotiations.
- Agree in principle to a longer term contract that can help to derive maximum efficiencies from potential bulk capacity purchase from Off-Island infrastructure and greater certainty that would from a linked/tied longer-term collection contract. The actual period to be determined through Competitive Dialogue within the range of 15 to 25 years;
- Agree for an Interim Service to be included as part of the overall waste service procurement to provide continuity whilst any required infrastructure is being constructed;
- Consider including Commercial waste services as part of the contract to strategically manage waste on the island;
- Allow the waste market to determine the best combination of collection and treatment options to meet high quality output requirements specified in the tender documents;
- Facilitate the procurement process to allow participation by all waste commercial market interests including any potential Community Interest Company set up for the sole purposes of providing such a service; and
- Not progress the landfill planning application any further and review the need for a new landfill in 2015 and then every five years thereafter.

1.16.2 If the Cabinet is minded to agree to some or all of the above, approve the OBC with comments, as appropriate, it is recommended that:

- The Project Team is asked to deliver the procurement of the waste services within an additional £250k above the existing resource allocation of £2.72m; and
- The technical, commercial and legal decisions for the procurement of the new waste services are delegated to the Project Sponsor, the Director of Economy and Environment.

2. Strategic Case

2.1 Purpose

2.1.1 This Strategic Case describes how this waste services project needs to meet the strategic aims of the Council, comply with the necessary statutes and fulfil its obligations as a Waste Collection and Disposal Authority. It also identifies service gaps between the current service delivery and future service needs. The gap analysis helps to define the scope and type of the future service.

2.2 Business Need

2.2.1 The current Integrated Municipal Waste Contract on the Island expires in 2015; the Council, as a Waste Collection Authority has an ongoing obligation to maintain a waste collection service for residents. In addition, as a Waste Disposal Authority, the waste that is collected needs to be treated or disposed of in a suitable way, which adheres to legislation and relevant Council policy (detailed in section 2.4) and is within the Council's affordability.

2.3 Current Services

2.3.1 The Council's existing Integrated Municipal Waste Contract (IMW Contract) was the first Public Finance Initiative (PFI) funded waste contract to be awarded in England. The contract is operated by Island Waste Services (IWS), a wholly owned subsidiary of Biffa Waste Management Ltd. (Biffa). IWS is a Special Purpose Vehicle (SPV) set up by Biffa specifically to deliver the IMW Contract. The Contract is managed by the Council's Procurement and Contract Management Unit.

2.3.2 The IMW Contract covers the collection and disposal of Municipal Solid Waste (MSW). The IMW Contract was let in 1997 initially for a period of 12 years and included:

- Operating Agreement for Lynnbottom Landfill Site until the void was full, the restoration provision remained with the Council;

- Land Lease with the option to purchase the Standen Heath Landfill Site including the windrow composting area;
- Provision for the design, construction and operation of the currently active Standen Heath Landfill Site (opened 2001);
- Land Lease for Lynnbottom Civic Amenity Site, reception hall, education centre and the then active In-Vessel Composter (IVC);
- Land Lease for Forest Park – including the then active Waste Derived Fuel (WDF) plant;
- Land Lease for Afton Marsh Civic Amenity Site;
- Land Lease for a Waste Transfer Station at Newport Quay (one year only); and
- Land Lease and Operating Agreement for the Gas Flare and Leachate Treatment Plant.

2.3.3 The IVC was built to process food waste into compost. The Animal By-Products Regulations introduced in 2003 required a steady temperature to be recorded at the core of the vessel for the compost to be certified for use. Failure to meet these regulations led to the compost being used as landfill cover, in itself a useful and cost effective application. In 2008 the IVC was decommissioned due to legislative changes in landfill tax, making the compost fully liable to landfill tax, and making its use as landfill cover no longer cost effective. The area used for IVC is currently a hard-standing area, situated at the Lynnbottom site. The majority of food waste currently goes to anaerobic digestion on the mainland, with a small proportion going to landfill.

2.3.4 In 2000 the IMW Contract was extended to the maximum extension length defined in the contract and will now expire on 26 October 2015. The contract extension allowed Island Waste Services to invest significant capital in the construction of a Resource Recovery Facility (RRF) to replace the Waste Derived Fuel (WDF) plant, so that the gasification plant (see paragraph 2.3.5) would have a fuel supply and the rate of diversion from landfill could be increased. The RRF sorts black bag waste and separates out metals for recycling. Combustible elements are shredded and turned into floc fuel for the gasification plant with rejects being sent to landfill.

2.3.5 In 2007, the Department for Environment, Food and Rural Affairs (Defra) Demonstrator Programme for new waste technologies supported Energos (formerly known as Contract Heat and Power) in the construction of the gasification plant. This used part of the existing WDF plant, which was donated by the Council to Energos as the Council contribution to this facility, and bolted on a modular gasification facility.

2.3.6 The Council leased the land at the rear of Forest Park to Energos, on which the then active WDF plant was located, with a co-terminus lease expiry with the IMW Contract.

2.3.7 Island Waste Services have a separate contract with Energos for the supply of floc fuel for gasification and energy production. The Council does not have any direct operating contract with the gasification facility operator.

2.3.8 There is a need for the Council and Island Waste Services, being the owners of the two landfill sites above, to deal with any leachates from the landfills. This is currently achieved through a single leachate plant which is leased to, and operated by, Island Waste Services. The plant also generates energy through the gas flare element of the plant, hence whilst the Council pays to deal with the leachate, there is also an amount of income it receives from the energy generation. The Gas Flare and Leachate Treatment Plant Lease and Operating Agreement was renewed in 2011 through to 31 December 2020, with the option for a 15 year extension.

2.3.9 The collection element of the waste service changed substantially in January 2012. An alternate weekly collection was introduced whereby black bag rubbish and food waste are collected one week and recyclable waste (paper, plastic, metal, glass) in a wheelie bin or clear sack and food waste are collected the following week.

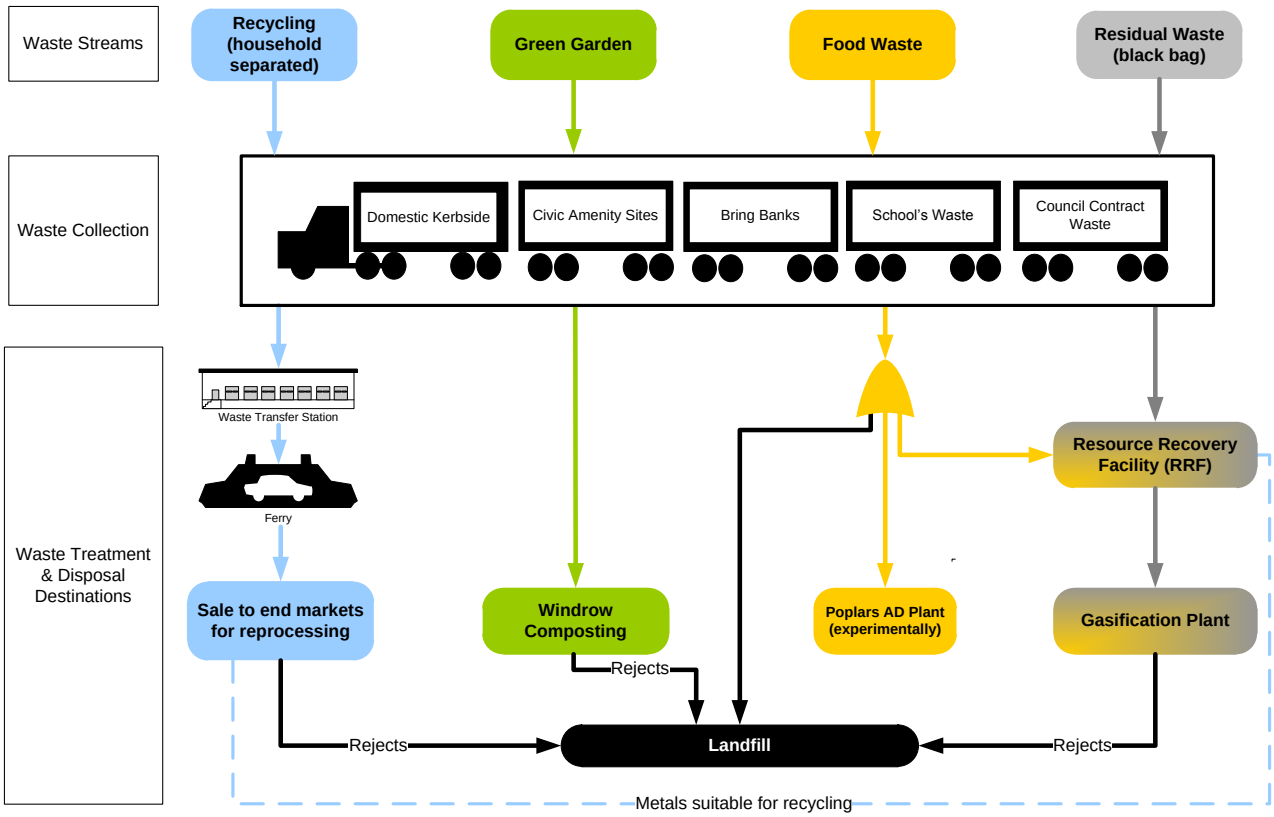

Figure 4: January 2012 collection, treatment and disposal routes.

2.3.10 Current Performance

2.3.10.1 The Council managed approximately 76,000 tonnes of MSW in 2010/2011. This did not include any of the Commercial and Industrial (C&I) waste produced by local businesses.

2.3.10.2 The Project Team have developed a model using housing and population growth statistics to predict how waste will grow in the future. Waste is modelled to grow at 1.5% a year up to and including 2015/16, then the growth rate decreases gradually (average of 0.66% per year over the remaining years). This model shows a potential rise to around 102,500 tonnes of MSW per annum by 2045. This assumes that waste still grows due to increasing household numbers, but each household still produces the same amount of waste.

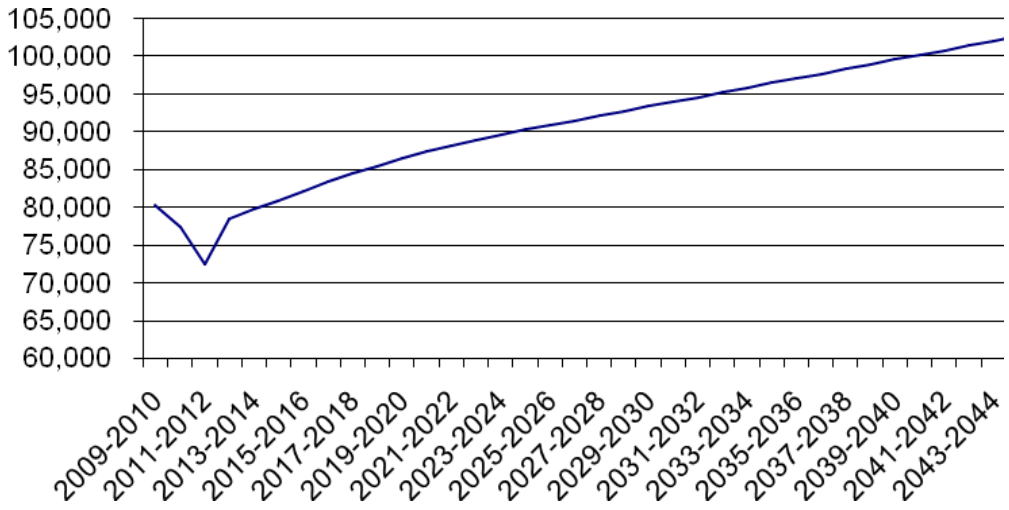

Figure 5: Predicted Waste Growth

2.3.10.3 Waste production is influenced by several factors:

- Population size;
- Economic Growth;
- Change in consumption habits e.g. move to ready meals with more packaging;
- Change in household person numbers e.g. more single person households; and
- National campaigns such as reduction in packaging weights.

2.3.10.4 In 2008 the Council commissioned a waste composition analysis of household waste; this work is being repeated in greater detail in 2012/2013, with a two season analysis and the results will be made available to support the possible procurement of a new service. The low season waste analysis was conducted in November 2012 with the high season analysis planned for Easter 2013. Analysis of two seasons is important as waste arisings, particularly litter and domestic collections are affected by factors such as visitors to the Island, second home owners and school holidays.

2.3.10.5 It is vital to understand what proportions of materials make up the household waste on the Island so that it can be properly managed, by designing appropriate future collection and treatment services and providing information and education to ensure services are fully utilised. The results of the 2008 waste composition survey are shown in the charts in Appendix 1.

2.3.10.6 Figure 6 shows the amounts and percentages of MSW in 2010/11 against the targets set out in the Core Strategy (CS) and draft Municipal Waste Strategy (dMWS) as detailed.

	Actual 2010/11	Target
Total Waste	76,000 tonnes	dMWS: 102,500/yr 2045
% Recycled (inc. composted)	28%	CS 60% (MW) 2025
% Reuse	0	10%
% Recovered	22%	20%
% Landfill	50%	0 non-essential (~10%)
% Diversion (from landfill)	50%	CS 86% 2025 dMWS 80% 2025
Growth rate	1.5%	0% per household 2025 0.66% hh growth

Figure 6: Targets for MSW

2.3.10.7 Figure 7 below, shows the percentage of waste currently sent to each treatment route. In the last two years, the percentage of MSW that has been diverted from landfill has been about 50 per cent.

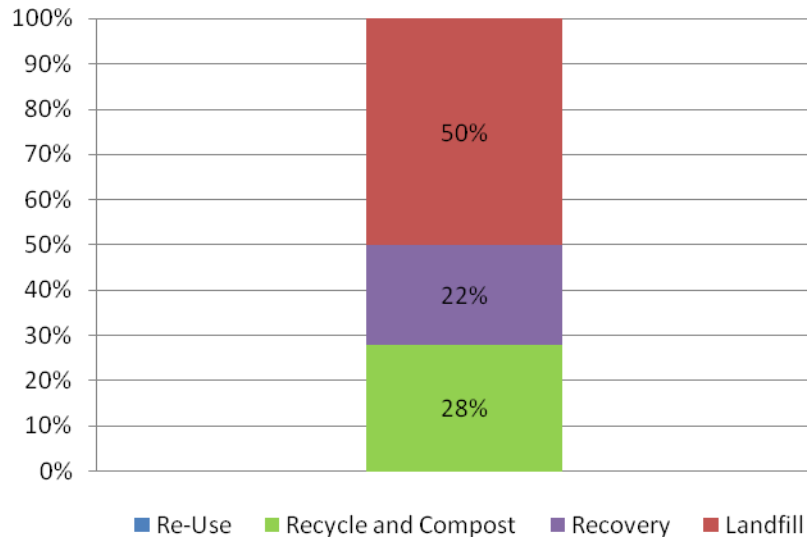

Figure 7: Current percentage split by treatment route (2010/11)

2.3.11 Issues with existing arrangements

2.3.11.1 Flexibility was not built into the existing contract to enable service changes to meet new legislative targets. If this is continued the Council risk attracting financial penalties. Not only will this cause financial implications but also reputational issues in the short and long term.

2.3.11.2 The current infrastructure is nearing the end of its operational life. For example with the RRF, IWS have found it difficult to maintain a constant level of service and the technology has failed regularly, resulting in greater levels of waste being sent to landfill. This results in increase in landfill tax which is applied to every tonne of waste that is sent to landfill. This is currently £64 (2012/13) per tonne. It will continue to rise by £8 each year until 2014/2015 when it will reach £80 per tonne.

2.3.11.3 Standen Heath Landfill site is the current operational landfill accepting MSW on the Island. The landfill site is owned by Island Waste Services. As part of the existing waste contract the Council has space reserved in the landfill for waste collected, and receives a preferential gate fee charge. When the existing contract ends this reserved space and preferential charge will end. The Council must dispose of waste in accordance with legislation, but is under no legal obligation to own or build a landfill site.

2.3.11.4 On 26 October 2015 the following assets will return to the Council or the Council will have the option to purchase:

Asset	Owner	Operator	Lease	Life Expectancy
Forest Park Includes Office Complex, Depot, Car Park, Civic Amenity Site, Waste Reception Area, weighbridge (excluding the land where the gasification plant is situated)	Council	IWS	Returns to the Council 2015 The Council has an Option upon expiry of the contract to acquire the RRF and all or any equipment at a value to be agreed by both parties or for IWS to return the site to a clean and tidy state.	Land The RRF is currently expected to be at end of life at contract expiry.

Asset	Owner	Operator	Lease	Life Expectancy
3 Civic Amenity Sites at: • Lynnbottom (including Reception Area and Education Centre) • Afton Marsh • Forest Park	Council	IWS	Returns to the Council 2015 – all currently not meeting current best practice guidelines.	Land
7 x residual waste lorries. 3 x 8 wheeler bulkers 1 x 6 wheel bulker 2 x caged vehicles 1 x glass recycler (3 split body) 1 x compact recycling Collection vehicle for narrow access locations	IWS	IWS	Other vehicles provided by IWS as part of the IWM Contract. IMW Contract contains an option for the Council to purchase assets at residual value at contract expiry.	End of life 2012 – continuing service to 2015
7 x kerbside recycling lorries new in January 2012	IWS leasehol der	IWS	IWS Lease has the ability to novate to the Council at IMW Contract expiry (2015).	2018
4 x supervisors' 4x4 pick ups - new 2012	IWS	IWS	IMW Contract contains an option for the Council to purchase assets at residual value at contract expiry (2015)	2018
Wheelie Bins (50,000 + 10,000 reserved for replacement)	Council	Households / IWS	Remain with householders	2024
Food Waste Caddies small 69,000 / Large 69,000	Council	Households / IWS	Remain with householders	2018
69 Mini Recycling sites	Council	IWS	Containers return to the Council 2015 - all differing ages and renewed on a rolling basis	TBC

Figure 8: Integrated Municipal Waste Contract Assets returning the Council or the Council has option to purchase

2.4 Council Responsibilities

2.4.1 Legislation

2.4.1.1 As a single-tier Unitary Authority, the Council has the duties and powers associated with a Waste Collection Authority, and a Waste Disposal Authority. These responsibilities are primarily laid out in the Environmental Protection Act 1990, but also other various pieces of waste legislation, detailed in Appendix 2.

2.4.1.2 The statutory duties of a Unitary Authority include:

- Collection, disposal and treatment of MSW; and
- A duty to provide areas where residents can deposit waste (e.g. civic amenity sites).

2.4.1.3 All waste collected by a Council falls under the general heading of MSW. The Controlled Waste Regulations 2012 (paragraphs 2 and 3) state that household waste which the Council must collect and dispose of free of charge, includes waste produced from a number of sources such as domestic premises and places of worship. In addition, paragraph 4 of the regulations list household waste for which a charge for collection and/or disposal may be made. This includes bulky waste, garden waste and litter. The legislation is further summarised in Appendix 2. Figure 9 summarises the difference between household and non-household wastes.

2.4.2 The Council also has a duty to collect and dispose of other non-household wastes when requested and can charge for these.

Household waste	Non-household waste
Residential recyclables	Rubble collected at HWRCs
Residential residual waste (waste not separated for recycling)	Fly tipped waste
Residential food and green waste	Beach cleaning waste
Recyclables collected at local mini recycling sites	Gully emptying
Waste collected at household waste recycling centres) and mini recycling sites	Hazardous waste
Street sweepings	Waste from grounds maintenance

Litter bins	Waste from Council offices
Residual waste and recyclables from schools	
Bulky waste collected from households	

Figure 9: Categorisation of household waste types

2.4.2.1 Another relevant piece of legislation is the Waste (England and Wales) Regulations 2011 and amendment 2012. These implement the revised Waste Framework Directive and require the following:

- An emphasis to be placed on following the Waste Hierarchy (see Figure 10 below) by reducing, reusing and recycling waste before treatment, energy recovery and disposal are considered;
- A national target for reusing and recycling 50 per cent of household waste by 2020;
- Local authorities to provide for the separate collection of paper, plastic, metals and glass from households; and
- The separate collection of bio-waste (food and green), where it is appropriate, with a view to composting or digesting it (a form of treatment that allows energy to be generated).

2.4.2.2 The Waste Hierarchy is a priority order of environmental desirability detailed in the revised Waste Framework Directive, to be applied in the treatment and management of waste. Figure 10 below illustrates this, indicating that prevention of waste is of the highest priority, down to disposal as the least favourable option.

Figure 10: Waste Hierarchy as detailed in the revised Waste Framework Directive 2008

2.4.2.3 In 2011 the government released a review of waste policy in England. The review details a number of actions for the government to work on over the next few years. These actions include:

- developing guidance for 'recycling on the go' (recycling bins for streets) facilities;
- a national waste prevention programme; and
- possible bans on sending certain wastes to landfill.

2.4.2.4 The review also established a government commitment to develop a new National Waste Management Plan by Spring 2012; this has been delayed until the end of 2013. This will replace the Waste Strategy for England 2007.

2.4.3 Internal Policy

2.4.3.1 There is increasing economic pressure to minimise the overall amount of waste produced and to be more responsible in the way that this waste is then managed. For England, targets and requirements are passed down from the European Union and these are transposed into national law, policies and strategies. These laws and policies shape waste management in England and define what the Council needs to consider as part of the local plans and strategies it creates.

2.4.3.2 At a local level, the Council's Island Plan Core Strategy sets out the following key aims for the control of waste development on the Island:

- To try to manage waste on the Island;
- To reduce, re-use and recycle waste as a first priority;
- To recover energy from waste where possible;
- To make provision for land for waste management facilities; and
- To allocate a site for a replacement landfill.

2.4.3.3 These aims have filtered down into the draft Municipal Waste Strategy. These two documents set ambitious targets (see Figure 11 below) for recycling and diverting waste from landfill, which exceed those in national guidance and would not be achievable under the current waste contract.

2.5 An Aspiration for the Future

2.5.1 The Council strives to procure quality, cost effective new services whilst minimising their environmental impact and manage the Island's waste in a sustainable and cost effective manner.

2.5.2 The Council's aspiration for the procurement of waste services has been developed as part of the draft Municipal Waste Strategy. The aspiration is supported by measurable aims, objectives and targets to aid delivery; these are detailed in Figure 11.

Draft aims	Draft objectives	Draft targets
Treat waste as a resource in its own right	• To contribute towards the Island's ambition of becoming self-sufficient in renewable energy, if it is cost effective to do so. • Encourage the use of CHP systems through the procurement process.	• To produce at least 7.4MW per year from existing and new waste facilities.
Aspire to zero non essential waste to landfill	• Procure treatment facilities that can mange all suitable residual waste. • Where necessary, interim solutions off the Island will be sought to avoid sending waste to landfill • Seek to recover outputs from residual waste treatment facilities. This includes the recycling of outputs from treatment processes if practicable. • Through the procurement process encourage the provision of spare capacity at treatment facilities for commercial and industrial waste.	• Divert 90 per cent of municipal waste from landfill by 2025.
Treat waste as high up the waste hierarchy as possible	• Promote re-use and reduction activities. • Ensure re-use charities continue to be promoted across the Island. • Introduce easy to use collection systems for residents on the Island. • Investigate new opportunities for recycling on the Island, for example schools waste, litter bin waste and waste from Council offices. • Through the procurement of the waste management service investigate the potential for the recycling of new waste streams from the HWRCs.	• Reduce the growth rate of municipal waste generated on the Island to 0 per cent per household by 2025. • To reduce the amount of residual waste produced to 260kg per person by 2020. • Recycle, compost or re-use at least 50 per cent of municipal waste by 2015, 55 per cent by 2020 and 60 per cent by 2025. • Recycle, compost or reuse 50 per cent of waste from schools and Council offices by 2021. • Recycle or compost 16 per cent of litter bin waste by 2021. • Achieve an overall recycling rate of 70 per cent for all the HWRCs on the Island (excluding rubble).

Deliver high quality and value for money services for the residents on the Island.	• Utilise the competitive dialogue procurement process with bidders to secure a new waste management contract that is sustainable and value for money. • Ensure demographic considerations are taken in to account when procuring the new waste management service.	• Monitor the implementation of the waste strategy each year. • Update the waste strategy every five years. • Obtain feedback from residents every five regarding the waste management services.
Reduce the carbon impact of managing waste on the Island	• Procure a waste management system that has a lower carbon impact than current arrangements. • Produce an annual carbon management plan setting out achievements and improvement actions in relation to carbon impacts.	
Aspire to Island self sufficiency in the treatment of its own waste	• Procure a waste solution that treats waste as close to its source as possible, taking into account sustainability and overall cost. • Where practicable, utilise the land that is identified for waste management capacity in the Island Plan Core Strategy.	
Increase the reuse, recycling and diversion of commercial and industrial waste	• Through the procurement process investigate options for combining the collection, recycling and treatment of MSW and commercial and industrial waste. • Employ a waste strategy officer who will investigate commercial and industrial waste management needs on the Island.	

