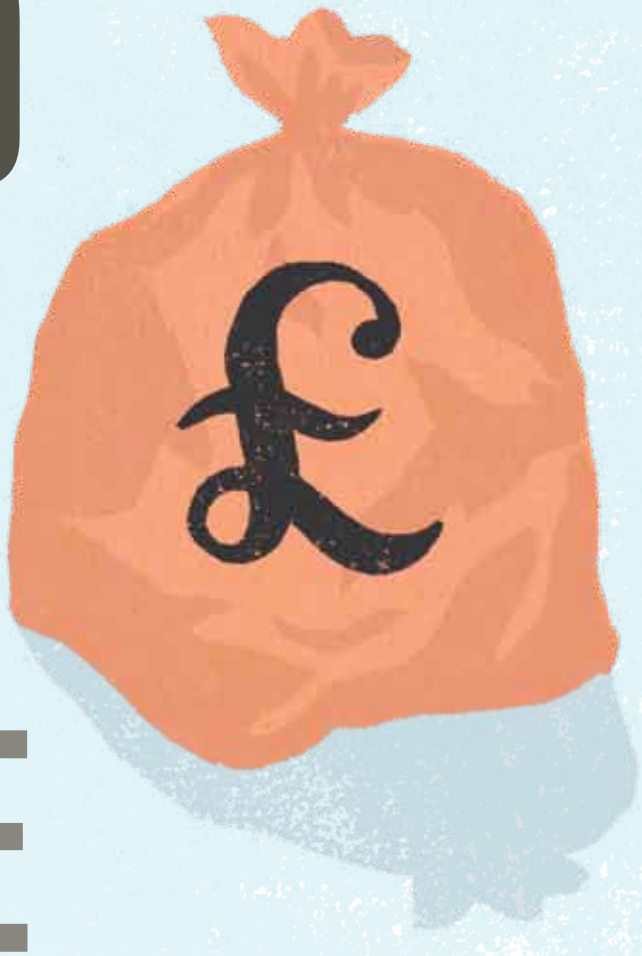
A report by the Associate Parliamentary Sustainable Resource Group

Associate Parliamentary sustainableresource Group

RUBBISH TO RESOURCE: FINANCING NEW WASTE INFRASTRUCTURE



CONTENTS

FOREWORD

New waste and resource management infrastructure is crucial to the UK's environmental, social and economic well-being. To meet European landfill diversion targets alone, we need to build 8.8 million tonnes of new residual waste treatment capacity by 2020; a challenge acknowledged by the Government in its recent Review of Waste Policy.

But meeting these targets is very much a minimum requirement for a comprehensive sustainable waste management regime in the UK. Landfill and recycling targets focus on only a small percentage of the UK's waste, and only on a limited range of infrastructure. A more comprehensive approach to waste management would provide an opportunity to be more resourceful with the waste we produce and benefit a range of parties from local communities to the renewable energy sector.

In order to meet and exceed EU landfill diversion targets and make the most of these opportunities, waste infrastructure needs £8 billion of investment by 2020; investment which currently can only be made by overcoming significant barriers.

Restrictions placed on public sector spending mean that the majority of finance must come from the private sector. But this has been made difficult by a fall in bank lending and the inherent perceived risk in waste infrastructure projects, unable as they are to generate a predictable and consistent revenue stream. In addition, policy and regulatory uncertainty further undermine the confidence of potential investors.

Without confronting and overcoming these significant barriers it is highly unlikely that the necessary infrastructure capacity will be built. As a result, in a few years we could be facing a real crisis in Britain's capacity to deal with its waste stream. Urgent action is therefore required.

This report makes recommendations to central government, local authorities, the waste industry and the finance community to overcome these barriers. Adoption of these recommendations will, we hope, stimulate the necessary investment in waste infrastructure through policy and investor certainty and risk mitigation.

I would like to thank everyone who generously gave their time and expertise to contribute to this inquiry, including the steering group members for their direction and oversight. I would also like to extend my thanks to BNP Paribas Real Estate, the Chartered Institution of Wastes Management and the Environmental Services Association for sponsoring this inquiry, and to Andrew Willshear for compiling this report.

Dr Alan Whitehead MP
Inquiry Chair
Co-Chair of the Associate Parliamentary Sustainable Resource Group

EXECUTIVE SUMMARY

To manage its waste sustainably and effectively, the UK needs to invest in waste management infrastructure immediately. Going beyond the 2020 EU Landfill Diversion target, to meet the rWFD target and the 60% recycling rate for C&I waste, £8 billion of investment in waste infrastructure is needed by 2020[1]. In total, £15 billion must be invested in the waste sector overall by 2030[2]. Despite the Government's recognition of this in its Review of Waste Policy, significant barriers must be overcome to realise this investment. These barriers include a reduction in public sector spending, restricted private sector finance, inherent waste infrastructure project risks and regulatory and policy uncertainty.

Constraints on public sector finance mean that an estimated 70% of the overall investment in the waste sector must come from the private sector[3]. The fall in bank lending as a result of the financial crisis presents a further barrier to investment, and is exacerbated by the inherent risks of waste infrastructure projects. As a consequence, the number of potential lenders willing to commit finance on acceptable terms has decreased. Uncertain levels of waste coupled with short-term or non-contractual feedstock supply undermines the ability of commercial and industrial (C&I) waste capacity and merchant facilities to attract finance.

In addition, the lack of an operational track record at scale for less established technologies places greater risk on the ability of facilities to generate predictable and consistent revenue streams. Furthermore, the Government's ongoing reviews of energy incentives and the protracted planning process for waste facilities create instability which further increases the perceived risk that financiers associate with the building of waste infrastructure.

This report aims to provide recommendations to overcome these barriers around three central themes, namely policy certainty, investor confidence and risk mitigation.

A Framework for Investment

The lack of required financial investment in waste infrastructure has been compounded by the lack of integrated waste policy from the range of government bodies working in the overlapping areas of waste, energy, low carbon growth, climate change and the provision of infrastructure.

The uncertain planning process for waste infrastructure projects results in unforeseen costs for developers, contractors and operators. Confidence in the planning system has been further undermined by provisions in the Localism Bill. Greater clarity over clauses in the Bill such as the 'presumption in favour of sustainable development' is necessary to outline the types of waste infrastructure projects that would qualify as sustainable. Although the Draft National Planning Policy Framework (NPPF) emphasised the need

1 Environmental Services Association (2011). Figure rounded to the nearest £ billion, estimate based upon published Defra data and assumptions (base case and high end scenario) to fulfil the biodegradable municipal waste (BMW) Landfill Diversion target, the 50% household waste recycling target set by the rWFD and the 60% recycling rate ambition for C&I waste, all by 2020. This does not include the targets outlined in the Packaging Directive and Waste Electrical and Electronic Equipment (WEEE) Directive which may require additional infrastructure investment.
2 HM Government (2011) 'Update on the design of the Green Investment Bank.'
3 HM Treasury/Infrastructure UK (2010) 'National Infrastructure Plan'. Figure based on the £200bn of investment required in the UK's infrastructure in the next five years.

for local authorities to work together to respond to the needs of businesses, it failed to emphasise the importance of waste infrastructure developments, referring instead to the upcoming National Waste Management Plan (NWMP). Whilst the NWMP will be significant, the Government should have used this opportunity to highlight the case for a much more important role for waste management infrastructure in meeting its goals for green growth and the delivery of a low carbon economy.

To overcome the current environment of uncertainty, which causes weak investor confidence, a coordinating committee rooted in the Cabinet Office must be established to provide the necessary coordination and stability for waste policy. This committee would not impinge upon the individual autonomy of government departments, but would ensure that any policy developments impacting on waste would support the stability and consistency of waste policy.

Recommendation 1

Government must establish a coordinating committee, rooted in the Cabinet Office with representation from across the departments, agencies and non-departmental public bodies whose policy remits encompass waste, in order to provide investors with greater certainty over policy stability and coordination.

There is great potential from renewable energy incentives such as the Renewables Obligation (RO), the Feed-in Tariff (FIT) and the Renewable Heat Incentive (RHI) to encourage further investment in energy recovery from waste. The growth required in energy recovery from waste to contribute to the 15% renewable energy target by 2020 has been outlined by the Waste Review and the Government's Electricity Market Reform (EMR) White Paper, and in particular within the Renewables Roadmap.

These financial incentives provide developers and operators with the ability to access an end market for a specific off-take, enabling them to generate a known revenue stream to service their debt. But if these incentives are to encourage investment in waste to energy infrastructure, they must provide certainty, stability and transparency. This can be achieved through tariffs which are high enough to encourage investment, provide constant support to maintain long-term certainty and incorporate all waste streams. Furthermore, projects must become eligible for the incentive scheme at financial close (the stage whereby all financial conditions have been satisfied) and assume automatic grandfathering. Any changes must provide sufficient lead-in time so as not to affect projects already in development.

Recommendation 2

Government must ensure that its financial incentives supporting the business case for waste infrastructure provide certainty to developers and financiers, and target the most commercially viable projects.

MSW and Merchant Plants

Although, the UK Government's latest analysis states that there will be enough treatment facilities in combination with Private Finance Initiative (PFI) and Public Private Partnership (PPP) projects to meet EU landfill diversion targets[4], there have been questions about the robustness of the calculations that have been used. These questions are due to the prominent risk of non-contractual or short-term contractual feedstock supply for merchant facilities and C&I waste capacity, combined with a fall in bank lending, meaning that senior debt providers will be unlikely to commit sufficient finance to enable the construction of this capacity.

Local authorities who have not committed their waste stream to a contract could use their waste as an anchor contract to help develop joint merchant and C&I waste capacity. This arrangement would allow the operator to build appropriate C&I capacity (without infringing upon State Aid regulations) to form a hybrid facility with a common purpose similar in concept to that of a joint venture arrangement. To alleviate the risk posed by the non-contractual or short-term contractual C&I capacity, the Green Investment Bank (GIB) would be ideally placed to provide a revenue guarantee on a commercially structured basis. The latest update on the design of the GIB highlighted that it should focus (in part) on market risk aversion in the waste sector to ensure the required rate and scale of investment in waste infrastructure is fulfilled.

The easiest way for this guarantee to be structured would be for the GIB to underwrite the shortfall in the C&I waste revenue stream. Ultimately the guarantee would be issued to the senior debt providers, assuring them of the guaranteed minimum tonnages (GMT) and ensuring that their debt and debt service cover ratios would be serviced from the uncertain C&I element. This would help to overcome the perceived risk of feedstock supply. Furthermore the guarantee product would enable the GIB to catalyse a pipeline of projects geared toward developing C&I and merchant waste capacity. This could help fulfil the Waste Review's commitment to provide easier access to treatment infrastructure for business waste and to overcome commercial barriers to infrastructure investment[5].

Recommendation 3

Government should use the Green Investment Bank to devise and issue a guarantee product to de-risk the development of C&I waste capacity to encourage the development of merchant or joint local authority and C&I waste facilities.

4 Department for Environment, Food and Rural Affairs (2010) 'Spending Review 2010 – Changes to Waste PFI Programme'. This analysis is based on the forecasted waste arisings and the assumed household and C&I waste recycling rates for 2020 and the biodegradable content of residual waste.

