Agenda No 5

AGENDA MANAGEMENT SHEET

Name of Committee	**Communities Overview and Scrutiny Committee**
Date of Committee	**31st August 2011**
Report Title	**Report and Recommendations of the Residual Waste Task & Finish Group**
Summary	This report outlines the findings and recommendations of the Residual Waste Task & Finish Group.
For further information please contact:	Richard Maybey Democratic Services Officer Tel: 01926 476876 richardmaybey@warwickshire.gov.uk
Would the recommended decision be contrary to the Budget and Policy Framework?	No
Background papers	None

CONSULTATION ALREADY UNDERTAKEN:- Details to be specified

Other Committees	☐	.....
Local Member(s)	☒	N/A
Other Elected Members	☒	Cllr Chattaway, Cllr Whitehouse, Cllr Saint, Cllr Sweet
Cabinet Member	☒	Cllr Cockburn
Chief Executive	☐	.....
Legal	☒	Ian Marriott
Finance	☐	.....
Other Strategic Directors	☒	David Carter, Strategic Director for Resources, Monica Fogarty, Strategic Director for Communities
District Councils	☐	.....
Health Authority	☐	.....

Police	☐	.....
Other Bodies/Individuals	☒	Louise Wall, Head of Sustainable Communities

FINAL DECISION NO

SUGGESTED NEXT STEPS: Details to be specified

Further consideration by this Committee	☐	.....
To Council	☐	.....
To Cabinet	☒	Date to be set
To an O & S Committee	☐	.....
To an Area Committee	☐	.....
Further Consultation	☐	.....

Agenda No 5

Communities Overview and Scrutiny Committee
31st August 2011

Report and Recommendations of the Residual Waste Task & Finish Group

Cllr Chattaway, Chair of the Residual Waste Task & Finish Group

Recommendation

The Committee agrees the findings and recommendations of the Residual Waste Task & Finish Group and forwards the report on to Cabinet for consideration.

Task & Finish Group Recommendations

The following recommendations relate to the potential procurement of a new residual waste disposal solution, which would begin operation from 2013. The procurement process for this solution would not start until investigations have identified that no suitable arrangements for waste disposal can be realised in partnership with other Waste Disposal Authorities (see paragraph 1.5).

1. **Any new residual waste contract(s) should seek to ensure maximum flexibility for the authority – for example, to allow the guaranteed minimum tonnage to be adjusted in line with decreasing waste volumes**

2. **When assessing bids from potential providers, at least equal weighting should be applied to contract flexibility as the initial cost per tonne**

3. **In recognition of the uncertainty associated with future residual waste, and in order to take advantage of potential new developments in waste disposal technology, the preference should be for a contract length of no more than 15 years**

4. **The Communities Overview & Scrutiny Committee should consider reconvening the Task & Finish Group when the preferred spatial option has been published to identify any potential implications it could have on the residual waste contract(s)**

5. **The preferences expressed within the 2005 Waste Strategy for a thermal treatment system and a centralised energy from waste facility should not be given favour when assessing bids, and the authority should maintain a "technology-neutral" approach**

6. **The authority should continue its existing policy of letting multiple waste disposal contracts, but also ensure a mix of technologies is utilised. This will mitigate the risk of being constrained by technologies that become outdated or unaffordable due to new disposal innovations or future legislative changes**

7. **In order to support recommendations 1, 2, 3, 5 and 6, the authority should not pre-specify its requirements in detail nor prepare a detailed specification before going out to tender**

8. **As a consequence of recommendation 7, and with an understanding that various technical solutions are available to meet the authority's needs, the 'competitive dialogue' procurement procedure should be adopted (subject to final legal advice)**

1. Introduction

1.1 Warwickshire County Council currently treats approximately 275,000 tonnes of waste per year via a mix of recycling, composting, landfill and energy from waste.

1.2 Between 2013 and 2016, a number of our residual waste contracts are due to expire. This presents an opportunity for the authority to yield savings by procuring more cost-effective arrangements.

1.3 Specifically, these expiring contracts account for approximately 70,000 tonnes of residual waste per year and are held with:
- Landfill site operators
- Coventry's Energy from Waste (EfW) facility
- HW Martins' Refuse Derived Fuel (RDF) plant

1.4 Cabinet has instructed that any new waste contract(s) for Warwickshire should support the diversion of waste from landfill, thereby avoiding the rising cost of landfill tax and ensuring compliance with Landfill Allowance Targets (LATs).

1.5 There are currently two possible options for the authority to pursue:

Option 1: Partnership
Investigate ways to address our disposal needs in partnership with other Waste Disposal Authorities.

Option 2: Procure a new residual waste contract
Approach the market to procure a new residual waste disposal contract. This would seek the best combination of value and flexibility, and not be restricted to any particular waste disposal technology.

This report relates to **Option 2**.

2. Market testing

2.1 In order to understand the different technology solutions currently available for waste disposal, an Industry Day was held in June 2011.

2.2 An open invitation was made to waste disposal contractors to observe presentations by County Council officers explaining Warwickshire's requirements. Contractors were then given the opportunity to explain their potential offer in a closed session. This was closely controlled with a standardised list of questions and a set time limit to ensure fairness and equal opportunity.

3. Next steps

3.1 Based on the information gathered at the Industry Day, along with further market testing and legal discussions, the County Council's waste management team will form recommendations to Cabinet on the most appropriate procurement strategy. The process will then move forward in accordance with the requirements of the Official Journal of the European Union (OJEU).

4. Role of the Task & Finish Group

4.1 To ensure the involvement of Elected Members within this process, the Communities Overview & Scrutiny Committee recommended that a Task & Finish (T&F) Group be assembled to oversee the pre-procurement phase and ensure all relevant issues and risks are being considered.

4.2 The Overview & Scrutiny Board commissioned this T&F Group, and agreed the membership as follows:

- Councillor Richard Chattaway (Chair)
- Councillor Clare Hopkinson
- Councillor Barry Lobbett
- Councillor John Whitehouse

4.3 The group's activity to date has included:

- Observing the presentations and closed sessions at the Industry Day
- Developing a Scrutiny Review Outline, to define the rationale, objectives and parameters of the review (see Appendix A)
- Holding a Select Committee to consider evidence, understand technical information and receive views of partners, stakeholders and independent bodies (see Appendices B-G)
- Reviewing relevant documentation, including the County Council's Alternative Residual Waste Treatment Plan and future waste forecasts

4.4 Given that the contract length could potentially run to 25 years, and will therefore represent significant cumulative cost to the taxpayer, the principal objective of the T&F Group has been to ensure robust risk-management processes are applied at every stage of the procurement.

4.5 In reaching its findings and recommendations, the group has considered a range of issues, including waste forecasting, environmental and community impacts, waste disposal technologies and different contract types. A summary of these findings follows below.

5. Forecasting waste volumes

5.1 Background

The volume of residual waste currently anticipated for this contract is approximately 70,000 tonnes per year. However, given the drive towards waste minimisation and the county's increasing rate of recycling, it is possible that this will reduce significantly in future years.

Therefore, a key requirement of the contract terms and conditions will be the need for flexibility. Warwickshire does not want to commit to paying for waste disposal capacity it does not require.

5.2 Evidence provided at Select Committee

Members received a presentation on the past, present and future of Warwickshire's waste (Appendix C), which provided an overview of the factors considered in projecting future waste volumes.

5.3 Findings

Based on the evidence provided and the ensuing discussion, it was noted that:

- The factors that have been considered in forecasting future waste volumes include:
  - Population growth in the county
  - Population migration (particularly inward migration from Coventry)
  - Assumptions on waste volumes per household
  - Assumptions on recycling/composting rates

- Waste forecasting is not a scientific process, and many factors present a risk to the accuracy of such projections. For example:
  - Future legislative changes, such as changes to packaging and landfill restrictions
  - The success or otherwise of waste minimisation strategies
  - The accuracy of new housing forecasts
  - Changes to the recycling ceiling (i.e., the limit on the proportion of overall waste that can be recycled) as new solutions are developed. For example, the recycling of street sweepings was not possible 5 years ago, but will account for 10,000 tonnes starting in 2012
  - Decreasing waste volumes at Household Waste Recycling Centres as a result of the Government's waste prevention programme for small businesses

5.4 While Members were satisfied that Warwickshire's waste forecasting has taken account of all the relevant factors as much as reasonably possible, it was accepted that there are many variables within these and the error bars associated with the projections are potentially very wide. There was a consensual view from Members, officers and invited representatives that in light of this, any future contract(s) should attempt to cater for changes in demand.

Recommendations

1. **Any new residual waste contract(s) should seek to ensure maximum flexibility for the authority – for example, to allow the guaranteed minimum tonnage to be adjusted in line with decreasing waste volumes**

2. **When assessing bids from potential providers, at least equal weighting should be applied to contract flexibility as the initial cost per tonne**

3. **In recognition of the uncertainty associated with future residual waste, and in order to take advantage of potential new developments in waste disposal technology, the preference should be for a contract length of no more than 15 years**

6. Environmental and community impacts

6.1 Background

As community representatives, Elected Members have a role in ensuring that any new developments or services do not adversely impact the environment or living conditions of their local residents.

Consequently, the Task & Finish Group sought to gain an understanding of how the authority will be assessing the environmental and community impact of potential bids.

6.2 Evidence provided at Select Committee

Members received a presentation about the Warwickshire Waste Core Strategy (Appendix D). This sets out the policy principles that must be applied in any new waste development, including two that relate specifically to environmental and community impact.

6.3 The presentation also outlined the process by which Warwickshire's preferred "spatial option" is being selected. Subject to consultation, this is likely to be option 5 (Appendix D, slide 11), which is a settlement hierarchy based on areas of higher population and/or existing waste management capacity. In developing the spatial options, a thorough impact assessment was undertaken, which looked at environmental and community impacts.

6.3 Findings

Based on the evidence provided and the ensuing discussion, it was noted that:

- The policy principles related to environmental and community impact could be seen to conflict with each other in terms of protecting the countryside on the one hand, but not impacting residents of built-up areas on the other
- However, it was acknowledged that planning assessments are very dependent on the individual case. All policies within the Waste Core Strategy will be considered when assessing each proposal, and a judgement will be made accordingly
- Proposals will have to comply with the preferred spatial option, which is likely to be option 5 – offering strong infrastructure links and enabling collaboration with Coventry
- Under option 5, any new waste development with capacity over 50,000 tonnes would have to be located in a 'primary' area: Nuneaton, Bedworth, Rugby, Kenilworth, Warwick, Leamington Spa or Stratford-upon-Avon
- However, if it can be justified that no suitable site is available in a primary area, it could be located in a 'secondary' area: Atherstone, Coleshill or Southam. These were selected based on their proximity to infrastructure links
- In considering the different spatial options, a Sustainability Matrix was used to assess the short-term, medium-term and long-term impacts (Appendix D, slides 9-10)

6.4 Having considered the evidence above, Members were satisfied that sufficient work has been undertaken to robustly assess the environmental and community impacts of potential waste developments.

6.5 The Waste Core Strategy has clear policies relating to these particular impacts, and the preferred spatial option (when published) will restrict new developments to built-up residential areas, rather than open green spaces.

6.6 Members raised concern about a potential conflict between policies DM1 and DM2, but were assured by officers that assessments will be judged on a case-by-case basis.

6.7 Members were assured that the work already undertaken in developing the Waste Core Strategy and the preferred spatial option will underpin the procurement of any new contract(s) – and therefore environmental and community impacts will be properly assessed.

6.8 However, given that final publication and submission of the spatial option has not yet occurred, Members were keen for continued scrutiny and oversight during the procurement process to ensure compliance with its final policies.

Recommendations:

4. The Communities Overview & Scrutiny Committee should consider reconvening the Task & Finish Group when the preferred spatial option has been published to identify any potential implications it could have on the residual waste contract(s)

7. Understanding the technologies available

7.1 Background

As part of Warwickshire's 2005 Waste Strategy, an analysis was undertaken of the different treatment technologies available that support diversion from landfill. A number of different scenarios for collection and disposal within Warwickshire were also assessed. The conclusion from this analysis was as follows:

- Preferred technology: a **thermal treatment** system generating energy from a non-fossil source
- Preferred scenario: 40% recycling by 2010, **centralised energy from waste facility**, separate collection of kitchen/food waste and in-vessel composting

7.2 The 2005 Waste Strategy was scheduled to be reviewed and refreshed in 2010. However, this was delayed due to governmental changes, national waste reviews and the abandonment of Project Transform.

7.3 Consequently, the preferences expressed in the 2005 strategy could be deemed out of date for a contract that is to be let in 2012 (at the earliest). In recognition of this, Warwickshire is adopting a "technology neutral" approach to procurement, and is considering everything currently available in the market.

7.4 The Industry Day in June 2011 gave opportunity for market providers to present their solutions to the authority. The following technologies were presented:

- Mechanical Biological Treatment (MBT)
- Refuse Derived Fuel (RDF)
- Advanced Thermal Treatment (ATT)
- Energy from Waste (EfW)
- Autoclave

7.5 Evidence provided at Select Committee

In order to verify the information received at the Industry Day, Members requested an independent perspective on the technologies available. This was provided at the Select Committee by an independent consultancy firm, SKM Enviros, who delivered an overview and comparison of what it sees as the main viable technologies[1] (Appendix E).

7.6 The consultant confirmed that flexibility should be the main priority for any authority seeking a new residual waste contract, due to the many uncertainties and variables ahead for the waste market – particularly with regard to changing waste volumes, composition and legislation.