Figure 11: Draft aims, objectives and targets from the draft Municipal Waste Strategy

2.5.3 The new waste services will contribute towards:

- Income generation from valuable waste resources;
- Increased accessibility to recycling;
- Meeting renewable energy targets;
- Cleaner streets;
- A safer and cleaner environment;
- Education and investment in people; and
- Efficient use of Council resources.

2.5.4 These align with the Eco-Island priorities of the Council and are further described in the Economic and Financial Case section 3.4 Benefits Identification.

2.5.5 Figure 12 below, illustrates the preferred destinations of waste (in accordance with the Waste Hierarchy) for a future waste service. The aim is to include zero non-essential waste to landfill, and manage waste as high up the hierarchy as possible.

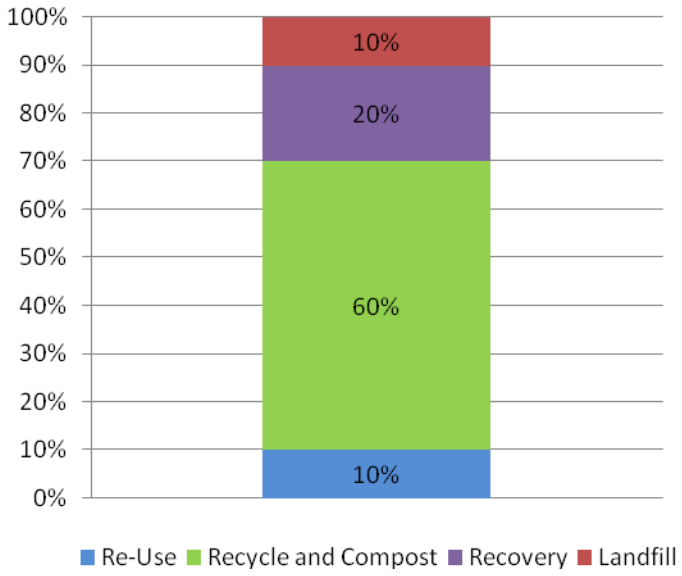

Figure 12: Preferred Waste Destinations

2.6 Service Gaps

2.6.1 The Council has a legal obligation to provide a waste collection service to residents and is required to dispose of this waste in accordance with waste legislation. Legislation requires that waste undergoes some pre-treatment prior to being sent to landfill, and separately collect paper, metals, plastic and glass for recycling (this goes to meeting the pre-treatment requirement). Waste can not be collected in a single black bag and be disposed of in landfill. The existing collection service meets these criteria.

2.6.2 There are no legal recycling or diversion targets imposed specifically on the Council as yet; however it is likely that these will come into force in the future, as they filter down from the national UK target to reduce or recycle 50% of household waste by 2020. Therefore, it is essential that new waste services are flexible enough to allow these targets to be met. In addition, and in anticipation of these targets the Council has set its own targets in the Island Plan Core Strategy and draft Municipal Waste Strategy which the new waste service should be designed to meet (see Figure 11 above). These targets have been tested against existing technologies and are achievable.

2.6.3 The European Union has set a legal requirement for its member states to reduce the amount of biodegradable waste they send to landfill. The Council aims to contribute to this by delivering targets set out in the Island Plan Core Strategy.

2.6.4 The IMW Contract was established before national recycling targets and legislation requiring landfill diversion were introduced. Under the existing contract, the measures and targets are inappropriate to meet current legislation and do not meet the needs of the Council's targets as set out in the draft Municipal Waste Strategy (see Figure 11 above). Through the current contract, performance against targets is reported in different way to how the national targets are monitored. This has sometimes made the interpretation of targets and comparisons with

national performance difficult.

2.6.5 The existing contract provides limited educational services. The Council recognises that without our residents' participation in the changes proposed to reduce waste, it would be difficult to manage waste in a sustainable manner. Providing information and education is vital to ensuring continued participation from residents, and essential in the work towards meeting the Council's targets.

2.6.6 The Council do not currently operate any form of reuse service, and do not actively promote a bulky waste collection. These services would contribute towards meeting the targets specified above, not least the amount of waste sent to landfill since bulky waste in particular is not currently recycled.

2.6.7 The Council receive no income through the collection, treatment and disposal of Commercial and Industrial (C&I) waste. This has financial implications for the Council in the long term, including its ability to manage landfill void space.

2.7 Meeting the Gaps

2.7.1 To fulfil its statutory obligations, the Council must provide the waste services listed in section 2.4.2 above. and the following high level procurement options have therefore been considered:

A. Continue with current services

2.7.2 This involves extending the existing IWM Contract with the current service provider, and continuing to use existing facilities. As discussed in the Current Performance section 2.3.10 above, the existing waste facilities are nearing end of life and will not remain operational in the long term. There are no extension provisions currently permissible under the contract. Extending this contract would be in breach of procurement regulations and the Council's own Standing Orders. This option is not recommended.

B. Upgrade current infrastructure

2.7.3 This would require the existing infrastructure to be upgraded and utilised to provide a future service. A competitive tender process could be utilised to seek a new contract with a Service Provider required to utilise refurbished assets. However, competition could be unnecessarily restricted, as some potential providers would not wish to use the current infrastructure. This scenario would also limit the introduction of new technologies, or methodologies. Shortcomings in current Contract and performance would continue including treatment and disposal capacity limitations and a higher landfill requirement.

2.7.4 Appendix 3 details the level of investment required to bring infrastructure up to standard and section 3.8 of the Economic and Financial Case has further discussion on the feasibility of this option.

C. Procure new collection and treatment services

2.7.5 This requires the letting of a new waste contract with a scope that covers all statutory aspects of the collection and treatment and any other aspects as appropriate (and further detailed below in section 2.8 Scope). This option would allow the Council to request a service which meets its targets and aspirations, within a specified affordability envelope.

2.7.6 This option is recommended and is discussed further throughout this OBC.

2.7.7 The extent to which the Council should involve itself in C&I waste management is a key consideration. Whilst shared facilities catering for large amounts of C&I waste could reduce the overall costs to the Council, there is no clear mechanism at the moment to guarantee the long-term use of such facilities by local businesses, or to force developers to fund larger facilities. However, the Council would look to receive a share of all third party revenue generated from gate fee and marketable outputs.

2.8 Scope

2.8.1 To follow Option C, the procurement of waste services to deliver the following Core and Non-Core Services would be necessary. The comprehensive scope comprises Core Services (paid for through an annual service charge) and Non-Core Services, (available from the Service Provider when requested and attracting a separate and additional payment).

2.8.2 Core Services

2.8.2.1 *Collection of non-chargeable household waste and recyclables*

2.8.2.1.1. Household waste includes black bags, food waste and recyclables collected from residential properties. The Council is required by law to collect these items free of charge from residents.

2.8.2.2 *Collection of chargeable household waste and recyclables*

2.8.2.2.1. There are some items of household waste that the Council is required to collect if requested, but can levy a charge for. These items include large or 'bulky' waste and garden waste.

2.8.2.3 *Collection of chargeable C&I waste and recyclables*

2.8.2.3.1. The Council is required by law to collect C&I waste, if requested, but can levy a charge for this. Actively operating this service could help manage waste service more effectively on the Island.

2.8.2.4 *Provision of Civic Amenity Sites*

2.8.2.4.1. Legally the Council must provide areas where residents can deposit waste free of charge – Civic Amenity Sites; there are currently three of these sites on the Island being operated through the existing waste contract.

2.8.2.5 *Provision of reuse and minimisation services*

2.8.2.5.1. Reaching the targets set out in the Core Strategy and draft

Municipal Waste Strategy will require active participation from residents. Providing education and promotional activities is key to reducing waste and encouraging residents to think and act higher up the waste hierarchy.

2.8.2.6 *Treatment of above detailed waste and recyclables*

2.8.2.6.1. All the waste and recyclables collected by the Council must be treated. Treatment could be generating energy from residual waste, the sorting of recyclables at a materials recovery facility (MRF) or the composting of garden waste in windrows. Treatment fulfils the recovery section of the waste hierarchy.

2.8.2.7 *Disposal of above detailed waste and recyclables*

2.8.2.7.1. Waste the Council collects that cannot be recovered, recycled, or reused must be disposed of to landfill.

2.8.2.8 *Management and client interface*

2.8.2.8.1. All of the above services will require management, as will the public facing services such as the call centre and public communications.

2.8.3 Non-Core Services

2.8.3.1 *Treatment and disposal of waste from Council Contracts*

2.8.3.1.1. The Council is legally required to treat and dispose of waste from street cleansing e.g. litter, if requested; It might also be required to treat and dispose of waste from other Council contracts if it is delivered to Council facilities.

2.8.3.2 *Treatment and disposal of waste delivered by third parties*

2.8.3.2.1. As above, any C&I or C&D waste delivered by private contractors on the Island to Council facilities could be treated and disposed of in the same manner. This could generate revenue for the

Council.

2.8.4 Interim Service

2.8.4.1 Due to the procurement timescales (as detailed in the Management Case) should the Council require infrastructure to be built on the Island (e.g. waste treatment facilities as detailed below) these facilities are unlikely to be operational by October 2015 when the existing waste services end. Therefore the Council would require an Interim Service to treat and dispose of waste and recyclables whilst the actual facilities are built.

2.8.5 Services not included to be retained by the Council:

- Street Cleansing Contract (this includes the collection of litter bin waste, dog bin waste, and street sweepings and will be retained by the Council; once collected the Council has a statutory obligation to treat and dispose of the waste); and
- The Gas Flare and Leachate Treatment Plant.

2.8.6 Services that could be included:

- Beach Cleansing Contract;
- Public Convenience Cleansing Contract; and
- Grounds Maintenance Contract.

2.8.6.1 Much of the waste produced by Council contracts is received and treated through the facilities made available by the Council's Waste Service Provider. Any waste that the Council could potentially treat as a resource should be considered for inclusion within the Project scope. Presently the IMW Contract receives waste from the Grounds Maintenance, Street Cleansing, Beach Cleansing and Street Sweeping contracts. Including these contracts under the waste procurement is not unusual, and is regularly seen nationally. Both the Street Cleansing and Sweeping Contracts are forming part of the Highways PFI, however their wastes may still be received at the Service Providers treatment

facilities.

2.8.6.2 The Grounds Maintenance and Beach Cleansing Contracts produce litter bin waste and green waste such as grass cuttings and seaweed, which have the potential to be used in composting, AD or energy recovery. Through the holistic waste management approach, the project would be able to operate these contracts with the view to producing appropriate quality waste for treatment facilities. Additionally through having a single Service Provider operating the contracts, operational efficiencies may be achieved through shared vehicles, operatives, and sub-contracts.

2.9 Current and Future Technologies

2.9.1 Over the past two decades, there has been a shift in technological development for waste treatment and disposal. This has been driven by the need for a reduction in carbon and water impacts and the development of renewable energy networks. There has been rapid growth in treatment technologies available in the market due to support by government initiatives to encourage market growth in renewable energy, such as the renewable energy certificates (ROCs) there is more information on these initiatives in Appendix 12.

2.9.2 With the increasing use of waste as a resource for the production of marketable outputs such as energy, heat, and compost, the national burden on natural resources becomes lessened and the demand for treatable waste is increasing. The Council is now in a favourable position to be able to look at our entire waste stream from doorstep to disposal, and assess the most economically advantageous collection method, and treatment and disposal route.

2.9.3 Figure 13 below describes the technologies that have informed this OBC and are used in discussions of later Cases. The full technical version of this table is in Appendix 4.

Landfill
This is the acceptable disposal of waste to the ground, although now considered as a last resort due to reducing capacity and the finite nature of resources.
Mechanical Biological Treatment (MBT)
A MBT facility is primarily designed to stabilise residual waste prior to landfill. It mechanically recovers some additional recyclables, such as metals and plastics. The organic fraction is composted or digested separately before being disposed of to landfill or being used as a soil improver. Some MBT plants also produce a fuel which can be used to generate energy. The technology can require a large amount of space and can be energy intensive. The success of the technology can rely very much on the different processing techniques used. *Operational examples: 12ktpa mixed waste plant in Western Isles, 50ktpa merchant plant in Dorset. 50ktpa facility in Leicestershire; 170ktpa Northumberland -minor 10ktpa exemption for land application; 2x180ktpa East London (with SRF to Castle Cement Ketton Works; 150ktpa Leicester facility – minor exemption*
Autoclave - Fibre recycling
Residual waste is placed in rotating drums where steam helps pulp and prepares the waste for further sorting. The plant is designed to recover additional recyclables, including metals and plastics. The plant produces two other outputs: a 'fibre' fraction and a reject fraction for landfill. A number of technology suppliers are seeking to generate useful markets for the fibre, such as co-firing in roofing tiles, use in fibre-board manufacture, and extraction of paper fibres for recycling. This fibre can also be burnt or digested to generate energy. *Operational example: One 70ktpa reference plant Minnesota in the USA; Proposed 75ktpa Autoclave and AD plant in Plymouth*
Energy from Waste (EfW) – (combined heat and power)
Suitable residual waste is sent to an EfW via incineration facility. The modelling assumes a moving grate system (most common technology) and emission controls that meet the requirements of the Waste Incineration Directive. The air pollution control residues are land filled, and bottom ash is sent to regional aggregate processing companies. This technology allows a high diversion form landfill and can take up a small footprint of land. *Similar examples: C.25 operational EfW incinerators around the UK, including many commissioned in recent years, with a number more under construction. A rotating*

kiln incinerator was opened in 2005 in north Lincolnshire and processes 80,000 tonne per year of municipal waste. A fluidised bed incinerator is operated at Allington in Kent. There are CHP plants in operation in Sheffield, Coventry, Grimsby, Slough, Nottingham and a number in Europe. Viridor have planning permission for a 450ktpa CHP facility in East Lothian Council

Advanced Thermal Treatment (ATT) – Pre-treatment and Gasification (combined heat and power)

ATT through a gasification system. Waste is gasified, producing solid chars and ash in addition to a synthesis gas ("syngas") that is then used to generate power.

ATT systems generally require the removal of over-sized items, removal of some non-combustible materials, and shredding to an appropriate size. These pre-processing operations can provide opportunities to mechanically sort the waste to remove other recyclables

Process residues may be recovered (bottom ash) or land filled (air pollution control residues). Some pyrolysis and gasification processes have been developed with plasma-arc units that can clean the syngas for wider applications and produce a vitrified (glass-like) residue which is said to have a wider range of possible applications.

Examples:

*Energos 30ktpa operational gasification facility on the Isle of Wight (*Defra *demonstrator)*

2 pyrolysis facilities in Germany (Burgau 36ktpa) and Hamm (100ktpa).

Novera/Bioessence 130 ktpa fluidised bed gasification facility planning permission in East London.

Anaerobic Digestion (AD) (Treats food waste)

This process is designed to treat food waste (typically using 'wet' AD systems with higher water content slurries) or food and green waste (typically 'dry' AD) in the absence of oxygen. The waste is digested by micro-organisms and needs to be accurately managed to maintain specific temperatures.

The digestion process is compliant with the animal-by-products regulations. The digestate may be subject to some further aerobic composting (bio stabilisation).

The resulting compost and/or digestate can be applied to land to be used as a fertiliser. The use of digestate in the UK has yet to develop a strong market, but it is commonly used in Europe.

The gas produced by the digestion process is harnessed to produce electricity or fed directly into the gas grid.

Operational Examples:

45,000 tonne facility in Northamptonshire

Staffordshire 15,000 tonne facility

In-Vessel Composting (IVC)
An enclosed treatment option for green and food waste. The waste is treated in the presence of oxygen and has to be kept at certain temperatures to comply with the animal-by-products regulations. The process does not allow the generation of any energy, although the compost can be used as a fertiliser on land. *Operational Examples:* *Donarbon 50,000 tonne IVC in Cambridgeshire* *Four IVCs as part of the Greater Manchester Waste Disposal Authority project*
Materials Recovery Facility (MRF)
A facility to sort commingled recyclables through a series of equipment such as trammels, magnets, eddy – current separators and may also involve operatives at pick lines. The range of materials that are sorted varies but commonly includes paper, card, plastic bottles and tins and cans. Glass can also be sorted but may cause some problems if paper becomes contaminated with glass shards. *Operational examples* *72,000 tonne MRF in Portsmouth* *85,000 tonne MRF in Southwark* *250,000 tonne MRF at Edmonton in London*
Transfer Station
A facility to bulk waste prior to transport to another location. *Many examples in use around the country*

Figure 13: Waste technologies

2.10 Dependencies

2.10.1 The Project has identified a number of interfaces and dependencies that may affect it and the Project Team will attempt to manage these to ensure there is no detriment to the Project in the long-term. These include the interface with other Council contracts, such as street cleansing and beach cleansing. There is also a need to successfully manage the handover arrangements of the incumbent Service Provider; ensuring waste services are still delivered. Where appropriate, the Contract will contain provision to ensure no adverse impact to the Project

will occur from these interfaces.

2.10.2 Standen Heath Landfill site is the current operational landfill accepting MSW on the Island. The landfill site is owned by Island Waste Services. As part of the existing waste contract the Council has space reserved in the landfill for waste that it collects, and receives a preferential gate fee charge. When the existing contract ends this reserved space and preferential charge will end. This asset will not revert to the Council at contract end.

2.10.3 The Council has no statutory obligation to construct a new landfill site; however there will always be an amount of waste to dispose of to landfill. Fulfilling this landfill requirement could be achieved by using third party facilities situated on or off the Island. The situation surrounding landfill requirements and capacity is discussed further in section 3.38 of the Economic and Financial Case.

2.10.4 In deciding on new collection and treatment arrangements, it should be noted that the type of waste collection service employed, affects the type of waste treatment that is viable, and vice-versa.

2.10.5 Other dependencies include:

- Financial Resources are available to deliver a project of this size and scope; and
- Availability of professional advisors to provide project support outside of the capacity of the current Project Team and internal Council teams.

2.10.6 Stakeholder support will be key in the successful delivery of the waste project. The stakeholder management tool (see Management Case paragraph 5.8.3) will be integral in ensuring that stakeholders expectations are considered throughout the procurement. Further information regarding the Stakeholder Management Strategy can be found in Appendix 14.

2.11 Conclusion

2.11.1 The current IWM Contract is nearing completion and the facilities associated with it are reaching end of life. The Council must let a new waste contract to deliver the statutory services of a Waste Collection and Waste Disposal Authority. In order to meet the aspirations of the Council and achieve a sustainable solution that is value for money, suitable to residents and within the Council's affordability, it is the recommendation of the Project team that Procurement Option C is selected. Procure new collection and treatment services, is delivered by way of procuring new waste services; service delivery options are discussed further in the Economic and Financial Case, paragraph 3.27.

3. Economic and Financial Case

3.1 Purpose

3.1.1 The Economic and Financial Case provides a summary of the collection and treatment options appraised to confirm the technical viability and financial affordability for the new waste service. A long list of collection and treatment options have been narrowed down using agreed criteria to arrive at two Service Delivery Options (see paragraph 3.27. Each of these two options has been fully assessed to consider the likely affordability and suitability for delivery.

3.1.2 This Case discusses the modelling activities that have been undertaken in order to assess the likely cost of a long-term contract for the Collection and Treatment of waste.

3.1.3 The Case further considers the affordability of a future contract to the Council.

3.2 Waste in the Economy

3.2.1 Waste is a part of our local, national and global economy. Through the economic activity of our residents, businesses and industry, waste is produced. This waste has traditionally been treated as a problem with a heavy reliance on landfill for disposal, creating a large cost burden for local authorities. Waste is one of many environmental sectors that affects the macro-economy.

3.2.2 DEFRA's Economics of Waste and Waste Policy, June 2011, sets out that:

"Waste Policy is a key part of ensuring that raw materials are used effectively. Failure to fully account for their value in economic decisions means that these resources are over consumed. This, in turn, poses a risk to long term economic growth – for example breaching critical thresholds beyond which natural assets cannot be replaced and can no longer support the desired level of economic activity."

3.2.3 Through waste management at a local level, the balance of natural resource depletion can be reduced by utilising waste as a resource. There is the potential for recycling natural resources in waste into new products and generating electricity, gas, heat, and marketable by-products, such as compost, digestate, aggregates and reformed materials.

3.2.4 Value can be realised through the sale of recyclates, electricity, gas, heat and the marketable by products. The value of waste as a resource may provide opportunities for local economic stimulation through investment in waste infrastructure, construction of facilities, employment, education, transport and through supplying recyclable natural resources to an expanding recyclate market.

3.2.5 Management of waste is therefore influenced, partly by the economic activity and partly due to the desire to reduce the impact on the environment.

3.2.6 The Council has set out clear economic aspirations to achieve a stronger and greener economy for the Island through the Sustainable Communities Strategy (Eco-Island), the Isle of Wight Economic Strategy 2008 - 2020 and the Island Plan Core Strategy 2012 – 2027 (see Strategic Case, paragraph 2.4.3 and the draft Municipal Waste Strategy (Appendix 15)).

3.2.7 The four main themes that underpin the Sustainable Communities Strategy (Eco-Island) are:

- Thriving Island;
- Healthy and Supportive Island;
- Safe and Well-kept Island; and
- Inspiring Island.

3.2.8 The Council's Vision is:

"To be a world renowned Eco-Island with a thriving economy and a real

sense of pride, where residents and visitors enjoy healthy lives, feel safe and are treated with respect."

3.2.9 This is being delivered through a series of prioritised policy initiatives and the Waste Project is one of the vital delivery mechanisms for achieving the vision.

3.2.10 Through this vision the Council is committed to protecting and enhancing the Island's natural beauty; creating wealth, reducing carbon footprint; supporting economic development and regeneration; reducing crime and fear of crime; and enhancing how our local area 'looks' and 'feels'. The Council is committed to deliver, by 2020, the lowest carbon footprint in England and renewal of infrastructure to the highest ecological standards. The Waste Project is being developed to support each of these areas and they are the cornerstone for the final Project options presented in this OBC.

3.2.11 The Isle of Wight Economic Strategy supports 'Investing in success to produce a more mixed economy, creating opportunities for increased inward investment and sustainable prosperity by prioritising quality of life.'

3.3 Environmental Desirability and Economic Decision Making

3.3.1 The Waste Hierarchy, (see Strategic Case, Paragraph 2.4.2.2), provides guidance for the environmental acceptability of waste management options; it does not however include the economic considerations for those options. Given waste is a by-product of economic activity; the wider economy is dependent on treating and using waste products in a sustainable manner.

3.3.2 In consideration of options for the future of the Island's waste management a balance needs to be struck between affordability and environmental desirability. This is considered in the qualitative scores and financial scores within the appraisal process below.

3.4 Benefits Identification

3.4.1 The procurement of new waste services is an opportunity for the Council to guide the economic and environmental future of the Island towards a more sustainable direction; waste has the potential to produce renewable energy and develop an income stream for the Council. Additionally, using waste to create energy reduces reliance on fossil fuel, produces income, reduces carbon consumption and provides long-term energy price stability. The procurement of a new waste service will therefore set out to achieve the following benefits:

3.4.2 Increased accessibility to recycling:

- Upgraded Civic Amenity Sites with clear and accessible recycling drop off areas;
- Commence and Industry being able to use a minimum of one Civic Amenity Site to recycle waste;
- Re-Use facility and shop will increase recycling of large domestic items;
- Well maintained and clearly identified Mini Recycling Site network;
- Clearly identified and accessible disposal areas for Waste Electrical and Electronic Equipment;
- Well promoted bulky good collection service that will feed re-usable items to the Re-use and minimisation service; and
- Recyclate recovery from non-reusable bulky goods (e.g. sofas and furniture stripping for component parts).

3.4.3 Meeting Renewable Energy Targets:

- The Island Plan Core Strategy sets out a target of 7mw of energy per annum and the new waste service will set out to achieve this; and
- The possibility of developing community heat networks from recovery facilities will be investigated.

3.4.4 Income Generation:

- All revenue generated through the sale or recovery of end products from Municipal Solid Waste (MSW) during any aspect of the contract operation will be shared with the Council at a predetermined rate;
- Gate fees and collection fees from Commercial and Industrial (C&I) wastes will be shared with the Council at a predetermined rate; and
- Sale of re-usable items will help off-set operating cost of re-use facility.

3.4.5 Authority Resources:

- Potential to achieve better value for money through effective contract negotiations; and
- Efficiency savings through reducing number of Council contracts being managed.

3.4.6 Cleaner streets:

- achieved through collection services maintaining a clean and tidy network;
- appropriate waste containers and collection times;
- Commercial and Industrial collection service to keep business; waste off the streets during the day; and
- Will improve public realm image for residents and visitors.

3.4.7 *Safer and Cleaner Environment*:

- The carbon and water impact of the waste service will be reduced through the specification requirements to monitor and reduce year on year carbon and water impacts;

  Increased ease of access to mini recycling sites and Civic Amenity Sites will reduce litter and fly tipping;

- Investment in state of the art vehicles to improve operating efficiencies including Management Information System (MIS) link with vehicle GPS;
- Re-use sale facility will help provide residents with affordable and safety checked second hand goods; and
- Investment in innovative new technologies will help to reduce emissions and improve our air quality.