5 Department for Environment, Food and Rural Affairs (2011) 'Government Review of Waste Policy in England 2011'. Point 158 acknowledges the Government wanting to see further infrastructure development for collecting and treating business waste and point 273 states that the Government is seeking to reduce the commercial barriers to the effective financing of infrastructure.

In recent years, contractors and operators have placed an increasing emphasis on off-take revenue (also known as third party revenue), specifically with regard to power as a percentage of total project revenue. As a result, higher risk premiums have been placed on local authority waste infrastructure projects. This has led to higher debt costs and less value for money for local authorities over the lifetime of the contract. In addition, the current risk-averse environment means that banks will only account for off-take revenue when this is guaranteed by the developer over an acceptable period and on conservative pricing. In effect, the price and commodity risk rests with the developer.

Even if there was a GIB guarantee to expedite the delivery of future hybrid and PPP deals, local authorities could share more off-take risk to increase the deliverability of waste infrastructure projects. This could be achieved through the formation of an energy service company (ESCO) to purchase the power off-take for its own use, or by taking responsibility to deal with the off-take.

Recommendation 4

Local authorities should explore taking on more off-take risk in order to expedite the delivery of hybrid and local authority waste infrastructure projects and deliver better value for money.

Widening the Range of Finance Options

The withdrawal of PFI credits for future waste projects, a fall in bank lending and the limited number of companies with balance sheets large enough to consider corporate funding means that funding structures, other than the traditional project finance, must be considered. This will help ensure that waste infrastructure projects are more deliverable.

The economic crisis of 2008 has led to a decrease in the demand for, and an increase in the availability of, industrial and logistics space in the property market. This has been accompanied by a reduction in the amount of waste being sent to landfill. This presents the waste industry with a potential opportunity, as much of the land and buildings are suitable for waste related developments.

Therefore, greater links with the real estate sector can provide the waste industry with an opportunity to benefit from lower cost forms of capital to fund infrastructure developments. Furthermore, the long-term leases required for waste infrastructure developments can provide property investors with the chance to benefit from guaranteed revenue streams.

Recommendation 5

The development of stronger links between the private waste sector and real estate investors, landowners and developers should be encouraged to allow the exploration of potential opportunities to release lower cost forms of capital. This should also be facilitated by additional clarification on the definitions of waste and recyclables processing as part of industrial use class definitions in the planning system.

The Government has identified mezzanine debt and equity products for the GIB to use from April 2012. Both products can be used to catalyse waste infrastructure projects and reduce the risk to senior debt lenders by departing from the traditional project finance structure.

Mezzanine debt can protect the senior debt lender by ensuring that they will be paid on the first available cash stream. This can also improve the risk profile of a project and increase the willingness of commercial lenders to commit finance whilst freeing up senior debt to be used elsewhere[6]. Furthermore, it can unlock equity participation through fulfilling and possibly exceeding the targeted rates of return[7].

Recommendation 6

Government should use the Green Investment Bank to provide mezzanine debt to reduce the risk to senior debt lenders in financing waste infrastructure projects.

To encourage greater equity equivalent contributions to waste infrastructure projects from institutional and pension funds, the GIB should use the pari-passu equity product. This co-investment product would be used when private capital is limited, with the GIB acting as the supporting equity partner. As this product would be provided by the Government, sufficient comfort would be given to the reduced senior debt contribution of the commitment to the project. Furthermore, developers would be able to raise more capital through loans elsewhere whilst equity providers can diversify their portfolio.

This support from the GIB could be used as a 'risk wrapper' which de-risks the project (i.e. technology process guarantee) from a funder's perspective, thereby leading potentially to improved debt pricing and terms.

Recommendation 7

Government should use the Green Investment Bank to provide pari-passu equity to encourage institutional funds to provide greater private equity contributions and deleverage senior debt in order to drive the development of merchant waste facilities.

6 Green Investment Bank Commission (2010) 'Unlocking investment to deliver Britain's low carbon future'.
7 Ernst & Young (2010) 'Capitalising the Green Investment Bank, Key issues and next steps'.

METHODOLOGY AND STEERING GROUP

This research project was conducted between January 2011 and August 2011. The findings and policy recommendations produced in this report are the result of evidence collected and analysed from three components of the research process.

Evidence gathering interviews were held between January 2011 and April 2011 with a cross section of individuals and organisations representing the waste sector, finance, the legal profession, interest groups, local authorities and government. During the evidence gathering interviews, participants were asked about their experiences and views on what could be done by central government, local authorities and the private sector to provide or stimulate the necessary investment in waste infrastructure.

The interviews were combined with four steering group meetings between March 2011 and July 2011 to scrutinise and appraise the findings from the interviews and to finalise the structure and recommendations of the report. The steering group comprised individuals from finance, local authorities, waste management companies and industry bodies. Each steering group meeting was chaired by Dr Alan Whitehead MP, a member of the Environmental Audit Committee and Energy and Climate Change Select Committee.

The evidence from the interviews and steering group meetings was complemented by in-depth desk-based research to scope out the aims and objectives of the report and provide additional evidence.

The three sponsors, BNP Paribas Real Estate, the Chartered Institution of Wastes Management (CIWM) and the Environmental Services Association (ESA), have supported this work with valuable expertise on the financing of new waste infrastructure. The recommendations provided by this inquiry are those of the APSRG and do not necessarily reflect the opinions or positions of the sponsors or individual steering group members.

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* Organisation and job title correct at date of interview

1 INTRODUCTION

The waste sector requires a substantial investment in its infrastructure. But significant barriers are impeding such investment. The recommendations of this report aim to increase investor confidence through policy certainty and risk mitigation.

The Government's recently published Review of Waste Policy has indicated that there is sufficient waste infrastructure capacity in the pipeline for the treatment of municipal solid waste (MSW) in England to meet the EU landfill and revised Waste Framework Directive (rWFD) targets. But the Review also highlighted that the provision of this infrastructure, and commercial and industrial (C&I) waste capacity, needs to be made easier. The Review suggested that this could be achieved by reducing the commercial barriers to financing waste infrastructure, by providing access for businesses to infrastructure to treat their waste, by improving the planning process and by ensuring the blend of policy incentives is consistent.

How these issues are to be tackled remains unclear. The Review lacked any specific detail as to how the Government intends to facilitate the development of infrastructure beyond European targets. In addition, there was little recognition of the investment challenge posed by current public and private financial limitations, and the inherent risks faced by waste infrastructure projects.

1.1 The Investment Requirement

For the UK to meet and exceed the 2020 EU Landfill Diversion targets, £8 billion of investment is required in waste infrastructure[8]. The increase in the landfill tax to £80 per tonne by 2014 means that without new infrastructure, the UK will suffer financially. Waste infrastructure capacity is urgently required to deal with our waste.

Table 1 - Infrastructure and capacity required until 2020[9]

	Base case	High end scenario
Capacity gap		
Recycling infrastructure million tonnes (mt)	6.6	10.6
Residual waste treatment million tonnes (mt)	5.6	8.7
Total million tonnes (mt)	**12.2**	**19.3**
Capital cost		
Recycling infrastructure (£ billion)	0.80	1.27
Residual waste treatment (£ billion)	4.03	6.26
Total (£ billion)	**4.82**	**7.54**
Facilities		
Recycling	130	210
Residual waste treatment	20	40

8 Environmental Services Association (2011). Figure rounded to the nearest £ billion, estimate based upon published Defra data and assumptions (base case and high end scenario) to fulfil the biodegradable municipal waste (BMW) Landfill Diversion target, the 50% household waste recycling target set by the rWFD and the 60% recycling rate ambition for C&I waste, all by 2020. This does not include the targets outlined in the Packaging Directive and Waste Electrical and Electronic Equipment (WEEE) Directive which may require additional infrastructure investment.

9 Environmental Services Association (2011). This table illustrates the recycling and residual waste treatment infrastructure and capacity required in England to meet both Landfill Directive targets, as well as Defra's recycling ambitions (50% household waste recycled and 60% C&I waste recycled by 2020). The estimates of capital cost for this capacity are based on material recovery facilities at 50ktpa and residual waste treatment facilities at 250ktpa. The capacity requirement estimates are based upon Defra data and assumptions on capacity and waste arisings growth.

1.2 The Investment Gap

Despite the Government's recognition of the large investment required, the reduction in public spending means that finance must come predominantly from the private sector. The October 2010 Comprehensive Spending Review committed the Department for Environment, Food and Rural Affairs (Defra) to a 29% real-term reduction in its departmental budget from 2011-15. The Government also decided to rescind Private Finance Initiative (PFI) credit support for seven waste infrastructure projects on the basis that capacity was no longer needed for the UK to meet landfill diversion targets. Furthermore, funding for the Treasury Infrastructure Finance Unit as the lender of last resort was ceased[10]. Constraints on public sector finance mean that an estimated 70% of the overall investment in the waste sector must come from the private sector[11].

1.3 Barriers to Private Investment

Although the majority of investment in waste infrastructure projects is expected to come from the private sector, the fall in bank lending, inherent waste infrastructure project risks and regulatory and policy uncertainty provide significant barriers.

1.3.1 The Fall in Bank Lending

The increased reliance on the private sector to fill the investment gap is accompanied by its own set of barriers and problems. Although a limited number of companies have the ability to use their own balance sheets to finance waste infrastructure projects, the majority rely on bank debt. However, the 2008 credit crisis resulted in a fall in bank lending and a reduction in the period of time bank debt was provided (the maturity or tenor)[12]. The cost of bank debt has increased by 20-33% compared to pre-2008 levels and new capitalisation levels will restrict the ability of banks to provide finance (Basel III regulations will be introduced between 2013-19)[13].

1.3.2 Inherent Waste Infrastructure Risks

The complexity of the inherent risks associated with waste infrastructure, including technology, planning, construction, policy, off-take and input tonnage has reduced the number of potential lenders who are willing to commit finance and accept these risks. For those who do commit finance, these risks carry an increased weighting and cost. Uncertainty surrounding waste arisings has increased the risk placed on projects and the ability of the contractor or operator to guarantee a revenue stream that will service the debt provided by banks. Household and C&I waste arisings are proving increasingly difficult to forecast due to uncertainty over whether currently decreasing waste arisings are a result of the recession or an emerging trend.

Uncertainty over waste arisings has been exacerbated where there is a reliance on merchant and short-term contractual C&I waste in local authority waste infrastructure projects. Such risk undermines the deliverability of projects leading to higher debt costs. In turn, this poses a near impossible situation for fully merchant facilities to attract finance without significant local authority contracts of reasonable duration. It is

10 HM Treasury (2010) 'Public Private Partnerships – Technical Update 2010'.
11 HM Treasury/Infrastructure UK (2010) 'National Infrastructure Plan'. Figure based on the £200bn of investment required in the UK's infrastructure in the next five years.
12 European Commission (2009) 'Mobilising private and public investment for recovery and long term structural change: developing Public Private Partnerships'.
13 National Audit Office (2011) 'Lessons from PFI and other projects'.

vital that investors are provided with adequate certainty to commit finance to develop merchant and C&I waste capacity for the UK to exceed EU targets, at least until a track-record of stable feedstock has been established.