[1] Note: these viable technologies included Mechanical Heat Treatment (MHT), which was not presented at the Industry Day. Conversely, Autoclave was not covered by the presentation, but was presented at the Industry Day

7.7 The following points were noted about the different technologies:

- MBT
  - This is a mechanical separation and sorting process that enables recyclables to be extracted from residual waste
  - The remaining residue is subjected to a biological treatment that breaks the waste down into more usable fractions and a more stable state for landfill
  - A bio-drying process can be used prior to MBT to make the sorting/recycling process more effective
  - MBT is only a pre-treatment option – waste requires further treatment or disposal
  - An MBT plant can be partnered with an Aerobic Digestion plant, which generates a low-quality compost-like output, or an Anaerobic Digestion plant, which generates a gas that can be used to generate electricity
  - MBT is a flexible solution that can adapt to increases and decreases in kerbside recycling rates
  - Outputs include: recyclables, compost, compost-like output, biogas for electricity, RDF
- ATT
  - ATT can be performed in relatively small-sized facilities, offering greater flexibility than other technologies that require a higher minimum tonnage
  - There are two main types of ATT: pyrolysis and gasification
  - Pyrolysis uses the least amount of oxygen and requires a heat source. Waste needs to be pre-treated via MBT. It outputs a pyrolysis oil that can be used as a fuel for generating electricity
  - Gasification uses more oxygen than pyrolysis and does not require a heat source. It outputs a syngas that can be used as a fuel for generating electricity, but also some hazardous residue
  - Outputs include: recyclable metals, fuel for electricity, char/ash/residue for landfilling
- EfW
  - This requires no pre-treatment of waste
  - Virtually any waste stream can be accepted
  - A large-capacity facility is needed to make it efficient
  - The incineration process creates bottom ash, fly ash and dirty exhaust gases
  - The primary output is heat, which can be used locally (e.g., to heat a swimming pool) or to generate electricity from steam
  - Outputs include: recyclable metals, heat for electricity, ash for landfilling, exhaust gas for cleaning
- MHT
  - This is a “steam-cleaning”-like treatment, which makes it easier to recycle and process residual waste
  - It requires a heat input
  - It has a limited commercial presence in the UK
  - Outputs include: mixed recyclables, floc or fibres for re-use or RDF, rejected material for landfilling

7.8 A representative from Friends of the Earth then delivered a presentation (Appendix F) covering the following points:

- Warwickshire is making very good progress with regard to recycling rates and waste minimisation compared with neighbouring authorities
- Despite anticipated housing growth and population increases, Warwickshire should be planning for a reduction in residual waste volumes
- Any new facility should be located in the south of the county and allow for flexible tonnages
- All options should be explored before letting a new contract, such as utilising spare capacity on the county borders (e.g., Cotesbach in Leicestershire)
- The preference should be for shorter contracts in smaller local plants to take advantage of new developments
- Spare landfill capacity should be utilised, but only with stable, non-carbon waste that does not emit methane during decomposition

7.9 Findings

Based on the evidence provided and the ensuing discussion, it was noted that:

- Warwickshire is not limited to a certain size of facility. Modular technologies such as MBT and ATT can be sized according to need, while those that require a larger capacity such as EfW can be topped up with commercial waste or residual waste from neighbouring authorities
- The efficiency of the different technologies in diverting waste from landfill has been independently rated by SKM Enviros (Appendix D, slide 28), with EfW and ATT being the most efficient
- The overall efficiency of the different technologies is difficult to assess, as it depends on the value and usefulness of the outputs
- In terms of environmental impact, all technologies produce some degree of emissions. MBT produces mainly Carbon Dioxide (CO2), while ATT and EfW produce ash and CO2
- ATT and EfW are required to meet certain emissions standards as part of the Waste Incineration Directive
- There may be a tax on carbon emissions from EfW plants in future years
- Any carbon-based residue that is sent to landfill will eventually result in the release of methane
- It is difficult to evaluate technologies according to their environmental impact, as emissions are released at different stages

7.10 With consideration to the advantages and disadvantages of each technology as explained by the independent consultant, and in recognition of the uncertainty over future waste volumes, the T&F Group would make the following recommendations.

Recommendations

5. The preferences expressed within the 2005 Waste Strategy for a thermal treatment system and a centralised energy from waste facility should not be given favour when assessing bids, and the authority should maintain a "technology-neutral" approach

6. **The authority should continue its existing policy of letting multiple waste disposal contracts, but also ensure a mix of technologies is utilised. This will mitigate the risk of being constrained by technologies that become outdated or unaffordable due to new disposal innovations or future legislative changes**

8. Understanding the different types of contract

8.1 Background

From a legal perspective, if the authority is intending to procure a waste disposal contract likely to exceed the EU threshold of £156,442, it must follow EU Procurement guidelines.

8.2 These state that an advert must be published in the EU Official Journal (OJEU) and the authority must decide which procurement procedure it will use. There are four main procedures to choose from: open, restricted, negotiated or competitive dialogue. Of these, the restricted procedure and the competitive dialogue are the most suited to a residual waste disposal contract.

8.3 Evidence provided at Select Committee

A Senior Solicitor from the County Council circulated a briefing note (Appendix G) that detailed the processes and principles associated with each option, a series of key questions for the authority to consider and some initial legal advice.

8.4 Findings

Members gained a clear understanding of the two contract options. The key points of note were:

- Restricted
  - This contract type would require the authority to clearly pre-specify in detail all the requirements of the contract before inviting tenders
  - Once procurement begins, negotiations with bidders would not be allowed
  - It is a structured procedure that requires bidders to be scored against pre-set award criteria
  - Once underway, it is a faster procedure than competitive dialogue
- Competitive dialogue
  - Competitive dialogue is better suited to complex projects
  - It allows the authority to negotiate with bidders directly on technical, legal and financial matters
  - It is a more flexible procedure, with no set format for the dialogue to follow
  - Less-detailed pre-specification work is required compared to a restricted contract, so the procedure can begin earlier

Recommendations

7. **In order to support recommendations 1, 2, 3, 5 and 6, the authority should not pre-specify its requirements in detail nor prepare a detailed specification before going out to tender**

8. **As a consequence of recommendation 7, and with an understanding that various technical solutions are available to meet the authority's needs, the 'competitive dialogue' procurement procedure should be adopted (subject to final legal advice)**

9. Conclusion

9.1 The T&F Group believes that there are many uncertainties in relation to future waste volumes in Warwickshire. Therefore, flexibility has to be the essential characteristic of any contract(s). These recommendations have been developed accordingly, and should ensure the authority is able to deliver best-value outcomes for residents over the long-term.

9.2 The Chair would like to thank Members of the T&F Group for their active participation; representatives from the Warwickshire Waste Partnership, SKM Enviros and Friends of the Earth who contributed to the Select Committee day; plus County Council officers for their co-operation in this valuable scrutiny review.

Report Author: Richard Maybey, Democratic Services Officer

Head(s) of Service: Greta Needham, Head of Law and Governance

Strategic Director(s): David Carter, Strategic Director for Resources

Portfolio Holder(s): Cllr Cockburn

10 August 2011

Scrutiny Review Outline **Appendix A**

Review Topic	**Waste Disposal**
Panel/Working Group	Cllr Chattaway (Chair), Cllr Whitehouse, Cllr Hopkinson and Cllr Lobbett with Richard Maybey providing support.
Key Officer Contact	Glenn Fleet and Kitran Eastman
Relevant Portfolio Holder(s)	Cllr Alan Cockburn, Portfolio Holder for Sustainable Communities
Relevant Corporate Ambition, Outcome and Measures	Ambition Environment and Housing ▪ Work with Borough and District Councils to improve recycling rates, reduce the amount to waste sent to landfill and keep public spaces clean and well maintained Outcome ▪ Warwickshire's environment is protected for the future
Timing Issues	17 June 2011: Industry Day, to observe market proposals 22 July 2011: Select Committee, to consider contract procurement, risk management and community/environmental impact 31 August 2011: Communities OSC, to receive report of the T&F Group (for referral to Cabinet) These timings were originally based on the understanding that the contract would go out to tender in September 2011 (with a view to awarding the contract in February 2012). Therefore, to have some influence over the tender document, the T&F Group would need to report within the above timescales. However, this urgency may now slip, as Cabinet will be considering in the Autumn whether to pursue a partnership arrangement with Coventry for extended use of the current Energy to Waste facility.
Type of Review	Short investigation
Resource Estimate	This is proposed as a short, sharp scrutiny exercise. A provisional estimate of scrutiny officer support is between 6-8 days, or 36-48 hours. This includes a preparation meeting, 2-3 evidence sessions including a select committee, research time, liaison and contact with witnesses, liaising with members to agree recommendations and writing and submitting a report.

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Rationale (Key issues and/or reason for doing the review)	Following the withdrawal of Coventry CC and Solihull MC from Project Transform, Cabinet considered a report on future arrangements for waste disposals at their meeting on 18th November 2010. The report explained that with the loss of Project Transform, the Council needs to secure its long-term arrangements for the disposal of waste. A number of Warwickshire's landfill contracts expire in 2013 and it is proposed that these are replaced with contracts that support the diversion of waste from landfill and prevent the authority being fined for failing to achieve Landfill Allowance Targets (LATs). It is therefore proposed that any waste process procured uses technology to support the diversion of waste from landfill. Cabinet authorised the Strategic Director of Environment and Economy to commence a procurement process for a long-term arrangement for the disposal of waste from 2013, on terms acceptable to the Strategic Director of Resources and the Strategic Director of Customers, Workforce and Governance*. The purpose of the Task and Finish Group is for members to be assured that the County Council has robust processes in place to procure the most appropriate contract for Warwickshire's needs and to manage the various risks associated with it. For example, members will want to understand why the type of contract has been chosen, how the contract terms have been decided and how it will be monitored when in operation. Members will also want to consider how the potential impacts on communities and the environment will be assessed and managed. In addition, they will also want to understand the various waste technologies that providers may bring forward (including those approved within the 2005 Waste Strategy and those presented at the Industry Day in June 2011) with a view to highlighting any significant advantages or disadvantages. This exercise will ensure that there has been democratic involvement in the pre-procurement phase. It will allow assurances to be put forward to Cabinet that the procurement process being adopted is robust, or for recommendations to be made on how the process could be improved. *UPDATE: Following the recent organisational restructure, we assume the commencement of procurement will now be authorised by the Strategic Director for Communities, on terms acceptable to the Strategic Director for Resources.

Objectives of Review (Specify exactly what the review should achieve)	The objectives of the Task and Finish Group will be: ▪ To ensure robust risk-management processes are in place and to understand how they will be applied throughout the procurement phase and contract length ▪ To understand how waste volumes and recycling levels are forecasted, and how the risks associated with inaccurate forecasting will be managed ▪ To ensure the procurement process will consider potential impacts upon the environment and local communities ▪ To understand the waste technologies (approved within the Waste Strategy and those other technologies presented at the Industry Day) that are available to support the diversion of waste away from landfill ▪ To consider the efficiency, capacity, sustainability and value for money of these technologies ▪ To understand the advantages and disadvantages of having a restricted contract ▪ To consider whether opportunities for partnership arrangements are being maximised ▪ To receive the views of key stakeholders regarding the procurement principles being suggested
Scope of the Topic (What is specifically to be included/excluded)	<u>Include</u> The following is included in the scope of the review: ▪ WCC procedures for risk management, contract management, waste forecasting and environmental/community impact assessments ▪ Waste technologies available to support the diversion of waste from landfill (including those approved within the 2005 Waste Strategy and others presented at the Industry Day) ▪ The views of invited representatives from Friends of the Earth, SKM and Warwickshire Waste Partnership. <u>Excluded</u> The following falls outside the scope of the review: ▪ Alternative strategies following the demise of Project Transform ▪ Waste technologies that do not support the diversion of waste from landfill ▪ Waste technologies that support the diversion of waste from landfill, but are not approved within the 2005 Waste Strategy and were not presented at the Industry Day
Indicators of Success – Outputs (What factors would tell you what a good review should look like?)	▪ A robust tendering document that attracts bidders with a flexible, value-for-money offer ▪ Effective development and management of the contract and its associated risks
Indicators of Success – Outcomes (What are the potential outcomes of the review e.g. service improvements, policy change, etc?)	▪ Reduced waste going to landfill and achievement of Landfill Allowance Targets (LATs)

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Other Work Being Undertaken (What other work is currently being undertaken in relation to this topic, and any appropriate timescales and deadlines for that work)	Household Waste Recycling Centres will be provided in-house and Nuneaton will be opening a new facility run by the community to recycle goods with proceeds supporting local community projects. Also, there are plans to have an open bag policy at all HWRC sites to ensure items that can be recycled do not end up in landfill. It is intended that the above will be implemented by 2012.

Residual Waste Task & Finish Group

Appendix B

Agenda

22nd July 2011

The meeting of the Residual Waste Task & Finish Group will take place in

Committee Room 2, Shire Hall, Warwick on Friday 22nd July, 2011 at 10.00am.

The agenda will be:-

1. General

(1) Apologies for Absence

(2) Members' Declarations of Personal and Prejudicial Interests

Members are reminded that they should declare the existence and nature of their personal interests at the commencement of the item (or as soon as the interest becomes apparent). If that interest is a prejudicial interest the Member must withdraw from the room unless one of the exceptions applies.

Membership of a district or borough council is classed as a personal interest under the Code of Conduct. A Member does not need to declare this interest unless the Member chooses to speak on a matter relating to their membership. If the Member does not wish to speak on the matter, the Member may still vote on the matter without making a declaration.