3.4.8 Education and Investment in People:

- Education programmes throughout the lifecycle of the contract will help create a culture change in the way waste is viewed by residents, visitors, business and industry;
- Clear and accessible information on recycling and waste collecting will improve the quality for waste products received for onward processing; and
- Investment in new infrastructure could create jobs both now and over the lifetime of the contract.

3.5 Commercial and Industrial Waste

3.5.1 Total commercial and industrial waste arisings were estimated at 129,700 tonnes per annum in 2006 (including agricultural wastes) with approximately 62% sent to landfill, 35% re-used or recycled, 1% converted to refuse derived fuel (RDF), 1% composted and 1% exported for disposal.

3.5.2 Analysis of business activity on the Island indicates that six principal waste streams (food waste, card, plastic, paper, wood and glass) originating from four business categories (hotels, pubs, retail and production) account for 40% of all mixed / non-metallic commercial and industrial waste arisings. Businesses are primarily located in and around the towns of Newport, Ryde and Cowes; however high concentrations of hotels, pubs and restaurants can also be found in the areas of Shanklin, Sandown and Ventnor. Some of the industry sectors are likely to

experience highly seasonal trade (e.g. hotels, pubs and to a more limited extent retail);

3.5.3 Inert construction and demolition waste, card, plastic, paper and glass are identified as having the greatest potential for diversion of material from landfill.

3.5.4 The Island Plan Core Strategy has set out C&I waste targets for recycling and diversion from landfill up to 2025. See Figure 14.

Year	Recycling	Diversion from Landfill
2015	55	79
2020	60	84
2025	65	86

Figure 14: Targets for the Recycling and Diversion of commercial waste

3.5.5 The majority of commercial waste arisings on the Island continue to be land filled on the Island, 35% was estimated as being recycled in 2006/07. This is well below the targets set out in the draft Island Plan Core Strategy of 55% being achieved by the year 2015, and 65% by 2025.

3.5.6 97% of companies on the Island are micro/small enterprises (employing less than 50 people) and 99.5% of companies can be classified as small to medium enterprises (SMEs) employing less than 250 people. Previous surveys of SMEs have also revealed that some unwittingly or illegally use household waste services for their disposal of commercial waste.

3.5.7 On the Island, the barriers to improved recycling and recovery performance appears to derive from two key factors; commercial viability and price. In common with the rest of the UK, landfill has historically provided the cheapest disposal option for the commercial sector. The introduction of the Landfill Tax in 2006 and associated landfill tax escalator is now acting as a strong economic driver to divert waste from landfill and this is likely to result in increased interest in recycling by

businesses on the Island in the future.

3.5.8 The Project Team has considered the inclusion of Commercial Waste in the future waste contract(s) through evaluation of the following options:

Commercial Waste Option Name	Description of Council role
1. Status Quo	As per current arrangements, where there is no promotion of a commercial and industrial waste service. There is ability under the existing contract to direct IWS to collect commercial and industrial waste if so requested by a business, but in practice most go direct to the private sector service providers as this is more cost competitive.
2. Promotion	Providing information and advisory services to encourage waste minimisation and use of existing private recycling services by commercial waste producers and to promote new business-start up for waste collection and processing on the Island.
3. Shared use	Structure new contract/s (collection and treatment) to allow the new contractor to also manage commercial wastes if they choose to. This includes an income sharing mechanism to avoid any cross-subsidy by tax-payers for the extra services or capacity at waste facilities. The contractor is incentivised to offer this where they consider they may benefits from additional revenues from such wastes.
4. Flexibility	Structure new contract/s (collection and treatment) to require the new contractor to design facilities to be capable of expansion to deal with commercial waste, with the Authority paying for this extra flexibility (for example in terms of additional land-costs and process designs). The new contractor can then take the risk on whether to develop the additional capacity. This is likely to include an income sharing mechanism.
5. Recycling services	Structure new contract to offer collection service for dry recyclables and require construction of additional MRF capacity to deal with both Municipal and commercial wastes, with income sharing mechanism.
6. Green and Food Waste services	Structure new contract to offer collection service for green and food waste and require construction of additional Composting/Digestion capacity to deal with both Municipal and commercial wastes, with income sharing mechanism.
7. Residual services	Structure new contract to offer collection service for residual waste and require construction of additional treatment/landfill capacity to deal with both Municipal and commercial wastes, with income sharing mechanism.

Figure 15: Commercial Waste Options

3.5.9 The full evaluation of these options is attached at Appendix 16. The

recommended way forward is a mix of Commercial Waste options 2, 3 and 4:

- Commercial Waste Option 2 – Promotion through providing information and advisory services to encourage waste minimisation and use of existing private and potential successful bidders commercial waste services;
- Commercial Waste Option 3 – Shared Use of waste collection, treatment and disposal facilitates by the successful Service Provider to provide commercial and municipal waste services. This would include an income sharing mechanism to avoid any cross subsidy by tax-payers for the extra services and capacity; and
- Commercial Waste Option 4 - Flexibility within the new contract/s to require the new contractor to design facilities with the capacity to deal with commercial and industrial waste, with an income sharing mechanism.

3.5.10 The application and mix of these would be dependant on the technical solutions brought forward by bidders for the waste contract, their risk/reward appetite, and overall financial benefits. The procurement is recommended to be structured to allow:

- Flexibility in the contract to allow the service provider to utilise collection vehicles to collect commercial waste;
- Ability for civic amenity areas to be able to receive commercial and industrial waste and recyclables;
- Longer operating hours at treatment facilities;
- Additional bulking area for commercial recyclables if required; and
- Modular extensions to composting/digestion and thermal treatment facilities (dependant on the nature of the technology proposed).

3.5.11 The technical modelling in the option appraisal below has taken account of the desire to include commercial waste in any future waste contract by increasing the capacity of all facilities by 15%.

3.6 Conclusions from the Strategic Case and Commercial Case

3.6.1 The Strategic Case identified three options for the future waste contract (paragraph 2.7):

- **Option A Continue with current services** – Extend the existing Integrated Municipal Waste Contract
- **Option B Upgrade Current Infrastructure** – Let a contract that specifies the re-use/refurbishment of exiting waste assets and infrastructure on the Island.
- **Option C Procure new Collection and Treatment Services** – Let a new contract/s that sets out to achieve the most economically advantageous and environmentally desirable Waste Service for the Isle of Wight.

3.6.2 The Commercial Case has recommended a single integrated procurement approach towards the next waste contract (paragraph 4.5.2). This would involve procuring all elements within the scope (Strategic Case, section 2.8) under one procurement.

3.6.3 This has been reflected in the grouping of collection and treatment options that inform the financial modelling of the short-listed options, below. The later regrouping of options is to replicate the way a commercial bid is likely to be prepared.

3.7 Collection and Treatment Options

3.7.1 Figure 16 below displays the procurement collection and treatment options available.

3.7.2 Collections are an On-Island service that will collect waste from residences and some commercial and industrial wastes. The future procurement of treatment and disposal of food, green, recyclables and residual waste require either the construction of an On-Island infrastructure or the purchase of spare capacity in waste treatment facilities that can be either on or Off-Island.

3.7.3 The Options Appraisal, (see section 3.9), assesses a long list of collection and treatment options that may be proposed under the option to go out to market for new waste services. The appraisal identifies the options that best suit the Council's economic and environmental aspirations for modelling purposes.

Waste Collection Options		
A. Continue with current services	Extend Current Contract	
B. Upgrade Current Infrastructure	Utilise and upgrade existing infrastructure / vehicles	
C. Procure new Collection and Treatment Services	Specify the separate collection of: Food and Green Waste Recyclables (statutory recyclables: paper, card, metals, plastic, glass) Residual Waste Include flexibility to collect commercial and industrial waste	
Waste Treatment Options		
A. Continue with current services		Extend Current Contract
B. Upgrade Current Infrastructure		Utilise existing infrastructure under new contract
C. Procure new Collection and Treatment Services	Food and Green Waste	Food to Anaerobic Digestion, Green to Windrow
		Food and Green to In-Vessel Composting with small windrow
	Recyclables	Recyclables to a Waste Transfer Station, bulked and shipped to merchant MRF
		Recyclables to an On-Island MRF
	Residual Waste	On-Island Residual Waste Facility
		Off-Island Residual Waste Facility

Figure 16: Collections and Treatment Options Models

3.8 Continue with current services and Upgrade Current Infrastructure

Option A Continue with current services

3.8.1 The condition of the Island's waste treatment and disposal infrastructure is nearing the end of its usable life. The Continue with current services option is not a viable consideration as the existing

contract is due to expire and extending the contract is not compliant with procurement regulations, additionally, the existing infrastructure will not remain in an operational condition in the long term.

Option B Upgrade Current Infrastructure

3.8.2 This option involves continuing the use of the existing infrastructure under a new contract. This would require the infrastructure to be upgraded, operated and maintained at a standard fit to meet any new legislation and targets that might be introduced during the life of the contract. This option is feasible, however it is not recommended because the level of investment required to bring the infrastructure up to the required standard would be significant, and leaves little flexibility for bidders or for the contract to adapt to future changes in legislation and targets.

3.9 Collection Method and Treatment Facility Appraisal Process

3.9.1 The purpose of the waste collection and treatment facility appraisal is to identify the options that are available, their environmental desirability, economic benefits, cost and alignment with the Council's Vision.

3.9.2 The Collection and Treatment Facility Appraisal process feeds directly into the selection of a Shadow Bid Model that mirrors how the bidders may price this contract.

3.9.3 The waste arisings can be broken down into four basic categories:

- Recycling – Wastes that can be sent to reprocessing facilities to be recycled into new product;
- Green – Plant based Waste that has arisen from gardens, parks and verges;
- Food Waste – Waste food; and
- Residual Waste – Also, known as black bag waste, this is any waste that has mixed or contaminated food, green and recycling as well as wastes that do not fit into the above categories.

3.9.4 There are a wide range of technologies and methodologies available for the collection of waste and the onward treatment of food waste, green waste, recyclable waste and residual black bag waste (see Appendix 4).

3.9.5 There will always be some waste that cannot be treated, because it is too contaminated for recycling or is inappropriate for composting, these will be transported to the next most appropriate facility or sent to landfill.

3.9.6 To establish what the waste management industry could offer the Project Team has conducted a qualitative assessment of the following collection methods and treatment technologies. These have been short-listed and financially modelled to give an indication of affordability.

3.9.7 The decision on how waste is collected, treated and disposed is one that the Council will make, although this is heavily influenced by European and National policy as identified in Appendix 2.

3.9.8 This collection and treatment appraisal considers a long-term (25 year) project, linking into typical contract lengths for Residual Treatment Options. The appraisal identifies the potential waste destinations, as illustrated in Figure 17.

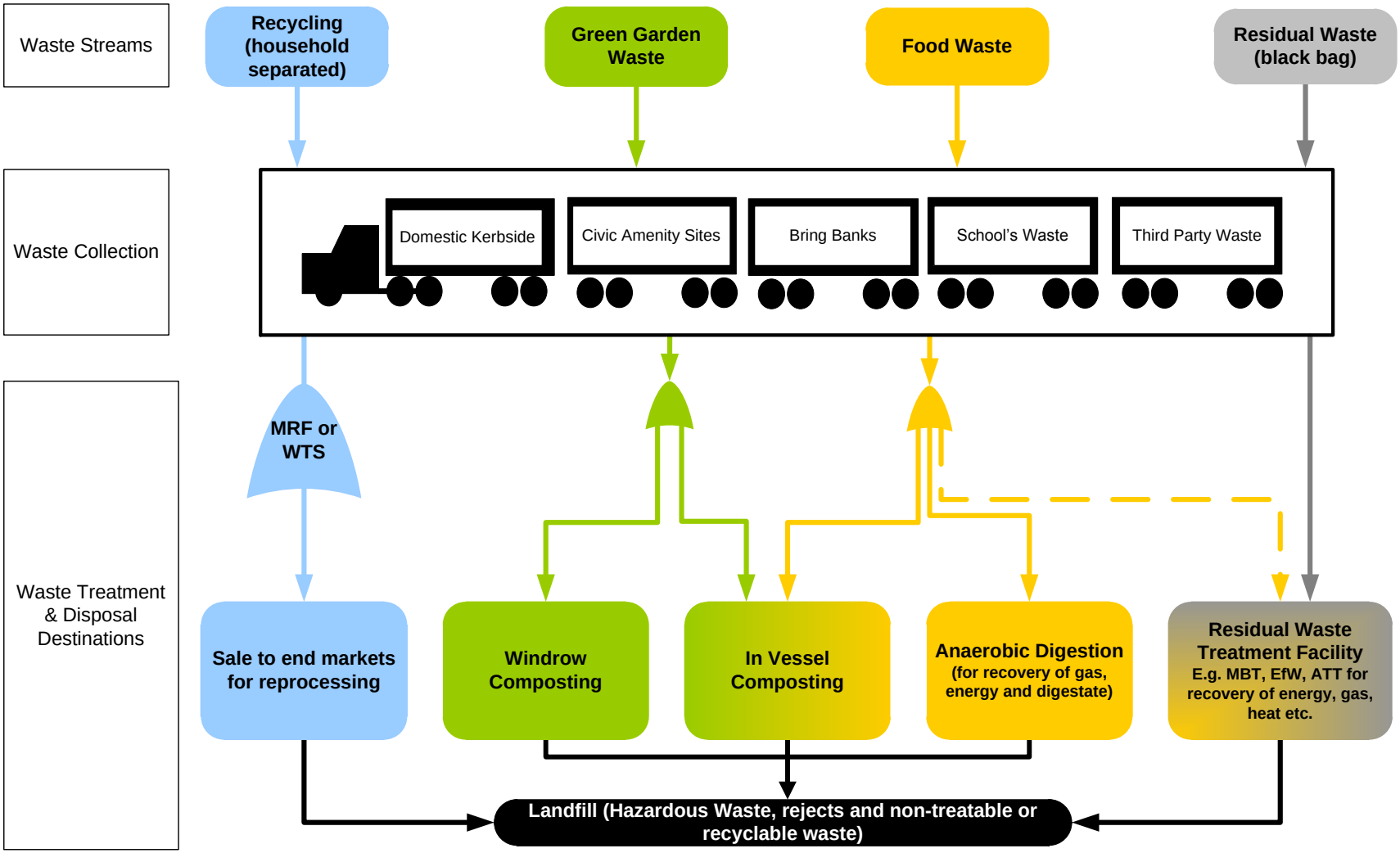

Figure 17: Typical waste destinations

3.10 Support Services Waste Management Costs

3.10.1 The management of the following support services (listed below) were technically and financially modelled. These services will remain the same regardless of the collection or treatment methodology selected and do not have a variety of options. The costs of support services are added to the final collection models to give an estimate of the complete waste service.

Support Services

- Accommodation and Re-use facility
- Waste Minimisation and Education (office based) of project lifetime
- The design, upgrade management and operation of three Civic Amenity Sites – with one upgraded to be able to take commercial and industrial waste
- The management of Bring Bank Sites across the Island

3.11 Waste Collection Methodologies and Treatment Facilities Long List Appraisal

3.11.1 The full Collections and Treatment Long List Appraisal Report is attached in Appendix 5.

3.11.2 Collection Appraisal

3.11.2.1 *Collections Evaluation criteria*

3.11.2.1.1. The evaluation criteria (see Figure 18) was developed from the DEFRA Waste Infrastructure Delivery Programme (WIDP) guidance and the Sustainability Appraisal (SA) conducted for the Island Plan Core Strategy. As the options appraisal work is strategic and high level, not all the criteria from the Island Plan Core Strategy SA can be applied.

3.11.2.1.2. The criteria were agreed by the Project Team, the Council's waste, sustainability and finance experts supported by the Legal,

Technical and Financial Advisors to the Project. The collection options evaluation includes some criteria that are specific to the process of collecting waste (e.g. onward processing of recyclables).

Criteria	Description
Waste Hierarchy	Considers opportunities and likely success of the scheme to separate materials from the waste stream for recycling or composting.
Deliverability and 'track record' of option	Considers applicability, robustness and track record of previous use of the option.
Recyclables onward processing	Considers the level of additional processing that is required to sort and process recyclables/compostables.
Meeting targets	The extent to which the option allows the 50% recycling/composting EU Waste Framework Directive target to be met, and the flexibility it has to exceed this rate in the future.
Requirement for on- going capital expenditure	Considers the relative level of on-going capital expenditure required for each option.
Residents acceptability	Considers the risk of stakeholders objecting to the option and thereby increasing the risk of poor performance.
Access to services	Considers the extent to which the option allows participation and access by all residents on the Island. It is acknowledged that no systems would be accessible to all residents so the extent that the Authority may need to tailor the scheme to allow it to be acceptable to all residents on the Island is also considered (e.g. with different containers to different housing types).
Employment	Considers the relative level of direct employment each option may deliver.
Education/ Awareness	The extent to which the option inherently promotes education and awareness of waste management. For example, where fortnightly collections are considered people have to think more about the waste they generate.
Indicative Cost	At the long list stage this criteria considers the relative investment required for each option to be implemented (at the short list stage the options will be fully costed).
Environmental impact	Considers the likely relative effects on the local environment from transport.

Figure 18: Collection options evaluation criteria (long and short list)

3.12 Collections Long List

3.12.1 The collection system can enable a number of different waste streams to be collected separately and dealt with to enable the tonnages to feed in to recycling and composting targets. The long-list collection options were:

Collection Option	Containers at the Kerbside
Do minimum: Weekly residual and statutory recyclables collection	Black Bag, Green Wheelie Bin
Do minimum: Fortnightly residual and statutory recyclables collection	Black Bag, Green Wheelie Bin
Do minimum: Weekly residual and statutory recyclables separated by residents	Black Bag, Containers for metal, plastic, glass and paper
Do minimum: Fortnightly residual, statutory recyclables separated by residents	Black Bag, Containers for metal, plastic, glass and paper
Weekly residual and statutory recyclables with separate food caddies and optional green waste collection	Black Bag, Green Wheelie Bin, Food Caddie and Optional Green bag
Weekly residual and statutory recyclables with co-collected food and green collection	Black Bag, Green Wheelie Bin, Food/Green Wheelie Bin
BASELINE (current collection service): Fortnightly residual and statutory recyclables with separate food caddies and optional green waste collection	Black Bag, Green Wheelie Bin, Food Caddie and Optional Green bag
Fortnightly residual and statutory recyclables with co-collected food and green collection	Black Bag, Green Wheelie Bin, Food and Green Wheelie Bin
Weekly residual and statutory recyclables - 2 stream, Opt out food, Opt in green	Black Bag, Containers box (plastic, glass, metal) Fibres Box (paper, card, textiles), Food Caddie, Optional Green Bag
Weekly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out)	Black Bag, Containers box , Fibres Box , Food and Green Wheelie Bin
Fortnightly residual, statutory recyclables - 2 stream, Opt out food, Opt in green	Black Bag, Containers box , Fibres Box , Food Caddie, Optional Green Bag
Fortnightly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out)	Black Bag, Containers box , Fibres Box , Food and Green Wheelie Bin

Collection Option	Containers at the Kerbside
Weekly residual, statutory recyclables - 2 stream, Opt out food, Opt in green **(Kerbside Collection Vehicles to sort containers)**	Black Bag, Containers box (plastic, glass, metal) Fibres Box (paper, card, textiles), Food Caddie, Optional Green Bag
Weekly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out) **Kerbside Collection Vehicles to sort containers)**	Black Bag, Containers box , Fibres Box , Food and Green Wheelie Bin
Fortnightly residual, statutory recyclables - 2 stream, Opt out food, Opt in green **(Kerbside Collection Vehicles to sort containers)**	Black Bag, Containers box , Fibres Box , Food Caddie, Optional Green Bag
Fortnightly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out) **(Kerbside Collection Vehicles to sort containers)**	Black Bag, Containers box , Fibres Box , Food and Green Wheelie Bin

Figure 19: Long list collection options

3.13 Collections Methods Long List Appraisal Results

3.13.1 Following the appraisal of the Collection Methods against the evaluation criteria the scoring showed the most appropriate collection options to be considered, Figure 20 shows the scoring results in ascending order:

No.	Strategic Option	Weighted Score
7	BASELINE: Fortnightly residual, statutory recyclables, Opt out food, Opt in green	149
11	Fortnightly residual, statutory recyclables - 2 stream, Opt out food, Opt in green	146
15	Fortnightly residual, statutory recyclables - 2 stream (KS sort of containers), Opt out food, Opt in green	145
12	Fortnightly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out)	132
8	Fortnightly residual, statutory recyclables, co-collected food and green (Opt out)	131
16	Fortnightly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out) (KS sort of containers)	130
5	Weekly residual, statutory recyclables, Opt out food, Opt in green	121
9	Weekly residual, statutory recyclables - 2 stream, Opt out food, Opt in green	121

13	Weekly residual, statutory recyclables - 2 stream (KS sort of containers), Opt out food, Opt in green	120
3	Do minimum: Weekly residual, statutory recyclables, Kerbside sort	114
4	Do minimum: Fortnightly residual, statutory recyclables, Kerbside sort	110
10	Weekly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out)	109
1	Do minimum: Weekly residual, statutory recyclables	109
6	Weekly residual, statutory recyclables, co-collected food and green (Opt out)	108
14	Weekly residual, statutory recyclables - 2 stream, co-collected food and green (Opt out) (KS sort of containers)	108
2	Do minimum: Fortnightly residual, statutory recyclables	106

Figure 20: Long list appraisal results

3.13.2 The top three best performing Collection options were shortlisted for detailed modelling (see short list evaluation section 3.19). These three options formed a clear grouping at the top, all scoring within 3% of each other, whilst the next best fourth option scored 12% of the top performing collection method.

3.14 Long List Treatment Facilities Appraisal

3.14.1 The full Collections and Treatment Long List Appraisal Report is attached at Appendix 5.

3.14.2 The Waste Treatment and Disposal Appraisal considered three different treatment areas:

- Food and Green Waste Treatment;
- Recyclables Sorting or direct transfer; and
- Residual Waste Treatment.

3.14.3 Each waste stream collected requires an appropriate treatment facility. Advances and innovation in technology has produced a range of options for the treatment of food, green and residual waste.

3.14.4 It is a key consideration of the options appraisal that it should only "include technologies potentially capable of delivering a waste solution" and "Where new or alternative technologies are proposed….they should

be shown to be bankable and deliverable." (DEFRA, WIDP guidance).

3.14.5 This does not preclude bidders offering other technologies or variants on those described below and indeed other solutions encompassing emerging technologies that are developed and proven during the procurement process.

3.15 Waste Treatment and Disposal Facilities Evaluation Criteria

3.15.1 The evaluation criteria set for the appraisal of waste treatment facilities have particular criteria related to the major investment and planning issues associated with building new waste treatment infrastructure.

3.15.2 The criteria used also included applicable criteria from the Sustainability Appraisal (SA) of the Island Plan Core Strategy. As the options appraisal work is strategic and high level, not all the criteria from the Island Plan Core Strategy SA can be applied, particularly as the appraisal is not site specific.

Criteria	Notes
Waste Hierarchy	This criterion considers the opportunity to remove additional materials from the residual waste stream for recycling or composting in keeping with the waste hierarchy.
Landfill Diversion	Considers total diversion from landfill (including recovered bottom ash from energy recovery).
Deliverability and 'track record' of technology	Considers applicability, robustness and track record of previous development, including whether the technology has operated with similar feed-stocks and at comparable scales. The prospects for deliverability of the technology on the Island are also considered here.
Product/residue acceptability	Considers the risk of finding market outlets for products and residues to ensure a complete solution is delivered.
Flexibility to meet legislation/ National strategic fit	Considers the risk of change, development or tightening of legislation in relation to the technology, in light of the current market position and further controls on the technology and potential uses of products and

Criteria	Notes
	residues.
Funding Potential	Considers the relative likelihood of the technology getting project finance to fund the construction works
Local Site and Planning risks	Considers the risks to secure planning permission within the project timescales, encountering difficult planning issues against the local development plans, and the potential land take risk.
Residents acceptability	Considers the risk of residents objecting to the solution or development and thereby increasing the risk of non-delivery or excessive project delays.
Environmental impact	Considers the likely relative effects on global warming and any local environmental considerations, and the potential for generation of renewable energy to offset the carbon footprint of the solution.
Transport impact	Considers the relative proportion of waste requiring onward transport out of the treatment facility, either to market outlets or final disposal, including Off-Island movements if necessary. This creates additional burdens on the road network, added environmental effects and potential project costs and risks with fuel prices.
Indicative Cost	At the long list stage considers the relative investment required for each option to be implemented; at the short list stage the options will be fully costed.
Authority control of treatment assets	Considers the level of control the Authority would have over the treatment asset (e.g. land, buildings and equipment), both during the contract and on contract expiry. The assessment is based on the tonnage of waste that each facility would treat and therefore, the tonnage of waste the Authority could treat when the assets revert to it.
Employment	Considers the relative level of direct employment each option may deliver.
Income Generation Potential	Considers the relative potential for income generation from the option, now and the in the future.