1.3.3 Policy and Regulatory Uncertainty

The risk surrounding plant availability is heightened for facilities using less established technologies, making it even riskier for them to generate predictable and consistent revenue streams. This uncertainty is compounded by the regulatory risk and instability surrounding energy incentives that allow the contractor or operator to access an end market and create revenue. Investor confidence in energy incentive schemes, such as the Renewables Obligation (RO), the Feed-in Tariff (FIT) and the Renewable Heat Incentive (RHI), has been weakened by a lack of engagement with developers and funders in the configuration of tariffs and changes in government policy.

While the Waste Review has helped clarify the direction of waste policy, investors are still concerned over its stability and direction due to the numerous departments, agencies and non-departmental public bodies whose policy remits encompass waste. The Government's localism and planning agendas provide further confusion and uncertainty for investors. The devolution of power to local communities and the reforms to the planning process risk adding further delay to projects.

1.4 Overcoming the Barriers to Investment

This report sets out how the bankability of waste infrastructure projects can be improved, overcoming the gap and barriers to investment. This is achieved through ensuring that the policy framework minimises investment risks, providing financial products which allow investors to accept previously unacceptable risks such as non-guaranteed feedstock (particularly C&I waste) and encouraging greater equity investment in waste projects.

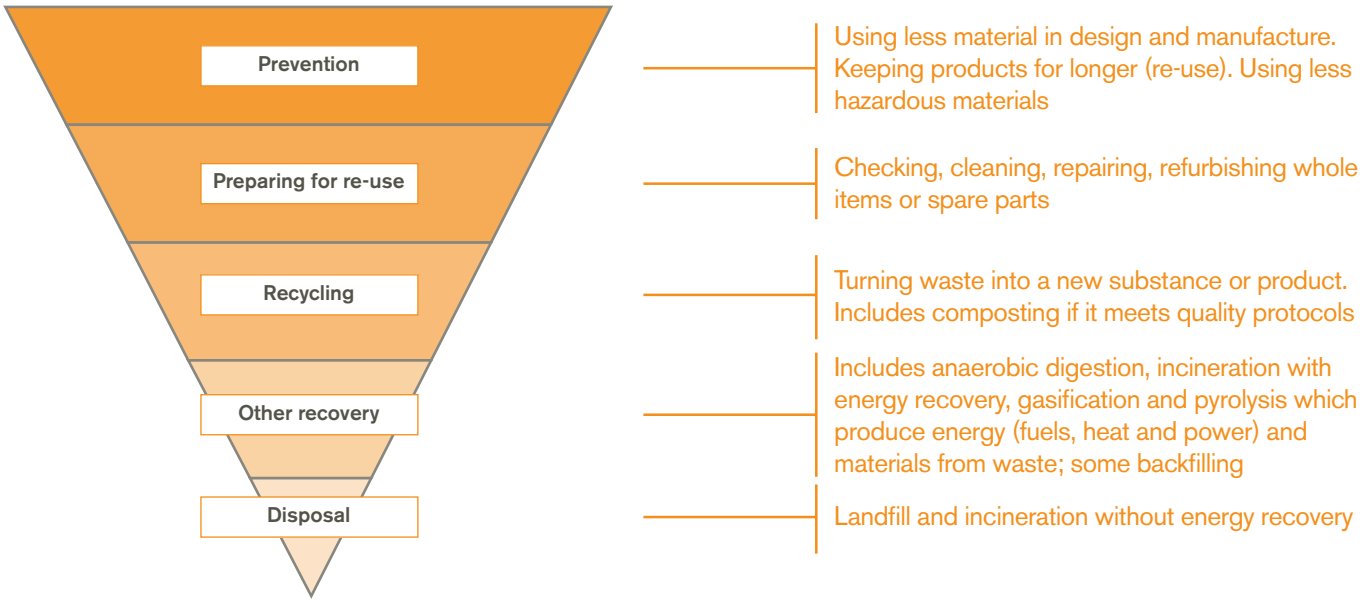
2 A FRAMEWORK FOR INVESTMENT

2.1 Central Government

The end of central government funding for waste infrastructure does not mean that investment is no longer required in this area. On the contrary, it has been estimated that £15 billion will be needed until 2030 if the UK is to deal with its waste successfully[14]. This success will be measured on the UK's ability to move further up the waste hierarchy, beyond the 50% household waste recycling target set by the rWFD to increased waste prevention and recycling (see diagram 1).

Diagram 1 - The waste hierarchy

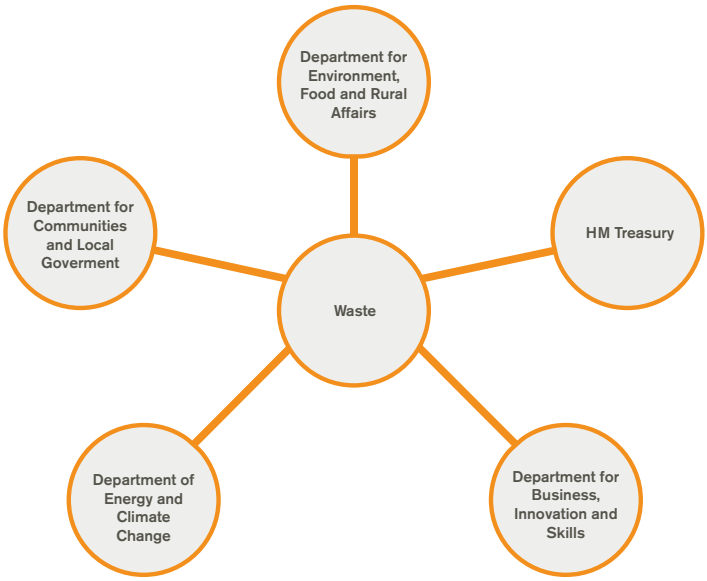
This diagram illustrates the waste hierarchy, a framework developed to guide government policy and meet legal EU requirements in line with five sequential measures: prevention, preparing for re-use, recycling, other recovery and disposal.



Although waste is a valuable commodity, national waste policy lacks sufficient integration with other policy areas to ensure that waste is fully valued as a resource. This is in part due to the different and occasionally misaligned agendas of a number of government departments, agencies and non-departmental public bodies working in the overlapping areas of waste, energy, low carbon growth, climate change and the provision of infrastructure. This increases the uncertainty and confusion for investors whose business decisions are dependent on a coherent policy landscape. Since 2003, the Government has prioritised the provision of local authority waste treatment infrastructure through Private Finance Initiative (PFI) credits to meet landfill diversion targets. However, this has led to a focus on MSW to the exclusion of larger waste streams such as C&I waste.

14 HM Government (2011) 'Update on the design of the Green Investment Bank'.

Diagram 2 – The departments involved in waste, energy and climate change policy



Department for Environment, Food and Rural Affairs (Defra)
- Waste policy and recycling
- Infrastructure delivery programme through the Waste Infrastructure Delivery Programme (WIDP)

HM Treasury (HMT)
- The Private Finance Initiative credit support programme through Infrastructure UK (IUK) incorporated within the Treasury (with Defra and WIDP)
- Landfill tax

Department for Business, Innovation and Skills (BIS)
- Cross departmental team working on the financial modelling, design and economic rationale for the Green Investment Bank (GIB)
- Co-ordination and development of State Aid policy
- Domestic implementation and enforcement of 'Extended Producer Responsibility' regulations (along with Defra and the Environment Agency (EA) which derive from European legislation)

Department of Energy and Climate Change (DECC)
- Energy saving, security and climate change
- Energy market incentives - Renewables Obligation (RO), Feed-in Tariff (FiT) and Renewable Heat Incentive (RHI)
- The Electricity Market Reform (EMR) programme
- National Policy Statement (NPS) for Energy

Department for Communities and Local Goverment (DCLG)
- Planning policy through the National Planning Policy Framework (NPPF)
- Localism Bill
- Central Goverment funding to local authorities who are responsible for household waste collection, disposal and all other waste planning applications outside of the Planning Inspectorate

The Review of Waste Policy has gone some way to outline the Government's position on waste infrastructure. Further detail will be provided by the revised National Infrastructure Plan to be published in Autumn 2011 as well as the National Waste Management Plan (NWMP) and data on future waste arisings and treatment capacity, both expected in Spring 2012. Although the Review recognises the impact of other policy areas on waste, it has failed to provide any detail of how greater policy co-ordination will be achieved. Similarly, there is little detail on the integration of MSW and C&I waste streams and the development of C&I capacity beyond the landfill diversion targets.

2.2 Planning

The UK's current approach to planning often undermines investor confidence in waste infrastructure. This inquiry found that waste infrastructure projects are subject to an uncertain planning process, an example of which is energy recovery from waste facilities. In the last three years, fourteen separate planning applications have been submitted. Twelve of the fourteen have been refused by planning committees, despite having already gained approval from planning officers[15]. As a consequence, they have been taken to appeal, which even if applications are subsequently successful, adds approximately one year and substantial un-budgeted costs to the process. This can result in significant project overspend even before the project becomes operational.

The PFI programme has required contractors and operators to expend significant resources to reach the stage of preferred bidder and then face the risks associated with seeking planning permission after financial close. Uncertainty in the planning process is increased by a disparate regime for waste infrastructure and waste plans in two-tier authorities.

Current reforms to the planning process are unlikely to resolve these issues. For large energy recovery from waste plants that generate over 50 megawatts (MW), the Localism Bill will replace the Infrastructure Planning Commission (IPC) with a Major Infrastructure Planning Unit set up within the Planning Inspectorate.

Further provisions in the Localism Bill could add to the uncertainty for the vast majority of waste infrastructure projects. The clause of 'presumption in favour of sustainable development' contained in the Bill provides some encouragement as it appears to promote a pro-development agenda to underpin local plans. However, there is a lack of clarity as to the type of waste infrastructure projects that would qualify as sustainable developments and how this would be implemented through the National Planning Policy Framework (NPPF). Furthermore, the recently published Draft NPPF does not refer to the importance of waste infrastructure in fulfilling European obligations, instead leaving this to the NWMP due to be published in Spring 2012.