2. Present and future waste in Warwickshire

Glenn Fleet to provide information on the present and future of waste disposal in Warwickshire.

3. Residual waste technologies and environmental risks

Ali Haycox from SKM Enviros will provide the T&F Group with an overview of the residual waste technologies available and the possible environmental risks associated with them.

4. Assessing environmental and community impacts

Tony Lyons to explain how environmental and community impacts will be assessed through the Core Strategy.

5. Friends of the Earth

Keith Kondakor from Friends of the Earth to inform the T&F Group of its view of the technologies being considered, and the environmental issues it believes should be taken into account during procurement.

6. Warwickshire Waste Partnership

A roundtable discussion to seek the views of Borough and District representatives of the Warwickshire Waste Partnership.

7. Restricted contract

Suzanne Burrell to outline why Warwickshire County Council is pursuing a restricted contract.

8. Summing up

The T&F Group to discuss the findings of this meeting, decide what further actions that may be required and any recommendations to be included in the report from information given.

9. Any other business

10. Date of next meeting

TBA – Please bring your diaries

For further information please contact:

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Michelle McHugh, Overview and Scrutiny Manager, Tel: 01926 412144
E-mail ***michellemchugh@warwickshire.gov.uk***

Jim Graham
Chief Executive

Attendees

Task & Finish Group members
Cllr Richard Chattaway (Chair)
Cllr Clare Hopkinson
Cllr Barry Lobbett
Cllr John Whitehouse

Warwickshire Waste Partnership
Cllr Hayden Phillips and Olivia Davies (North Warwickshire Borough Council)
Cllr Bill Sheppard and Brent Davis (Nuneaton & Bedworth Borough Council)
Sean Lawson and Andy Lawson (Rugby Borough Council)
Cllr Mike Brain and Olly Scholefield (Stratford District Council)
Becky Davies (Warwick District Council)

Invitees
Ali Haycox (SKM Enviros)
Keith Kondakor (Friends of the Earth)

County Council officers
Suzanne Burrell, Senior Solicitor
Kitran Eastman, Partnership and Strategy Manager
Glenn Fleet, Waste Management Manager
Tony Lyons, Principal Planning Officer
Richard Maybey, Democratic Services Officer
Louise Wall, Head of Sustainable Communities

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Warwickshire's Waste Present and Future

Glenn Fleet

Waste Management

Communities Overview and Scrutiny

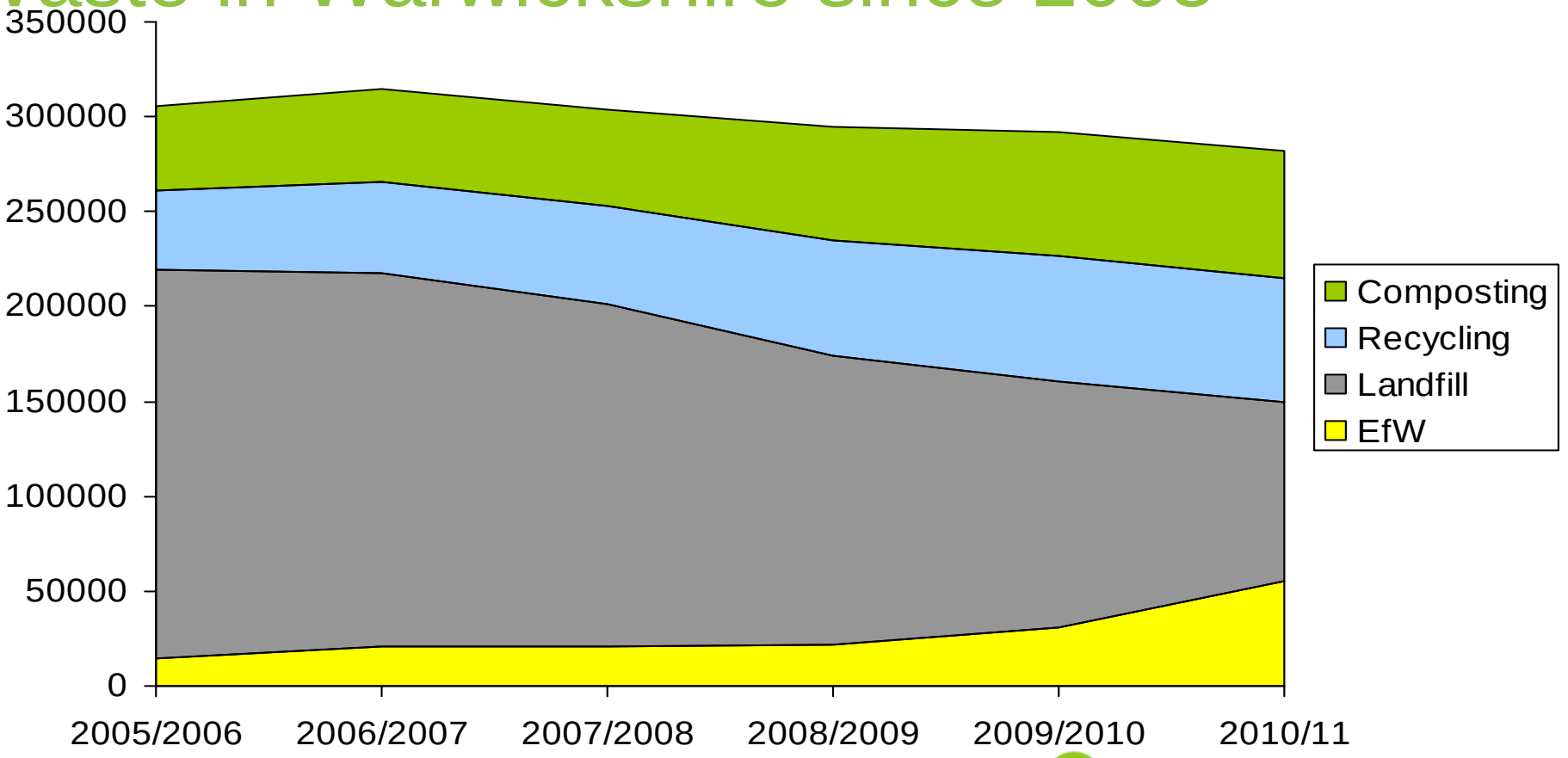
22 July 2011

recycle for Warwickshire

Unaudited Figures 2010-11

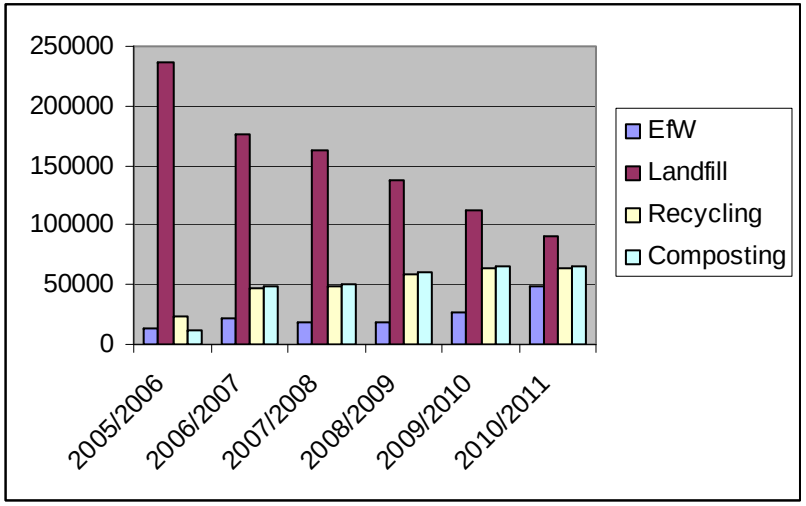
- Total Municipal Waste 282,794 tonnes
- Waste reduction 9,268 tonnes
- Recycling and composting = 49.1%
- Total recycling, composting and reuse increased to 129,603 tonnes
- Waste reduction in 2010/11 by 3.27%
- 90,110 tonnes of waste sent to Landfill
- 49,350 tonnes of waste goes to Cov & Solihull EFW
- 5,000 tonnes used for Refuse Derived Fuel

Waste in Warwickshire since 2005



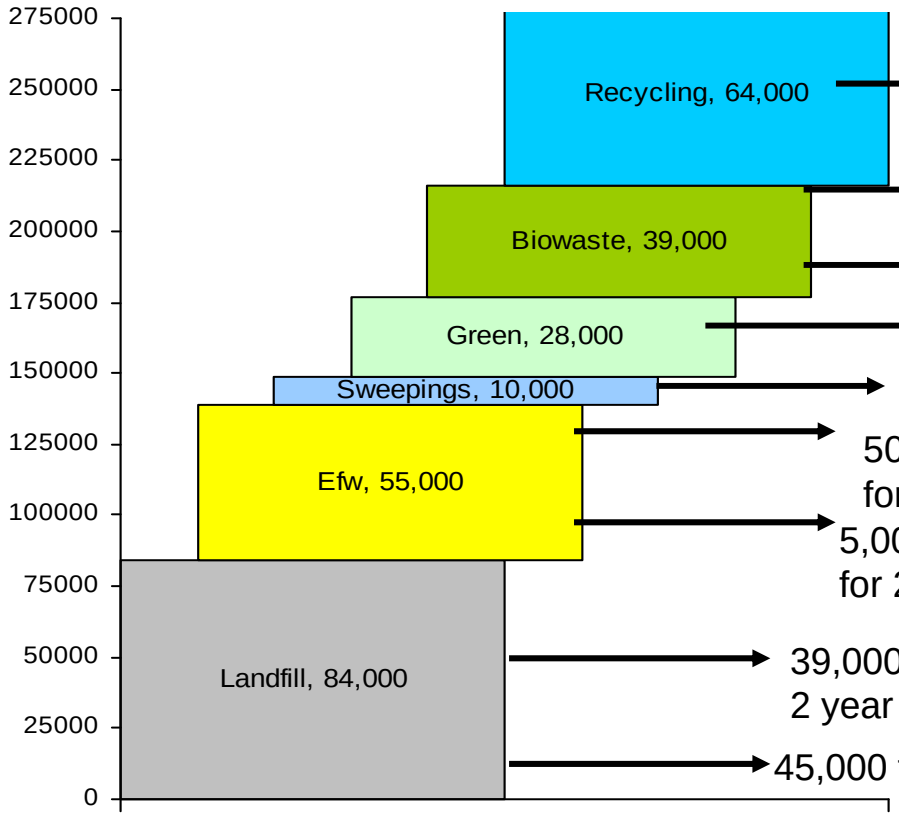
recycle for Warwickshire

Waste in Warwickshire since 2005



recycle for Warwickshire

Past Present Future



WCA contracts and HWRC recyclables framework

39,000 – Ufton IVC. Contract end 2024

New Contract

Contracts end 2015

New Contract end 2019 – Option for 3 year extension

50,000 tonnes Coventry EfW Plant. Contract end 2016 – Option for 2 year extension

5,000 tonnes RDF (HW Martins. Contract end 2013 – Option for 2 year extension

39,000 tonnes – Landfill contracts. Contract end 2013 – Option for 2 year extension

45,000 tonnes – Bubbenhall Landfill (WRG). Life of site contract

WCC Waste Destinations in 2012

recycle for Warwickshire

Current contracts in place for residential waste ?

- 50,000 tonnes of residual waste sent to current EfW facility at Coventry until 2015/16, or 2017/18 including the two year extension;
- 5,000 tonnes of residual waste sent to Refuse Derived Fuel (RDF) facility until 2014/15
- 35,000 sent to W2R from 2014/5
- Capacity at Bubbenhall landfill until possibly 2025
- End of other current landfill contracts from 2012/13 (possible two year contract extension option available)

Housing Table - changes to housing projections

'Option 1' RSS Ph 2 Review – Consultation				RSS Panel Sept 2009	Household Projections
Jan – Mar 2007					2006-based (Using House-Group Model)
Area	2001-26	Built 2001-6	Balance 2006-26	2006-26	2006-21 (+/- net.mig.) (inc. 3% vacancies)
Coventry	19,000	2,289	16,711	33,500	25,235 (-16,560)
Solihull	11,000	2,861	8,139	10,500	16150 (+1680)
NWBC	3,100	601	2,499	3,000	5097 (+1,962)
NBBC	10,000	2,886	7,114	11,000	10,194 (+2,110)
RBC	7,100	2,013	5,087	11,000	9,137 (+4,623)
SDC	7,200	2,963	4,237	7,500 (06-21)	14,278 (+11,393)
WDC	11,600	3,934	7,666	11,000	20,397 (+14,604)
Warwickshire	39,000	12,397	26,603	43,500	59,665 (+34,692)
CSW Total	69,000	17,547	51,453	87,500	100,940 (+19,812)

recycle for Warwickshire

Waste Projections

			Contractual Disposal						Remaining Residual		
Year	Housing Figures*	Recycling Rate for Municipal Waste (%)	Inerts Landfilled (tonnes)	Total Waste sent to W2R (tonnes)	Waste sent to (old) Coventry EfW (Tonnes) under 2010 -16 contract	Total Waste sent Refuse Derived Fuel Plant (Tonnes)	Contract to Bubbenhall (contracted tonnage)	Other Contracted Landfill (tonnage)	0.5% growth in municipal	0.92% growth in municipal in line with ONS housing growth	Project transform predicted growth
2011/12	**268,383**	49	7,651		50,000	5,000	50,000	30,000	504	504	21,188
2015/16	**249,423**	56	7,805	35,000			32,805		49,260	50,734	70,158
2020/1	**261,110**	60	8,002	35,000			19,371		54,054	57,732	74,943
2025/6	**273,344**	60	8,205	35,000			11,438		64,724	70,917	88,130
2030/1	**286,151**	67	0	35,000			6,754		50,884	58,106	72,203
2035/6	**299,434**	67	0	35,000			3,988		55,989	65,551	79,795
2039/40	**310,607**	67	0	35,000			2,617		59,275	70,823	85,218