Figure 21: Treatment options evaluation criteria

3.15.3 Treatment Facility Long List

3.15.3.1 The long list options appraisal considered the following options for the treatment of Food and Green, Recyclables and Residual Waste.

3.15.3.2 *Food and Green Options*

3.15.3.2.1. The treatment of food and green waste is regulated by legislation and controls (see Appendix 2) and there are two principle types of facility listed below that can treat such waste.

Food and Green Treatment Facilities
Food waste to Anaerobic Digestion and Green Waste to Windrow Composting
Food and Green waste to In-vessel Composting

3.15.3.3 *Recyclates Options*

3.15.3.3.1. The way in which recyclates are collected will follow through differing methods of handling them before they are sold on to the recycling market. If recyclates are collected as they are now (co-mingled) or in two mixed containers they will need to be sorted into different material categories and this occurs in a material recovery facility (MRF). If the recyclates are sorted at the kerbside they can go directly to a Waste Transfer Station (WTS) on the Island and on to the open market. A WTS can also be used to bulk unsorted recyclates prior to being sent to a MRF.

Recyclate Treatment Facilities
Recyclables to local Materials Recovery Facility
Recyclables to transfer station (WTS)

3.15.3.4 *Long List Residual Waste Treatment and Disposal Facilities*

3.15.3.4.1. See Appendix 4, for a full description of the following residual waste treatment technologies:

Residual Waste Treatment (black bag waste)
Landfill (Continue with current services)
Mechanical Biological Treatment (MBT) (Aerobic) Bio-stabilisation – product to landfill
Mechanical Biological Treatment (MBT) (Aerobic) Bio-stabilisation – Compost like output

Mechanical Biological Treatment (MBT) (Aerobic) Biodrying – Secondary Recovered Fuel (SRF) to thermal treatment
Mechanical Biological Treatment (MBT) (Aerobic) Biodrying – Secondary Recovered Fuel (SRF) to thermal treatment Off-Island
Mechanical Biological Treatment (MBT) (Anaerobic Digestion) – product to landfill
Mechanical Biological Treatment (MBT) (Anaerobic Digestion) – Compost like output
Mechanical Biological Treatment (MBT) (Anaerobic Digestion) – Secondary Recovered Fuel (SRF) to thermal treatment
Mechanical Biological Treatment (Anaerobic Digestion) – Secondary Recovered Fuel (SRF) to thermal treatment Off-Island
Autoclave – fibre to recycling
Autoclave with Anaerobic Digestion – product to landfill
Autoclave – SRF to thermal treatment
Autoclave – SRF to thermal treatment Off-Island
Energy from waste (EfW) – power only
Energy from waste (EfW) – power only, Off-Island
Energy from waste (EfW) – combined heat and power
Advanced Thermal Treatment (ATT) – pre-treatment and gasification
Advanced Thermal Treatment (ATT) – pre-treatment and gasification, Off-Island
Advanced Thermal Treatment (ATT) – pre-treatment and gasification with CHP

3.16 Treatment and Disposal Facilities Appraisal Results

3.16.1 Food and Green Waste Treatment Facilities

3.16.2 Following the appraisal of the Waste Treatment Facilities Options against the evaluation criteria, the scoring below in Figure 22 shows the most appropriate food waste treatment options to be considered for the Council.

Food and Green Waste Treatment	Score
Food waste to Anaerobic Digestion and Green Waste to Windrow Composting	167
Food and Green waste to In-vessel Composting	162

Figure 22: Food and Green Waste Treatment scoring

3.16.2.1 Anaerobic Digestion (AD) ranked higher than In Vessel Composting (IVC) when considering the treatment of food and green waste.

3.16.3 Recyclables Treatment Options

3.16.3.1 Recyclables could be sorted in an On-Island Material Recovery Facility (MRF) ready for sale to onward markets. The sorted material would then be sold on to the reprocessing facilities. Alternatively, as with current operation, the recyclates can be bulked at a local waste transfer station and transported on to an Off-Island MRF for sorting and onward sale. As at this stage, the exact carbon and potential revenue impacts are difficult to assess, therefore, both options will be considered in the short list for modelling (see Figure 23).

Recyclables Sorting or Onward Transfer	Score
Recyclables to transfer station to go Off-Island	177
Recyclables to On-Island Materials Recovery Facility (MRF)	154

Figure 23: Recyclables sorting or onward transfer scoring

3.16.4 Residual Waste Treatment Facilities

3.16.4.1 The residual waste treatment facilities scored very widely with landfill scoring as the lowest match to the economic and environmental aspirations for the Council and a significant number of options scoring within the top 15%. See Figure 24 (below).

Rank	Strategic Option	Score
1	Energy from waste (EfW) - power only	189
2	Energy from waste (EfW) - power only OFF-ISLAND	178
3	Advanced Thermal Treatment (ATT) - pre-treatment and gasification	173
4	Energy from waste (EfW) - combined heat and power	169

5	Advanced Thermal Treatment (ATT) - pre-treatment and gasification CHP	168
6	Advanced Thermal Treatment (ATT) - pre-treatment and gasification OFF-ISLAND	167
7	MBT (Anaerobic Digestion) - Secondary Recovered Fuel (SRF) to thermal treatment	163
8	MBT (Anaerobic Digestion) - Secondary Recovered Fuel (SRF) to thermal treatment OFF-ISLAND	163
9	MBT (Anaerobic Digestion) - Compost like output	159
10	MBT (Aerobic) Biodrying - SRF to thermal treatment	153
11	MBT (Aerobic) Biodrying - SRF to thermal treatment OFF-ISLAND	153
12	MBT (Aerobic) Bio-stabilisation - Compost like output	145
13	Autoclave - SRF to thermal treatment	141
14	Autoclave - SRF to thermal treatment OFF-ISLAND	129
15	Autoclave - fibre to recycling	116
16	MBT (Anaerobic Digestion) - landfill as daily cover	114
17	Autoclave with Anaerobic Digestion - landfill as daily cover	113
18	MBT (Aerobic) Bio-stabilisation - landfill as daily cover	110
19	Landfill	83

Figure 24: Residual waste treatment scoring

3.16.5 The top eight treatment options were therefore short listed; these options were within 14% of the highest performing option and formed a clear grouping at the top, with all scores being over 160 points.

3.17 Short List Appraisal

3.17.1 The shortlist options appraisal report is attached at Appendix 6.

3.17.2 The shortlist modelling has assumed an integrated project (Commercial Case paragraph 4.5.2) and has modelled the options over a 25 year contract length to reflect the longest likely contract period. This is for indicative cost purposes so that all options can be compared equally and does not indicate a preferred contract length.

3.17.3 The residual treatment facility is commonly the most costly to build and hence needs a long term contract to recover that investment; as such it has been appraised separately to the collection, food, green and recyclable waste treatment options.

3.17.4 The two shortlist models contain the following services:

Collections Model	Residual Waste Treatment Model
Kerbside Collection of municipal waste, Food, Green, Recycling and Residual waste Treatment of Food and Green Waste Treatment/sorting of Recycling	Treatment of Residual Waste

Figure 25: Short list modelling

3.17.5 The shortlist modelling of the options involved two processes:

3.17.6 Technical Assumptions

3.17.6.1 All Collection methods and Treatment facilities have been modelled to deal with the long-term arisings of residual municipal waste, and operate at a fixed annual capacity to allow for waste growth over the contract period whilst using spare capacity for Commercial and Industrial waste.

3.17.6.2 As part of the assessment, the projected waste arisings and shortlisted collection methods have been assessed to consider (all costs at April 2012 prices):

- the quantities of food, green, recyclable and residual waste that may be collected over the next 25 years;
- the quantity of non-treatable or non-recyclable waste that will go to landfill;
- size of potential facilities;
- collection methodology recycling rates;
- treatment facility recovery rate, energy output potential and heat output potential;

- operating costs, including employment;
- lifecycle replacement costs of assets;
- maintenance costs;
- material sale price for recyclables;
- revenue from the sale of energy; and
- capital construction cost for all associated facilities including planning costs.

3.17.7 Each option was then modelled to take account of environmental considerations to show the potential carbon impact of the construction and operation of the chosen option see Appendix 6.

3.17.8 Financial Modelling

3.17.8.1 The financial modelling uses the selected technical option to assess at what cost these services can be delivered and to compare costs on like for like terms. The financial modelling assumes:

- Financial Close and Service Commencement happen on the same day due to the potential transferring of existing assets and personnel;
- Preferred Bidder happens two months before Service Commencement and the necessary planning applications for infrastructure will be submitted upon Preferred Bidder announcement;
- Capacity for Commercial and Industrial waste has been modelled at an average 15% of the facility's throughput of municipal waste over the contract life (in practise this will vary over time as the recycling rate increases);
- An assessment of likely third party income has been included;
- Although a range of different funding methods are available (see section 3.35 below), the financial modelling assumes Project Financing and includes the funding assumptions outlined in Appendix 7.

- Provision for capitalisation of bid costs (estimated circa £xxxx for Collection and £xxxx for Treatment).

3.17.9 Third party income sources

3.17.9.1 *Income linked to Collection methods*

3.17.9.1.1. There is an associated income stream from selling the energy from the On-Island Anaerobic Digestion (AD) plant and compost-like output from the On-Island windrow facility.

3.17.9.2 *Income linked to Treatment facilities*

3.17.9.2.1. Electricity income is available to EfW and ATT plants (whether power only or with heat). The Anaerobic Digestion and Secondary Recovered Fuel elements of an MBT plant would also generate electricity for which electricity income is available.

3.17.9.3 *Renewable energy incentives*

3.17.9.4 Where renewable energy is produced, in addition to electricity income, various other income sources are available as described Appendix 12.

3.18 Qualitative Results

3.18.1.1 The short listed methods for the collection of waste and the associated waste treatment facilities for food and green waste and recyclables were:

Collection Methodology		Associated facilities
A	**Base line co-mingled:** Fortnightly collection of residual, statutory recyclables co-mingled, Opt out food, Opt in garden waste	Material Recovery Facility Anaerobic Digestion or In vessel composting Windrow composting of garden waste

B	**2-stream co-mingled:** Fortnightly collection of residual, statutory recyclables - 2-stream, Opt out food, Opt in garden waste	Mini – Material Recovery Facility and Waste transfer station Anaerobic Digestion or In vessel composting Windrow composting of garden waste
C	**2-stream kerbside sort:** Fortnightly collection of residual, Weekly collection of statutory recyclables - 2-stream, Opt out food, Opt in garden waste	Waste transfer station Anaerobic Digestion or In vessel composting Windrow composting of garden waste

Figure 26: Short list methods for collection of waste and associated waste treatment facilities

3.18.2 As the collection methodologies are similar to each other, the tonnage of waste collected will not vary greatly. For collection method C, 2-Stream kerbside sort, it is assumed two containers are provided and collected every week, thus allowing the same capacity of collection of recyclables as the other two options.

3.18.3 Deliverability and Track Record

3.18.3.1 All options scored highly as they are all in use around the country and are frequently proposed by a range of industry leading collection companies.

3.18.4 Recyclables Processing/ Handling

3.18.4.1 The kerbside sort option scores the highest for this criterion as there is limited additional processing required because the materials are already separated in the collection vehicle. Collection method B scores second highest due to the need to sort the co-mingled materials. The fully co-mingled option scored lowest as all the collected materials will need additional sorting at a MRF.

3.18.5 Meeting targets

3.18.5.1 All the options include the collection of the five materials as

specified to be separately collected by the Waste (England and Wales) Regulations 2011 (paper, card, metals, plastics and glass) and so increase the likelihood of meeting 50% recycling rate required in the UK by 2020. Although 50% is not currently a mandatory target for local authorities, it is similar to the Council's aspiration to meet 55% recycling by 2020. At this time it is unknown what targets will be passed down to local authorities in the governments pending national waste management plan.

3.18.6 Requirement for on –going capital expenditure

3.18.6.1 As all the collection scheme options have similar numbers of vehicles and containers they all score the same.

3.18.7 Residents Acceptability

3.18.7.1 Collection methods B and C score lower than A, as it is considered that residents would rather have fewer containers to sort their recyclables in to. Additionally, method A would easily allow for the co-collection of commercial and industrial waste should the authority wish to expand a collection service to businesses.

3.18.7.1.1. The two-stream kerbside sort option scores lower than the other two options as the time it takes to manually sort boxes at the kerbside is more likely to hold up traffic, particularly on narrow roads.

3.18.8 Access to Services

3.18.8.1 Collection methods B and C may discourage residents with less mobility from using the recycling schemes as they may find the multiple containers difficult to handle (especially if these are boxes/ bags). Collection methods B and C therefore score less than the co-mingled option with one wheeled bin.

3.18.8.1.1. Collection methods B and C do not easily allow integration of the collection service with commercial and industrial waste collections, if the Council/Contractor decides to pursue this route. This is because

businesses generally require larger wheeled collection containers (e.g. 1100 litre size) for reception of their wastes due to the volumes produced and storage/security issues, and wheeled containers cannot be hand-sorted at the kerbside.

3.18.8.1.2. Collection Method B with a wheelie bin (two-stream co-mingled) scores better than method C as it is thought that residents would find it easier to use a bin and a box than two boxes, due to manoeuvrability and space.

3.18.9 Employment

3.18.9.1 Collection method C scores the highest as the collection rounds would take longer to complete and are weekly, and so require more vehicles (and thus staff) to cover the same area compared to the other two methods.

3.18.10 Education/ Awareness

3.18.10.1 All the options involve fortnightly collection of residual waste and opt out food waste collections. It is considered that these less frequent residual collections will make people think about their waste generation rates and so promote more sustainable consumption and waste minimisation. All the options score the same.

3.18.11 WRATE Modelling

3.18.11.1 The WRATE modelling quantifies the score for the environmental impact criterion. The scoring of the standard indicators is based on the relative differences between the collection methods.

3.18.11.2 The results show that methodology C is the best performing option environmentally. Although the recycling collections are weekly, the vehicles are assumed to contain food pods and so will collect food waste at the same time, which reduces some of the transport impact. Method C performs better as it assumes there will be less rejects than the two co-mingled options. The transport impact can be seen to be

lower too, as the recyclates can go direct to market whereas the other two options will require additional processing (intermediate facilities) which will require additional transport.

3.18.11.3 Where intermediate facilities are used to further sort the recyclates there is a greater Carbon impact. Therefore as the full co-mingled option requires the use of a MRF it has a greater Carbon impact than the two-stream co-mingled option that uses a mini-MRF. In turn the mini-MRF has a greater carbon impact than the two-stream kerbside sort option that only needs a waste transfer station.

3.18.12 Indicative Cost

3.18.12.1 The short list financial modelling provides a Net Present Value (NPV) for each solution (see Figure 27). This includes revenue from renewable energy tariffs and appropriate indexation of different elements of the costs. This showed the two-stream kerbside sort option has the lowest indicative cost; this is due to the separation of recyclables at the kerbside not requiring further sorting at a material recovery facility.

3.18.12.2 The main differences between the collection methods are the infrastructure requirements and vehicle numbers. Although more vehicles are required for the 2-stream kerbside sort option as the recycling collections are made every week, it comes out as the cheapest option overall due to:

- Lower container costs;
- An assumed higher market price due to better quality recyclables; and
- The recyclables are separated at source, so there is no need for infrastructure such as a material recovery facility to sort them.

3.18.12.3 For all the facilities, the sale of spare capacity for the treatment of commercial and industrial waste brings in revenue. For the Anaerobic Digestion plant, revenue is also generated from the sale of electricity

and an income from Feed in Tariffs is also modelled.

3.19 Collections Shortlist Financial Modelling

3.19.1 Food and Green waste can be treated separately or can be combined using an In-Vessel-Composter (IVC).

3.19.2 An IVC cannot take all green waste as it can only deal with non-dense waste; therefore a windrow facility would still be required for this waste, albeit smaller than one required to deal with all green waste.

3.19.3 It was considered that the capital expenditure costs of building a large IVC and small windrow compared to building dedicated AD and Windrow facilities to deal with food and green waste respectively were not substantially different. An AD facility has the added benefit of receiving income through the sale of generated electricity; the only output from an IVC is compost.

3.19.4 It was decided, therefore, to include non-residual waste facilities to deal with recyclables, food and green (bio) waste within the Collection modelling as follows:

- Recyclables – a Materials Recycling Facility (MRF) to sort recyclables for end markets;
- Food waste – an Anaerobic Digestion (AD) plant; and
- Green waste – a Windrow composting facility.

3.19.5 Consideration, for the purposes of modelling, was given whether to site these facilities on the Island or utilise facilities Off-Island.

3.19.6 The results of using both an On-Island and an Off-Island MRF were modelled as shown below:

	a) Baseline (£)	b) 2-stream co-mingled (£)	c) 2-stream kerbside sort (£)

Impact of using an On-Island MRF			
Net cost (unindexed)	xxxx	xxxx	xxxx
Annual Service Cost	xxxx	xxxx	xxxx
NPV of Annual Service Cost	xxxx	xxxx	xxxx
Impact			
Net cost (unindexed)	xxxx	xxxx	xxxx
Annual Service Cost	xxxx	xxxx	xxxx
NPV of Annual Service Cost	xxxx	xxxx	xxxx

Figure 27: Financial impact of shortlist Collection options (on/Off-Island MRF)

3.19.7 The results of the material recovery facility modelling show no financial variance in Annual Service Cost terms whether the facility is On-Island or Off-Island (including a related Waste Transfer Station (WTS)) for option A and option C. As recyclables currently go Off-Island the assumption in the modelling is to utilise an Off-Island MRF and bulk goods on the Island at a WTS, as current.

3.19.8 A small amount of food waste is currently being sent on an experimental basis, to an AD plant on the mainland with the majority going to landfill on the Island.

3.19.9 Green waste is currently composted at a facility owned and operated by the current service provider. Future green waste could continue to be dealt with in this manner (at a commercial charge), be dealt with at a purpose built On-Island facility within the contract, or be dealt with Off-Island, again at a commercial charge.

3.19.10 If food and green waste are dealt with through a facility built On-Island as part of the contract, whilst there are costs of building a facility, there is an associated income stream from selling the energy from the Anaerobic Digestion (AD) plant and compost-like output from the Windrow facility.

3.19.11 Financial modelling shows that building an AD plant on the Island has a lower net cost over 25 years than using an Off-Island facility operated by a third party as follows:

AD plant consideration	Off-Island £ ,000s	On-Island In £ ,000s
Lifecycle	N/A	xxxx
O&M	N/A	xxxx
Funding (of capital and other costs)	xxxx	xxxx
Income TPW	N/A	xxxx
Income electricity	N/A	xxxx
Income LECS	N/A	xxxx
Income FiTs	N/A	xxxx
WTS Merchant gate fee	xxxx	
AD Gate Fee and Transport	xxxx	
Per annum	xxxx	xxxx
25 years	xxxx	xxxx
Total	xxxx	xxxx

Figure 28: AD Plant costs

3.19.12 Therefore the assumption in the modelling is to build an appropriately sized AD plant and Windrow facility on the Island. This also supports the key aim of the Island Plan Core Strategy to try to manage waste on the Island.

3.19.13 The costs of the three Collection shortlist options are as below:

	a) Baseline co-mingled: (£m)	b) 2-stream co-mingled: (£m)	c) 2-stream kerbside sort: (£m)
Lifecycle and Operating costs	xxxx	xxxx	xxxx
Net funding costs (inc capex* below)	xxxx	xxxx	xxxx
3rd party waste income	xxxx	xxxx	xxxx
Electricity income etc.	xxxx	xxxx	xxxx
Recyclables income	xxxx	xxxx	xxxx
Net cost (unindexed)	xxxx	xxxx	xxxx
Annual Service Cost	xxxx	xxxx	xxxx

NPV of Annual Service Cost	xxxx	xxxx	xxxx
*Capex (inc in funding above)	xxxx	xxxx	xxxx

Figure 29: Financial impact of shortlist Collection options

3.20 Shortlist Collection Appraisal Results

3.20.1 The results from the options appraisal are detailed in Figure 30. The results include the technical scoring, the financial modelling (indicative cost) and the WRATE modelling (environmental impact).

Criteria	Baseline co-mingled	2-stream co-mingled	2-stream kerbside sort
Deliverability and 'track record' of option	16.0	16.0	16.0
Recyclable onwards processing	8.0	12.0	16.0
Meeting targets	20.0	20.0	20.0
Requirement for on-going capital investment	15.0	15.0	15.0
Stakeholder Acceptability	12.0	8.0	4.0
Access to services*	12.0	8.0	4.0
Employment*	4.0	4.0	6.0
Education/ Awareness*	12.0	12.0	12.0
Environmental Impact	4.0	8.1	16.0
TOTAL	**103**	**103.1**	**109**

Figure 30: Collections and food, green waste treatment appraisal technical results – Weighted scores (excludes Off-Island sensitivity)

Criteria	Baseline co-mingled	2-stream co-mingled	2-stream kerbside sort
Indicative cost Weighted	**5**	**13.5**	**20**

Figure 31: Weighted indicative costs

3.20.2 All the options scored similarly for the technical criteria (within c.5.5% of one another), however the results indicate that the 2-stream kerbside option is the best performing collection option, it also has the lowest NPV. However, this option does not easily allow the integration of Commercial

and Industrial waste and recyclables.

3.20.3 The technical scores being so similar indicates that a range of solutions may be appropriate to the Island, and the Council will use the procurement process to undertake a full comparative assessment of actual solutions proposed by bidders. As discussed earlier, the NPV will be subject to various commercial influences and so it is thought possible that each option could be delivered within similar budgets.

3.21 Collection Service Improvements

3.21.1 The principle service improvements flowing from the Collection Appraisal are:

- Revenue stream from separately collected recyclates;
- Revenue stream from onward processing of separately collected food and green waste;
- Revenue stream from energy and digestate produced from anaerobic digestion;
- Improved efficiency of collection rounds;
- Improved Commercial and Industrial waste collection service offered by the Authority;
- Reduction in missed collections;
- Reduction in the quantity of residual waste generated;
- Reduction of waste to landfill;
- Appropriate treatment of Food Waste;
- Improvement of recycling and composting rates; and
- Employment and education opportunities for Islanders.

3.22 Residual Waste Treatment Short List Appraisal

3.22.1 The short listed options for the treatment of residual waste are:

	Shortlisted Treatment Facilities
i	Energy from waste (EfW) – power only

	Shortlisted Treatment Facilities
ii	Energy from waste (EfW) – Off-Island
iii	Advanced Thermal Treatment (ATT) – pre-treatment and gasification – power only
iv	Energy from waste (EfW) – combined heat and power (CHP)
v	Mechanical Biological Treatment (MBT) (with Anaerobic Digestion) - SRF to thermal treatment
vi	Advanced Thermal Treatment (ATT) – pre-treatment and gasification – with CHP
vii	Advanced Thermal Treatment (ATT) – pre-treatment and gasification – Off-Island
viii	Mechanical Biological Treatment (MBT) (with Anaerobic Digestion) - SRF to thermal treatment – Off-Island

Figure 32: Short listed options for the treatment of residual waste

3.23 Qualitative Evaluation

3.23.1 Landfill Diversion

3.23.1.1 Each of the shortlisted treatment options were scored against the likely impact they would have on the amount of waste diverted from landfill. The waste tonnages are based on projected waste quantities for the year 2024/25 (see Figure 33).

	Waste quantities 2024/25 (tons)	Shortlisted Scoring
All EfW (and EfW CHP and EfW Off-Island)	34,140	4.0
All ATT(and ATT CHP and ATT Off-Island)	26,843	3.4
MBT - AD – SRF (and SRF treatment Off-Island)	31,437	3.8

Figure 33: Landfill diversion scores

3.23.1.2 The EfW options for landfill diversion (i and ii) score the highest as only a small amount of residue and bottom ash is sent to landfill. The MBT-AD-SRF (vii) option scores better than the ATT (iii, v, vi) options,

as the compost produced is sent for use on land. Although the MBT-AD –SRF option does have some rejects, these are not as much as for the ATT option.

3.23.2 Deliverability and Track Record

3.23.2.1 Both the EfW and MBT–AD-SRF options are proven technologies having many reference plants treating MSW in mainland Europe.

3.23.2.2 There are several modern EfWs in the UK, all have high availability and meet the requirements of the Waste Incinerator Directive. They are generally flexible to receiving a wide range of waste types.

3.23.2.3 The ATT options score lowest in this criterion. There have been very few recent waste projects awarded involving ATT technology and there are few operating plants of comparable scale in Europe.

3.23.3 Product/ Residue acceptability

3.23.3.1 For a CHP to work efficiently, a heat distribution network is needed, which is difficult to implement in an established town/city due to major works being required in installing CHP heat networks. Due to the complications with this technology, this scores the lowest in the shortlisted evaluation.

3.23.3.2 The MBT-AD produces recyclates and a digestate. Although there have been concerns about some of these outputs in the past, recent bids for other local authorities give confidence that these products are increasingly acceptable to the market

3.23.3.3 The EfW options only have products of ash and metal. There are secure markets for the IBA and metals; there is still no On-Island market for the small fraction of ash that is hazardous. The ATT options

(including the SRF treatment after the MBT-AD) produce more ash that is deemed hazardous and may be subject to more stringent controls and higher costs in the future. However overall product acceptability is considered to be fairly secure for all the options.