This level of uncertainty surrounding waste policy and planning undermines investor confidence and needs to be addressed to encourage essential private sector investment in the UK's waste infrastructure. Although the Review of Waste Policy has helped to provide clarity

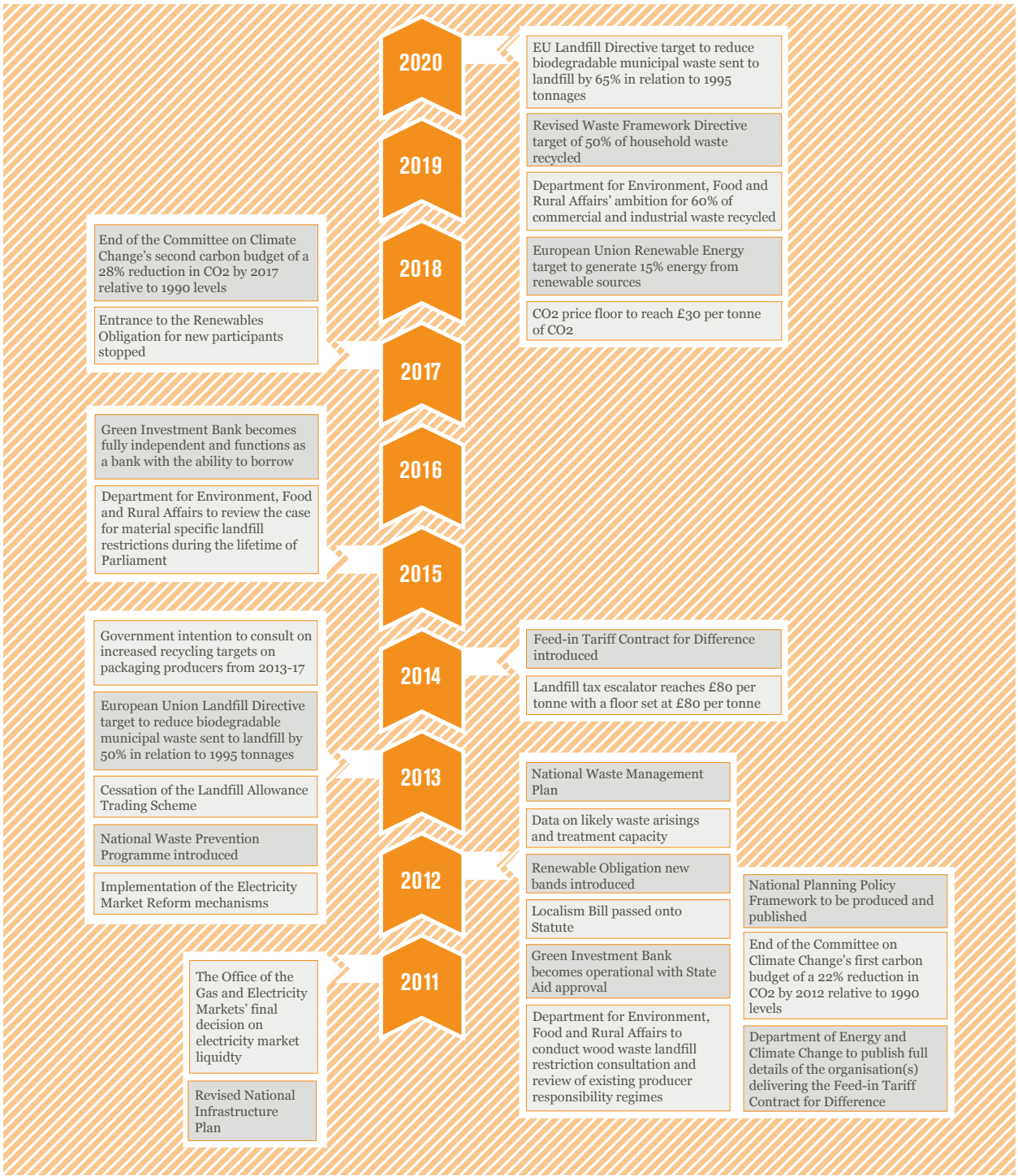
15 Environmental Services Association (2011). Data compiled accurate as of 10th June 2011.

on the Government's position and direction on waste, additional policy co-ordination and clarity is required to maximise investor certainty. To achieve this, a co-ordinating committee rooted in the Cabinet Office must be established; which is more authoritative than the currently existing Defra-chaired Waste Programme Board. Such a co-ordinating committee would incorporate civil servants across the government departments, agencies and non-departmental public bodies whose policy remits encompass waste. The primary focus of this committee would be to ensure that any direct or indirect issue affecting waste is accounted for in any detailed policy output. This committee would not impinge upon the individual autonomy of these bodies but would be fully serviced and resourced to assure investors that stability and co-ordination in waste policy is sustained.

Recommendation 1

Government must establish a coordinating committee, rooted in the Cabinet Office with representation from across the departments, agencies and non-departmental public bodies whose policy remits encompass waste, in order to provide investors with greater certainty over policy stability and coordination.

Diagram 3 – Timeline of key waste infrastructure and related policy dates



2.3 Energy Incentives

The inquiry heard that there is great potential for the main renewable incentives such as the Renewables Obligation (RO), the Feed-in Tariff (FIT) and the Renewable Heat Incentive (RHI) to encourage waste infrastructure development.

Energy recovery from waste is a particular potential growth area, as it can help the UK move further up the waste hierarchy by diverting waste from landfill, while increasing energy supply and security. Furthermore, it can act as an intermediary step to allow for the necessary recycling infrastructure capacity to be constructed. The announcement in the Review of Waste Policy that the Government fully supports and recognises the significant growth in all forms of energy recovery from waste is a welcome commitment. In addition, possible consultations and reviews to restrict certain materials from landfill also announced in the Review may lead to further energy recovery from waste infrastructure being delivered.

The Renewable Energy Directive (RED) requires the UK to generate 15% of its energy from renewable sources by 2020, which is equivalent to 234 terawatt hours (TWh). In contrast, just over 50 TWh of renewable energy was generated in 2010. Currently, biomass electricity (including biomass waste combustion and anaerobic digestion (AD)) and biomass heat (including energy recovery from waste with Combined Heat and Power (CHP) and AD biogas) contribute 11.9 TWh and 12.4 TWh respectively. However as a proportion of the projected 234 TWh required by 2020, there is the potential for biomass electricity and biomass heat, including that generated from waste, to contribute up to 100 TWh[16].

To motivate this investment, financial incentives will be needed so that waste infrastructure developers and operators can access end markets and finance at more affordable rates. Incentives provide a cash injection to waste management operators who can ensure the production of a certain off-take, enabling them to generate a revenue stream and service their debt.

For the Government to ensure that incentives fully encourage investment they must be long-term and designed with the investment community in mind. Constant consultations and reviews do not help to maintain stability and instead cause uncertainty among investors. This has been witnessed in the solar industry where potential changes to the eligibility of solar installations generating more than 50KW under the FIT Fast Track and Comprehensive reviews has caused enormous uncertainty among investors.

Therefore the project must become eligible for the incentive at financial close (the stage whereby all financial conditions have been satisfied), as opposed to at its operational stage. This will assure developers, operators and funders assessing a business case that the project will fully benefit from the incentive. To maintain certainty, all projects

16 Department of Energy and Climate Change (2011) 'UK Renewable Energy Roadmap'. The contributions from both biomass electricity and biomass heat are based on central projections with a range of 32-50 TWh for biomass electricity and 36-50 TWh for biomass heat, both by 2020.

must be automatically eligible for the tariff they originally qualified for throughout its lifetime, in spite of any change in the incentive's provision (so called grandfathering). If changes were to be made to the tariffs, they should be implemented with sufficient lead-in time so as not to adversely affect current developments to provide transparency to funders.

As waste infrastructure projects have become ever more reliant upon off-take income, it is crucial that financiers and investors can be confident that the incentive schemes provide long-term certainty, stability and transparency. This approach to energy incentives must be used in implementing the Government's proposals on the Electricity Market Reform (EMR).

Recommendation 2

Government must ensure that its financial incentives supporting the business case for waste infrastructure provide certainty to developers and financiers, and target the most commercially viable projects.

2.4 Electricity Market Reform

The Electricity Market Reform White Paper aims to secure long term electricity supply and decarbonise electricity generation. The White Paper represents great potential to develop energy recovery from waste infrastructure by bringing the costs associated with renewable energy generation in line with fossil fuel generated electricity. To stabilise revenues, increase the rate of investment and lower the cost of capital, the White Paper has proposed the introduction of a FIT Contract for Difference (CfD) from 2014, to replace the RO from 1st April 2017. The FIT CfD takes two forms (see below) for energy recovery from waste infrastructure. The load factors of both baseload and flexible sources will be dependent on the arrangement of the Capacity Mechanism, details of which will be finalised in late 2011.

A two-way FIT CfD for a constant (baseload) electricity generation

A long term stable strike price will be set for a contract between the electricity generator and a contracted counter-party to stabilise the revenues of the generator. When the market (reference) price is below the strike price the difference is paid to the generator. However, the credit worthiness of the contracted counter-party is crucial to generators accessing long term finance. The Government is aiming to publish the full details on the organisation(s) delivering the FIT CfD at the turn of 2012.

As generators will have to pay back the difference to consumers when the market price is above the strike price, this may act as a disincentive for large independent energy recovery from waste plants to generate electricity.

A one-way FIT CfD for flexible electricity generation

A one-way FIT CfD would be used with a fixed payment to cover the fixed costs of generation to meet demand and offset intermittent sources of generation. This would aim to incentivise generation during periods of high demand as it is the only point at which generators can recover the variable costs of generation. Generators will not receive the difference when the market price is below the strike price.

The RO transition

From the 1st April 2017 to 2027 the RO will no longer be open to accreditation for new plant (vintaging), creating a closed pool of capacity. During this period the level of the RO is likely to be calculated using the 'headroom' arrangement. This is whereby 10% of the estimated renewable energy generation in a given year is added to the obligated level to maintain the RO value. However there is a concern as to whether this level will be based solely on the headroom applied to the level of generation in 2017 or supplemented with a fixed target underpin. Without a fixed target underpin the obligation on and incentive for suppliers to source renewable energy may be weakened which could undermine long-term financing for generators. A fixed and grandfathered RO will be used from 2027-2037.

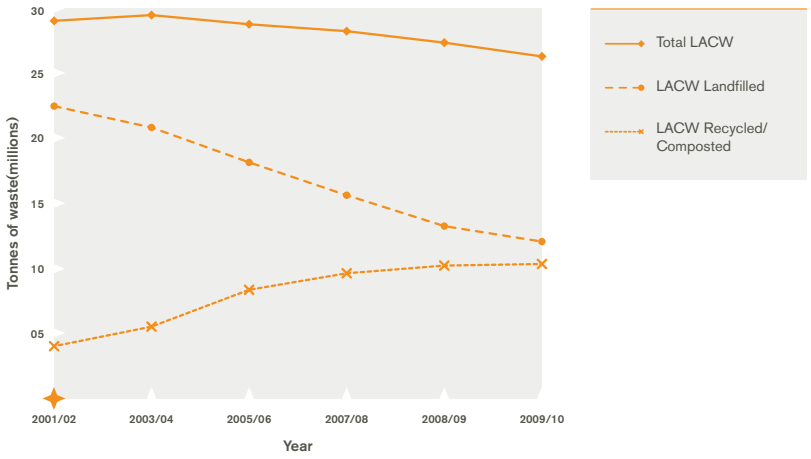
3 MSW AND MERCHANT PLANTS

Despite the Government's assertion that there will be enough merchant facilities in combination with Private Finance Initiative (PFI) and Public Private Partnership (PPP) projects to meet European Landfill Diversion targets[17], the inquiry found that financial and planning risks associated with waste management infrastructure makes this unlikely.

For example, independent merchant facilities will often not have a waste supply contract at a sufficient scale to make investors comfortable with committing finance. This is exacerbated by the current fall in bank lending (both in the number of banks willing to lend and the lower amount they are willing to lend) and the increased cost of debt. As a result, senior debt providers are unlikely to commit sufficient finance to enable the construction of merchant and C&I waste capacity. The construction of this capacity is thwarted by the protracted planning process which undermines investor confidence. Furthermore, investors and the waste management industry recognise that measures contained in the Localism Bill and NPPF are unlikely to alleviate the planning problems. This is despite an emphasis on local authority cooperation and a 'presumption in favour of sustainable development'.