Past Present Future

All waste estimated on 0.5% growth per year	2012/13	2015/16	2019/20	2027/8
Total Municipal Waste	278,566	282,766	288,464	300,206
Recycling, Composting and Reuse	139,283	158,349	173,078	201,138
Inerts Recycled and Reused	8,678	8,789	8,940	9,250
Recycling rate	50%	56%	60%	67%
Remaining Municipal Waste for disposal	**130,605**	**115,628**	**106,446**	**89,818**
Coventry EfW	50,000	49,823	0	0
W2R	0	35,000	35,000	35,000
Other market technology	5,000	0	49,923	44,553
Bubbenhall Landfill	45,000	30,805	21,523	9,265
Other Landfill	30,605	0	0	0

recycle for Warwickshire

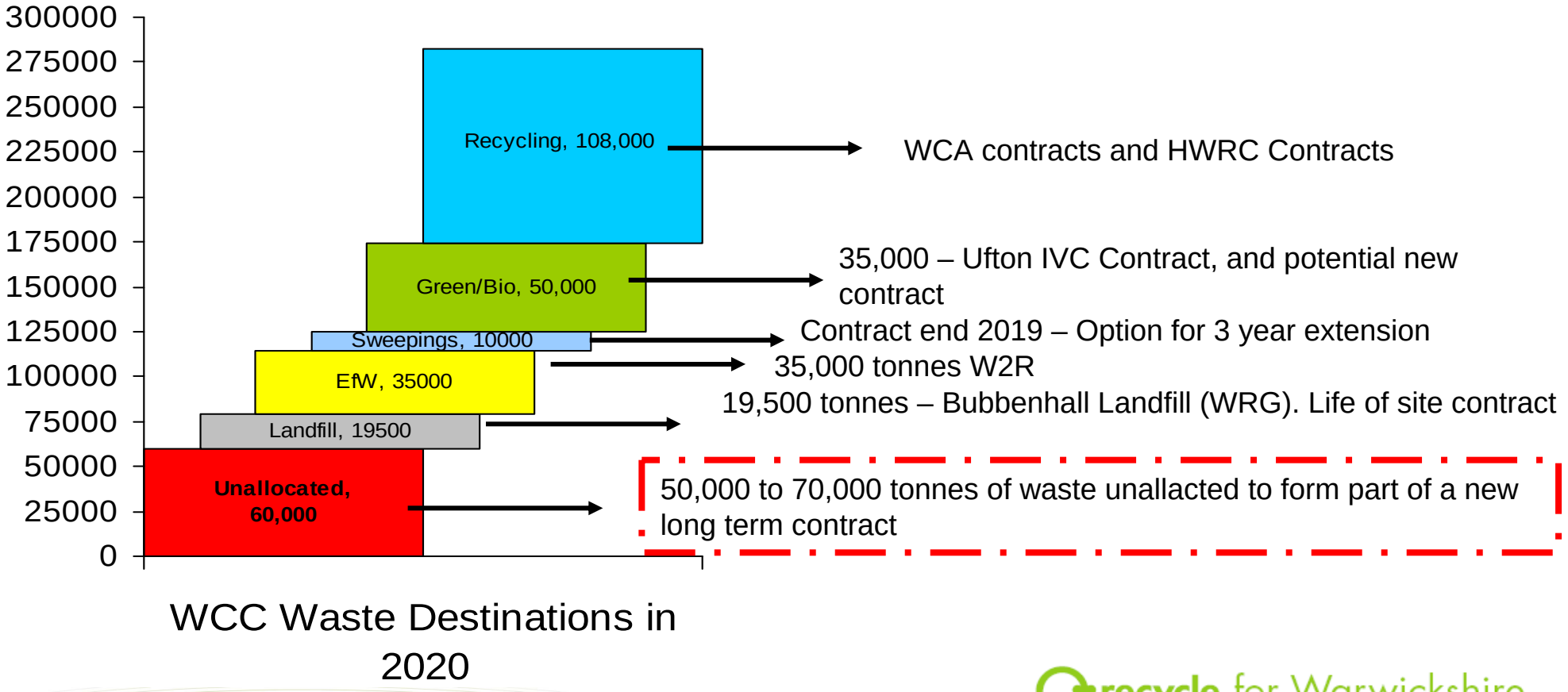
Past Present Future

What do we know already?

- Recycling rate of 60% by 2015/16
- Recycling rate of 67% by 2027/8
- Street sweeping recycling 10,000 tonnes from 2012
- 35,000 tonnes sent to W2R from 2014/5
- 30,805 tonnes into Bubbenhall landfill 2015/6
- 47,442 tonnes remaining to treat by other means other than landfill by 2016/17

recycle for Warwickshire

Past Present Future



WCC Waste Destinations in 2020

recycle for Warwickshire

Any Questions

Thanks

recycle for Warwickshire

WARWICKSHIRE WASTE CORE STRATEGY

PREFERRED OPTIONS AND POLICIES

Tony Lyons
Principal Planning Officer
Planning and Development Group

BACKGROUND

- Previous Consultations in 2006 and 2007
- Comments considered and guided the development of the 2008 Document
- 2008 document delayed due to spatial implications of Project Transform
- Taken the 2008 Document and refined and re-assessed options
- Regional Spatial Strategy – provides the most up to date evidence base
- EU Waste Framework Directive

Core Strategy Timetable

- **Emerging Spatial Options: March – May 2011**
- **Preferred Option and Policies: Sept – Oct 2011**
- **Publication: January 2012**
- **Submission: Summer 2012**

Waste Management Principles

- Waste Hierarchy
- Principle of Proximity
- Self Sufficiency
- Treat waste as a resource

- Waste should be treated as close as possible to where it is produced.
- Most waste is produced in urban areas.
- Reduce waste to landfill
- Encourage Reduction, Re-use and Recycling

Key Issues →Policy Principles

- Principles of waste management
- Locational Strategy
- Strategic sites
- Treatment Gap
- Municipal Waste
- Commercial and Industrial Waste
- Construction and Demolition Waste
- Hazardous Waste
- Other Wastes
- Safeguarding
- Landfilling
- Impact on the Environment
- Implementation and Monitoring

Environmental Impacts

Policy DM1 - protection of the natural and built environment

New waste development must protect ,and where possible enhance, the natural and built environment by ensuring that there are no unacceptable adverse impacts upon:

- **natural resources (including water, air and soil);**
- **biodiversity;**
- **geodiversity;**
- **archaeology;**
- **the quality and character of the landscape;**
- **residential amenity; and**
- **the distinctive character and setting of the County's settlements.**

Waste management proposals must demonstrate through an objective assessment that features, species and sites (and their settings) of international and national importance will be preserved or protected, and where possible, enhanced. Such sites will include (but may not be exclusively):

- **European designated sites that form part of the Natura 2000 network (e.g. Ensor's Pool Special Area of Conservation)**
- **Areas of Outstanding Natural Beauty (e.g. the Cotswolds AONB)**
- **Sites of Special Scientific Interest (SSSI)**
- **Scheduled Ancient Monuments**
- **Registered Battlefields**
- **Conservation Areas**
- **Registered Parks and Gardens**
- **Listed buildings**

Environmental Impacts

Proposals must also seek to maintain and/or enhance recognised sites, features species and habitats of sub-regional or local importance. Such sites will include (but may not be exclusively)

- **Local Geological Sites (LGSs) /potential Local Geological Sites (pLGSs)**
- **Local Wildlife Sites (LWSs) / potential Local Wildlife Sites (pLWSs)**
- **Local Nature Reserves**
- **Species and habitats identified in the Warwickshire, Coventry and Solihull Local Biodiversity Action Plan**
- **Features of local archaeological importance**
- **Open space, sports and recreational facilities/land (particularly those identified in District Local Plans/Development Frameworks as of local importance)**
- **The County's Footpath network**

Proposals will only be permitted where adverse impacts will be

i) avoided; or

ii) satisfactorily mitigated where an adverse impact cannot be avoided; or

iii) (as a last resort) adequately compensated to bring wider social, economic or environmental benefits where the adverse impacts of the development cannot be avoided or satisfactorily mitigated.

Health and Amenity Impacts

Policy DM2 - Managing health and amenity impacts of waste development

Waste management proposals will be permitted where it can be demonstrated that the development will have no significant adverse impacts on the local environment or communities through any of the following:

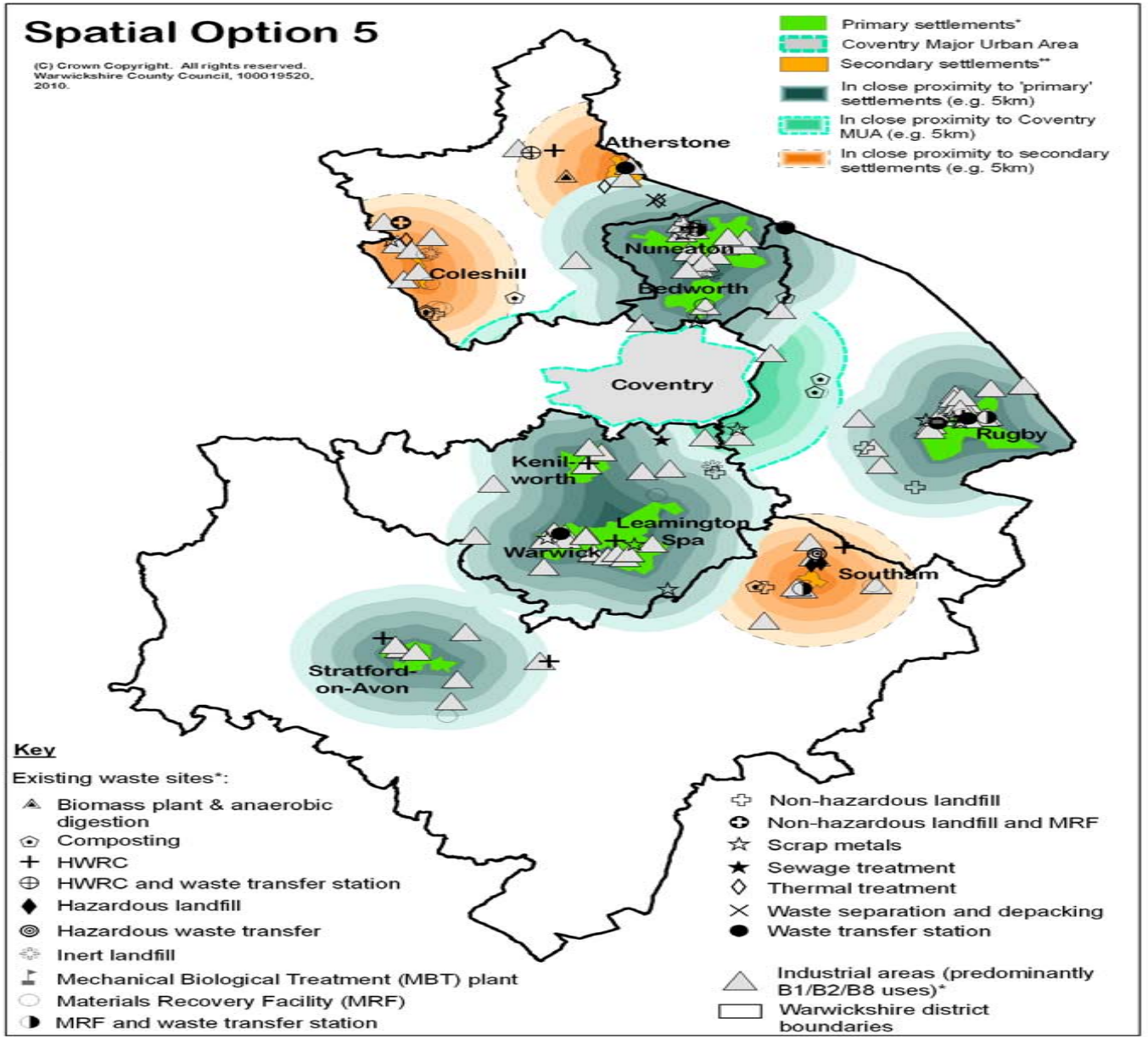
- Human Health
- Noise
- Lighting/illumination
- Visual intrusion
- Vibration
- Odour
- Dust
- Emissions
- Contamination
- Water quality impacts
- Transport impacts