3.23.4 Flexibility to meet future Legislation/National strategic fit

3.23.4.1 The EfW and MBT-AD-ATT options have established processes for reducing pollution to the atmosphere. However both have the potential to be subject to more stringent controls and associated higher costs in the future that may require refitting of the technologies.

3.23.4.2 ATT technology needs front end sorting of waste as it is more sensitive than the other options to bulky items. The nature of the process means that emissions are usually cleaner and so more likely to meet future changes to emissions targets.

3.23.5 Funding Potential

3.23.5.1 The EfW and MBT-AD-SRF options have both secured funding for plants in the UK. Both technologies are proven throughout Europe for the use of MSW. Accordingly both options score highly.

3.23.5.2 The ATT CHP option scores less well as no large scale projects using ATT in the UK have successfully secured financing through banks. This may be related to a lack of operating experience from the technology providers. Also the problems some previous projects have encountered may have led to some doubts over the commercial viability of the technology. There is also an emerging concern that at smaller facility sizes the process may struggle to be classed as a Recovery process under the Waste Framework Directive as the typical electrical generating efficiency is lower than for EFW.

3.23.5.3 The Off-Island solutions score the highest as the only funding required is for a waste transfer station on the Island.

3.23.6 Local and Regional Site and Planning risks

3.23.6.1 The options that are located on the Island score poorly as it is anticipated that there will be some planning delays associated with major waste developments, particularly if they include thermal treatment.

3.23.6.2 The Off-Island options all score highly as the only infrastructure to be built is a waste transfer station.

3.23.6.3 The MBT-AD with Off-Island SRF treatment score in-between the other options as it may encounter some objection due to the associated facilities needing to be built on the Island, but the thermal element treatment is Off-Island.

3.23.7 Residents Acceptability

3.23.7.1 Any new development linked to waste treatment has the potential to generate some local opposition and although thermal treatment is currently accepted on the Island there is a risk a new development may raise objections. It is also considered a risk that residents may raise objections about the MBT-AD-SRF treatment facility, due to the number of facilities that need to be built as well as the thermal element.

3.23.7.2 The Off-Island options are not considered to raise major objections with residents, and so score the highest. The Off-Island treatment of the SRF from the MBT-AD is expected to be more acceptable than if a dedicated facility was built in the Island as part of the MBT-AD solution.

3.23.8 Transport Impact

3.23.8.1 For the On-Island options the transport impacts are assumed to be minimal, although the MBT-AD-ATT option scores less well due to the multiple facility configuration that leads to potential for facilities (i.e. the thermal treatment) to be located in different areas of the Island.

3.23.8.2 The Off-Island options score lower in this criterion due to the

potential distance that the waste needs to be transferred before it is treated.

3.23.9 Council Control of Treatment Assets

3.23.9.1 Where Off-Island merchant facilities are used the Council will have less control over the operation of the asset and these will be no asset to hand back at the end of the contract. These options therefore scored poorly.

3.23.9.2 On-Island options are assumed to be built specifically for the Council, so it is likely through contract negotiation that there is an opportunity for the asset to be reverted to the Council on expiration of the contract.

3.23.10 Employment

3.23.10.1 The Off-Island options will send waste to an existing plant so the only employment generated for these options will be at the new waste transfer stations.

3.23.10.2 All on–Island options require similar total numbers of staff for operations and maintenance and so score the same.

3.23.10.3 The MBT-AD option with Off-Island SRF treatment scores in-between these two as the new facilities will generate an element of employment.

3.23.11 Potential Income Generation

3.23.11.1 All options benefit from the sale of electricity and spare capacity. The On-Island ATT options and MBT-AD-SRF options score well compared to the EfW option as they also benefit from CfDs and FiTs. The AD element of the MBT-AD-ATT also receives AD FiTs payments.

3.23.11.2 The Off-Island options do not allow for any income as merchant facilities are used. The negative figure is due to the additional cost of land filling Off-Island in the later years, without any additional income to

off-set it.

3.23.12 WRATE Modelling

3.23.12.1 The detailed results of the WRATE treatment modelling are in the Long List Appraisal Report (see Appendix 5), these form the basis of the final scores for the environmental impact criterion.

3.23.12.2 The MBT-AD-SRF options and EfW Off-Island option score well against the climate change and carbon impact criteria. For the EfW Off-Island option, this is because it benefits from higher electrical efficiencies in a larger scale facility. The MBT-AD-ATT scores well due to the extra recyclates extracted and the energy produced by both the AD plant and the SRF treatment. The ATT options score lower because it does not treat all the residual waste and is not as efficient in producing electricity as the EfW options.

3.23.12.3 Overall the MBT-AD-SRF options perform well as there are less emissions to the atmosphere and to water due to less waste being thermally treated than the pure thermal treatment options, and due to less waste being sent to landfill than the ATT options (as it is assumed digestate is relatively inactive and is sent to beneficial use on land).

3.23.12.4 As ATTs are less electrically efficient, the gains received by using a (presumably) larger, more efficient facility that is Off-Island are cancelled out by the additional transport impact.

3.23.12.5 The CHP options perform well due to both electricity and heat being utilised.

3.23.13 Indicative Cost

3.23.14 For all the options based on the Island, the Net Present Value (NPV) (see Figure 34) is decreased due to the sale of spare capacity for the treatment of commercial and industrial waste and the sale of recyclates and electricity. For the calculation of NPV based on conservative assumptions, only £38/ tonne (rather than the current £48/

tonne) is assumed for income from the recyclates and no upside benefit is assumed for the electricity sales. An income from CfDs is also modelled for the ATT options, EfW CHP, and the SRF treatment. The AD facility is assumed to receive FiTs. As detailed above the income from all these tariffs is halved due to recent bidders not wanting to commit to the full tariffs whilst they are being developed and amended by the government (see Appendix 12).

3.23.15 Shortlist Residual Treatment Appraisal Financial Results

3.23.15.1 The costs of the shortlisted residual waste Treatment options are as below:

	EfW power only (On-Island) £m	EfW power only (Off-Island) £m	ATT (On-Island – new build) £m	EfW with CHP £m	MBT (On-Island) £m	ATT with CHP £m	ATT (Off-Island) £m	MBT (Off-Island) £m
Lifecycle costs	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Opex (including landfill tax)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Net funding costs (inc capex* below)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Tax	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
3rd party income	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Interest on cash balances	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Net cost (un-indexed)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Annual Service Cost	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
NPV of Annual Service Cost	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
***Capex (inc in funding above)**	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Figure 34: Costs of the shortlisted residual waste Treatment options

3.24 Residual Treatment Appraisal Results

3.24.1.1 The results from the options appraisal are detailed in Figure 35 and Figure 36 below and include the cost modelling and the WRATE environmental performance modelling (see Appendix 16).

Criteria	EFW	EFW CHP	EFW Off-Island	ATT	ATT CHP	ATT Off-Island	MBT-AD-SRF	MBT-AD-SRF Off-Island
Landfill Diversion	8.0	8.0	8.0	6.7	6.7	6.7	7.5	7.5
Deliverability and 'track record' of option	20	10	20	15	10	15	15	20
Product residue acceptability	20	10	20	15	10	15	15	15
Flexibility to meet future legislation/ National Strategic fit	12	12	12	16	16	16	12	12
Funding potential	10	5	20	5	5	20	10	15
Local and Regional Site and Planning risks	8	8	16	8	8	16	8	12
Stakeholder Acceptability	6	6	12	6	6	12	6	9
Environmental Impact	13	14	16	6	14	5	19	18
Transport Impact	8	8	2	8	8	2	6	4
Council control of treatment assets	16	16	4	16	16	4	16	8
Employment*	8	8	2	8	8	2	8	4
Potential income generation	5	9	3	11	10	3	12	9
TOTAL	**134.2**	**105.4**	**132.3**	**109.8**	**108.0**	**113.9**	**122.3**	125.0

Figure 35: Treatment options appraisal technical results – Weighted scores

Criteria	EFW	EFW CHP	EFW Off-Island	ATT	ATT CHP	ATT Off-Island	MBT-AD-SRF	MBT-AD-SRF Off-Island
Indicative cost scores	**18.6**	**19.1**	**20.0**	**16.7**	**16.3**	**20.0**	**5.0**	**15.7**

Figure 36: Indicative cost scores

3.24.2 The results indicate that the On-Island EfW and MBT-AD-SRF options are the best performing in terms of the qualitative criteria.

3.24.3 The EfW option performs well in the landfill diversion criteria, product/

residue acceptability and funding potential criteria. This is due to the wide acceptance of the use of incinerator bottom ash in aggregate (and therefore less landfill cost) when compared to the outputs from ATT not being as acceptable.

3.24.4 MBT-AD-SRF options perform well in a lot of the evaluation criteria, notably deliverability, product acceptability and environmental impact.

3.25 Treatment and Disposal Results

3.25.1 In order to avoid excluding new treatment and disposal technologies, the output specification will not restrict the top performing activities identified in the long list options appraisal.

3.25.2 A comparison of qualitative and quantitative results is shown in Figure 37 below:

Treatment and Disposal Facilities		Qualitative evaluation ranking	Financial evaluation ranking
i	EfW power only (On-Island)	1	5
ii	EfW power only (Off-Island	2	2
iii	ATT (On-Island)	5	4
iv	EfW with CHP (On-Island)	7	3
v	MBT (On-Island)	4	8
vi	ATT with CHP (On-Island)	6	6
vii	ATT (Off-Island)	8	1
viii	MBT (Off-Island)	3	7

Figure 37: Comparison of qualitative and quantitative treatment and disposal results

3.25.3 The qualitative and financial rankings do not directly correlate. This is due to the balance between environmental desirability assessed in the qualitative appraisal and the indicative cost of constructing, operating and maintaining the facilities. This disparity has led to a decision to take two of the residual waste Treatment and Disposal Facilities through to full financial modelling for the Shadow Bid Model. The two options are:

- **ii EFW power only (Off-Island)** – This represents the closest quantitative and qualitative match with both ranking 2. This facility

choice would see residual black bag waste transported to a merchant Energy from Waste Plant on the mainland.

- **iii ATT (On-Island)** – This represents a close match in the middle range of ranking for qualitative and quantitative scoring criteria. This facility choice represents the middle ground between cost and meeting the Authorities aspiration to be managing waste in a sustainable manner.

3.25.4 The treatment and disposal option will need to correlate with the selected collections option.

3.26 Treatment and Disposal Service Improvements

3.26.1 The principle service improvements flowing from the Treatment and Disposal Option vary between the Off-Island residual treatment facility and the On-Island residual waste treatment facilities.

3.26.2 Off-Island Residual Waste Treatment Service Improvements deliver:

- Reduction of waste to Isle of Wight landfill;
- Reduction of capital investment to the Council;
- Reduction of carbon and water impact for the treatment of residual waste; and
- Potential release of property assets currently associated with Residual waste Treatment.

3.26.3 On-Island Service Residual Waste Treatment Service Improvements, deliver:

- Reduction of waste to landfill;
- Revenue from renewable energy incentives (ROC's, FiTs etc.);
- Ability to receive and treat commercial and industrial wastes and receive income from gate fee;
- Ability to receive other third party waste and receive income from gate fee;
- Employment opportunities;

- Education and Training opportunities;
- Potential for heat off take network; and
- Reduction of carbon and water impact for the treatment of residual waste.

3.27 Service Delivery Options

3.27.1 The results of the short list collection appraisal and the treatment appraisal developed two potential service delivery options that have been fully financially modelled to develop a shadow bid model (see section 3.28).

3.27.2 From the collection model evaluation, method A has been selected:

Collection Methodology	Associated facilities
Base line co-mingled: Fortnightly collection of residual, statutory recyclables co-mingled, Opt out food, Opt in garden waste	Material Recover Facility Anaerobic Digestion or In vessel composting Windrow composting of garden waste

Figure 38: Method A

3.27.3 From the residual treatment model evaluation two options have been selected:

- EFW power only (Off-Island); and
- ATT (On-Island).

3.27.4 Service Delivery Option A:

- Collection Service;
- Recyclables: Bulked on the Island sent to an Off-Island MRF;
- Food and Green Treatment : On-Island; and
- Residual Waste Treatment: Off-Island.

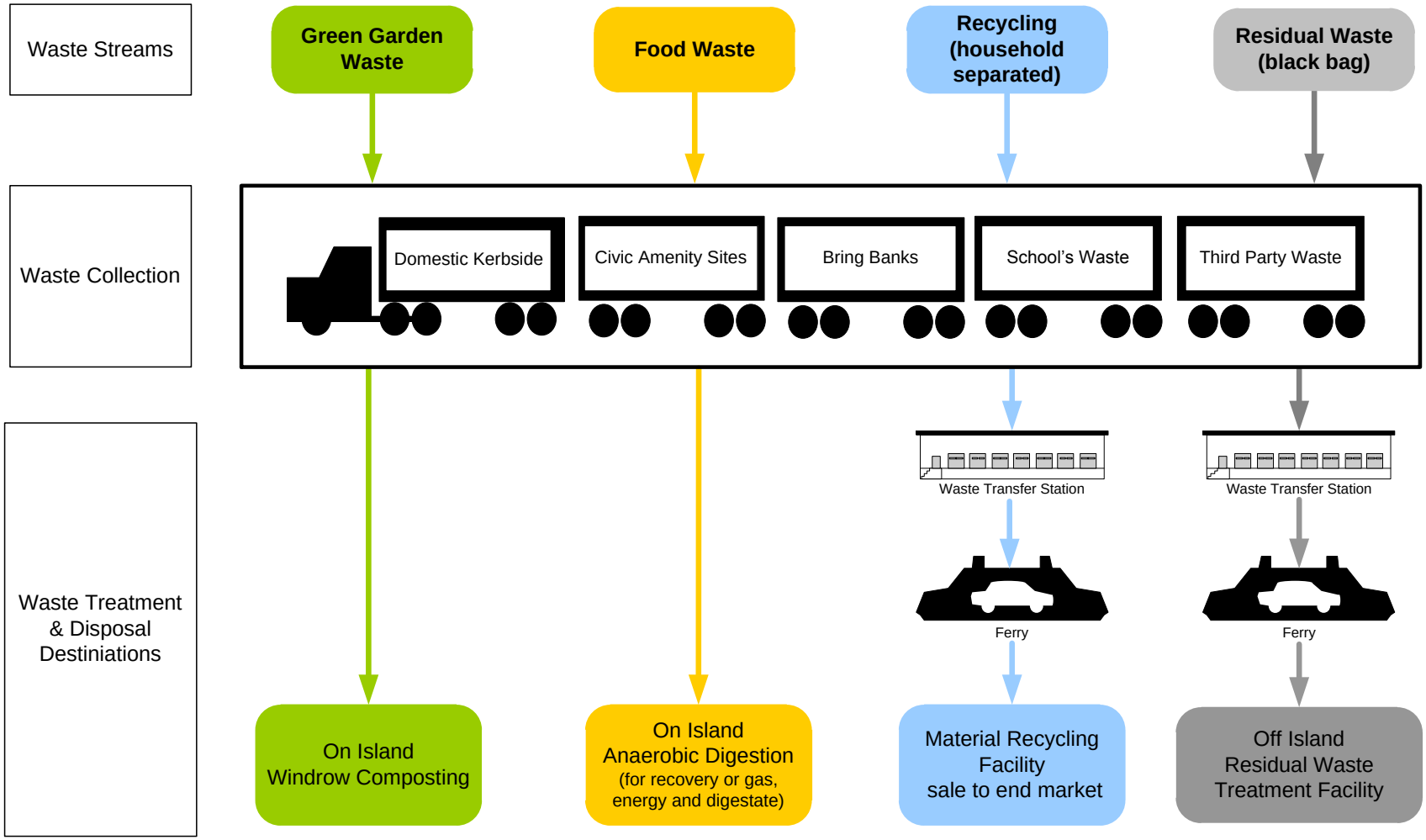

Figure 39: Service package A

3.27.5 *Service Delivery Option B*:

- Collection Service;
- Recyclables: Bulked on the Island sent to an Off-Island MRF;
- Food and Green Treatment : On-Island; and
- Residual Waste Treatment: On-Island.

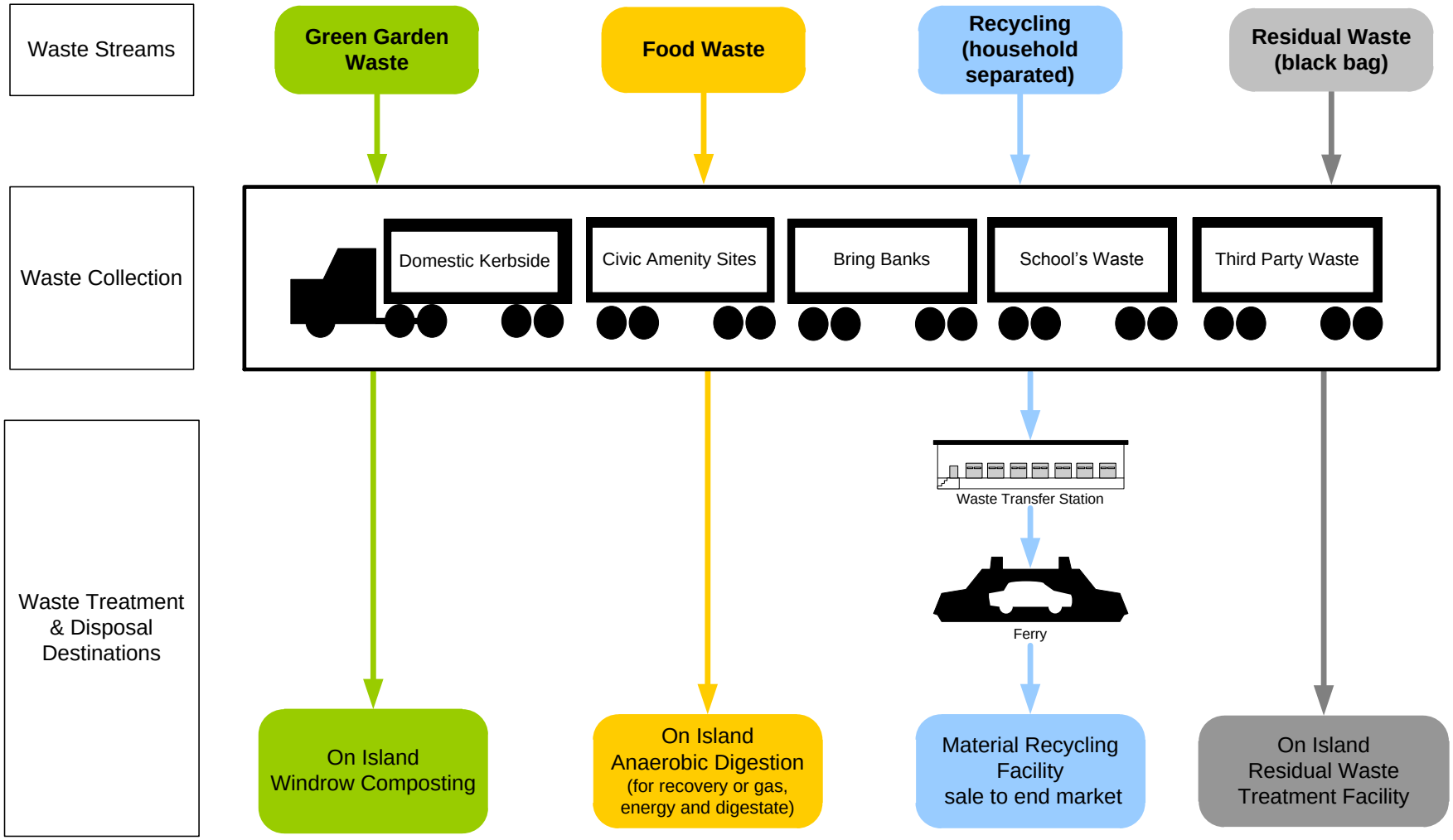

Figure 40: Service package B

3.28 Shadow Bid Model

3.28.1 The purpose of the 'Shadow Bid Model' is to estimate what the likely Annual Service Cost may be for a particular option in order for the Council to assess if it can afford the planned services.

3.28.2 The Shadow Bid Model is not the selected preferred solution because, as the Commercial Case has demonstrated, the waste management solution will be subject to a procurement process that will allow ideas and innovation from the waste management market to be considered by the Council. Bidders will be encouraged to propose sustainable and cost efficient solutions to deliver the Council's objectives.

3.29 Collection Model (inc. Food, Green Treatment and Recycling)

3.29.1 Collection Method A) Baseline co-mingled was the option taken forward as the Shadow Bid Model because, whilst not being the cheapest option, this method offers the least disruption to residents and is the most accessible collection service for Commercial and Industrial waste.

3.29.2 In addition to the Collection and Treatment of waste there are a variety of waste services provided by the Council that will be required irrespective of the solution (see paragraph 3.10.1). Therefore it was decided to include the following within the Collection modelling:

- The design, upgrade management and operation of three Civic Amenity Sites – with one upgraded to be able to take commercial and industrial waste;
- The management of mini recycling sites across the Island;
- Re-Use facility;
- Accommodation, and
- Waste Minimisation and Education (office based) of project lifetime.

3.29.3 The annual estimate costs of the Collection option including the above costs are as follows:

	Baseline co-mingled: Fortnightly residual, fortnightly statutory recyclables co-mingled, opt-out food, opt-in garden waste (£m)
Lifecycle and Operating costs	xxxx
Net funding costs (inc capex* below)	xxxx
3rd party waste income	xxxx
Electricity income etc.	xxxx
Bring banks income	xxxx
Net cost (unindexed)	xxxx
Annual Service Cost	xxxx
NPV of Annual Service Cost	xxxx
***Capex**	xxxx

Figure 41: Financial impact of Shadow Bid Collection options, with additional costs

3.30 Treatment

3.30.1 Due to the diversity of the qualitative and quantitative results, as shown earlier in this Case, it was agreed to prepare 2 estimates of Treatment models being an EfW and an ATT solution with one being an On-Island solution and one being an Off-Island solution.

3.30.2 The cost of these facilities is as per Figure 42 below.

	EfW power only (Off-Island)	ATT (On-Island – new build)
NPV	xxxx	xxxx
Annual Service Cost	xxxx	xxxx

Figure 42: Cost of facilities

3.31 Interim Service Incorporation

3.31.1 Collection

3.31.2 Whilst it has been assumed that the kerbside Collection service will commence on day one of the new contract (27 October 2015) and the Annual Service Cost become payable from that date, there will be additional costs incurred whilst the On-Island facilities are constructed.

3.31.3 The interim Collection service comprises:

- Recyclates taken to a local merchant Waste Transfer Station where they are bulked and taken to an Off-Island Materials Recovery Facility (MRF) to be sorted and sold to end markets;
- Food waste is taken to a local merchant Waste Transfer Station (WTS) then Off-Island to an AD plant, whilst local contract WTS and AD plants are constructed; and
- Green waste is taken to a local merchant composting facility whilst the local contract WTS and Windrow facilities are constructed.

3.31.4 These interim Collection service costs assumes:

- a one year planning period and 18 month construction period for the AD plant;
- a one year planning period and three month construction period for the Windrow facility; and
- a one year planning period and one year construction period for the Waste Transfer Stations.

3.31.5 The revised costs of the Collection service to include the interim period costs are:

	Annual Service Cost	NPV of Annual Service Cost
Collection (excluding interim costs)	XXXX	XXXX
Collection (including interim costs)	XXXX	XXXX

Figure 43: Collection cost including interim costs

3.32 Treatment

3.32.1 The Annual Service Cost for Treatment should not be payable until the Treatment facilities are available so that the Authority is not paying for a service it is not receiving.

3.32.2 However, the Service Provider would be incurring costs that require funding during the relevant construction period. These will need recovering through the Annual Service Cost when it becomes payable.

3.32.3 The availability of Treatment facilities depends on whether the facility is based on the Island (requiring planning approval and construction time) or whether the facility is based Off-Island (potentially using an existing facility, but needing an On-Island Waste Transfer Station (WTS)).

3.32.4 For an Off-Island solution, although some existing Council owned facilities can be used as a temporary Waste Transfer Station whilst a new single location Waste Transfer Station is constructed, the Treatment Facility modelling has assumed a four year interim service for an Off-Island Treatment solution so that the Annual Service Cost of the various Treatment facilities can be assessed on a similar basis.

3.32.5 For an On-Island solution, it has been assumed that a three-year construction period will be required with a one year planning period prior to construction. During this period, residual waste is taken to a local merchant Waste Transfer Station, bulked and then sent to an Off-Island EfW during the four year planning and construction period.