In addition, the Review of Waste Policy lacked any specific detail as to how the Government will facilitate C&I waste capacity beyond the MSW targets. However, it does state in the Review that it wants to help to overcome the commercial barriers to financing waste infrastructure[18]. Despite the promise to abolish the Landfill Allowance Trading Scheme (LATS) from 2013, it remains the statutory responsibility of local authorities to deal solely with household and municipal waste. Local authorities cannot underwrite the volume risk associated with C&I waste due to the open market in which C&I waste operates. In the future local authorities could struggle to meet the guaranteed minimum tonnage provisions in existing contracts due to falling arisings in MSW, increased recycling and a greater focus on waste prevention.

Graph 1 – The arisings, landfilling and recycling of local authority collected waste (LACW)



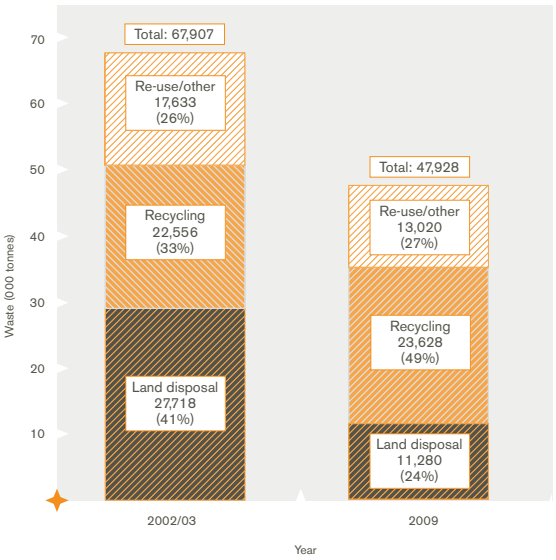
This graph represents the decreasing arisings since 2003/04 and the decreasing use of landfill and increasing use of recycyling/composting since 2001/02, with regard to Local Authority Collected Waste.

Source: Department for Environment, Food and Rural Affairs (2011) 'Waste Data Overview'

17 Department for Environment, Food and Rural Affairs (2010) 'Spending Review 2010 – Changes to Waste PFI Programme'. This analysis is based on the forecasted waste arisings and the assumed household and C&I waste recycling rates for 2020 and the biodegradable content of residual waste.

18 Department for Environment, Food and Rural Affairs (2011) 'Government Review of Waste Policy in England 2011'. Point 273 states that the Government wants to reduce the commercial barriers to the effective financing of infrastructure.

Graph 2 – The arisings, land disposal and recycling of commercial and industrial (C&I) waste



This graph illustrates how commercial and industrial waste arisings differ in 2002/03 compared to 2009.

Source: Department for Environment, Food and Rural Affairs (2011) 'Survey of Commercial and Industrial Waste Arisings 2010 - revised final result'

3.1 Hybrid Facilities

In general, only local authorities control a waste stream of sufficient size and long-term security to assure potential lenders that their debt will be serviced. For those that have not entered into long-term contracts, their waste could facilitate and underpin the development of C&I waste and merchant capacity. As a result this would become a hybrid facility. In the Waste Review the Government stated that it wanted further infrastructure for the treatment of business waste, incorporating both MSW and C&I waste streams. There is potential for the hybrid model to help to achieve this objective[19].

Under this hybrid model, a local authority would offer (tender) its MSW to the market as an anchor contract to help develop joint merchant and C&I waste capacity. This would ensure economies of scale through a single facility as opposed to the duplication of facilities. The hybrid model would be realised through the usual EU competitive procurement process, by advertising the contract and opportunity to deal with its waste on the open market. However, unlike the PFI contract, there would be no complications or onerous terms discouraging merchant capacity[20]. Instead the only provisions would be for the contractor or operator to a) deal with the local authority's waste with a treatment method that would relate to the waste recycling target and waste hierarchy and b) guarantee that the local authority's waste would be treated irrespective of the success of the facility. The winning bidder would propose a facility sized to deal with the local authority waste and C&I waste[21].

The non-guaranteed C&I waste capacity would still present too great a risk for both senior debt lenders and local authorities to commit to the arrangement due to the

19 Department for Environment, Food and Rural Affairs (2011) 'Government Review of Waste Policy in England 2011'. Point 158 states that the Government wants to see further infrastructure development for collecting and treating business waste.

20 To avoid or circumvent State Aid regulations, local authorities could take the position that they are investing into this arrangement as any prudent investor, investing in the provision of necessary infrastructure. As State Aid regulations are not absolute this position would require clarity from the Government.

21 This arrangement may lead to a monopoly situation as the facility would be in the most advantageous position when trying to win another waste contract. However it has not been possible examine this issue within the remit of this report and may require further examination.

larger than normal capacity constructed for C&I waste. Therefore, to alleviate this risk and give both parties the confidence to form the hybrid model, a guarantee would be required. The Green Investment Bank (GIB) would be ideally positioned to provide a revenue underwrite guarantee on a properly structured commercial basis.

3.2 The Potential for a Green Investment Bank Guarantee

The GIB's mandate includes alleviating market risk aversion to ensure that £15 billion's worth of investment is made in the waste sector[22]. Although the GIB is not looking to provide a guarantee product for some time, the guarantee should be brought forward by the GIB and used to alleviate the predominant risk of feedstock supply[23]. The waste sector's alignment with the strategic priorities of the GIB strengthens the case for the latter to use this product to stimulate waste infrastructure development.

The guarantee could be structured using several options. The easiest would be to underwrite the revenue shortfall from the C&I capacity arising from a) the tonnages themselves, b) lack of contract renewal or c) lack of or no confidence by the funder in the credit rating of the counter-party[24]. A similar guarantee is used by local authorities in France through the 'Cession Dailly' contractual framework. In this arrangement, a proportion of the unitary charge is allocated directly to the lenders by the local authority even if the project company performs poorly or the project is terminated. To a certain extent this isolates and guarantees the performance risk of the facility and contractor. The security of this payment results in substantially lower debt margins ensuring that the debt will be serviced and mitigates the risks associated with lower waste arisings, volumes and plant availability[25].

Ultimately the hybrid project structure would be funded through a combination of the GIB and project or corporate finance. The GIB guarantee would ensure senior debt providers of the guaranteed minimum tonnages (GMT) required for the overall facility. Furthermore, the guarantee would ensure that their debt and debt service cover ratios will be serviced from the uncertain C&I element. It would also provide wider assurances to investors to help them overcome the perceived risk of feedstock supply.

This guarantee would ensure that the local authority, in committing its waste stream to the hybrid facility, would not be taking on any legal obligations or responsibility for that element of the treatment capacity which is ring-fenced for C&I waste. However, once a few projects have been developed and the market becomes comfortable with the risk, the GIB could exit the arrangement and move onto the next project[26]. As a consequence, this would align with one of the GIB's investment priorities: to generate a portfolio of returns whilst preserving and building its capital base.

22 HM Government (2011) 'Update on the design of the Green Investment Bank'.
23 To address the feedstock supply risk the Government would want to investigate the potential impact from the competitive waste export market. This is currently being driven by excess energy recovery from waste capacity in Europe. A government investigation may result in potential measures to mitigate feedstock supply risk such as landfill and waste export bans or the continuation of the landfill tax escalator.
24 A possible distinction would need to be made when applying the GIB guarantee to underwrite the revenue from the C&I waste stream. This would separate the waste management companies that have collection businesses and/or substantial relationships with collection businesses from those that do not. The former would be better placed to give greater certainty that C&I waste would be collected and delivered to the facility.
25 Although the construction phase attracts debt margins associated with PFI projects, once the Cession Dailly has been enacted, the project attracts a similar risk weighting as a quasi Government institution or local authority, leading to substantially lower debt margins from lenders due to the security of this irreversible payment.
26 Although some of the banks which have contributed to this inquiry have expressed the need for the guarantee to match the length of the debt, they have also stated that there could be a soft agreement between the bank(s), local authority and contractor or operator to revisit the length of the guarantee during the term of the contract. However, If it was agreed at the outset that the term of the guarantee would not match the length of the debt then this may ultimately increase the pricing of the debt.

The application of this type of guarantee could allow the GIB to catalyse a pipeline of waste infrastructure projects tailored to providing further C&I waste capacity. This could help the Government to achieve the required rate and scale in deployment and investment in waste infrastructure and to reach its desired goal in the Review for further business waste infrastructure. Currently, this control is absent as senior debt lenders are not comfortable with committing finance in the presence of perceived feedstock supply risk. If left to the market, the likelihood would be that the development of much needed C&I waste capacity would be significantly reduced or severely delayed.

Recommendation 3

Government should use the Green Investment Bank to devise and issue a guarantee product to de-risk the development of C&I waste capacity to encourage the development of merchant or joint local authority and C&I waste facilities.

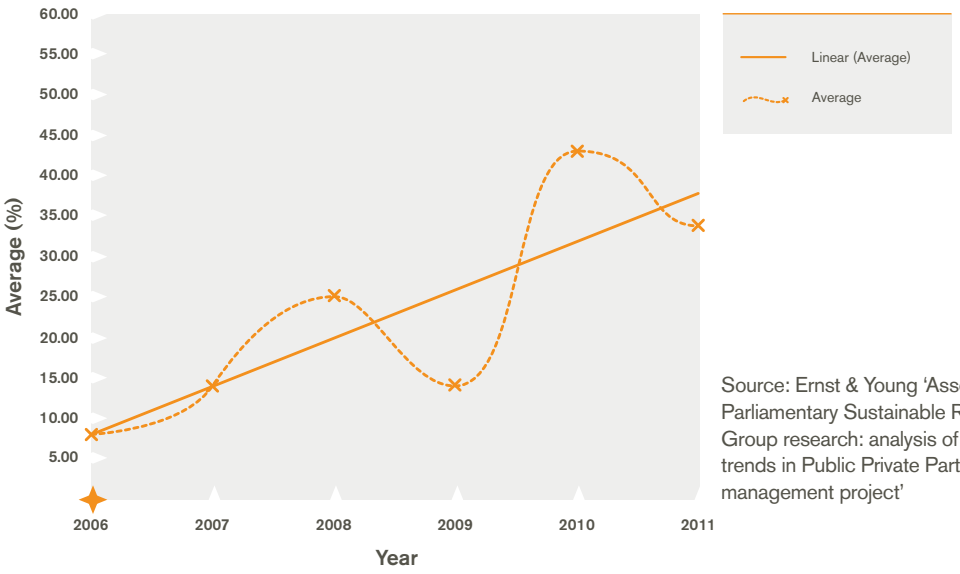
3.3 Better Value for Money through Sharing More Off-take Risk

To improve the de-risking capability of the GIB guarantee and increase the use of the above model, local authorities should explore sharing more off-take risk. The increased risk premium placed on local authority waste projects as a result of a greater emphasis on power off-take income means that further support may be necessary to develop merchant and C&I capacity, even with local authority waste and a GIB guarantee. The increased risk premium is a result of a significant increase in revenue from non-local authority waste (third party income) as a percentage of total project revenue (circa 34%) of which power off-take income represents the majority (circa 62%)[27]. The operator looks to pass on the increased debt margins from this arrangement through higher risk premiums, providing less value for money over the lifetime of the contract for local authorities. This is despite a Unitary Charge being paid by local authorities to the contractor, regardless of the tonnage throughput at the facility, to help to protect against volume risk.