Sustainability Appraisal

No.	Warwickshire SA Objective	Spatial Option 1			Spatial Option 2			Spatial Option 3			Spatial Option 4			Spatial Option 5		
		Develop new facilities County wide on industrial estates, brownfield industrial land and existing waste management facilities.			Develop new facilities County wide on existing waste management facilities.			Develop new facilities on industrial estates, brownfield industrial land and existing the main settlements of over 6,000 population within within Warwickshire: Alcester, Atherstone, Bedworth, Bulkington, Coleshill, Kenilworth, Leamington Spa, Nuneaton, Polesworth and Dordon, Rugby, Southam, Stratford, Warwick and Wellesbourne.			Develop new facilities on industrial estates, brownfield industrial land and existing waste management facilities within, or in close proximity (i.e. approx . 5km) to the main settlements of over 6,000 population i.e. Alcester, Atherstone, Bedworth, Bulkington, Coleshill, Kenilworth, Leamington Spa, Nuneaton, Polesworth and Dordon, Rugby, Southam, Stratford upon Avon, Warwick and Wellesbourne			A 'settlement hierarchy' option based on areas of higher population and/or existing waste management capacity		
		Effect (+/+, +, 0, -, -/-, ?)			Effect (+/+, +, 0, -, -/-, ?)			Effect (+/+, +, 0, -, -/-, ?)			Effect (+/+, +, 0, -, -/-, ?)			Effect (+/+, +, 0, -, -/-, ?)		
		ST	MT	LT	ST	MT	LT	ST	MT	LT	ST	MT	LT	ST	MT	LT
1	Conserve and enhance biodiversity	-	0	+	-	+	++	-	+	++	-	+	+	-	+	++
2	Protect and improve water resources	0	+	++	0	+	++	0	0	+	0	0	+	0	+	++
3	Avoid, reduce and manage flood risk	+	++	++	+	+	+	0	0	0	0	+	+	0	+	+
4	Safeguard environmental quality.	-	-	-	0	+	+	-	0	+	-	+	+	-	+	++
5	To minimise potential impacts on community health	0	0	0	+	+	+	-	-	-	0	0	-	-	-	-
6	To conserve and enhance the character and quality of the County's landscape and townscape	-	-	0	+	++	++	-	0	+	-	0	+	0	0	+
7	Preserve and enhance sites, features and areas of historic, archaeological or architectural importance, and their settings	0	0	0	+	+	+	-	0	+	-	0	+	0	0	+

Sustainability Appraisal

Spatial Option 5 - A 'settlement hierarchy' option based on areas of higher population and/or existing waste management capacity								
SA Objective		**Predicted Nature of Effect Positive**	**Predicted Nature of Effect Negative**	**Spatial Option Net Effect (+/+, +, 0, -, -/-)**			**Commentary/ Explanation** *Note predicted nature of effect, how, who and where it will impact and enhancement opportunities*	**Enhancement and mitigation**
				ST	**MT**	**LT**		
1	Conserve and enhance biodiversity	Option helps to conserve the wildlife populations and habitats in remote rural areas. Relatively large choice of sites will enable greater scope for conservation of important ecological sites and/or the enhancement of less biodiverse sites.	Likely to be negative impacts on wildlife populations and habitats in the short term such as through noise, vibration, pollution etc. during the initial construction phase. Potentially a limited opportunity for significantly enhancing wildlife populations and habitats through waste development.	-	+	++	The benefits of the option over the long term are likely to outweigh the short term negative effects from new development (noise, vibration, pollution etc.)	Options provides a wider choice of sites for consideration. Care should be taken to preserve the areas of local/regional/national/European ecological importance. Local, short term negative impacts could be minimised/eliminated through appropriate design and site management. Furthermore, there is potential for effective design to help enhance biodiversity for certain sites.
2	Protect and improve water resources	Scope of the option allows potentially more locations to be considered, enabling the protection (and potential improvement) of certain water resources.		0	+	++	Generally cleaner technologies should be adopted in new waste management facilities and should protect and improve local water resources in the long term.	Diligent site selection will be required to protect water resources. Less reliance on landfill over the plan period should prevent any additional impacts. Continued monitoring will be required to ensure water resources are not compromised, in particular the Avon and Tame catchments. Scope to minimise any negative impact on water resources (and potentially provide enhancement) through appropriate site design.
3	Avoid, reduce and manage flood risk	The Strategic Flood Risk Assessment will help in reducing flood risk as far as possible. New development would have to comply with building control requirements (SUDs, recycling rainwater etc.) Scope of option means that there are more sites available for consideration.	Existing waste sites may be located in flood risk zones.	0	+	+	The SFRA Sequential Test will site development in low flood risk areas to mitigate against the negative effects of flooding.	Sites would be diligently chosen with respect to their potential impacts on the environment including flood risk, population and economy. The region is particularly prone to flooding, so diligent site selection is key to minimising the risk.


Spatial Option 5
(C) Crown Copyright. All rights reserved. Warwickshire County Council, 100019520, 2010.
Primary settlements*
Coventry Major Urban Area
Secondary settlements**
In close proximity to 'primary' settlements (e.g. 5km)
In close proximity to Coventry MUA (e.g. 5km)
In close proximity to secondary settlements (e.g. 5km)
Atherstone
Nuneaton
Bedworth
Coleshill
Coventry
Rugby
Kenil-worth
Leamington Spa
Warwick
Southam
Stratford-on-Avon
Key
Existing waste sites*:
Biomass plant & anaerobic digestion
Composting
HWRC
HWRC and waste transfer station
Hazardous landfill
Hazardous waste transfer
Inert landfill
Mechanical Biological Treatment (MBT) plant
Materials Recovery Facility (MRF)
MRF and waste transfer station
Non-hazardous landfill
Non-hazardous landfill and MRF
Scrap metals
Sewage treatment
Thermal treatment
Waste separation and depacking
Waste transfer station
Industrial areas (predominantly B1/B2/B8 uses)*
Warwickshire district boundaries

Consultation

- 6 Week timescale – Avoiding holidays /elections
- Districts / Boroughs / Parishes Statutory Consultees / Other adjoining Authorities/ Local Groups/ Previous Consultees/ Industry/ Quangos
- Waste Forum with industry / Library Drop-Ins / Locality and Area Forums when requested where resources available.
- Different formats: Hard copies / CD's / Online
- Respond through the Consultation Database on web site, email, letter, questionnaire.

Waste Treatment Technologies

Overview of Treatment Processes

22nd July 2011

Ali Haycox

- Drivers for change
- Core objectives for Warwickshire
- Waste treatment technologies
  - Mechanical Biological Treatment (MBT)
  - Mechanical Heat Treatment (MHT)
  - Advanced Thermal Treatment (ATT)
  - Incineration
- Summary

Drivers for change

- Legislation, policy & targets
  - Landfill Directive
  - Waste Strategy 2007
- Fiscal
  - Landfill Tax
  - LATS fines
- Waste Hierarchy
- Sustainable Waste Management Agenda
- Climate Change
- Social acceptability & local opposition
- Limited suitable void space

Core objectives for Warwickshire

- Achieve local & national aims
- Meet the targets set
- Reliable
- Proven
- Offer value for money
- Flexible
- Promote sustainability
- Deliverable in planning arena
- Deliverable against the timescales
- Secure markets for outputs
- Able to secure funding

Role of New Technologies

Collection

Mixed
(Municipal Solid Waste)

Segregated

Organic
(e.g. garden/kitchen)

Dry
(recyclables)

Landfill

Energy from Waste / ATT

[Market Failure]

Sort

Advanced Thermal Treatment / EfW

Sort

Biological Treatment

Biological (or steam or heat) Treatment

Sort

Biological Treatment

Sort/bulk

Recyclables

Soil Conditioners

Recyclables

Refuse Derived Fuel

Compost/Soil Conditioners

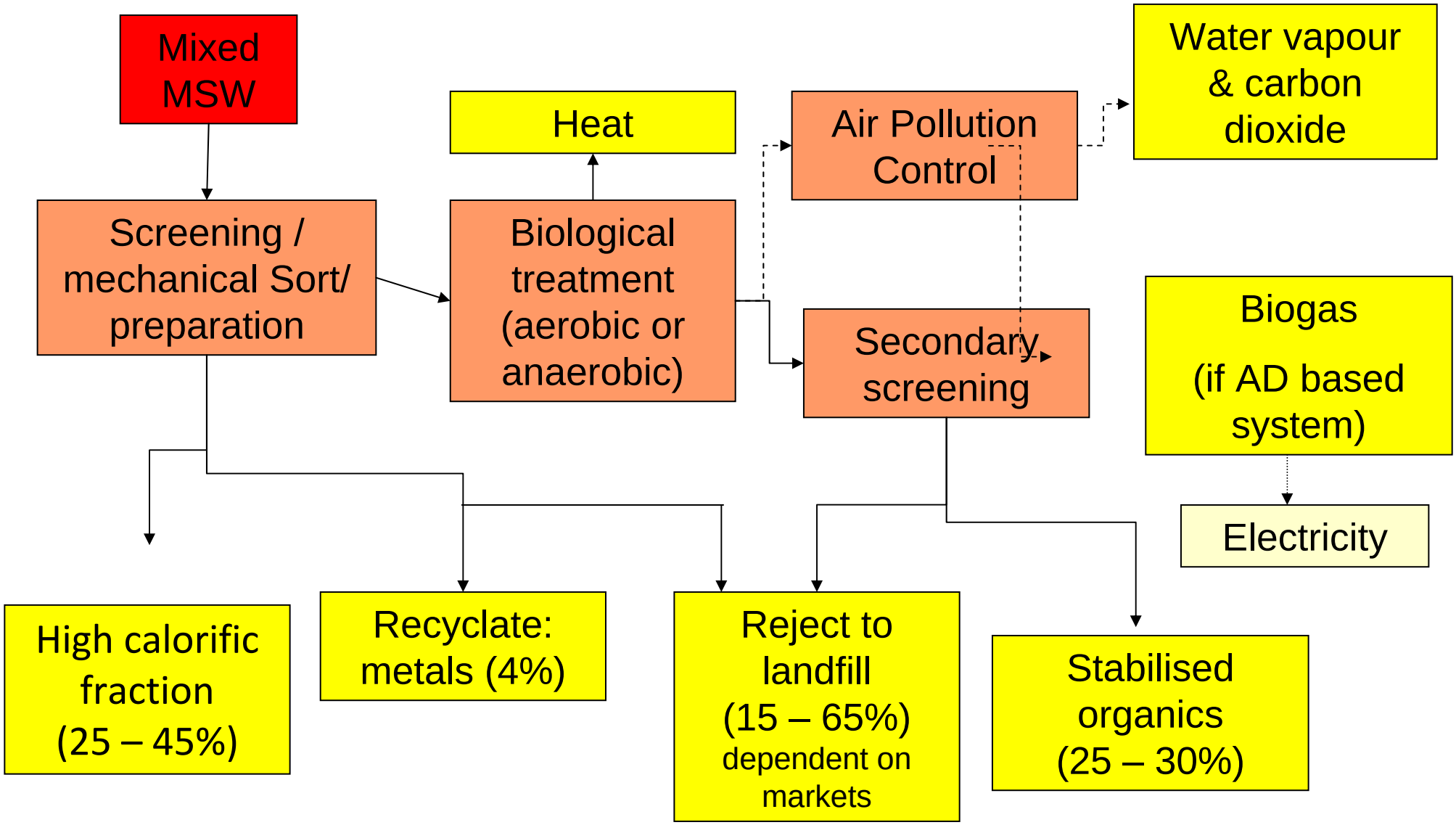
Recyclables

SUBJECT TO MARKET CONDITIONS

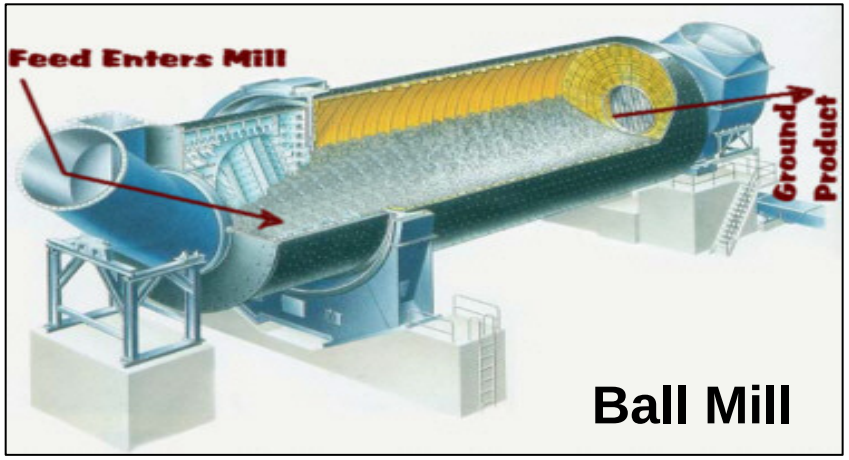
Mechanical Biological Treatment (MBT)

- Process
  - mechanical preparation and separation
  - biological treatment
  - mixed waste in to usable fractions & / or render it more “stable” for deposit into landfill.