3.32.6 The revised costs of the Treatment service to include the interim period are:

	Off-Island Annual Service Cost	Off-Island NPV of Annual Service Cost	On-Island Annual Service Cost	On-Island NPV of Annual Service Cost
Treatment (excluding interim costs)	xxxx	xxxx	xxxx	xxxx
Treatment (including interim costs)	xxxx	xxxx	xxxx	xxxx

Figure 44: Revised treatment service costs

3.32.7 Combined Collection and Treatment Annual Service Cost

3.32.7.1 Because the Annual Service Cost for Treatment would not be payable until the Treatment facility was available, the profile of payments for the first five years of the contract (at 2015 prices) would be:

	2015/16	2016/17	2017/18	2018/19	2019/20
Collection	xxxx	xxxx	xxxx	xxxx	xxxx
Residual Treatment Off-Island or Residual Treatment On-Island	xxxx	xxxx	xxxx	xxxx	xxxx
Total (Off-Island) **(On-Island)**	xxxx	xxxx	xxxx	xxxx	xxxx

Figure 45: First five year payments for treatment

3.33 Stepped Annual Service Cost Payments

3.33.1 Collection

3.33.1.1 The Annual Service Cost and NPV above assume that 100% of the Collection Annual Service Cost is payable from Service Commencement.

3.33.1.2 The Council could choose to only pay a percentage of the Annual Service Cost from day 1 with 100% Annual Service Cost only becoming payable from the date services are fully delivered; i.e. when the Waste Transfer Station (WTS), AD plant, and Windrow facility were operational.

3.33.1.3 The impact of Annual Service Cost step-ups as below were considered:

- 2015/16 – xxxx% (half-year only, planning approval period);
- 2016/17 – xxxx% (planning approval secured for all facilities during first 4 months and Windrow complete by month 7 but AD and WTS still under construction);
- 2017/18 – xxxx% (WTS complete by month 4, AD complete by month 10); and
- 2018/19 onwards – xxxx%.

3.33.1.4 The impact of stepping the Annual Service Cost shows an interim Annual Service Cost of £xxxx from Oct 2015 to March 2018 with

a full Annual Service Cost payable from April 2018 of £xxxx.

3.33.1.5 The Annual Service Cost is lower in the first 2.5 years. However, if facility build times are taken into account when establishing the Annual Service Cost, the long-term Annual Service Cost is significantly higher than paying a full Annual Service Cost from Service Commencement.

3.33.1.6 It was therefore concluded that, because the build times for the Waste Transfer Station, Anaerobic Digestion plant and Windrow are only 12 months, 18 months and 3 months respectively, to assume a xxxx% Annual Service Cost from Service Commencement as detailed in Figure 45 above - £xxxx.

3.33.2 Treatment

3.33.2.1 The Annual Service Cost for Treatment should not be not be payable until Treatment facilities are available.

3.33.2.2 The Off-Island treatment solution requires a Waste Transfer Station only (one year planning, one year build) whereas the On-Island solution additionally requires an ATT Treatment facility (one year planning, three year build).

3.33.2.3 The impact of Annual Service Cost step-ups for these differing Treatment facility build requirements was considered as below:

	Off-Island Residual Treatment Annual Service Cost	Off-Island NPV of Annual Service Cost	On-Island Residual Treatment Annual Service Cost	On-Island NPV of Annual Service Cost
Treatment (including interim costs)	xxxx	xxxx	xxxx	xxxx
Treatment (including interim costs) – stepped Annual Service Cost	xxxx	xxxx	xxxx	xxxx

Figure 46: Stepped Treatment Annual Service Cost

3.33.3 Combined Service Delivery Package Costs

3.33.3.1 Under a stepped Annual Service Cost methodology, the Annual Service Cost is payable as follows:

	Annual Service Cost (interim period)	Annual Service Cost (100%)
Collection Model (inc food, green treatment and Recycling)	xxxx	xxxx
Residual Treatment Off-Island Or Residual Treatment On-Island	xxxx	xxxx
Total Off-Island **On-Island**	xxxx	xxxx

Figure 47: Combined Collection and Treatment Stepped Annual Service Cost

3.34 Sensitivity

3.34.1 A number of sensitivities have been undertaken to assess the impact of changes in costs and/or tonnages.

3.34.2 Collection

3.34.2.1 The sensitivities on the Collection method were run on the Shadow Bid Model Collection service before the addition of extra costs.

3.34.2.2 The results of the sensitivities can be found at Appendix 8.

3.34.3 Treatment

3.34.3.1 The sensitivities on the Treatment facility were run on both Shadow bid Model facilities and can be found at Appendix 9 and Appendix 10.

3.35 Funding Arrangements

3.35.1 Long-term projects can be funded in a number of different ways.

3.35.1.1 *Bank debt funded*

3.35.1.1.1. The Service Provider may set up a Special Purpose Vehicle

(SPV) whereby third party funders, usually banks, fund the project subject to being able to step in to the project should the SPV be in a default position. The risk is transferred to the Service Provider through this funding methodology. This is known as Project Finance.

3.35.1.2 *Service Provider funded*

3.35.1.2.1. The Service Provider may have surplus cash resources from their own balance sheet with which to fund the capital and set up costs associated with the project. Again, the risk is transferred to the Service Provider through this funding methodology. This is known as Corporate Debt.

3.35.1.3 *Council funded*

3.35.1.3.1. The Council may choose to arrange the funding of the project itself through one of the methods below, rather than the Service Provider providing the funding from its balance sheet or via bank funding.

3.35.1.3.2. Prudential Borrowing - Since the Local Government Act 2003, Councils have been able to undertake Prudential Borrowing whereby local authorities can borrow to invest in capital works and assets so long as the cost of that borrowing is affordable and in line with principles set out in a professional Prudential Code, endorsed by the Chartered Institute of Public Finance and Accountancy.

3.35.1.3.3. Reserves - If the Council has capital and revenue reserves, it may be able to fund the project, either in full or in part. Capital contributions would offset some of the interest charges applied in a project finance scenario.

3.35.1.4 *Specific grants/loans*

3.35.1.4.1. Whilst Government funding is no longer available for Waste PFIs, there may be opportunities for the Service Provider or the Council to secure other grants or funds depending on the facilities

included in the project. For example, if anaerobic digestion (AD) is a feature of the solution, there may be the possibility to access the Anaerobic Digestion Loan Fund (ADLF) administered by WRAP to support the development of new AD capacity in England.

3.35.1.5 The funding methods will be considered during the dialogue process, finding the best fit against the proposed solutions.

3.36 Balance Sheet

3.36.1 The contractual arrangement may make use of assets controlled by the Council. Applying current accounting regulations issued by CIPFA the Council will account for existing assets held and enhancements to these assets and additional assets provided by the operator as assets held on the Authorities Balance Sheet.

3.37 Summary of Shadow Bid Modelling

3.37.1 Taking in to account the assumptions in the Shadow Bid Models to deal with food and green waste on the Island, bulk recyclables locally and ship to an Off-Island MRF, and consider both an on or Off-Island solution for residual waste, the following tables sets out the likely costs compared to the current budget:

	Current Budget £m	Service Package A (Off-Island Residual Waste) £m	Service Package B (On-Island Residual Waste) £m
Collection and Recycling (Collection service and treatment of food, green and recyclable waste)	xxxx	xxxx	xxxx
Disposal (treatment) Contract	xxxx	xxxx	xxxx
Landfill Tax Current £64/tonne	xxxx	Included in above	Included in above

	Current Budget £m	Service Package A (Off-Island Residual Waste) £m	Service Package B (On-Island Residual Waste) £m
Total Annual Service Cost	xxxx	xxxx	xxxx
Interim period Annual Service Cost		xxxx	xxxx

Figure 48: Likely costs compared against current budget

3.37.2 Whilst the results of the Financial Case show that the Annual Service Cost for letting a long-term waste contract, based on the Shadow Bid Modelling, is higher than the existing budget, the Waste services industry continues to innovate and find new ways of treating waste and making the end by-products more valuable. It is therefore vital to provide a challenging affordability envelope for the waste industry to compete against. The affordability envelope (see Figure 48) will be reduced by xxxx% from the estimated costs of Service Package A (to approximately £xxxx per annum i.e. £xxxx less xxxx%). This would allow room for further negotiations during the tender process and potentially procure a contract that provides waste services at a possibly reduced cost from the current budget.

3.38 Landfill Capacity and Modelling

3.38.1 The landfill at Standen Heath is owned and operated by Island Waste Services (IWS). Through the Integrated Municipal Waste Contract between the Isle of Wight Council and IWS, municipal waste that is not recycled, composted or treated at the gasification facility is sent to landfill. The Standen Heath site also takes in waste privately from the commercial and industrial sector and the construction and demolitions sector. This asset will not revert to the Council.

3.38.2 Following the end of the IMW Contract, Island Waste Services will continue to operate the Standen Heath landfill site as a merchant facility. They will continue to receive waste from commercial, industrial, construction and demolition industries for which a gate fee is charged.

The Authority will be required to pay a gate fee set by IWS from 2015.

3.38.3 IWS are not able to cease the operation of the landfill site prior to it reaching capacity without the Waste Disposal Authority's (Council) consent and retain liability for the environmental control of the site.

3.38.4 Although the Council has no statutory duty to provide a landfill site; the Island Plan Core Strategy has identified a parcel of land for the construction of a new landfill. To construct a new landfill, with appropriate capacity for the economy of scale, at the site identified in the Island Plan Core Strategy an estimated capital cost of £18.7m will be required and will incur additional operation and maintenance costs.

3.38.5 Between 2006 and 2012 the volume of all wastes received at Standen Heath Landfill has significantly decreased. This decrease is due to several economic factors:

- There has been a national decrease seen in Municipal and Commercial waste tonnages since 2008;
- There has been an increase in commercial waste carriers offering recycling and residual services to businesses on the Island.

3.38.6 To predict the potential future void space the Council has run a void model on three future scenarios. This is to produce a probable range of dates in which the current landfill void could become full. The date at which the landfill is likely to become full is directly related to the selection of municipal waste treatment options in the future.

3.38.7 Low Waste Growth Scenario: Landfill capacity may be reached around 2046

3.38.7.1 Achieving this date is possible by procuring new services. The low waste scenario assumes:

- Interim service period – recyclables, residual and food waste Off-Island, green to composting;
- MSW and C&I: no waste growth;

- MSW: Recycling rate reaching 60% 2025;
- MSW: Diversion from Landfill all municipal waste reach 98% 2018 with new food waste and residual waste treatment Off-Island (or very high performing On-Island EfW); and
- Commercial and Industrial: Diversion from landfill increasing to 84%.

3.38.8 Medium Waste Growth Scenario: Landfill Capacity will be reached 2027

3.38.8.1 Achieving this date is more realistic with On-Island residual treatment facilities performing similarly to the current gasification facility and the Council does not take waste Off-Island in the interim period.

- Interim service period – recyclables Off-Island, green to composting, residual and food to landfill;
- MSW Waste growth following historic housing growth 0.6% rising to 0.8%;
- C&I Waste Growth 1.1% reducing to 0.5% a year;
- MSW: Recycling rate reaching 60% 2025;
- MSW: Diversion from Landfill all municipal waste reach 95% 2018 with new food and residual waste treatment facilities on or Off-Island; and
- C&I: Diversion from landfill increasing to 71.5%.

3.38.9 High Waste Growth Scenario: Landfill Capacity may be reached around 2022

3.38.9.1 This date will likely be met if the Island has a strong economic recovery and sees housing and economic growth rising at the same rate as the rest of South East England. In this scenario during the interim service period – recyclables Off-Island, green to composting, residual and food to landfill.

- MSW Waste growth following housing growth from Island Plan Core Strategy 1.5%;

- C&I Waste Growth 2.18% reducing to 0.96% a year from Island Plan Core Strategy;
- MSW: Recycling rate reaching 50% by 2020, National Waste Directive Target;
- MSW: Diversion from Landfill all municipal waste reach 84% (from Island Plan Core Strategy) 2018 with new/refurbished gasification waste treatment facilities; and
- C&I : Diversion from landfill remains at current rate 60%

3.38.10 Continue with current services and no change: Landfill Capacity may be reached around 2021

3.38.10.1 This is the likely scenario if the Council were to continue operating the current contract without change. Additionally a Baseline Scenario has been modelled showing the fill rate in a Continue with current services and no change scenario, this assumes the current methods of operating and treating waste do not change and waste does not grow.

3.38.10.2 The rate at which the current landfill site fills has direct dependencies with the procurement of the next municipal waste contract. The decision that is made on where waste is treated by the next waste contract will influence directly on the fill rate. Treating all of our waste off the Island would have a significant impact on the expected life of Standen Heath Landfill extending it into the mid 2040's, whereas continuing to treat it as we are now may cause the landfill to reach capacity in early 2020.

3.38.10.3 The Waste Project team have postponed the progression of a landfill application in light of the uncertainty of a requirement for a new landfill site. The Project Team will continue to monitor the void space and will review the position when there is a greater certainty over the forward treatment of municipal residual, food and green waste.

3.39 Conclusion

3.39.1 The financial evaluation by the Project Team as set out in this Case illustrates the relative costs for the treatment of waste at both On-Island and Off-Island locations. The use of an Off-Island location would involve using available capacity at already operating mainland treatment facilities. An On-Island treatment of waste will require investment in infrastructure to provide treatment facilities locally. The Project Team have also considered a mix of On-Island treatment and Off-Island treatment; for example, food and green waste that tends to attract high transportation costs and relatively low cost to provide treatment on the Island, whilst residual waste (black bag waste) that has associated high-treatment facility investment cost could be treated Off-Island.

3.39.2 The Island will however need some infrastructure to transfer the collected waste before they are packaged for onward transport off the Island or to treatment plant/s on the Island. Using current market prices from recent procurement by other local authorities services, these options have been priced, mirroring how the supplier of service likely to price for services on the Island.

3.39.3 The Council should seek a treatment and disposal option (whilst being constrained by the affordability envelope) that meets the same or similar environmental and economic outcomes as will be governed by the output based specification. This would be achievable through Procurement Option C, Procure new collection and treatment services.

4. Commercial Case

4.1 Purpose

4.1.1 The purpose of the Commercial Case is to assess the viability and attractiveness of the project for procurement. The Commercial Case focuses on the key areas of the procurement strategy, procurement milestones and process, market testing and the development of key procurement documentation.

4.2 Scope of Services to be Procured

4.2.1 The scope of the waste services to be procured has been detailed in the Strategic Case (see section 2.8). As described in the Strategic Case, the scope can be grouped into the following packages for procurement:

- Collections, Civic Amenity Sites and Recycling Service;
- Residual waste treatment and Disposal;
- Management and Client Interface and Re-use and Minimisation Service; and

4.2.2 This Commercial Case considers the Procurement method, strategy and timescales for sourcing the required services; in particular, paragraph 4.5.2 describes how the procurement packages could be procured either together, as an integrated service, as separates lots, or completely separate procurement exercises.

4.3 Procurement Method

4.3.1 Sourcing options

4.3.1.1 The options for provision of the services are considered to include:

1. Competitive tender exercise;
2. Use of existing Framework Agreements; and
3. Extension of existing arrangements.

4.3.1.2 The first option is the preferred method; a competitive tender process is the only option listed above that will enable to Authority to evaluate a full range of innovative solutions currently available in the market place, which can be tailored via the procurement process to meet the Island's specific requirements.

4.3.1.3 The Authority is legally obliged to comply with the relevant EU Procurement Directives for procurements of the size and types required for this project; therefore, an OJEU compliant process is recommended.

4.3.1.4 The use of existing Framework Agreements would not provide a comprehensive service; the Authority would be required to buy additional services to fill the gaps. This is a common problem when seeking to provide wide ranging services via existing Framework Agreements. The use of existing Framework Agreements would provide multiple contracts, with complex interfaces, bringing with it, the difficulties of managing multiple contractors, especially where contracts were not specifically designed to work together. The various waste services do not operate in isolation from one another; many are co-dependent; waste will transfer across services and between waste management facilities and contractors. This will mean that the tonnage and composition of waste that is managed by a particular service can vary depending on the performance of other services. For example the capacity, revenue and efficiency of a recovery facility will be influenced by the performance of the collection service, the relative mix of combustible and non-combustible wastes and the success of waste separation at the Civic Amenity Sites. A general problem associated with using existing Framework Agreements is that they will have been constructed by purchasing organisations that have been focused on a more general specification, which has not been written specifically for the Island's needs; whilst there may be some scope to tailor the resultant contracts, the scope is significantly less than will be available via a procurement process dedicated to the Island's requirements.

4.3.1.5 The existing arrangement is nearing the end of its contractual

life and the supporting infrastructure is also nearing the end of its useful life. Furthermore, any extension of the current contract would not be compliant with the relevant EU Procurement Regulations, this option is therefore not recommended.

4.3.2 Procurement Directives

4.3.2.1 Public sector procurement is governed by legislation set by the European Union mandating three core principles:

- Equality of treatment between all potential bidders;
- Non-discrimination; and
- Transparency.

4.3.2.2 Effective procurement is crucial in securing high quality, best value public services and the development of a clear procurement strategy is a key step towards achieving Value for Money and delivering efficiency targets.

4.3.2.3 The process requires use of the Official Journal of the European Union (OJEU) for the advertisement of opportunities exceeding the published value thresholds as will be the case in this Project.

4.3.2.4 It is mandatory for the Council to comply with these regulations and also Council Standing orders; therefore a compliant procurement mechanism will be utilised for the selection of a new waste contract; many of the core principals represent good procurement practice which will help to ultimately deliver a value for money, innovative solution.

4.3.3 The European Commission published Directive 2004/18/EC in the spring of 2004, introduced the Competitive Dialogue (CD) procedure. This mechanism has been introduced as an alternative to the negotiated procedure for complex procurements.

4.3.3.1 Four regulated mechanisms exist for undertaking OJEU procurements:

- The Open Procedure – whereby any organisation expressing an interest is provided with the full contract documentation and invited to tender. This method does not include any opportunity for short-listing or contract negotiation.

- The Restricted Procedure – which allows a pre-qualification stage to be performed to short list the suppliers that will be invited to tender. Again no opportunity exists for contract negotiation using this mechanism.

- The Competitive Negotiated Procedure – which allows the Council to prequalify suppliers that will be invited to negotiate over the required service provision. There is no formal end to the negotiations prior to the contract signature.

- The Competitive Dialogue Procedure – whereby the Council pre-qualifies service providers to create a shortlist of those who are invited to participate in the dialogue process, affording them opportunity to discuss and refine the required solutions. Through specific evaluation processes, service providers may be deselected during the process. Once the solution has been confirmed the dialogue is brought to a halt through formal notification to all participants remaining in the process and final tenders are invited. After the Call for Final Tender has been issued only limited discussion and clarification is allowed – there is no provision for further negotiation at this final stage.

4.3.3.2 Guidance states that the Competitive Negotiated Procedure should now only be used in exceptional circumstances, whilst the Competitive Dialogue procedure should be used for “particularly complex contracts” (ref: Regulation 18 - Public Contracts Regulations 2006).

4.3.3.3 Under the Public Procurement Directive (2004/18/EC) and the

Public Contracts Regulations 2006, the Council is not able to objectively define the technical means capable of satisfying its needs or objectives and therefore the proposed waste contract can be classified as a "particularly complex contract" and therefore the Competitive Dialogue procedure is the appropriate process.

4.3.4 Competitive Dialogue (CD)

4.3.4.1 The Council has taken great care in assembling an experienced and capable team structure as described in the Project Management section of this OBC, including Technical, Finance Legal and Procurement support. A number of the team have very recent experience of the Highways PFI Competitive Dialogue exercise. In addition, the Project Team will be able to draw on the wider external Advisor team, also identified in the Management section.

4.3.4.2 In order to ensure a sufficient number of capable bidders to achieve a successful Competitive Dialogue process, the Council shall include as broad a scope as it feels is relevant to the Isle of Wight Project, although this can be refined as the Competitive Dialogue progresses. The broad scope will also enable the bidders to be innovative in their submissions and propose the technologies that best suit the Island's requirements and their core competences.

4.3.4.3 The Council will design a detailed CD process and announce a set of protocols and ground rules to facilitate an orderly and professional conduct of the dialogue. The process will be co-ordinated and managed by the Project Team. The Competitive Dialogue process enables the bidders to refine their proposals over time via stages that usually include:

- Invitation to Submit Outline Solutions (ISOS);
- Invitation to Submit Detailed Solutions (ISDS); and
- Invitation to Submit Refined Solutions (ISRS).

4.3.4.4 At each stage, proposals are evaluated by the Authority and

bidders will be either deselected, or advanced to the next stage. Dialogue is complete when the Authority has proposals capable of satisfying the Authority's requirements. Dialogue is then closed and a Call for Final Tenders (CFT) is made. There are usually only two or three bidders left at this stage.

4.3.4.5 The Council expects the early dialogue from ISOS to ISRS to be conducted with a plenary opening session, which will set the structure of the coming dialogue and providing feedback from the previous stage. This will be followed by dialogue conducted by three teams, leading on Technical, Finance and Legal. Each dialogue team will have back room support to help with the effective management of the overall process.

4.3.4.6 The CD process is typically a relatively long procurement procedure; however, experienced bidders will understand the financial commitment necessary to bid and the likely investment in time necessary to bring a successful conclusion to the procurement process.

4.3.4.7 The CD phase of the procurement process will be an open competition where all participants commence from a 'level playing field'; appropriate tender information will be made available to bidders in an equitable fashion, whilst maintaining confidentiality of sensitive bidder information. The dialogue phase will be an iterative process which will continually refine the proposals until the receipt of final tenders.

4.4 Market Research

4.4.1 The Project Team has conducted market research via desk top research, meetings with potential providers and discussions with other Local Authorities. This exercise has helped to alert the market of the Council's opportunity and enhanced the Project Team's awareness of what the market has recently delivered. In addition to the Project Team's own efforts, the Council's Technical advisors have contributed their extensive experience of recent projects.

4.4.2 Feedback from the research has confirmed that there is sufficient

appetite in the Waste market to ensure an adequately competitive procurement process can be achieved.

4.5 Procurement Strategy

4.5.1 Packaging of services for procurement

4.5.1.1 The scope of the services to be procured has been detailed in section 4.2 of this Commercial Case. This section of the Commercial Case reviews how the various services may be packaged for procurement.

4.5.1.2 The packaging of the various services to be procured in order to deliver a streamlined, efficient process, a strong competition between bidders and lead to a value for money solution for the Authority is a key decision for the Authority. Options to be considered include:

a. The procurement of a fully integrated contract;

b. The packaging of services into lots, procured as a part of a single procurement exercise, where bidders are able to bid for some or all of the lots*; or

c. The procurement of separate contracts for discrete services.

* *Lots in this context refers to individual services that could be viewed separately from the whole package of services for procurement purposes.*

4.5.1.3 Whether the services are procured as a fully integrated contract, a series of lots or as a portfolio of separate contracts is a key consideration. This will impact on the procurement timescales and cost and the complexity of the bid evaluation process. There are additional considerations such as the number of interested bidders and the on going contract management requirements.

4.5.1.4 Figure 49 outlines a number of potential advantages and disadvantages to the three service package options. Figure 49 has been split into the areas of procurement that may be affected by the differing service package options.