27 Ernst & Young (2011) 'Associate Parliamentary Sustainable Resource Group, Research: Analysis of financial trends in Public Private Partnership waste management projects'.

Graph 3 – Third party income as a percentage of the total special purpose vehicle (SPV) revenue

This graph illustrates the average third party income as a percentage of the total special purpose vehicle revenue (SPV) from 2006 to 2011. Overall the graph indicates an increase in the average third party income as a percentage of total SPV during the given time period.

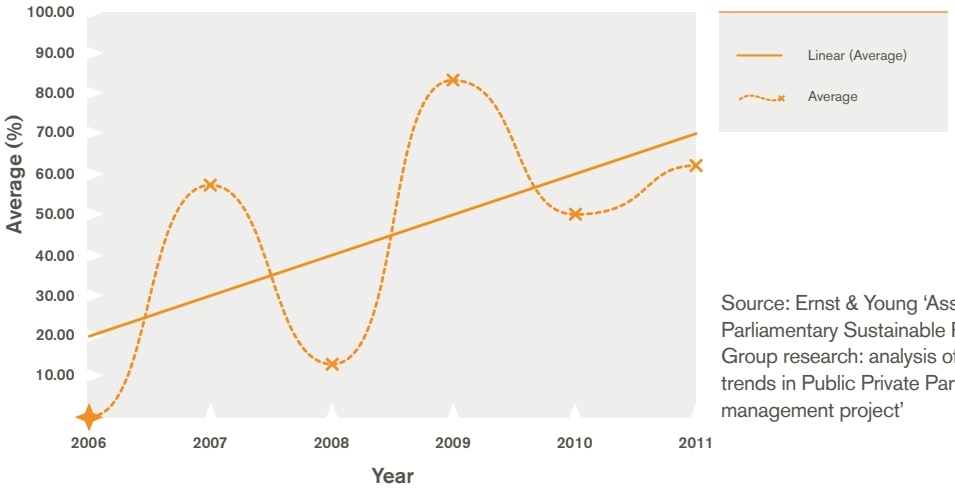


Source: Ernst & Young 'Associate Parliamentary Sustainable Resource Group research: analysis of financial trends in Public Private Partnership waste management project'

Furthermore, as a result of the current risk-averse environment, banks will only account for off-take revenue where this is guaranteed by the developer over an acceptable period and on conservative pricing of approximately £35-40 p/MWh in PPAs for a maximum of 7-10 years. When factored into the lifetime of the project, this leaves the total project revenues undervalued and undermines the business case for the waste infrastructure project. In effect, the price and commodity risk rests with the developer. This is exacerbated by declining C&I waste arisings which suggests that the volume of waste treated will become less certain, affecting the ability of the facility to generate power.

Graph 4 – Power (off-take) income as a percentage of total third party income

This graph illustrates the average power revenue as a percentage of third party income from 2006 to 2011. Overall the graph indicates that average power revenue as a percentage of third party income varied significantly from 2006 to 2009. However over the given time period, there has been an increase in power revenue as a percentage of third party income.



Source: Ernst & Young 'Associate Parliamentary Sustainable Resource Group research: analysis of financial trends in Public Private Partnership waste management project'

As a consequence, this inquiry found that for future semi-merchant and local authority PPP deals to be maintained as attractive investment opportunities, local authorities should explore sharing more off-take risk. Where local authorities are able to manage the risk, this could be done either through the formation of an energy service company (ESCO) to purchase the power off-take for its own use, or by taking responsibility to deal with the off-take produced. An example of this is Essex County Council (below) which has taken responsibility for the Solid Refuse Fuel (SRF). This approach would eliminate potential uncertainty for funders through reducing the project's risk and securing value for money for the local authority.

Recommendation 4

Local authorities should explore taking on more off-take risk in order to expedite the delivery of hybrid and local authority waste infrastructure projects and deliver better value for money.

ESSEX COUNTY COUNCIL

CASE STUDY

The Essex Waste Partnership, comprising Essex County Council and 11 constituent District and Borough partners, has prepared a Joint Municipal Waste Management Strategy (JMWMS). This sets out the shared development and delivery of waste management services within Essex, to be completed in May 2012 and fully operational within four years[28].

The Partnership has acknowledged that the funding community already included a risk premium on waste projects. To reduce this risk, and therefore become eligible for finance on a more favourable basis, the Partnership has implemented the following solutions:

1. Adopting proven and acceptable technologies to the funding community

The JMWMS has been based on the Mechanical Biological Treatment (MBT) technology to assist in diverting biodegradable municipal waste from landfill. MBT produces a stabilised output material (SOM) or a solid refuse fuel (SRF) output to recycle and recover more value from residual waste. Choosing this technology solution means the operator will not be exposed to fluctuations in off-take income such as the price of the electricity.

2. Securing a fully enabled site

The Partnership has obtained a single site within its control that has been prepared for the contractor to build on when the construction phase commences. Furthermore, the Partnership has allowed bidders to source and enter their own site(s) in the competitive bidding process.

3. Planning deliverability through previously secured planning permission

The Partnership has obtained planning for a waste facility on the single site to address the issue of deliverability. This has helped to remove significant uncertainty for investors. This has not completely removed the risk taken on by the bidder to obtain their own planning permission. However, it has ensured that the bidder will be able to obtain planning for a waste type facility on the site to deal with the quantities and types of waste specified within the Partnership's waste plan.

4. Taking responsibility for the end disposal of all bio-stabilised and SRF output materials

The Partnership has chosen a MBT strategy as its preferred solution, instead of a non-energy recovery from waste strategy. The SRF off-take produced by MBT requires an end market. Therefore, the Council has decided to take responsibility for the SRF itself once the facility has become operational, which lenders to the project have viewed as a risk relinquished from their client. The Council undertook a market research project to source an end market for the SRF, during the compilation of the Outline Business Case (OBC) to obtain PFI credits. It is the view of the Partnership that it believes it has taken on responsibility for a risk where appropriate. Although at the stage of compiling

28 The project is currently at the shortlist stage of the procurement process, with the preferred bidder to be announced in early 2012.

the OBC there was not an established market for the SRF, it has been estimated by the Partnership that the market would exist in the near future, especially as the SRF is a source of stable and regular fuel for high energy users.

5. No reliance on third party waste tonnages and minimal reliance on third party income from sales of materials and the acceptance of a high Guaranteed Minimum Tonnage (GMT) threshold

At circa 370,000 tonnes per annum (tpa) the facility has been sized by the partnership so that it will not be reliant on non-local authority waste (third party income) and has been sized purely to deal with the Partnership's waste. Although the operator has not been given exclusivity over this waste, the Partnership has provided a very high GMT of 80% which will make the operator's business viable. This has provided a sufficient guarantee to investors and alleviated the risk of relying on third party income alluded to above.

Courtesy of Essex County Council

4 WIDENING THE RANGE OF FINANCE OPTIONS

Significant challenges exist in the private sector to finance and deliver waste infrastructure projects. Traditionally, project finance (85% debt against 15% equity) has been used to finance waste infrastructure projects. However, the withdrawal of PFI, a fall in bank lending and limited company balance sheets means that there is a requirement to reduce the reliance on senior debt. Furthermore, normal risk sharing practice has placed the off-take risk on the contractor or operator, exposing them to fluctuations in power, electricity, heat, gas or recyclate income. As a result, banks will be reluctant to reduce their debt margins.

Non-contractual or short-term waste feedstock supply places a substantial risk on the ability of merchant facilities to access a guaranteed waste feedstock supply. The risk surrounding plant availability is heightened for less established technologies. This affects the ability of a facility to generate a guaranteed and consistent revenue stream to service its senior debt and pay dividends to its equity providers. This environment is not conducive to stimulating investment in waste infrastructure projects.

This inquiry explores three alternative financing options to increase the deliverability of waste infrastructure projects by reducing the reliance on bank debt. Greater links with the real estate sector may provide the waste industry with an opportunity to benefit from lower cost forms of capital. Furthermore, mezzanine finance can deleverage the senior debt used in a project and institutional funds can provide greater equity contributions.

4.1 Real Estate Related Finance

The UK has been steered away from a dependency on landfill by legislative and regulatory drivers. As a consequence, since 2000 there has been a 45% reduction in the amount of waste sent to landfill, coupled with a 19% reduction in landfill capacity. This leaves approximately eight years of landfill capacity remaining in England and Wales as of 2009[29]. Following the economic crisis of 2008 there has been a steady decrease in demand for industrial and logistics space in the property market, accompanied by a steady increase in their availability. This presents the waste industry with a potential opportunity because much of the land and buildings suitable for industrial and logistics development may also be suitable for waste related developments.

In the wider property market, leases are becoming shorter making property investments less attractive to investors and developers. But the capital costs involved with waste infrastructure mean that associated properties often require long leases. This in turn makes them attractive to property investors and developers. Investors, landowners and developers are therefore presented with an opportunity to benefit from guaranteed revenue streams, whilst potentially opening up a low cost form of capital to operators and the wider sector to fund waste infrastructure developments.

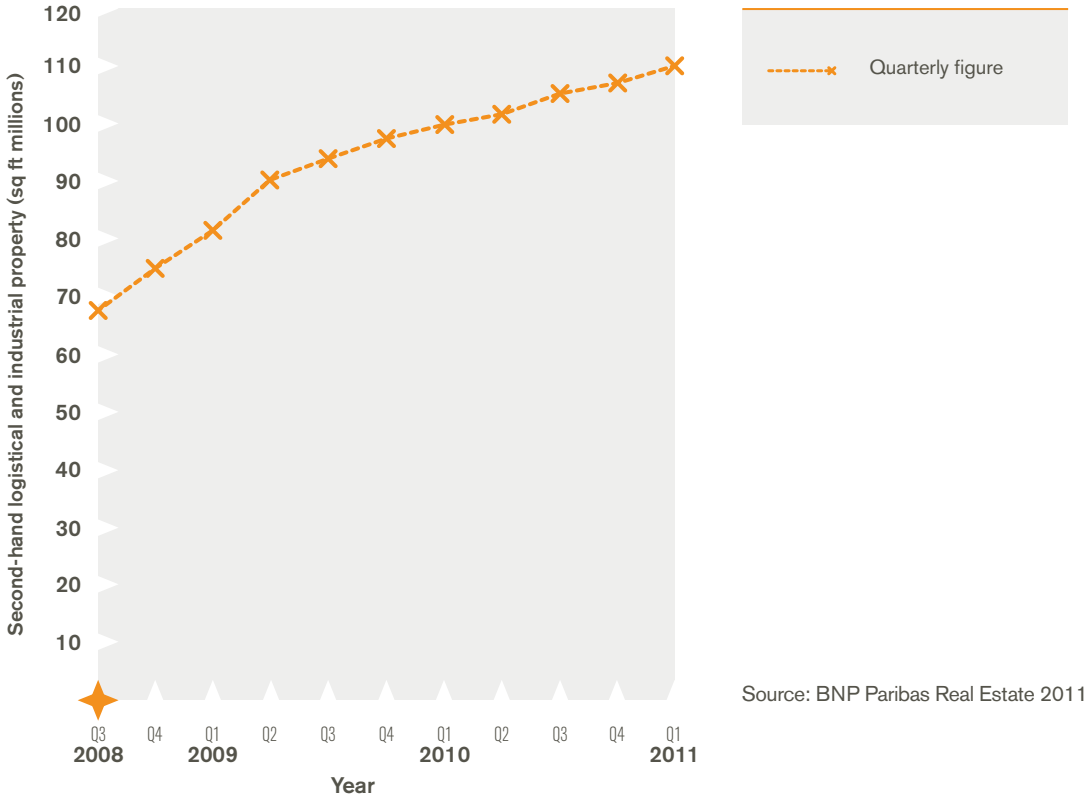
Through greater engagement with the real estate industry, the waste industry has the potential to benefit from alternative sources of finance which have been successfully

29 Environment Agency (2010) 'Waste Information 2009'.

implemented in other industries, such as the retail and supermarket, manufacturing and aggregates sectors.