- Only a “pre-treatment” option
- Requires markets for outputs
- Range of capacities 50 – 300ktpa
- Energy demand unless including AD
- Relatively good track record
- Flexible
- Cost effective, depending on value of outputs


Mixed MSW
Heat
Air Pollution Control
Water vapour & carbon dioxide
Screening / mechanical Sort/ preparation
Biological treatment (aerobic or anaerobic)
Secondary screening
Biogas
(if AD based system)
Electricity
High calorific fraction (25 – 45%)
Recyclate: metals (4%)
Reject to landfill (15 – 65%) dependent on markets
Stabilised organics (25 – 30%)

Mechanical Treatment



Aerobic Digestion – In-vessel Composting

- Long term composting operation
- Inputs
  - source segregated organics
  - separated organic rich fraction of mixed waste
- Outputs
  - compost-like output (CLO)
- Dependent on quality & characteristics of outputs, regulations & markets
- Windrow is not applicable to MBT due to ABPR

→ Premier Waste, County Durham

→ Bioganix, Herefordshire

→ Envar, Cambridgeshire

Anaerobic Digestion

- Degradation in the absence of oxygen by bacteria
- Needs water, heat, carbon & nitrogen
- Enclosed system
- Commonly used for sewage sludge & farm slurries
- Inputs
  - source segregated organics
  - separated organic rich fraction of mixed waste
- Outputs
  - biogas – electricity – CHP
  - digestate (solid & liquor)
  - some rejects to landfill

➔ Biocycle AD, Shropshire

➔ Lubeck MBT AD, Germany

➔ Munster MBT AD, Germany

Bio-Drying

- Can use short term forced aeration at front end
- Initial rapid composting provides the heat needed to bio-dry the remaining solids
- In enclosed building with odour control system
- Inputs
  - mixed MSW
- Outputs
  - recyclables
  - partially stabilised material

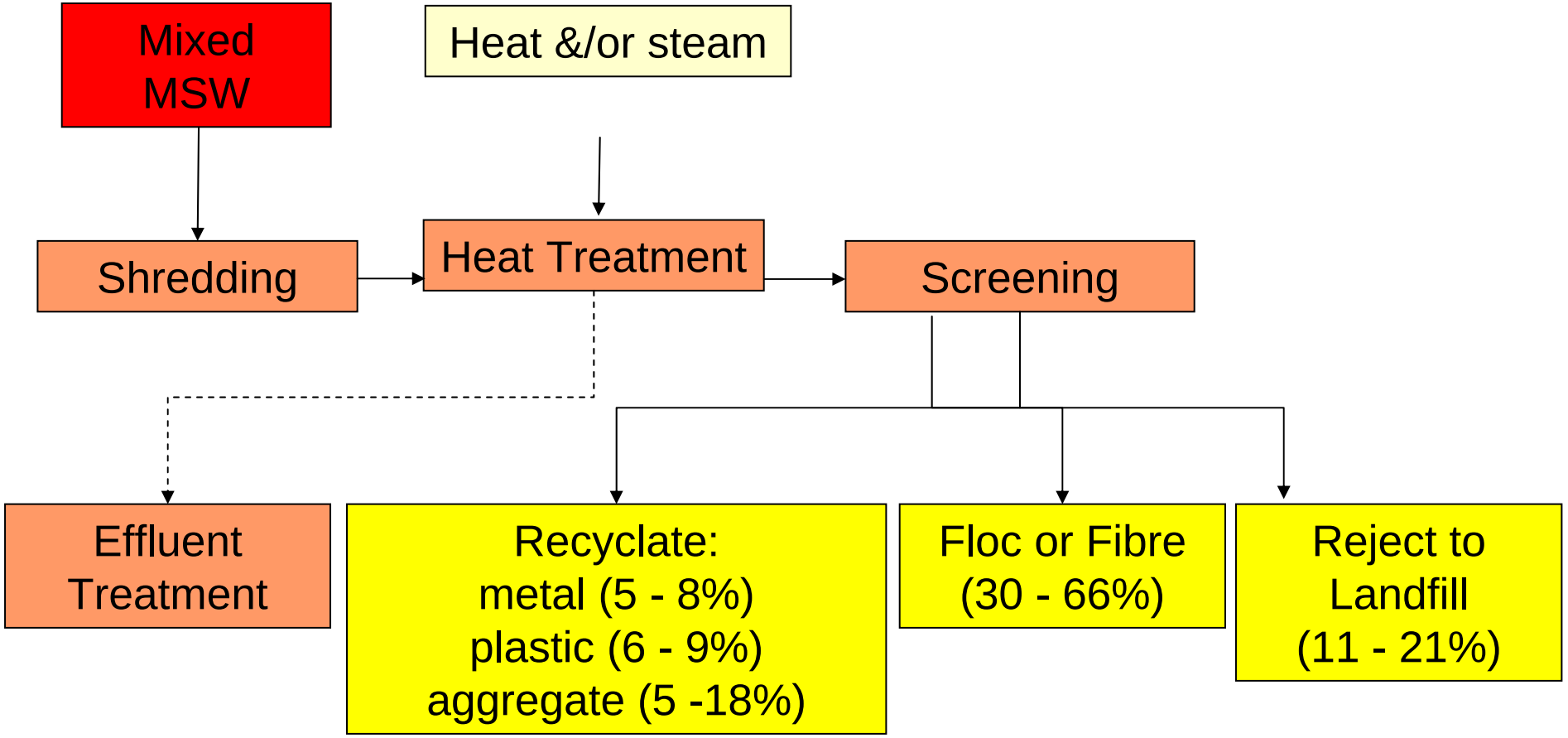
- In order for it to be ‘bio-stable’ it would need longer residence times through full composting

MBT Outputs

- Recyclables
  - metals
  - stones & glass
  - plastics
  - textiles
- Compost
- Compost Like Output (CLO)
  - brownfield site remediation
  - unsuitable for agricultural or grazing land
  - demonstrate not harmful to human health or environment
  - requires exemption to avoid counting as landfilled
- Renewable energy
  - biogas from AD
  - RDF

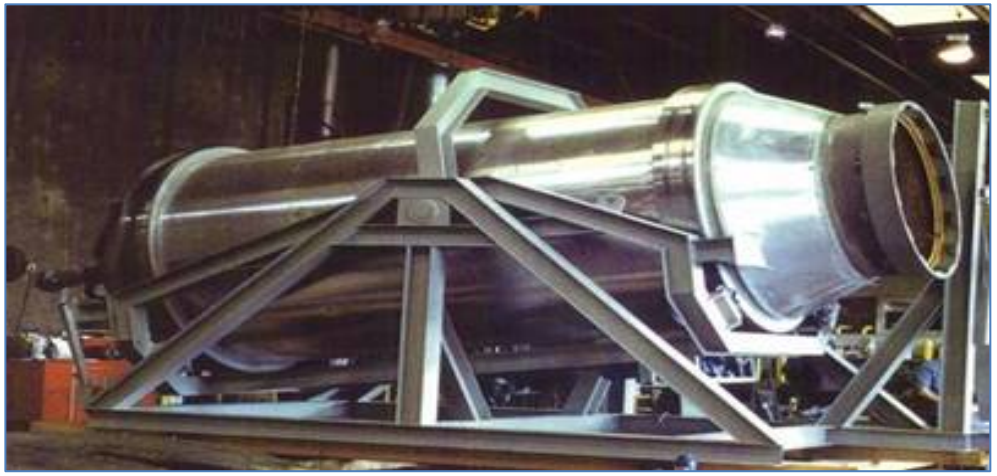
Mechanical Heat Treatment (MHT)

- Process
  - mechanical & thermal processes to separate or prepare mixed waste into usable fractions
  - waste heated, possibly under pressure, typically 130 - 180°C
  - batch or continuous process
  - sanitises the waste
- Easier to handle & sort waste following MHT
- Limited commercial track record in UK on MSW
- Requires some energy input
- Relatively low capital cost
- Often modular – 100 – 150 ktpa


Mixed MSW
Heat &/or steam
Shredding
Heat Treatment
Screening
Effluent Treatment
Recyclate:
metal (5 - 8%)
plastic (6 - 9%)
aggregate (5 -18%)
Floc or Fibre
(30 - 66%)
Reject to Landfill
(11 - 21%)

MHT Outputs

- Recyclables
  - metals
  - plastics
  - glass

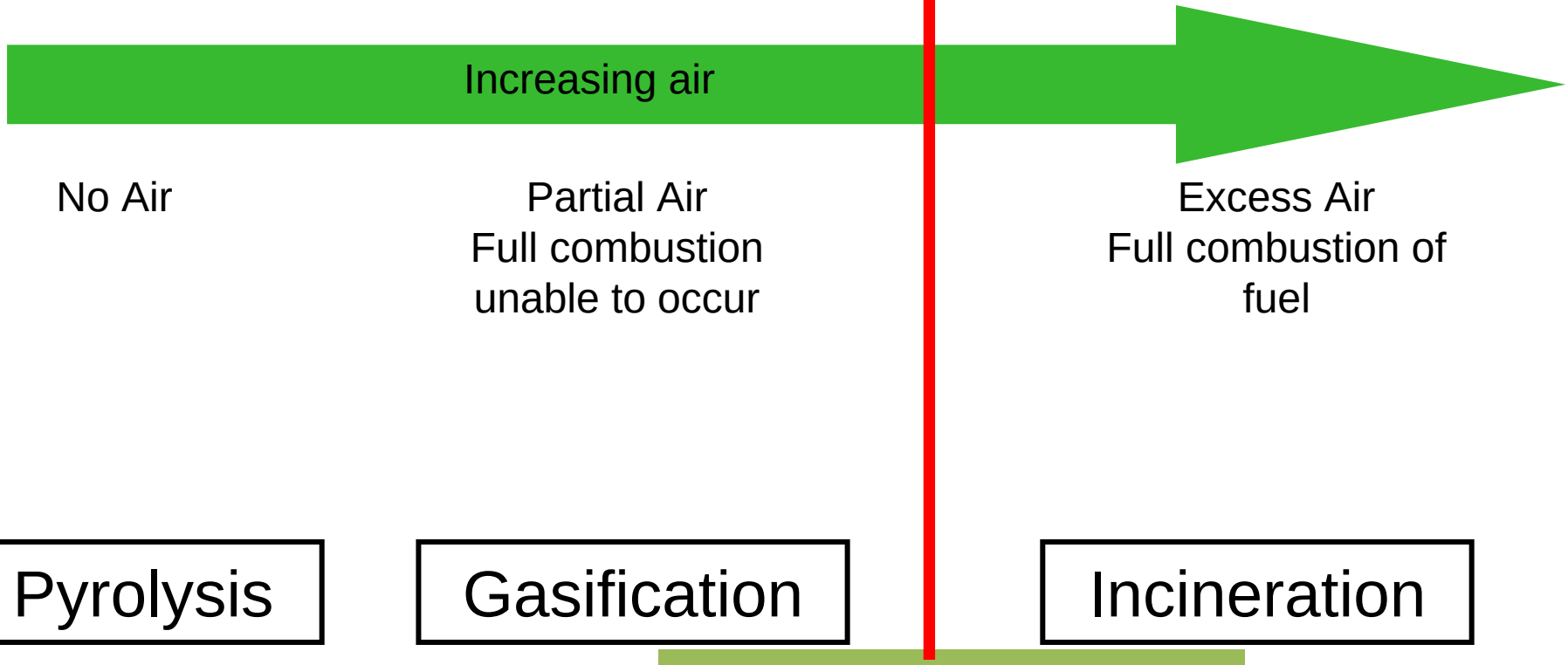


- Fibre
  - organics, paper, fines, grits
  - used as a raw material, RDF or biologically processed to CLO

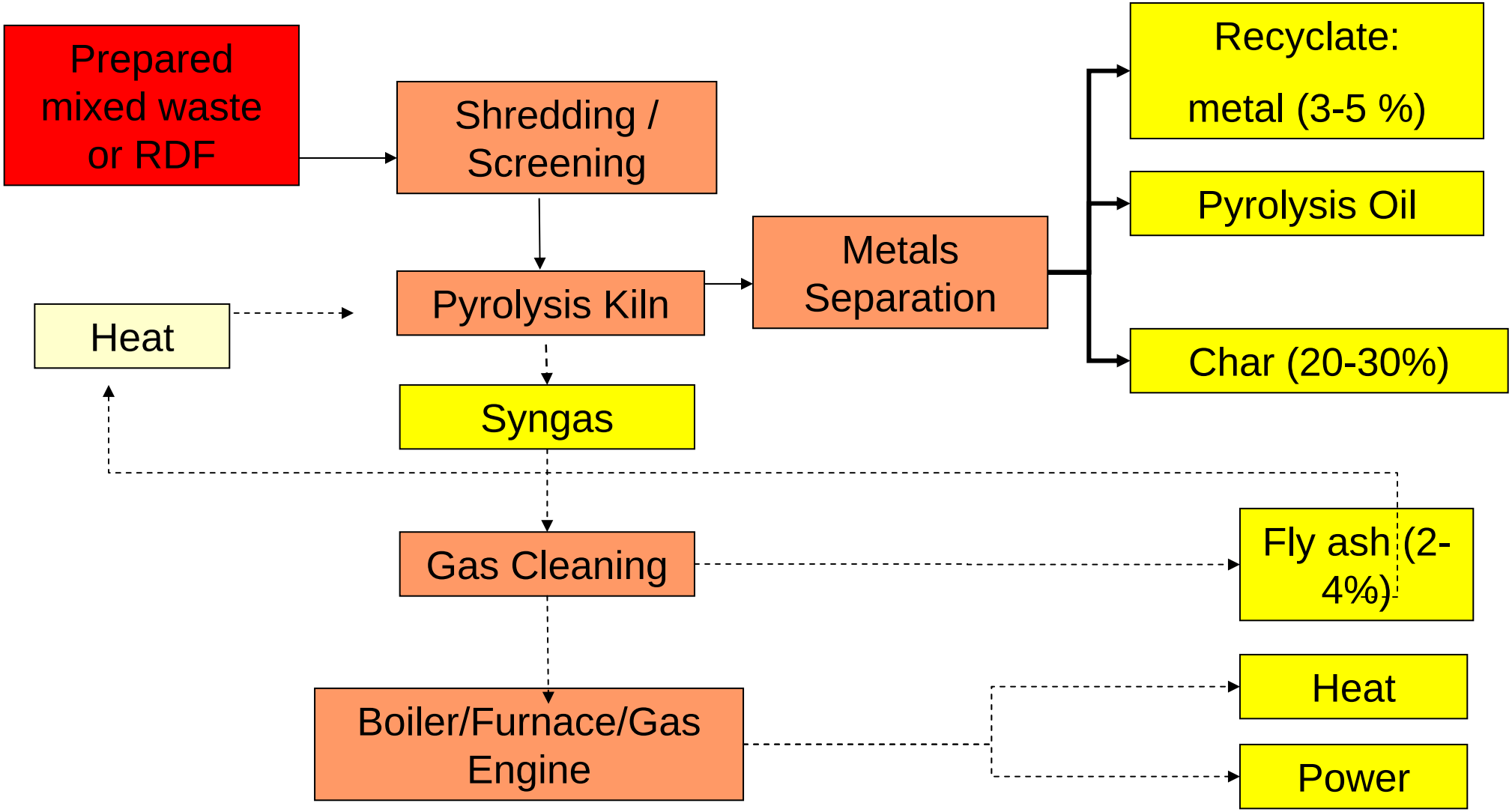
Advanced Thermal Treatment (ATT)