Areas of procurement that will be affected	Integrated Contract		Single Procurement with Service Lots		Separate and discrete contracts	
	Advantages	*Disadvantages*	*Advantages*	*Disadvantages*	*Advantages*	*Disadvantages*
Resource and cost impact on the Authority	Minimises the administrative burden on the Authority. Minimises the Authority's procurement costs - Requires only one OJEU notice and one set of procurement documents. Maximum scope for transference of risk from the Authority, to the Service Provider	Rate of progress may be influenced by third party inputs (e.g. funders)	Less duplication when compared to separate and discrete contracts.	Increased administrative burden, as individual and combined procurement documentation required. Simultaneous and complex evaluation to determine the most economically advantageous lots. Potential for protracted dialogue to resolve interface issues. Authority retains risks created by management of the contractual interfaces Overall progress on the procurement timetable may be dictated by the slowest progressing lot.	none	Multiple OJEU procurements required. Resource intensive Considerable administrative burden on the Authority. Potential for protracted dialogue to resolve interface issues. Increased procurement staff will be required Increased contract management resource required Authority retains risks created by management of the contractual interfaces
Market Interest	Small companies may be able to sub contract as part of a consortium. Consortiums can be formed to bid for the work and thus benefit from a range of expertise.	May restrict the scope of competition because there are fewer larger companies capable of providing all service elements and they may have preferred sub contractors, so limiting the ability of smaller specialist companies to participate	Maximises the number of potential participants. Allows smaller specialist companies to tender whilst also allowing large companies to offer savings for managing all services. Allows the Authority to select the 'best fit' for each element of the	May erode appetite of some larger companies to participate, as increase competition reduces their chance of winning all services. Larger companies may end up with unattractive contract offers	Maximises the number of potential participants. Allows smaller specialist companies to tender.	May erode appetite of some larger companies to participate particularly smaller service contracts. Higher bid costs due to duplication across services.

			contract.	Higher bid costs due to duplication across lots.		
Impact on project cost	Potential for value for money savings through economies of scale and shared resources and knowledge across service areas. 'Full Service' major bidders more likely to self fund capital build. More incentive to invest in C&I collections and civic amenity sites. Greater incentive to up size treatment facilities to accept additional waste streams.	The primary contractor will add additional profit margin on sub contractor costs.	Potential for some value for money savings depending on how lots are let.	Enhanced potential of risk pricing to address interface issues.	None	Potential for value for money to be lost through inability to bid for whole service provision. Enhanced potential of risk pricing to address interface issues. Loss of ability to incentivise C&I collections, Authority will have to cover cost. Increases risk pricing Make tonnage guarantees more difficult increasing risk pricing.
Impact on project focus	Enhances cross service cohesion and performance risk transfer.	Potential for focus on some service elements to be diluted in the wider context of the procurement negotiations.	Allows procurement to focus on separate service elements.	Potentially longer service element procurements than usual (e.g. collection service). Will reduce cross service cohesion and transfer of performance risk. Will introduce interface risks.	Allows procurement to focus on separate service elements and different contract lengths.	No possibility of enhanced service integration. No inherent cross service cohesion. Will introduce interface risks.
Programming	Single procurement exercise.	Timetable is extended to allow for dialogue on all service elements.	Single procurement exercise. Individual lots can progress individually freeing resources and time.	Issues on specific lots could prevent progress on wider project. Potential that dialogue may be protracted on risks that arise from	Procurements can run to their own timetables reducing overall timescales and allowing phasing of different services. Complex evaluation of	Multiple procurements running in tandem may affect delivery programme. Interactions of different service element timings need

				service interfaces across lots. Co-dependant lots may only proceed at the rate of the slowest. Complex evaluation of lots may affect programme.	lots may affect programme.	to be considered. Will increase procurement period
Client monitoring/ management of contract	Enhanced service integration and contract management	The length of the contract may not promote continuous improvement on cost savings for all elements of the service – requires careful consideration when drawing up contract terms.	Some potential for enhanced service integration.	Substantially increased client monitoring requirement of separate contractors. Potential for disputes between contractors.	None	Substantially increased client monitoring requirement of separate contractors Potential for disputes between contractors.
Service interfacing	Easier to interface services, promote service cohesion and transfer performance risk.	None	None	Interface risks if services let to separate companies	None	Interface risks if services let to separate companies
Bidder finance issues	Likely to be larger companies so can benefit from experience and exposure to new technologies. Larger companies are more likely to be able to raise finance for any capital investment that is required.	If the contractor encounters financial problems this may put all services at risk, depending on contractual structure.	None	Smaller companies providing niche services may find it difficult to meet financial thresholds for pre-qualification, and raise capital for new infrastructure.	None	Smaller companies providing niche services may find it difficult to meet financial thresholds for pre-qualification, and raise capital for new infrastructure.

Figure 49: Strengths and weaknesses of different procurement routes

4.5.1.5 The various services do not operate in isolation from one another; many are co-dependent; waste will transfer across services and between waste management facilities. This will mean that the tonnage and composition of waste that is managed by a particular service can vary depending on the performance of other services. For example the capacity, revenue and efficiency of a recovery facility will be influenced by the performance of the collection service, the relative mix of combustible and non-combustible wastes and the success of waste separation at the Civic Amenity Sites (CA sites). Similarly, the annual throughput of the landfill will be dependant upon the performance of re-use, recycling, composting and recovery services.

4.5.1.6 The interaction and interfaces between the services has the potential to be one of the most time consuming aspects to procuring and managing several separate waste service contracts. This is likely to lead to the Authority needing to manage and accept risks associated with the complex interfaces between the various service elements. To manage interface risks, the Authority will need to invest more resource and finances into ongoing contract management.

4.5.1.7 If separate contracts are procured and the Authority does not wish to accept additional interface risk, then this is likely to be reflected in additional risk pricing being built into the charges for each contracted service. Separate contracts may also result in the replication of some contract management costs and fixed overheads (offices, managerial staff etc.).

4.5.2 Service Package Recommendations

	Options
1.	**Single Integrated Contract Procurement** This option would benefit from a stronger economy of scale, greater potential for higher levels of capital investment, a simpler procurement process, and lower level of resource to manage the contract. The contractual interfaces would be simpler than either option 2, or 3, both of which would necessitate the Authority managing multiple contacts, with the larger potential for supplier disputes. It would allow the waste resource quantity and quality to be controlled to the optimum level for re-sale and fuel recovery for either an On-Island or Off-Island solution. Although the cost implications for procurement are lower for this route it may erode market interest from specialist and innovative technology markets.

	Options
	This Option is the recommended packaging for procurement.
2.	**Single Procurement for multiple Service Lots** This option will potentially retain the benefits that may be offered by larger companies offering greater investment and also allow smaller specialists to propose innovative technology solutions directly to the Authority. The procurement process will allow the evaluation to select the best economic and environmental mix to match the Authority's corporate objectives. This option will be a greater administrative burden than Option 1 as separate contract documentation will need to be developed for each lot and post procurement the contract management may have several contract interfaces to oversee. This contract route does not discount the option of one bidder winning all the lots and realising the economy of scale benefits gained under an integrated approach; nor is there a requirement for all of the lots to be let if a suitable bid is not offered. This procurement route will need to negotiate the interfaces to ensure the best possible contract interface through a complex procurement. This complex process will require particularly innovative and robust evaluation criteria.
3.	**Separate procurement for each waste service** This option will place a substantial resource burden upon the Authority for both the procurement, in terms of duplication of contract documents and evaluation, and in contract management and will increase risk pricing from bidders. It decreases the economy of scale and will lead to lower levels of investment in smaller service areas such as the Civic Amenity Sites, and decreases the opportunities to incentivise C&I waste options. If selected this procurement route will need to negotiate the interfaces to ensure the best possible contract interface. This option offers no advantages over Option 2 and significantly increases the risk of interface issue and cost to the Authority.

Figure 50: Service package recommendations

4.5.3 Contract Length Options

4.5.3.1 Where there is substantial capital investment by a contractor, long term contracts will normally be appropriate. It is common for contracts secured under Public Private Partnership (PPP) arrangements which involve the construction of substantial new infrastructure, to have a project duration of 25 to 30 years.

4.5.3.2 The duration of the waste management contract(s) will consider the projected level of capital investment required and seek to balance capital repayments over the contract term and operational payments and translate these in to a manageable monthly charge or gate fee to be paid by the Authority. For the services required by the Authority, Figure 51 below shows indicative timescales that are generally used for separate services. Contract

lengths for integrated waste infrastructure projects tend to be longer than those for collection contracts; this is to ensure repayment of the capital costs of new facilities. Smaller facility and collection contracts tend to have shorter duration contracts.

Service Type	Typical Duration	Commentary
Collection service for kerbside residual waste	7 to 15 years	Investment in vehicles generally written off over 7 years, leading to natural opportunity to renew service requirements via a new procurement. Any need for new depot or transfer facilities may lead to longer contract lengths
Collection service for kerbside recyclables	7 to 15 years	Shorter duration contracts are those that are able to utilise existing facilities and treatment capacity, longer contracts when needing to construct a new facilities
Collection service for kerbside food waste	7 to 25 years	Shorter duration contracts are those that are able to utilise existing treatment capacity, longer contracts when needing to construct a new facility
Collection service for kerbside green waste	7 to 9 years	Investment in vehicles and their replacement cycle will generally dictate contract period if existing facilities are accessible.
Management of Civic Amenity Sites	7 to 15 years	Minimal investment required if there are existing sites, however, longer periods are employed if developing the service and/or sites
Residual waste treatment	7 to 30 years	Shorter contracts exist if the required infrastructure is pre-existing and has spare capacity. Long contracts serve to cover investment in infrastructure and to secure long term capacity
Waste disposal to landfill	1 to 25 years	Shorter term contracts are usually for interim services whilst infrastructure is being developed

Figure 51: Typical contract durations for separate waste services

4.5.3.3 The adoption of a single procurement for separate Service lots would

allow for differing lengths of contract within the process for the lots. It would also allow for smaller service lots, such as collections and Civic Amenity Sites, to be procured with the option to renew on a periodic review cycle. However, the various disadvantages of procuring separate Service lots has been documented in paragraph 4.5.2 (above).

4.5.3.4 Typical contract terms for collection services are 7 – 15 years; these usually include best value reviews around the 7 year point, coinciding with standard vehicle leasing periods. Treatment contracts are generally longer in nature, reflecting the likely higher investment in infrastructure required; typical periods are often in the region of 25 – 30 years. However, the use of Off-Island infrastructure for the treatment of residual waste would mean that infrastructure investment is lower and primarily associated with a transfer station and the treatment of food and green waste on the Island. Therefore a shorter term treatment contract may be a cost effective solution. Assessment of the environmental impact caused mainly by the additional transportation required by an Off-Island treatment option would be a key element of the bid evaluation to be off set against the reduced capital investment and other advantages of a shorter term contract, which would be more flexible in its reaction to (for instance) changes in technology, objectives and legislation over time. Contract length should be a key topic during dialogue and the actual period should be determined through Competitive Dialogue within a range of 15 to 25 years. Contract duration for treatment solutions should be in terms of multiples of collection agreements, keeping expiry dates coterminous.

4.6 Procurement Timescales

4.6.1 Milestones

4.6.1.1 The Council will follow the following procurement process and timescales:

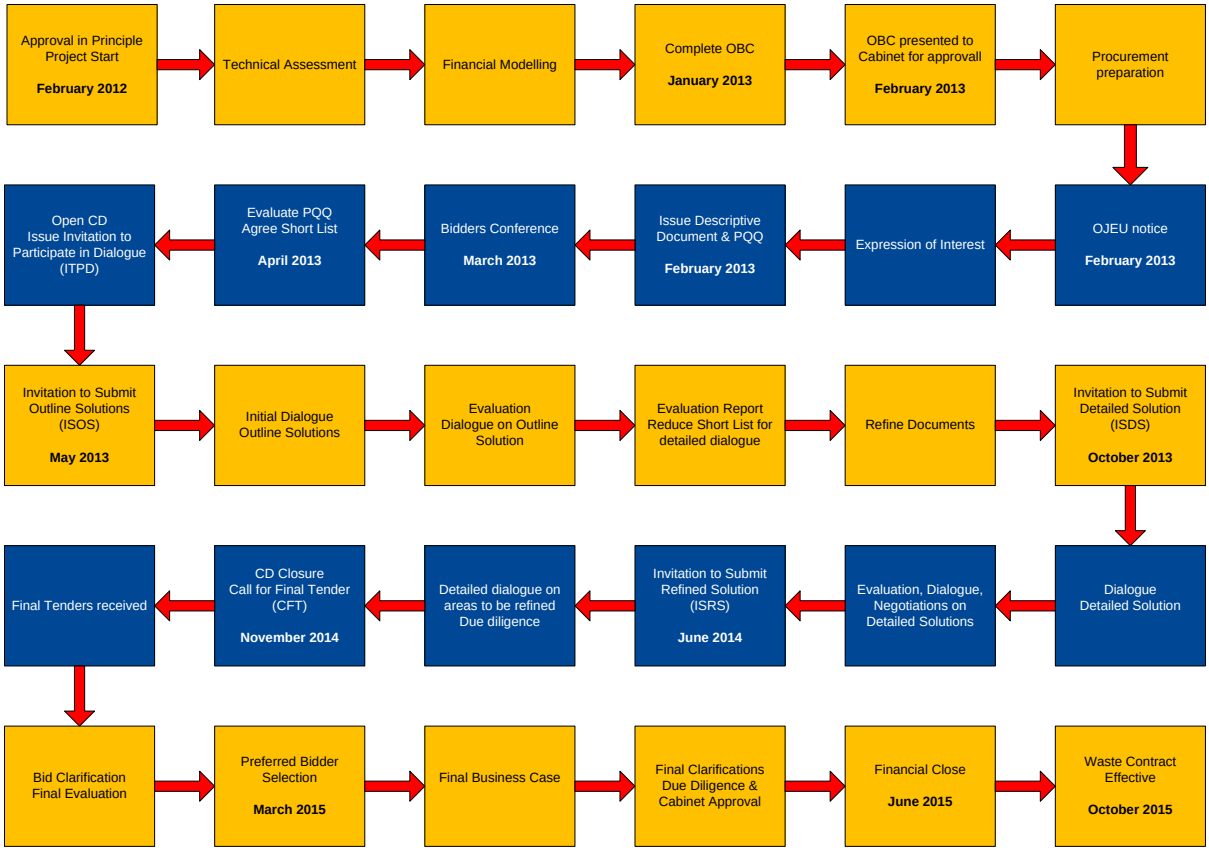

Figure 52: Programme timescales

4.6.1.2 The key stages of the Procedure can be defined as below:

a. Post OBC to Pre Dialogue (February 2013 May 2013)

- Planning and initial preparation (pre OJEU notice);
- OJEU contract notice for short listing of bidders through the use of a Prequalification questionnaire; and
- Selection of successful bidders and preparation for the dialogue stage.

b. Dialogue Phase (May 2013 – November 2014)

- The dialogue – issue Invitation to Submit Outline Solutions;
- Evaluate outline solutions;
- Invitation to Submit Detailed Solution Evaluation (for successful bidders);
- Evaluate detailed solutions;
- Invitation to Submit Refined Solution Evaluation (for successful bidders);
- Evaluate refined solutions; and
- Close dialogue.

c. Post-dialogue Phase (November 2014 to June 2015)

- Submission of Final Tenders and bid evaluation;
- Tender clarification;
- Evaluate tenders;
- Preferred Bidder selection;
- Final Business Case;
- Cabinet Approval; and
- Financial Close.

4.6.1.3 A summary of the key procurement milestone dates is detailed below (Figure 53):

Project Milestones	Programmed date
Full Public Consultation (Draft Municipal Waste Strategy)	Summer 2013
Final Strategy to Cabinet	Summer 2013
Procurement Timescales	
Cabinet approval of OBC and procurement start	Feb-13
Official Journal of the European Community Notice published	Feb-13
PQQ published	Feb-13
Bidders Day	Mar-13
Pre-Qualification Questionnaire returns (PQQ)	Apr-13
Issue Invitation to Submit Outline Solutions (ISOS)	May-13
Complete ISOS	Oct-13
Issue Invitation to Submit Detailed Solutions (ISDS)	Oct-13
Complete ISDS	Jun-14
Issue Invitation to Submit Refined Solutions (ISRS)	Jun-14
Complete ISRS	Nov-14
Issue Call for Final Tender (CFT)	Nov-14
Complete CFT	Mar-15
Complete Financial Close	Jun-15
Appointment of contractor	Jun-15
Contract mobilisation	Jun - Oct-15
New contract start	Oct-15
Interim service begins	Oct-15

Figure 53: Project Milestone dates

4.7 Best Value

4.7.1 Best Value

4.7.1.1 The Authority will commence the Competitive Dialogue phase of the procurement process with an output lead specification that shall not unreasonably restrict the bidders in their technological and financial approaches to their proposals.

4.7.1.2 The Competitive Dialogue phase will be used to explore, refine and evaluate all options available to the Authority, with the assistance, as appropriate, of its professional external advisors.

4.7.1.3 The Authority's approach to the Competitive Dialogue and final tender process will ensure that the best solutions available in the market are evaluated and refined for the Island's specific needs, assuring that the Project Team achieve maximum value for money.

4.8 Evaluation Criteria

4.8.1 Procurement Evaluation criteria

4.8.1.1 Ultimate selection of the correct evaluation criteria and determination of appropriate weightings is essential to ensure that technologically and financially differing bids are evaluated appropriately, ensuring that the best solution is selected for the Island, ultimately providing an environmentally sound, value for money solution.

4.8.1.2 The Council will determine the detailed Evaluation Criteria once the full specification is developed. It will publish the Evaluation Criteria for each of the stages with the full scoring methodology before commencing CD. The following are likely to constitute the high level Evaluation Criteria:

- Technical;
- Legal;
- Financial; and
- Price (from ISOS stage onwards).

4.8.1.3 Detailed Evaluation Criteria will be determined through a series of project workshops and will be thoroughly tested for robustness before formally adopting them for evaluation.

4.9 Contract

4.9.1 The Project Team is supported by external advisors. This support will be used during the preparation for procurement, the dialogue and evaluation stages. Contract terms will be discussed with bidders during dialogue as appropriate to ensure that the Authority ultimately achieves a robust contract that will ensure the necessary flexibility to change with new technology and changes in legislation, whilst continuing to adequately protect the Authority.

4.9.2 The base Contract shall be the appropriate WIDP Project Agreement, specifically tailored to the Island's requirements. Within their submissions, bidders may propose derogations from the standard form of contract; such proposals shall be assessed during the evaluation stages to ensure that any risks potentially transferred to the Authority are adequately reflected in the overall Authority scoring of the submissions.

4.10 Output Specification

4.10.1 The Authority has drawn on the knowledge and experience of its Project Team, supported by external Technical, Legal and Financial advisors and considered the requirements for the management of waste and has paid particular attention to local needs. Furthermore, the Authority has observed the need to comply with relevant legislation.

4.10.2 The Authority's service requirements are set out in detail in the Output Specification and will seek to ensure that the following aspirations are reflected in the proposals received via the procurement process:

- Treat waste as a resource;
- Zero non-essential waste to landfill;
- Manage waste as high up the waste hierarchy as possible;
- Achieve high quality value for money services;

- Reduce the carbon and water impact of managing waste; and
- Increase the reuse, recycling and diversion of commercial waste.

4.10.3 There is a considerable amount of waste management and environmental legislation that must be adhered to by the Authority and its contractors. The Authority's output based specification, has taken account of meeting the obligations of relevant legislation,

4.10.4 The most recent legislation affecting waste management is the Waste (England and Wales) Regulations 2011. These transpose the revised Waste Framework Directive 2008 into UK legislation.

4.10.5 The scope of the future waste contract(s) is complex and involves many interactions between the services the Council requires. In developing the scope the Project Team has focused on providing the optimal service, identifying opportunities for potential income and reducing risk.

4.10.6 The scope will include the following services:

- Waste collections;
- CA sites;
- Recycling Service;
- Recovery and disposal service;
- Landfill;
- Re-Use and Minimisation Service; and
- Management and client interface.

4.10.7 Ultimately the Output Specification shall seek to ensure the Authority achieves a sustainable waste management approach for the Island, which:

- Meets the needs of the Island in an environmentally friendly and cost effective way;
- Provides residents with value for money;
- Is consistent with regional, national and European waste targets for waste minimisation, recycling and composting; and

- Recovers value from residual waste that cannot be recycled or composted.

4.11 Payment Mechanism

4.11.1 The Project Team is supported by external advisors. This support will be used to develop the Authority's preferred payment Mechanism and will also assist during the preparation for procurement, the dialogue and evaluation stages.

4.11.2 The Payment Mechanism will be discussed with bidders during dialogue as appropriate to ensure that the Authority ultimately achieves a robust Payment Mechanism that will ensure the Service Provider is remunerated correctly for appropriate levels of service.

4.12 Conclusion

4.12.1 The Authority has carried out soft market testing to ensure it has a Project which will be attractive to the market and therefore of significant interest to bidders when the Project goes to market. The Authority has established a robust procurement strategy, utilising the Competitive Dialogue process, allowing appropriate lead times for each stage. The Authority has discussed the key documentation for the Project: the Contract, including the Output Specification and Payment Mechanism. Whilst a number of the items discussed in this section need further work, the Authority believes that the position with regard to commercial issues is well thought out and robust.

4.12.2 This Commercial Case specifically recommends that a single integrated approach is taken to the procurement of future waste services (see paragraph 4.5.2). The appropriate Contract duration is to be determined via negotiation, in accordance with paragraph 4.5.3.

5. Management Case

5.1 Purpose

5.1.1 The Management Case sets out the governance arrangements regarding the Waste Project, including differentiating between decision making and operational activities. It outlines current structures and a suggested contract management team need post OBC, and describes the experience and contribution of the advisors appointed to assist the Council with this Project. It sets out the delivery plan and details the Council's approach to risk and data management. Finally this section considers the Council's readiness to proceed to procurement.

5.2 Project Governance, Organisation Structure and Roles

5.2.1 The Council's Waste Project governance structure is shown in the diagram below (Figure 54):

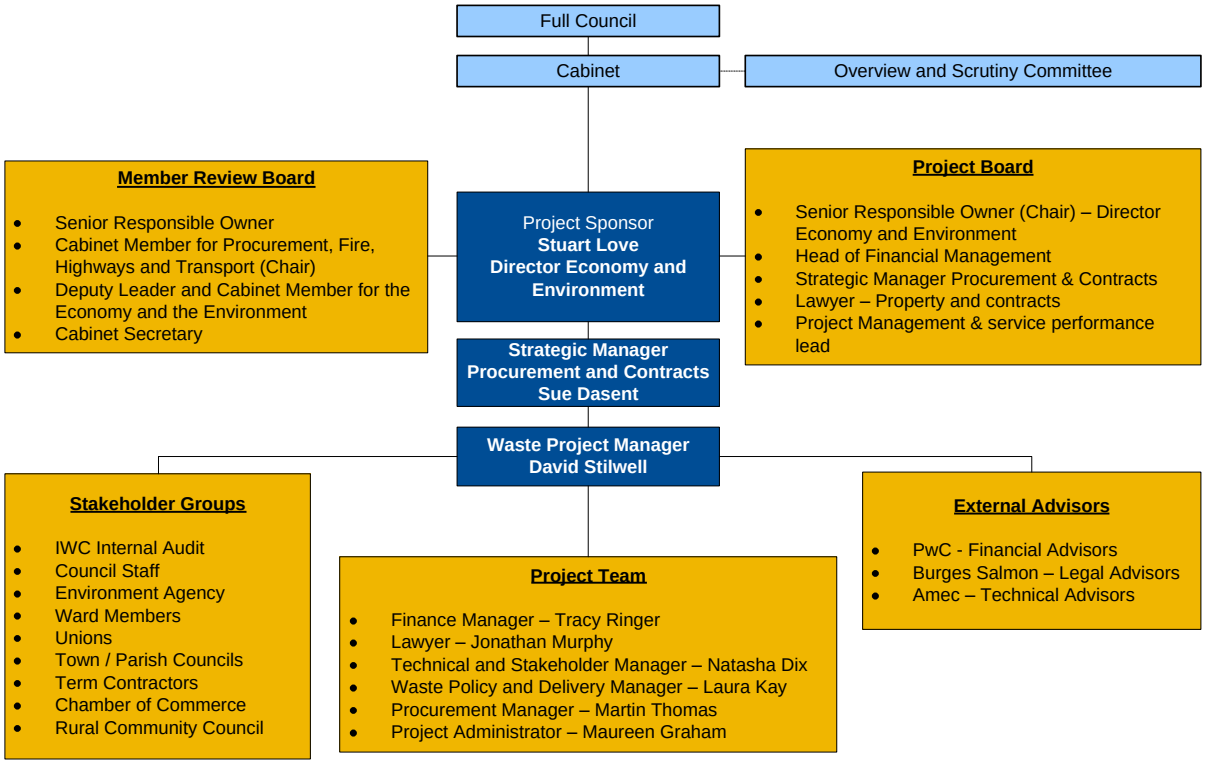

Figure 54: Project Governance chart

5.2.2 Full Council

5.2.2.1 Full Council is, and will be responsible for adopting various plans and strategies and also identifying and allocating financial resources for the project. Reports, e.g. progress reports or requests for approvals about this project are made to Full Council as appropriate.

5.2.3 Cabinet

5.2.3.1 Cabinet will be responsible for the agreement of key documents such as this OBC and the Final Business Case.

5.2.4 Member Review Board

5.2.4.1 The Member Review Board (MRB) for this Project consists of the Portfolio Holder for the Economy and Regulatory services, the Portfolio Holder for Procurement, Fire, Highways and Transport, the Cabinet Secretary, the Project Sponsor, and the Waste Project Manager. The MRB meets on a bi-monthly basis to update members on progress and maintain dialogue between Members and the Project Team.

5.2.5 Project Board

5.2.5.1 The Project Board has delegated authority to make relevant decisions affecting the procurement of the waste contract and, as such, is the main decision making body for the Project. It has approved the scope of the Project and approved the Outline Business Case before submission to the Cabinet.

5.2.5.2 Although day-to-day responsibility for managing the Project has been delegated to the Waste Project Manager, the Project Board acts as the final arbiter for issues referred upwards by the Project Manager, either because they fall outside the remit of the Project Manager, or because he is unable to resolve a given issue internally.

5.2.5.3 The Project Board, chaired by the Project Sponsor and including the Project Manager, the Head of Financial Management, the Strategic Manager for Procurement and Contracts, the Property and Contracts Lawyer and

Project Management and Service Performance Lead meets bi-monthly, or more frequently by agreement when more immediate decisions are required.

5.2.5.4 The specific responsibilities of the Project Board are:

Throughout the project:

- To ensure sufficient resources are allocated including human, physical and financial resources;
- To review the Project's progress against its Project plan;
- To monitor the Project's budget;
- To ensure a robust quality management process is in place;
- To ensure affordability, VfM and risk are identified, monitored and managed;
- To champion excellent design, ensuring that it features as a priority in the selection criteria developed as part of the procurement process; and
- To act as ambassadors for this project, and the procurement and delivery of the facilities thus provided.