Graph 5 – Supply of second hand industrial and logistics property

This graph illustrates a steady increase in the supply of second-hand logistical and industrial property since the third quarter of 2008.



Source: BNP Paribas Real Estate 2011

4.1.1 The Sale and Leaseback Model

One such model to facilitate this opportunity is the sale and leaseback model (case study below). Through this model, the waste management company sells their property assets to a separate company, with the property investor financing the purchase. At the same time of this sale, the waste management company enters into a long-term lease agreement with the purchasing company at a pre-agreed rental rate. This is usually accompanied with a fixed rental increase based on the retail price index (RPI). The property sale can provide capital to the waste management company, often at a cheaper cost than senior bank debt. This is because the money is raised from investors who prefer the risk characteristics of providing finance which is backed by a long-term guaranteed rental stream and secured against a property.

Although the sale of the land or property may not cover the total capital costs of the project, it may provide them with 25-50% of the total at a substantially reduced interest payment when compared to a normal project finance structure. For property investors or landowners, this can result in stable revenue streams supported by the rent being paid for the lifetime of the leaseback at a guaranteed return. The financial strength of the waste management company remains an important factor in determining the level of rent. This would not be a suitable model for the waste management company if the rent is too high to be sustained by its revenue streams or if the original sale of the property does not provide sufficient capital to meet the needs of the waste management company.

4.1.2 Property Location and Planning

The sourcing of the correct location can provide greater financial certainty from the perspective of the waste management company and property investor. The correct location can provide waste management companies with the confidence to source alternative short-term waste contracts. For the property investor the correct location can provide them with the confidence of selling the property if the waste management company is unable to meet the rental rates.

However for the potential for better engagement with and investment from the real estate sector, the protracted planning process and the uncertainty this causes, must be improved. A component of the improvement required focuses on the classification of waste infrastructure developments. These developments are incorporated under three use classes, which allow a wide scope of interpretation for local planning authorities. This leads to inconsistent decisions from local planning authorities and causes confusion and uncertainty for investors as to whether or not planning permission for a 'change of use' will be required. Greater clarity and consistency as to which use class order waste developments sit within would help waste infrastructure developments to benefit from suitable and pre-existing consents and from the same permitted development rights as other industrial developments. Investors would have a clearer understanding of their planning rights, allowing them to select appropriate sites and the waste industry to fully benefit from stronger links with the real estate sector.

Recommendation 5

The development of stronger links between the private waste sector and real estate investors, landowners and developers should be encouraged to allow the exploration of potential opportunities to release lower cost forms of capital. This should also be facilitated by additional clarification on the definitions of waste and recyclables processing as part of industrial use class definitions in the planning system.

THE SALE AND LEASEBACK MODEL

CASE STUDY

To protect client confidentiality all names have been anonymised.

ABC Waste Management has ownership over a site in the South East of England. After conducting an analysis of the waste market and reviewing its existing contracts and competition in the local area, it wants to construct and operate a Materials Recovery Facility (MRF) of 125,000 square feet (sq ft) on the site. However, the company does not have sufficient finance to construct the facility using corporate finance and cannot afford to use a normal project finance structure.

The sale and leaseback model provides an opportunity for the company to construct the facility at an affordable rate to fit within its financial constraints. A property investor interested in the site pays ABC Waste Management £12.72 million for the site. This valuation is based on the length of the leaseback, the underlying site value, the financial strength of the tenant and the fixed rental uplift provisions (normally based on the Retail Prices Index (RPI)).

Therefore the property investor places a rental value of £7.00 per square feet (psf) at a total of £875,000 per annum (pa) with an annual increase based on RPI. This increase will be subject to a floor of 1% per annum (pa) and a ceiling of 5% pa to accrue the property investor's desired yield of 6.5% over the lifetime of the pre-agreed leaseback. Normally the cost of capital resulting from this arrangement would be around 6.5-8% (a lower rate than private equity or project finance). At the same time the company agrees to take a leaseback over the site through which it is liable to pay a rent for the lifetime of the leaseback for a pre-agreed 25 years.

The initial sum of £12.72 million paid to ABC Waste Management will cover over 50% (usually this equates to 25-50%) of the total project capital expenditure of £23 million required to develop the land, construct and equip the MRF. As the sector becomes a more established property investment medium, it is anticipated that investors will be prepared to raise a much higher percentage of the total capital expenditure required for a particular project through rent. To finance the remainder of the project capital expenditure percentage, ABC Waste Management can use traditional project finance and equity. However, as a consequence of the sale and leaseback model the additional percentage acquired diminishes the overall interest payment to 12% (usually this would amount to 10-11%) at the upper end of the sale and leaseback contribution in comparison to 20% or more for the full project finance and equity contribution.

Key Features:

- Total project capital expenditure: £23 million for land, buildings and equipment
- Building size: 125,000 sq ft
- Rental value of the building: £7.00 psf (a total of £875,000 pa)
- Leaseback period: 25 years with annual increases based on RPI with a floor of 1% pa and ceiling of 5% pa
- Property investor payment: £12.72 million for the site based on the rent, fixed increases and a yield of 6.5%.
- Average cost of the new project finance structure: approximately 12%

Courtesy of BNP Paribas Real Estate

4.2 The Role of the Green Investment Bank in its Early Years

The Government has identified mezzanine debt and equity products for the Green Investment Bank (GIB) to use to catalyse waste infrastructure projects from April 2012. Given GIB's limited capitalisation of up to £3 billion and prior to State Aid approval during its incubation period, these products can make waste infrastructure projects more deliverable, by deleveraging senior debt and encouraging equity investment.

4.3 Mezzanine Debt

Mezzanine debt has the potential to overcome the current problems of reduced bank lending and limited corporate finance in waste infrastructure projects. This product is placed between the equity and senior debt of a project, acting as a safeguard against the inability of the project sponsor to service the senior debt. Moreover, it prevents an over reliance on senior debt by moving away from the current project finance structure. When the mezzanine debt product is used, less reliance can be placed on senior bank debt and the deliverability of the project is increased.

Mezzanine debt can be particularly successful when applied to projects with high risk perception. For example, the use of mezzanine debt in a project can increase the ability of smaller scale facilities to attract bank debt during a risk-averse period. In typical project finance arrangements, banks will usually look for up to two times the cover ratio on the cash flow to service their debt against the revenue the facility is generating, which is done on an output (availability) basis. Although project finance is available, it will not be available at a level to provide sufficient returns for equity investors.

The Government has identified the GIB to use mezzanine debt specifically in the waste management sector. The mezzanine debt product would assure senior debt providers that they would be paid out first on the available cash streams. Therefore commercial lenders would be more likely to commit finance[30]. As a consequence, the product would improve the risk profile of the project and unlock equity participation through fulfilling and possibly exceeding the targeted rates of return[31].

In order for mezzanine debt to be effective, its providers would have to be content that those providing equity would not be able to commit any more than 15% of the project's total capital expenditure. Moreover senior debt lenders would only be able to provide up to 65% of the project's total capital expenditure.

The London Waste and Recycling Board (LWaRB) is currently using the mezzanine debt product at a local level to overcome London's waste and recycling infrastructure capacity gap until 2030[32]. This product has been supplied to GreenTech Corporation to develop a facility in north London. LWaRB has committed £1 million of finance and will rank behind the senior debt provider in relation to security, protecting the senior debt lenders. The remaining finance for the project has been sourced from the private sector.

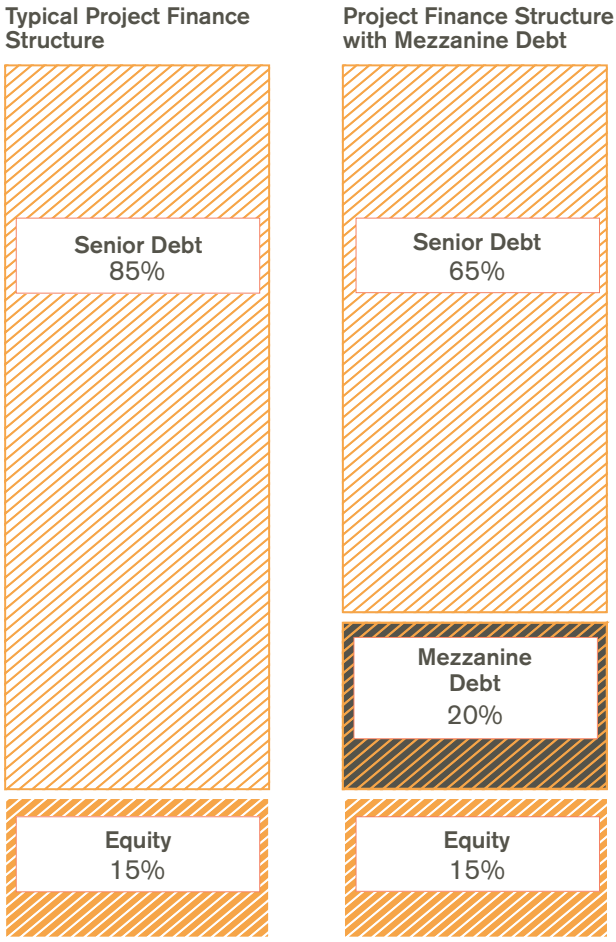
30 Ernst & Young (2010) 'Capitalising the Green Investment Bank, Key issues and next steps'.
31 Green Investment Bank Commission (2010) 'Unlocking investment to deliver Britain's low carbon future'.
32 London Waste & Recycling Board (2011), 'The London Waste and Recycling Board: Business Plan 2011/12'.

Recommendation 6

Government should use the Green Investment Bank to provide mezzanine debt to reduce the risk to senior debt lenders in financing waste infrastructure projects.

Diagram 4 – Project structure with and without mezzanine debt

These diagrams illustrate the difference between a traditional project finance structure (left) and a project finance structure using mezzanine debt (right). Mezzanine debt can protect the senior debt lenders from the riskiest component(s) of the project and provide them with sufficient comfort that they will be paid on the first available cash streams.



4.4 Institutional Funds

The fall in bank lending and limitations of corporate balance sheets mean financial models which provide and encourage greater equity contributions must be explored. Institutional funds incorporating pension funds and other private sector finance can provide greater equity contributions for waste infrastructure development. This is due to the affordable nature of the finance and the long-term payback period aligning with the long-term nature of the infrastructure developments.