- Wide range of ATT technologies
  - pyrolysis
  - gasification
  - plasma arc/vitrification
- High capital costs
- Often modular – 15 – 100 ktpa
- Breaks down all organic based material
- Potential renewable energy production
- Limited commercial track record in UK

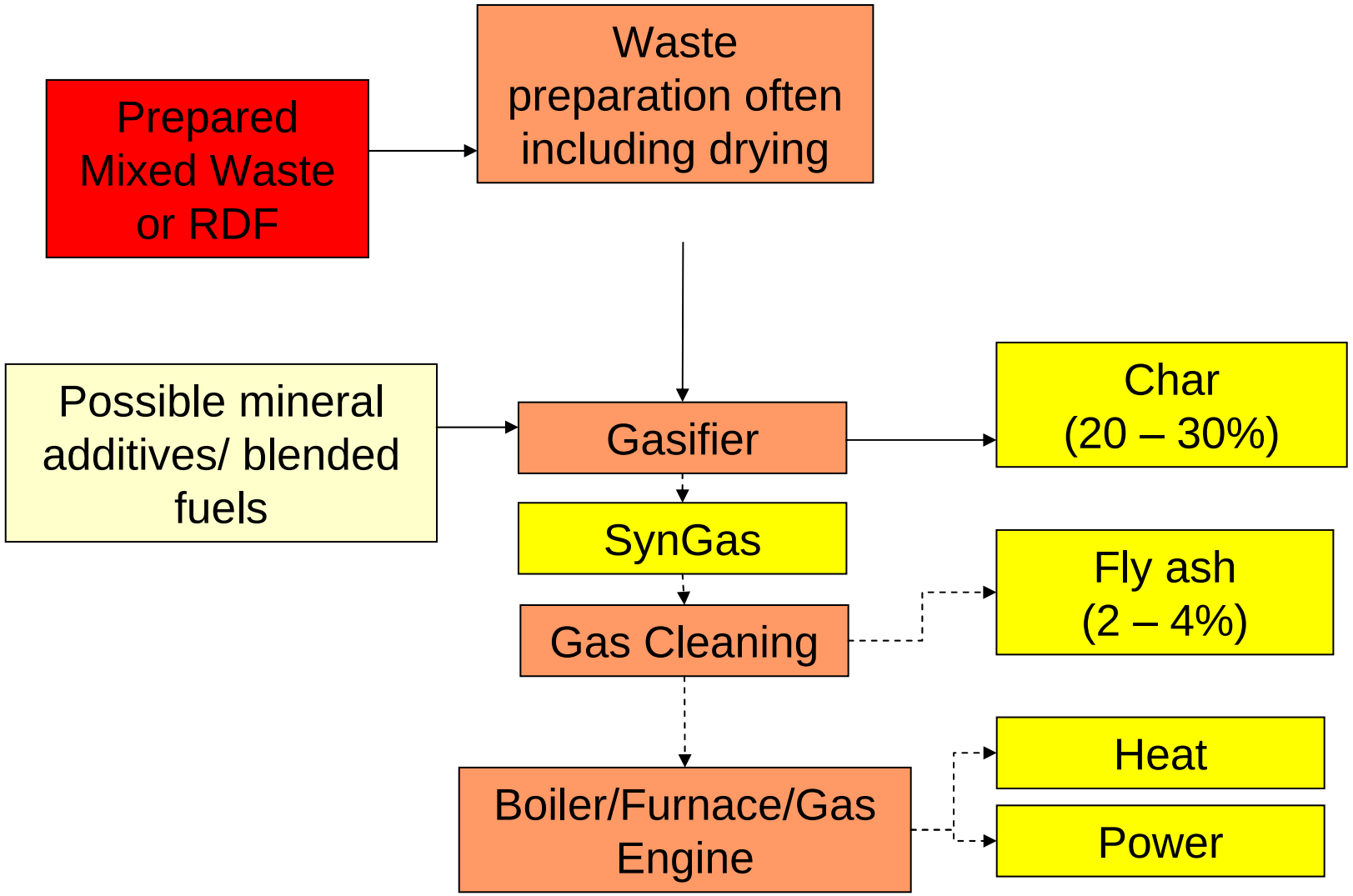
Pyrolysis to Incineration Continuum



Pyrolysis


Prepared mixed waste or RDF
Shredding / Screening
Pyrolysis Kiln
Heat
Syngas
Metals Separation
Recyclate: metal (3-5 %)
Pyrolysis Oil
Char (20-30%)
Gas Cleaning
Fly ash (2-4%)
Boiler/Furnace/Gas Engine
Heat
Power

Gasification



Pyrolysis & Gasification Outputs

- Syngas / pyrolysis oil used as fuel for electricity / heat generation
- Char which may be recycled or landfilled
- Fly ash / APC residues to landfill
- Metals for recycling

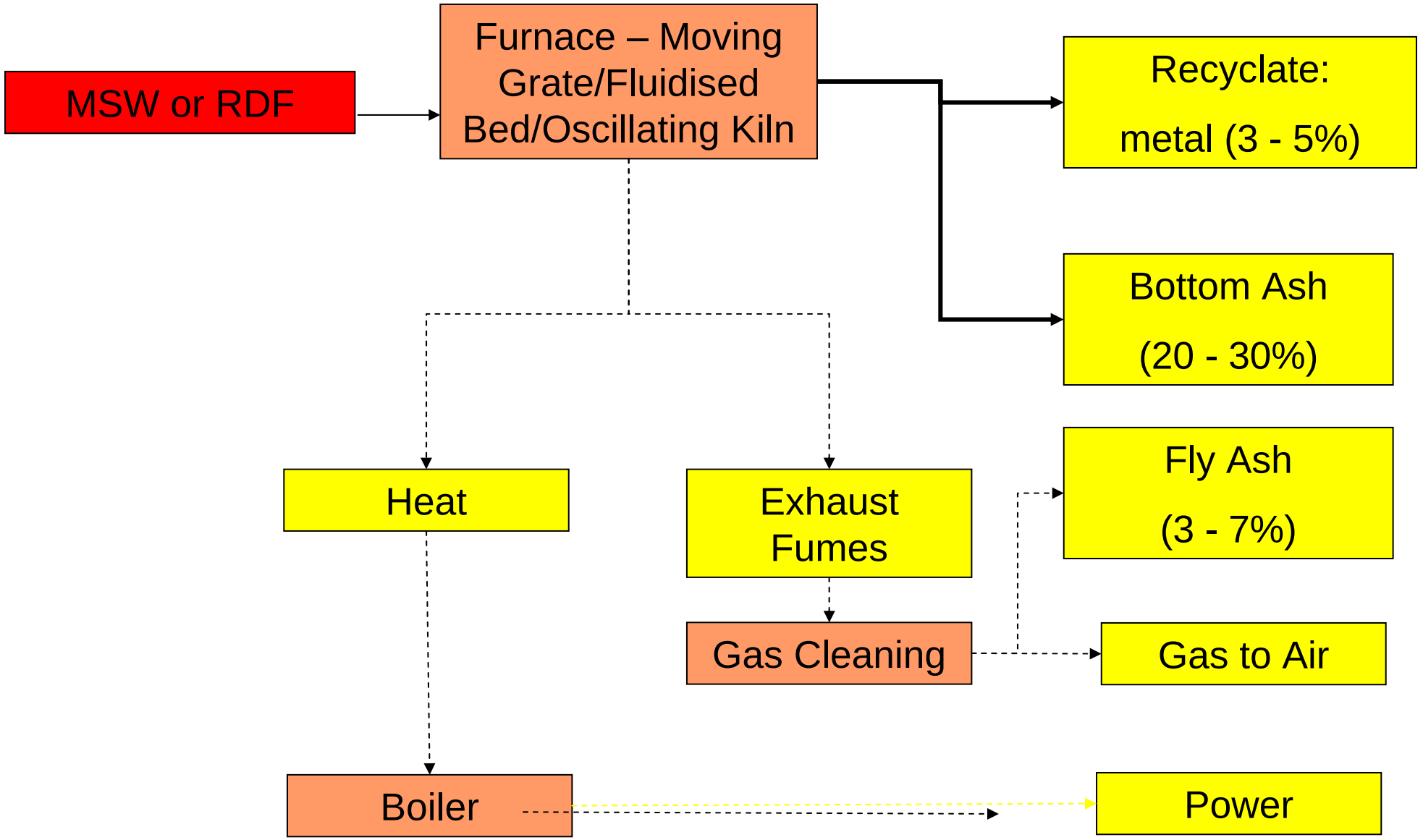
➔ Tech Trade, Germany

➔ Scarborough Power, N Yorkshire

➔ Waste Gas Technology, IoW

Incineration

- Process
  - combusts waste under controlled conditions
  - waste through furnace on moving grate or fluidised bed of sand
  - >850°C
- Renewable energy generation
- Significant measures to control emissions
- Capacity 90 – 500+ tpa
- Cost effective at larger scales 100ktpa+
- Capital intensive
- Proven on MSW


MSW or RDF
Furnace – Moving Grate/Fluidised Bed/Oscillating Kiln
Recyclate: metal (3 - 5%)
Bottom Ash (20 - 30%)
Heat
Exhaust Fumes
Fly Ash (3 - 7%)
Gas Cleaning
Gas to Air
Boiler
Power

Incineration Outputs

- Energy
  - steam used to generate electricity
  - waste heat can be used by local heat user – CHP
- APC residues
  - hazardous waste treatment
  - hazardous landfill
- Bottom ash can be recycled
- Metals extracted for recycling

➔ Isle of Man

➔ Vienna, Austria

➔ Marchwood, Hampshire

	MBT	MHT	ATT	Incineration
Capacity (ktpa)	50 - 300	100-150	15-100	90 – 500+
Proven on MSW in UK (max ✓✓✓)	✓✓	✓✓	✓	✓✓✓
Inputs	Mixed waste	Mixed waste	Prepared mixed waste RDF	Mixed waste RDF
Outputs	Energy Recyclables CLO RDF	Recyclables Fibre	Energy Recyclables Pyrolysis oil/syngas Char Fly ash	Energy Bottom ash Metals Fly ash
Environmental Performance	Increased recycling Potential for energy generation Need markets for outputs	Increased recycling Energy demand Need market for outputs	Prefers pre-treated input Energy production potential Hazardous output Increase BMW diversion	Flexible to input Energy production Increase BMW diversion Some recycling potential
Diversion Performance (max ✓✓✓)	✓✓	✓✓	✓✓✓	✓✓✓

Residual Waste
Task & Finish Group

Views on Treatment Options

Keith Kondakor

West Midlands Friends of the Earth

Overview

- Drivers for change
- Key aims for waste treatment
- Problems
- Warwickshire's waste
- Conclusion

The landfill problem

- Methane
- Landfill availability
- Wasted resources
- CO2 emissions
- Cost ~ £100/tonne