From the start of until contract commencement:

- To agree the objectives and scope of this Project;
- To agree the procurement plan;
- To oversee the progress of the procurement process including the timing of the OJEU notice; short-listing of bidders; the timing of the ISOS, ISDS and ISRS;
- Selection of the Preferred Bidder;
- To agree the contents of key procurement and contractual documents including the Output Specification; Project Agreement; Payment Mechanism;
- To ensure that a pre-contract risk review is completed;
- To approve the Final Business Case; and
- To recommend the award of contract.

5.2.6 Project Team

5.2.6.1 Figure 55 below illustrates how the current Project Team is organised,

with key responsibilities shown for each work stream:

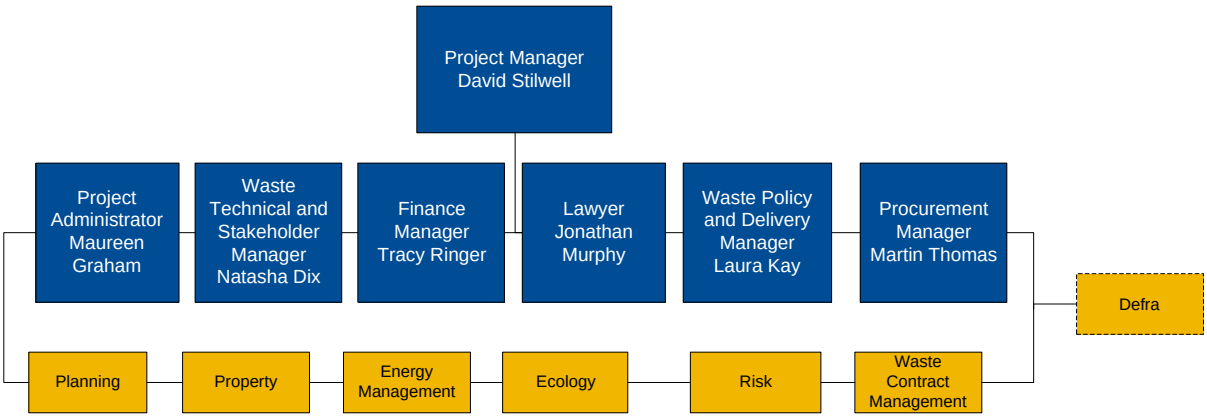

Figure 55: Project Team

5.2.7 Waste Project Manager

5.2.7.1 Procurement Manager, David Stilwell – Member of the Chartered Institute of Procurement and Supply, Prince 2 Practitioner with 25 years public sector procurement experience, including NHS, Education, Utilities, Aviation and Local Government. David will also be responsible for managing all stages of the evaluation process, through PQQ, ISOS, ISDS, ISRS and CFT stages, ensuring consistency and compliance with published criteria.

5.2.8 Finance Manager

5.2.8.1 Finance Manager, Tracy Ringer; ACCA qualified, BSc Applied Accounting; BA Humanities with English Language; NVQ5 Operational Management. Responsible for finance and legal issues relevant to the project, and liaison with relevant external advisors with particular regard to financial modelling, the Payment Mechanism and the Project Agreement. Also responsible for the preparation and monitoring of the internal budget through to financial close. Previous experience in managing voluntary sector projects funded through the European Social Fund, and 10 years Local Authority accounting experience across a wide range of service areas including Highways, Waste, Economic Development, Planning Services, Fire and Rescue, Emergency Planning, Consumer Protection, Tourism.

5.2.9 Lawyer

5.2.9.1 Lawyer, Jonathan Murphy Fellow of the Institute of Legal Executives since 2004 F.Inst.L.EX., Bachelor of Arts with Honours, History (Southampton 1996). BA (Hons) and Prince 2 Practitioner. Jonathan has over 14 years of experience as a legal fee earner for local authorities, working for Devon County Council, Plymouth City Council and from 2009 the Isle of Wight Council. Specialising in the fields of contract and employment law, with significant experience in relation to charities and trusts matters, company law, intellectual property issues, procurement matters and insolvency proceedings. Jonathan has advised on a large number of significant contracts across all local authority sectors including Highways, Transport, Education, Regeneration, Housing and Social Care and has advised and managed the Legal work stream in staff and service out-sourcing and in-sourcing projects. Jonathan was appointed to the Highways PFI Lawyer role at the Council in September 2009 and heads up the Legal work stream, working with the drafting and development of the project documentation and negotiating with bidders during the Competitive Dialogue process.

5.2.10 Technical and Stakeholder Manager

5.2.10.1 Technical and Stakeholder Manager, Natasha Dix – Studying for an MSc in Technology Management, has MA Collections Management, BA(hons) Advertising and HND Design and Communications. Responsible for managing the technical advisors and work stream and for the waste project including the development of the output specification and leading technical evaluation and dialogue as well as supporting the financial work stream. Also responsible for stakeholder management for both the waste procurement and Highways PFI Contract Management team. Natasha joined the Council in 2006 in the Coastal Management department running the Coastal Visitors Centre and contributing to European projects and the IW Shoreline Management Plan before moving on to developing the initial phase of the Waste Strategy and Landfill Planning application. Natasha has previously worked on alternative energy projects with the Interreg III Espace Manche Development Initiative, and project funding development and stakeholder development for the Hampshire and Wight trust

for Maritime Archaeology.

5.2.11 Waste Policy and Delivery Manager

5.2.11.1 Waste Policy and Delivery Manager, Laura Kay – Masters in Environmental Science MEnvSci. Laura joined Isle of Wight Council as Waste Minimisation and Recycling Officer from the Re3 Berkshire Waste PFI. Now in the Isle of Wight Council Highways PFI team, Laura has responsibility for developing waste policy and strategy, and ensuring that emerging waste legislation is monitored and incorporated into the procurement process. Laura provides a link between the legal and technical work streams. Previous experience in setting up and reviewing ISO 14001 Environmental Management Systems including registers of legislation; and initiating and delivering communication and education programmes to instigate behavioural changes in waste management.

5.2.12 Procurement Manager

5.2.12.1 Procurement Manager, Martin Thomas; BA(Hons) Business Administration, Prince 2 Practitioner studying towards a Masters in Business Administration (MBA). Responsible for advising on the procurement process and compliance with appropriate legislation and procurement best practice and supporting the Project Manager in project delivery. Provides programme delivery schedules and monitoring progress reports. Version and document control, risk, managing key project tools such as the data room, providing checkpoint/highlight reports for Cabinet, MRB and PB. Five years private sector management experience in wholesale and retail, involving procurement, operations, product development, sales and contract management. Five years Public Sector experience including performance management, analysis, partnership working and consultations.

5.2.13 Project Administrator

5.2.13.1 Waste Project Administrator, Maureen Graham – NVQ3 in Business Administration. Distinction in Advanced Word and Text Processing. 15 years experience working as secretary for Barclays Bank, working for managers at

branches on the Isle of Wight, Blandford Forum and then as secretary to one of the Directors at Southampton Regional Office before moving to Barclays International Trade Services in Reading. Responsible for administration support to the full-time project team, meeting organisation, upload and revise extranet documents, manage incoming RFI's, and administration, diary management. Twelve years experience in administrative support for the Council, working for Children's Services, Adult Services, Housing, Complaints, PA to Head of Customer First and other major projects including significant experience of highways related issues.

5.2.14 The Project Team are supported, as appropriate, by specialists drawn from other relevant disciplines within the Council including Property, Planning, Communications, Finance, Insurance, Risk, Legal, Health and Safety and Procurement.

5.2.15 With regard to the technical work stream there are a number of specialists, drawn from the Economy and Environment Directorate, each assisting with information around the relevant waste management assets/services including Planning, Ecology, Waste, Energy Management, Procurement and Health Safety (Resources Directorate).

5.2.16 Expert External Advisors

5.2.16.1 The Council has appointed a number of expert external advisors to assist it with ensuring a robust project methodology right through to contract commencement and beyond.

5.2.16.2 **Amec,** appointed February 2010, will provide Technical support and advice to the Project, through to contract commencement. Amec have significant experience of waste PPP and PFI projects and are currently supporting South Tyne and Wear and Bedfordshire Councils and Luton Council on their PFI waste management contracts.

5.2.16.3 In preparation for the OBC and the preparation for the future waste contract(s) procurement, Amec has supported the Authority in the Options Appraisal Process, the development of a Shadow Bid Model and Mass Flow

Model, a commercial waste study, a municipal waste composition study and is supporting in the development of the Output Specification and Payment Mechanism. They are also providing technical input to the Project Agreement and the procurement process, will support the competitive dialogue process and the technical evaluation of bids.

5.2.16.4 Amec has previously supported the Waste Strategy Corporate Priority in the development of the Draft Municipal Waste and Procurement Strategy and the progression of the Landfill Planning Application and void modelling at Standen Heath.

5.2.16.5 **Burges Salmon,** appointed July 2012, are providing legal advice to the project, right through to contract commencement and into the early stages of the contract. Burges Salmon have significant experience of Waste PPP and PFI projects and are currently supporting West Berkshire, Cornwall, Northants and Milton Keynes PFI. Burges Salmon will be primarily involved in the production of the project agreement and relevant schedules and annexes. Going forward they will be providing assistance with competitive dialogue training, producing evaluation criteria across work streams, assisting with the production of the necessary procurement documentation such as the OJEU, the PQQ, the Descriptive document, the ISOS/ISDS/ISRS/CFT documentation and the preferred bidder letter. They will also assist, once the Project reaches financial close, in producing a guide to the project agreement for the Council's retained staff who will be managing the project

5.2.16.6 **PricewaterhouseCoopers LLP (PwC),** appointed July 2012, are providing financial advice to the Project from supporting the production of the Outline Business Case through to contract commencement. PwC have significant experience of PPP and PFI projects including the South London Waste Partnership Residual Phase B PPP, West London Waste Authority Residual PPP and Wakefield Waste PFI. PwC's main tasks so far have included assisting with the financial modelling to establish the cost of the shadow bid model, the level of capital required and the resultant affordability position of the Council. They have also provided key assistance in understanding the procurement and contract risks associated with the Project

and, where appropriate, quantifying these for the purposes of the risk analysis to be included in the OBC. Additionally, they offer support on commercial, financial and procurement issues requested of them including providing advice in terms of the latest positions given the current funding climate.

5.2.16.7 All of the advisors have significant experience in their field and meet regularly with the Project Team either on the Island, at their offices or via conference calls. Where there is a need to discuss cross over topics such as financial modelling in the case of Amec and PwC, the Project Team ensure that these work streams are managed efficiently and appropriately.

5.2.16.8 The Project Team shall maximise its internal resources utilising external advisors when their specialist skills are required.

5.3 Contract Management

5.3.1 The current waste contract is managed by the Waste and Contract Services Team which sits within the Economy and Environment Directorate.

5.3.2 The handover arrangements with the existing provider will be managed by both the current waste contract team and the Project Team to ensure that there is as little disruption as possible to waste management arrangements, as the new contract commences in October 2015.

5.3.3 The Waste Project procurement and contract management is a complex and detailed process. It is therefore vital that a dedicated procurement team is maintained through to service commencement. Whilst every care will be taken to detail all possible anticipated events in the contract, a strong link with the existing contract management team will be maintained to ensure continuity and effective management of the new contract when it commences. The new contract will be managed within the council's Procurement and Contract Management Unit. The project team dealing with the competitive dialogue will move across to form part of the Procurement and Contract Management Unit at the start of the procurement process.

5.3.4 The contract management team will be required to manage the following

functions:

- Mobilisation and setting up of systems, protocols and procedures, including document management systems and contract analysis;
- Performance monitoring, including the reviewing of baseline surveys, annual condition surveys, customer surveys and on-going service delivery monitoring;
- Payment and deduction management, including payment mechanism issues, excusing causes and payment processing;
- Change management, including authority and service provider changes arising from regulatory and technical change;
- Emergency, standby, hand back and re-tendering arrangements;
- Liaison and other contract meetings, including dispute resolution;
- Customer interface, including customer satisfaction surveys;
- Governance, monitoring and reporting, including annual reviews and reporting on stewardship of contract;
- Budget management, including contract and client costs and client risk management;
- Risk management and mitigation of those risks retained or shared by the council;
- Policy and strategy development and management, including benefits realisation and key performance indicator monitoring;
- Stakeholder management, including publicity, communications and complaints handling in partnership with the service provider, and Freedom of Information Act responses; and
- Other commercial issues, including refinancing, termination issues, benchmarking and market-testing of additional services, energy and insurance.

5.4 Project Plan

5.4.1 The project delivery plan has been created and managed in Microsoft Project and incorporates modified Prince2 methodologies. The Project Plan is attached at Appendix 13.

5.4.2 The Project Team are monitoring the project plan regularly to ensure that the programme schedule remains viable. Workshops, bringing together the Council's Project Team and the external advisors, will be held through out the procurement to review the programme. These reviews will enable the team to plan in detail the specific resource requirements and activities that will need to be completed within the following phases. Furthermore, these workshops give the Project Team the chance to identify any potential issues they may have with the timescales and the ability to put in place a plan to resolve them.

5.4.3 The Key milestones of the project can be found in section 4.6.1 (Figure 53).

5.5 Project Review

5.5.1 The Project will be reviewed through existing internal meetings via Member Review Board and Project Board meetings.

5.5.2 Scrutiny

5.5.2.1 Full Council and Cabinet contribute to the scrutiny process in their consideration of key decisions relating to the project. Before committee papers can be submitted for consideration by members, the Councils' internal processes include Directors Team review and also 'Call-Over' which is a review by the lead officers for legal, finance, human resources, property, risk, communications, performance, and strategic projects. This gives relevant officers the opportunity to interrogate items within reports to ensure appropriateness before publication and approval.

5.5.2.2 Updates will be delivered to the Scrutiny Panel for Economy and Environment on a regular basis.

5.5.3 Internal Audit

5.5.3.1 Internal Audit have programmed a review of the project into their schedule for 2013/14 and ongoing reviews will be expected throughout the course of the project.

5.6 Project Budget

5.6.1 It was highlighted in the budget strategy report to Cabinet on 13 December 2011 that it would be prudent to set aside £1.25m for 2012/13 and 2013/14 to meet external costs in relation to the procurement of a new waste collection and disposal contract. In the Budget report to Council on 29 February 2012 £1m was set aside from net savings in the overall Council Budget and a further £250k has been set aside from net savings in 2012/13. It is projected that this will be sufficient to meet the procurement stage up to contract let in 2015.

5.6.2 This gives a total available budget, including internal staffing budgets of £2.97m. Of this, £1.03m has already been committed leaving a further £1.94m for the procurement stage.

5.6.3 The current budget for the collection and disposal of waste is £9.65m per annum.

5.7 Risk Management

5.7.1 The Project Team have chosen, with agreement from the Council's Business Effectiveness Unit, to record and measure risk in the same format as the PFI Highways project, using a methodology which better reflects a project of this size and scope. This approach has the added benefit of using an industry standard risk scoring methodology which external parties will understand.

5.7.2 Risk meetings are held on a monthly basis with the objectives of:

- agreeing a common approach to risk within the project; and
- identifying and assess the main risks including an initial allocation and proposal of suitable risk mitigations for each material risk exposure.

5.7.3 The key outcome of these meetings is the establishment of new risks and management of the risk register for the Waste Project (see Appendix 11). The register records those risks which could impact the project (in the development, procurement, close-out phases and post contract start). For each risk, the register records the nature and potential impact of the risk exposure identified, its significance in terms of both likelihood and impact and, for each material

exposure, a target exposure level and risk mitigation measures in progress or planned to achieve that target level.

5.7.4 Within the register, an 'owner' has been identified for each risk and associated risk mitigation measures. The risk owners take full responsibility for the management of the risk and have nominated risk managers reporting to them. The responsibility for managing the risk rests with risk owners and they report back to the Waste Project Team, Project Board and Member Review Board via the Waste Project Manager. The register focuses attention on the 'current' risk level and the 'target' level; and when the risk mitigations have been successfully implemented, the current level will then be reduced to the target level. The target level represents the accepted level of risk; whilst measures could be designed and implemented to reduce the risk level further to or towards the 'residual' (or unavoidable) risk level, it is anticipated this would be uneconomic. The register is divided into the key phases of the Project – procurement and award, capital rehabilitation, financial and commercial.

5.7.5 The successful completion of the Waste Project represents a necessary major investment and is a key achievement of the Council's corporate objectives. As a consequence of this, the potential failure of the project is a risk captured within the Council's strategic risk register. This, in common with the Council's other strategic risks, is reported to and monitored by the Council's Directors Team and Cabinet. This risk is defined in the Council's strategic risk register as:

5.7.6 Failure to commission and secure services which are relevant to the Isle of Wight community's needs.

5.7.7 This strategic risk cites the new waste contract as a deliverable mitigating measure in reducing the overall associated risk score.

5.7.8 This risk summarises, at the highest level, the risk profile of the Project, reflecting the more detailed risks within the Waste Project risk register. The most significant risks within the Project risk register are reported bi-monthly to the Project Board and discussed monthly at Project risk meetings. As part of their standing agenda, the Project Board considers these and any shift in the Project risk profile.

5.7.9 Risk Escalation

5.7.9.1 Where a significant shift has been identified in the level of exposure (through, for example, the identification of a new risk, the material reassessment of an existing risk) this will, subject to materiality, be escalated through the work stream leader who will raise it at a Project risk meeting. The Risk Work stream Lead and/or Project Manager then highlights this in the Project Board and Member Review Board risk report.

5.7.9.2 Within this process, the criteria for escalation will be either a significant change in the risk assessment (for example, from 'medium' to 'high') or a material delay or other failure of the risk action plan.

5.7.9.3 The assessment process for risk likelihood and impact uses a scale of 1 to 4 (1 being low and 4 being high) and these are combined to give an overall assessment for each risk on a 1 to 16 scale:

Likelihood/Probability				
V Likely 4	4 Low	8 Medium	12 High	16 High
Likely 3	3 Low	6 Medium	9 Medium	12 High
Unlikely 2	2 Very Low	4 Low	6 Medium	8 Medium
Remote 1	1 Very Low	2 Very Low	3 Low	4 Low
Scale	Low 1	Medium 2	High 3	Major 4

Figure 56: Risk scoring matrix

5.7.9.4 For each risk, the consequences and mitigating measures have been drawn up in conjunction with the work Project Team and this represents the process to be followed to reduce the risk exposure to the target level. Progress is tracked against the risk register particularly in respect of the high

level risks.

5.7.9.5 An allocation decision has then been recorded against each risk with one of the following three markers:

- Retained by the Council;
- Shared; or
- To be transferred to the successful bidder.

5.7.9.6 The risks have been allocated to the party deemed best able to manage each risk at the lowest cost. The risk allocation decisions will be reappraised and informed through the procurement phases of the Project.

5.7.9.7 These risk identification, assessment and allocation decisions have been validated through the operation of a series of risk meetings and other risk considerations undertaken by the internal Project Team.

5.7.9.8 This process identified key risk exposures potentially impacting the phases of:

- Pre procurement;
- Procurement; and
- Post procurement.

5.7.9.9 A key risk which has been considered relates to the position of the bidders. Naturally, potential service providers will have concern over a number of factors including bid costs, protection of intellectual property and/or commercially confidential information, procurement timetables and the costs associated with the early involvement of funders and the due diligence associated with the Project agreement. Plans are in place to mitigate these through:

- Building confidence with the bidders by meeting programmed dates for the key stages;
- Making all data readily available to the bidders via the Project Data Room;
- Working openly with the bidders to minimise all costs such as unproductive or unnecessary meetings;

- Development of protocols to ensure IP is protected for all the bidders;
- Setting a realistic timetable and keeping to it;
- Supplying information gathered via surveys at an early stage;
- Providing other information to bidders (in an appropriate format), at the earliest possible stage;
- Undertaking the procurement in an efficient and effective manner, including:
    - Ensuring sufficient capacity and capability in the procurement team (both internal and external);
    - Preparing all necessary collateral on the areas of dialogue in advance of the dialogue sessions so that bidders have sufficient time for analysis and to develop their responses;
- Ensuring that the approval process is completed at the appropriate stage and within appropriate timescales; and
- Considering ways to reduce the costs associated with due diligence.

5.8 Communications and Stakeholder Management

5.8.1 The Waste Project Team recognises the need to put in place a strategic framework for the management of stakeholders and communications generally.

5.8.2 The Stakeholder Management and Communications Strategy for the Council's Waste Project to deliver the stakeholder management of all stakeholders and associated communications relating to the Project is attached at Appendix 14.

5.8.3 The Stakeholder Management Tool (SMT) is built around structures, processes, tools, and human resources typically required to manage the stakeholder and communication elements of a major project through to successful completion. It aims to support the successful delivery of the Waste Project through the structured and systematic identification, analysis, and management of Stakeholders, and the implementation of effective communications.

5.8.4 The SMT has been used to map out stakeholders, stakeholder managers and deliver key messages at critical stages. The tool is also used to identify changes

to the plan, enabling the Council to be pro-active in managing messages. The SMT adopts the following methodology:

- Identifying and mapping stakeholders in order to understand their influence on the project and support the decision making process;
- Providing accurate, timely, and relevant information (communications) to assist stakeholder managers to use the most appropriate communication channels (within budgetary constraints);
- Managing stakeholders to keep, or get, them on board for the duration of the project;
- Keeping the Project Team appraised of the general and specific nature of stakeholder opinion/support/risk (informing ongoing project management decisions or mitigation planning); and
- Providing a communication and engagement audit trail to evidence best practice and to support a learning/improvement culture within the Council.

5.8.5 The Waste project will impact a large number of people and organisations (stakeholders) in a multitude of ways. Therefore, the Project Team has put in place an appropriate framework with the right structure, tools, processes, and people in order to effectively manage and communicate with stakeholders from the outset.

- Structure – Team make up, and how the team is organised;
- Processes – What is done, when, and how;
- Tools – Providing the analytical and data storage backbone of the project; and
- People (resources) – The human element that reaches and connects with stakeholders.

5.9 Data Management

5.9.1 Extranet

5.9.1.1 There will be a need for the data sharing of key project documents between the Council. and relevant external advisors, with appropriate version control, so that all are aware of the content of the latest versions of the Project

Agreement, Output Specification, Performance Requirements and Payment Mechanism.

5.9.1.2 There is also the issue of sharing information with potential bidders. The Project will use an established extranet facility, which will incorporate virtual data. The virtual data will be available through a secure online portal with each bidder having their own unique log-in. The virtual data room will have to apply document security in order for the files not to be forwarded on to third parties and to limit printing of the documents. Bidders will be notified when new versions of documents have been released or new documents have been produced. A record will be kept to monitor who has seen which document, when they viewed the document and for how long.

5.10 Human Resource Issues Including TUPE

5.10.1 Any transfer of staff will take place in accordance with the Transfer of Undertakings (Protection of Employment) Regulations 2006 ("TUPE"). The Council has successfully conducted TUPE transfers in the past with no ongoing obligations.

5.10.2 The Council is committed to open and transparent communications with staff and unions ensuring a good working relationship

5.10.3 The Council is committed to ensuring that Equality and Diversity and Health and Safety issues are paramount in its own and its partner's practices. As part of the Council's pre-qualification process, we thoroughly check all bidders' diversity and health and safety policies and ensure that these are in place and embedded in the organisations practice.

5.10.4 As well as the staff considerations, the Authority is maintaining a list of current contractors to monitor any legal implications that the project will have on these and to ensure that businesses are notified of any implications on them upon which they will need to seek independent advice. In addition, where potential TUPE implications arise, the Authority will facilitate contact between contractors and the successful bidder for the project to ensure a smooth transition.

5.11 Conclusion

5.11.1 The Council has assembled a professional, experienced Project Team, supported by selected professional external advisors. The Council expects to be ready to publish its OJEU notice in February 2012. The Council is fully resourced, with robust governance in place and is therefore in a strong position and ready to move forward to the procurement stage. The Council has considered detailed stages of the Project and developed a practical and deliverable programme and developed a thorough and diligent approach to the management of project risks. The Council has now positioned itself appropriately to proceed to the Procurement phase of this Project.

Appendices

Appendix No.	Appendix Name	Redacted as Commercially Sensitive
1	Waste Composition Analysis	x
2	Waste legislation, plans and strategies	
3	Current infrastructure - level of investment	x
4	Current and future technology	
5	Collections and Treatment long list appraisal report	x
6	Collections and treatment short list appraisal report	x
7	Funding Assumptions	x
8	Collection Model Sensitivity	x
9	Off-Island Treatment Model sensitivity	x
10	On-Island Treatment Model sensitivity	x
11	Risk register	x
12	Renewable Energy Tariffs	
13	Project plan	x
14	Stakeholder Management and Communications Strategy	
15	Draft Municipal Waste Strategy	
16	Commercial Waste Study	x