However, the numerous risk barriers associated with waste infrastructure projects outlined above, and barriers surrounding institutional and pension funds must be addressed before they can be aligned with and invested in waste infrastructure projects. For a fund to invest, the return must be commensurate with the risks whilst adhering to any targets on the returns accrued and the number of projects it is able to invest in. If the fund operates at too low a level, it becomes increasingly difficult to invest in a sufficient number of projects (or even a pipeline of projects) to diversify the investment portfolio to protect against risk.

To alleviate these risks and barriers to encourage institutional funds to provide greater equity contributions, the Government should use the GIB to provide pari-passu equity for waste infrastructure developments. The pari-passu product is an equity equivalent investment arrangement used in situations where private capital is limited, whereby the GIB would act as the supporting equity partner. This would provide equity investors with sufficient comfort and encouragement to invest where they previously would not and with further assurance of the Government's commitment to the project. This product would be used as a 'risk wrapper', which would de-risk the project (i.e. technology process guarantee) from a funder's perspective, thereby potentially leading to improved debt pricing and terms and would make projects more deliverable.

Furthermore, the Government would eventually sell its share once the operational phase had begun, to attract other sources of private finance to invest. Through greater equity equivalent investments this would allow developers to raise more money through loans elsewhere and the partnering equity provider to diversify their portfolio.

The importance of institutional funds providing greater equity contributions to aid the deliverability of waste infrastructure projects at a local level can be illustrated by the Foresight Environmental Fund's investment in Closed Loop Recycling (below). In addition, the fund is being used to facilitate other forms of private finance and aid the deliverability of further waste and recycling infrastructure throughout London to close the infrastructure capacity gap.

Recommendation 7

Government should use the Green Investment Bank to provide pari-passu equity to encourage institutional funds to provide greater private equity contributions and deleverage senior debt in order to drive the development of merchant waste facilities.

33 Veys, Alex (2010), 'The Sterling Bond Markets and Low Carbon or Green Bonds, A report to E3G'.
34 Environmental Audit Committee (2011) '2nd Report, The Green Investment Bank'.

FORESIGHT ENVIRONMENTAL FUND

CASE STUDY

Foresight Environmental Fund has been established to manage the Waste Urban Development Fund which is a component of the London Green Fund. The Foresight Environmental Fund is a £70 million private equity fund that was set up to finance low carbon waste and recycling infrastructure with support from a number of local authority pension funds and private investors to drive an investment programme which will aim to leverage up to £200 million. The Fund offers equity to support the construction and operation of energy recovery from waste and recycling facilities, generating profits by creating a network of facilities that is attractive for acquisition by larger groups with an investment period until 2015.

To be eligible for investment, projects need to offer attractive financial returns and deliver environmental benefits by diverting waste from landfill and reducing GHG emissions. Planning permission and demonstrated effectiveness of the chosen process technology must be achieved to draw investment from the fund. However, the fund offers flexibility in technology selection and feedstock contracting. Technologies that have not been rolled out fully under risk-averse market conditions may be supported if there is at least one reference plant demonstrating the required levels of availability.

The Fund has also taken a different approach to feedstock supply, with a feedstock contract often viewed as crucial for investment into waste infrastructure projects. Instead, Foresight can support business plans based on a wider understanding of the underlying waste market dynamics. This focuses upon the main drivers, such as the Government's policy objective through the landfill tax, the local authority strategy (collection and disposal), geographical influences and the end market and demand for the energy or recycled materials and products.

Closed Loop Recycling, a plastics recycling company, is backed by Foresight Group, which provides a proportion of the company's funding and has played a key role in securing bank finance and guiding the company's investment programme. Closed Loop Recycling's growth as a leading plastics reprocessor has required heavy investment in plant and machinery as well as working capital and start-up costs. It is currently poised to invest a further £12 million to expand capacity to 60,000 tpa, creating the most advanced plastics purification facility in the UK. This will encompass increased output, better economies of scale and the potential to reprocess current by-products, aligned with the increased rate of plastic waste collections through recycling schemes. Major brands such as Marks and Spencer and Britvic have set demanding targets to increase recycled plastic in their packaging, meaning that Closed Loop can rapidly fill new capacity.

Courtesy of Foresight Environmental Fund

35 The London Green Fund (LGF) is managed on behalf of the London Development Agency (LDA) and the London Waste and Recycling Board (LWaRB) by the European Investment Bank (EIB). The LGF is a £100 million fund, launched in October 2009, for investment in schemes to reduce London's carbon emissions. It is comprised of £50 million from the London European Regional Development Fund Programme (ERDF), £32 million from the LDA and £18 million from LWARB. The LGF is part of the Joint European Support for Sustainable Investment in City Areas initiative (JESSICA) that was developed by the European Commission and the EIB.

36 Greater London Authority (2011) 'March 21st 2011: Mayor announces £70m+ green fund 'open for business'.

GLOSSARY OF TERMS

This glossary of terms defines what is meant by some of the phrases used in the report.

Biodegradable municipal waste
The fraction of municipal waste normally from plant or animal sources that will degrade within a landfill.

By-product
For the purposes of this report, by-product refers to a secondary product resulting from a waste treatment process.

Capital base
The funding structure of a company (stockholders' equity plus loans and retained profits) used as a way of assessing the company's value.

Circular economy
The idea that when a product reaches the end of its useful life it is treated to become a secondary resource.

Commercial and industrial waste
Waste derived from premises used for trade and business, sport and recreation and factories and agriculture.

Corporate balance sheet
A statement of the total assets and liabilities of a company at a particular date.

Cover ratio
The safety margin that a business has in terms of being able to meet its interest obligations.

Debt margins
The rate of interest on funds lent.

Economies of scale
The reduction in the average production cost (and hence unit cost) of a product when output and sales increase.

End market
Where the final transaction takes place in a value chain, typically it is where the end-user is located.

Energy recovery from waste
The process of recovering the energy embedded in waste material through a variety of processes.

Exclusivity
For the purposes of this report exclusivity refers to a situation whereby the operator of the waste plant has been given sole ownership over local authority collected waste (LACW).

Feedstock supply
The supply of waste.

Guaranteed minimum tonnage
The minimum tonnage of waste delivered to a facility, which it requires to process to ensure it is economically viable to operate. In local authority waste projects this can be reflected by a guaranteed minimum payment which protects the operator from any shortfall in waste tonnage delivered the facility.

Input tonnage/tonnage throughput
The amount of waste processed by a facility (in tonnes).

Intermittent renewable technologies
Renewable technologies, such wind or solar which rely upon non-constant sources of fuel to generate energy.

Lead-in time
The time between the initial stage of a project and the appearance of results.

Local Authority Collected Waste
New and broader definition of municipal waste which encompasses all the waste collected by a local authority, including non-municipal fractions such as construction and demolition waste and household and business waste which is similar in nature and composition as required by the Landfill Directive.

Marginal cost
The additional cost incurred as a result of the production of one additional unit of production.

Maturity
The length of time from the opening agreement to the final repayment date.

Tenor
The time period elapsing between the issue of the debt and its maturity.

Merchant waste
Waste which is not contracted.

Merchant facility or capacity
A waste facility or capacity without a waste contract and therefore a non-guaranteed waste supply.

Municipal solid waste
Waste which is collected by or on behalf of a local authority, made up primarily of household waste and commercial and industrial waste.

Off-take
The production of electricity, power, heat or gas.

Pari-passu equity
For the purposes of this report, pari-passu equity is a co-investment equity product designed to encourage private equity investment in situations where senior debt is limited.

Plant availability
The amount of time for which a plant is operational.

Portfolio
The set of holdings in securities owned by an investor or an institution.

Power purchase agreements
Contracts between two parties, one who generates electricity for the purpose of sale (the seller) and one who is looking to purchase electricity (the buyer).

Rental uplift provision
For the purposes of this report, the rate of rent which follows the retail prices index (RPI).

Risk premium
An addition to the normal price of a transaction to reflect any extra risk involved.

Senior debt
The debt that has precedence over other debt for repayment.

Special purpose vehicle
A special company formed by a private sector consortium to develop, build, maintain and operate an infrastructure asset for a defined contractual period.

Solid refuse fuel
A fuel produced by shredding and dehydrating municipal solid waste (MSW) with a waste converter technology.

State aid
An advantage (in any form whatsoever) given on a selective basis to undertakings by national public authorities.

State aid regulations
To ensure that government intervention through state aid does not distort competition and trade inside the EU.

Strike price
A price which enables the generator of electricity to stabilise its revenues at a pre-agreed level for the duration of the contract with the counterparty.

Third party income
The revenue accrued from the production of an off-take (above).

To service debt
To pay down and reduce one's debt.

Two-tier authorities
Local authorities covered by two tiers whereby the upper tier will usually be known as the county or shire council and the lower tier as the district, borough or city council.

Underpin
For the purposes of this report, underpin refers to a sufficient guarantee provided to a lender that a certain tonnage of waste will be delivered to a facility or the accruing of a revenue stream from the waste or off-take.

Unitary Charge
A charge which allows the cost of capital investment made by the private sector in a PFI deal, to be recovered over the lifetime of the contract through an annual payment.

Waste hierarchy
A framework developed to guide government policy and meet legal EU requirements, in line with five sequential measures: waste prevention, followed by preparing for re-use, recycling, other types of recovery (including energy recovery), and disposal (e.g. landfill).

Wholesale price
A wholesale price is the price offered to purchasers of manufactured goods or to commercial sellers in many cases at a competitive rate.

ACRONYMS

AD
Anaerobic Digestion

BMW
Biodegradable Municipal Waste

CHP
Combined Heat and Power

C&D
Construction and Demolition waste

C&I
Commercial and Industrial waste

Defra
Department for Environment, Food and Rural Affairs

EMR
Electricity Market Reform

ESCO
Energy Service Company

EU
European Union

FIT
Feed-in Tariff

FIT CfD
Feed-in Tariff Contract for Difference

GIB
Green Investment Bank

IPC
Infrastructure Planning Commission

JMWMS
Joint Municipal Waste Management Strategy

LACW
Local Authority Collected Waste

LWaRB
London Waste and Recycling Board

MBT
Mechanical Biological Treatment

MIPU
Major Infrastructure Planning Unit

MRF
Material Recovery Facility

MSW
Municipal Solid Waste

Mt
Million tonnes

MW
Megawatts

NIP
National Infrastructure Plan

NPPF
National Planning Policy Framework

NPS
National Policy Statement

NWMP
National Waste Management Plan

OBC
Outline Business Case

p/MWh
Per Megawatt Hour

PFI
Private Finance Initiative

PPA
Power Purchase Agreement

PPP
Public Private Partnership

RED
Renewable Energy Directive

RHI
Renewable Heat Incentive

RO
Renewables Obligation

rWFD
revised Waste Framework Directive

SOM
Stabilised Output Material

SPV
Special Purpose Vehicle

SRF
Solid Recovered Fuel/Solid Refuse Fuel

TIFU
Treasury Infrastructure Finance Unit

TPA
Tonnes per annum

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ASSOCIATE PARLIAMENTARY SUSTAINABLE RESOURCE GROUP

The APSRG is the leading forum informing the debate between parliamentarians, business leaders and the sustainable resource community on the crucial policy issues affecting sustainable resource management in the UK.

Its mission is to provide an objective platform for effective communication between policy-makers, businesses and organisations with an interest in the sustainable resource management agenda and to raise awareness of sustainable resource issues within Parliament.

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