The incinerator problem

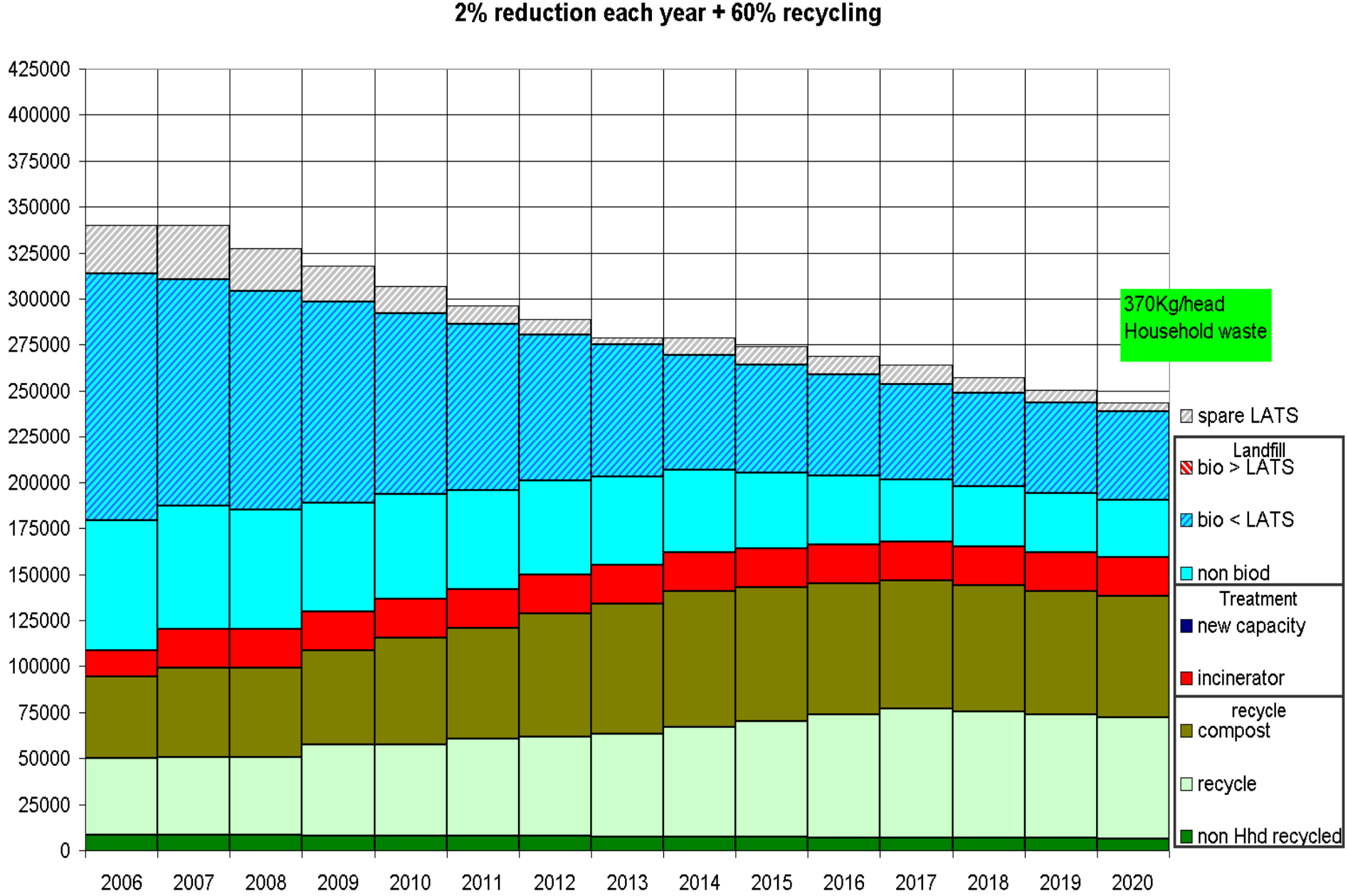
- Wasted resources
- CO2 emissions
- Cost ~ £100/tonne
- Totally Inflexible
- Planning (1 in 7 success rate)
- Taxation overdue
- Liability

The Zero waste solution

- Eliminate most residual waste
- Don't waste resources
- Recycle the carbon
- Plan for shrinking waste disposal
- One planet living

Key Aims for treatment

- Allow us to go for zero waste
  - Flexible tonnage
  - Short contracts 5-10 years
- Maximise value of Recycling
  - Kerbside 1st
  - Front end 2nd
  - Don't count dross


2% reduction each year + 60% recycling
425000
400000
375000
350000
325000
300000
275000
250000
225000
200000
175000
150000
125000
100000
75000
50000
25000
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
370Kg/head
Household waste
spare LATS
Landfill
bio > LATS
bio < LATS
non biod
Treatment
new capacity
incinerator
recycle
compost
recycle
non Hhd recycled

Friends of the Earth

2010-11

	North Warwickshire		Nuneaton and Bedworth		Rugby		Stratford		Warwick		Warwickshire (HWRC etc)	
	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11	2009/10	2010/11
Number of households	26,741	26,860	53,822	54,140	42,751	43,020	53,899	54,090	59,884	60,160	237,097	238,260
Recycling Rate	2,994 tonnes 10%	3,325 tonnes 12%	8,924 tonnes 17%	8,598 tonnes 16.6%	10,575 tonnes 27%	10,621 tonnes 26%	14,272 tonnes 27%	14,686 tonnes 27%	10,963 tonnes 22%	10,946 tonnes 22%	16,143 tonnes 35.5%	13,672 tonnes 33.6%
Composting Rate	5,116 tonnes 17%	5,131 tonnes 19%	8,738 tonnes 17%	8,330 tonnes 16%	9,711 tonnes 24%	9,973 tonnes 25%	16,487 tonnes 31%	17,380 tonnes 32%	13,432 tonnes 27%	13,613 tones 27%	11,632 tonnes 25.6%	13,408 tonnes 33%
Recycling, Composting and Reuse Rate	8,110 tonnes 27%	8,456 tonnes 31%	17,663 tonnes 34%	16,927 tonnes 32.7%	20,319 tonnes 51%	20,598 tonnes 51%	30,758 tonnes 59%	32,076 tonnes 59%	24,400 tonnes 49%	24,559 tonnes 49%	28,086 tonnes 61.8%	27,115 tonnes 66.6%
Residual	21,945 tonnes 821kg/hh	18,556 tonnes 691kg/hh	33,896 tonnes 630kg/hh	34,868 tonnes 644kg/hh	19,529 tonnes 457kg/hh	19,743 tonnes 459kg/hh	21,711 tonnes 403kg/hh	22,005 tonnes 407kg/hh	25,092 tonnes 419kg/hh	25,486 tonnes 424kg/hh	17,393 tonnes	13,573 tonnes
Total	30,056 tonnes 1,124kg/hh	27,012 tonnes 1,006kg/hh	51,558 tonnes 958kg/hh	51,795 tonnes 957kg/hh	39,814 tonnes 931kg/hh	40,336 tonnes 938kg/hh	52,468 tonnes 973kg/hh	54,081 tonnes 1,000kg/hh	49,492 tonnes 826kg/hh	50,046 tonnes 832kg/hh	45,479 tonnes	40,688 tonnes

Friends of the Earth

2010 & 201x@60%

4. **Comparison of 2009-10 and 2010-11 Performance**

	2009/2010 Household	2010/2011 Household
Recycling Rate	63,871 tonnes **23.8%**	61,848 tonnes **23.4%**
Composting Rate	65,116 tonnes **24.3%**	67,835 tonnes **25.7%**
Recycling, Composting and Reuse Rate	129,336 tonnes **48.1%**	129,731 tonnes **49.1%**
Landfill Rate	112,174 tonnes **41.8%**	85,631 tonnes **32.5%**
Energy from Waste and RDF	27,247 tonnes **10.2%**	48,447 tonnes **18.4%**
Total Municipal Waste*	**292,062 tonnes**	**282,794 tonnes**

@60% R+C

79182 (28%)

90494 (32%)

169676 (60%)

5656 (2%)

50K+35K

282,794

+ 22,462

Thirds

- 30,000-45,000 committed to Four Ashes incinerator >2040? @£95/tonne
- 50,000 to Coventry @ £60-£70/tonne? 2-6 yrs
- Remaining 1/3rd is 0 – 60,000 tonnes
  - Must be very flexible.
  - South of County
  - Look at spare capacity at edge - Cotesbach.
  - Avoid putting more eggs in thermal treatment
  - Look at 7-10 year contract.

Conclusion

- Small flexible and local treatment plants
- Interim use MBT with stabilized residual landfilled.
- Big plants are high risk – capital – political - technical – legal - DO NOT DO IT.
- Reduce waste early
- We have time to look at the best technology being tested now
- Allow for a change to Zero Waste
- Compost – recycle – educate & educate again

Thanks

www.foe.co.uk/waste

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Talking half as much rubbish

Residual Waste – Task & Finish Group
Briefing Note
22 July 2011

Procurement Process

- Disposal of Waste – is classed as a Part A Service under EU Procurement Regulations (cross boarder interest).

- Total Contract Value likely to exceed EU threshold (£156,442)

= EU Procurement (Advert published in the EU Official Journal (OJEU))

Procurement Procedures

When a contract must be advertised in the OJEU in accordance with the EU Procurement Regulations, the Council must decide which procedure it will use when carrying out the procurement process. Under the Regulations the four main options are the open, restricted, negotiated or competitive dialogue procedures.

This briefing note will discuss the two options which may be best suited for the residual waste procurement. They are the restricted procedure and the competitive dialogue procedure.

(i) Restricted Procedure

- This procedure is a two stage process.

First Stage

- The Council will publish a contract notice in the OJEU. Interested parties can submit an expression of interest in response to the OJEU Notice.
- The Council will then carry out a short-listing exercise using a pre-qualification questionnaire and only those meeting the Council's selection criteria will be invited to tender.

- EU procurement rules clearly state what criteria can be used at the pre-qualification stage of a procurement process for short-listing suppliers to be invited to tender i.e. economic and financial standing and technical and professional ability.

- Selection criteria should be used to assess whether a tenderer satisfies minimum levels of economic and financial standing, and its technical or professional ability. Selection criteria should focus on the tenderer (as an entity) and not the proposal or tender it submits.

Second Stage

- Following an assessment of those providers who have expressed an interest against the Council's selection criteria, the Council must draw up a shortlist of those providers. A minimum of five providers must be invited to tender (unless fewer suitable candidates have met the selection criteria and these are sufficient to ensure genuine competition).

- These short listed providers then submit a tender detailing how they meet our requirements. The Council will evaluate all tenders received against pre-set award criteria. The award criteria will typically involve quality and price; these criteria will be weighted according to their importance to the Council.

Key principles

1. The chief feature associated with use of the restricted procedure is that no negotiation is allowed and therefore the Council must be able to pre-specify in detail all of its requirements before inviting tenders.

2. In practical terms, this requires that the Council has certainty as to the precise scope of the contract and it will need to prepare the detailed specification and contract in advance of inviting tenders.

3. It is possible to address some of the constraints of not being able to engage in dialogue with tenderers under the restricted procedure by requesting variant bids.

4. The restricted procedure is a quicker procedure compared to the Competitive Dialogue Procedure.

(ii) The Competitive Dialogue Procedure

This procedure is designed for the award of particularly complex contracts where the Council needs to discuss all or some of the aspects of the proposed contracts with the providers.

Process

1. Interested parties can submit an expression of interest in response to the OJEU Notice.

2. The Council may then carry out a short-listing exercise (using a PQQ) and only those meeting the Council's selection criteria will be invited to dialogue.

3. A minimum of three suppliers must be invited to dialogue (unless fewer candidates have met the selection criteria and these are sufficient to ensure genuine competition, that is, at least two).

4. The Council enters into a dialogue with bidders to develop one or more suitable solutions to meet its needs. There is no set format that the dialogue must follow, it will usually consist of a series of meetings with each tenderer with each meeting focusing on different aspects of the procurement, for example:
   - financial;
   - technical; and
   - legal.

5. When an appropriate solution(s) has been identified, the Council will conclude the dialogue phase and invite final tenders.

Key Principles

1. This procedure is only available for particularly complex contracts where:
    - the Council is not objectively able to define the technical means to satisfy its needs;
    - it is not objectively able to identify in advance the legal and/or financial make-up of a project; or
    - the Council does not consider that the contract can be awarded under the open or restricted procedures.

2. The European Commission has clearly stated that "if the authority is in a position to define the technical resources necessary or establish the legal and financial framework, the use of the Competitive Dialogue is not possible". Therefore the competitive dialogue is available where the Council is not able to produce a single specification or legal/financial documents at the outset which would enable it to identify the best solution to meet its needs.

3. Examples of where this process is the most appropriate procurement procedure:

    - The technical means necessary to deliver the needs and requirements of the authority cannot be determined without bidder input (technical justification);
    - There may be a number of technical solutions available which means that the Council cannot define its needs at the outset, thus justifying use of the competitive dialogue procedure (technical justification).
    - The project requires the development of an innovative solution, which must be explored with the bidders (technical justification);
    - There are several delivery models suitable for the project (e.g. joint venture company, joint committee etc), the legal framework of which must be discussed with bidders (legal justification);
    - Payment and performance mechanisms cannot be adequately specified before engagement with bidders (financial justification);
    - The financial and legal make-up cannot be defined in advance, because issues such as risk allocation, how the project is going to be carried out and financed (legal and finance justification).

4. Using the Competitive Dialogue Procedure allows bidders to discuss technical, legal and/or financial complexities with bidders and find a solution (in some cases an innovative solution) that meets the Councils needs.

Key Questions

(i) Can WCC pre-specify its requirements in detail before going out to tender?

(ii) Does WCC have certainty to the precise scope of the contract and can it prepare a detailed specification before going out to tender?

(iii) Is it possible to address any 'grey' area in relation to the contract by requesting tenders submit variant bids?

If the answers to the above are YES then the restricted procedure is most suited.

However if WCC are of the view that:

(i) There may be a number of technical solutions available which means it cannot define its requirements in detail at the outset; and/or

(ii) WCC believes that the project requires the development of an innovative solution which must be explored with the bidders; and/or

(iii) The financial (e.g. payment and performance mechanism) and legal make-up cannot be specified before engagement with bidders?

If the answers to any of the above questions are YES then the Competitive Dialogue Procedure may be best suited.

Initial Legal Advice

If WCC is able to clearly pre-specify in detail all the requirements of the residual waste contract before inviting tenders, I advise that the restricted procedure is used. Note this may mean engaging the market further (more market testing) before inviting tenders, this is because once the procurement is commenced using the restricted procedure, negotiations are prohibited i.e. we are bound by the documentation we release.

If WCC is experiencing difficulty pre-specifying all requirements of the contract, it is important to note the Competitive Dialogue process allows a unique opportunity to discuss and fully understand different bids and to develop solutions that will genuinely meet your needs. However, it needs to be managed and focused in order to avoid becoming a high level discussion which simply wastes time and money (both the Council's and bidders').

There is no set process for how the Council undertakes the Competitive Dialogue process. In order to have an effective and efficient process most Councils are adopting a 'short form' Competitive Dialogue process. This is where the Council identifies areas which it wants to dialogue and those it does not, this means that the non negotiable areas are taken 'off the table' and meaningful dialogue can take place in relation to those issues that need solutions. If there are only a few issues, the dialogue process can be completed in a short time.

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Suzanne Burrell
21 July 2011