

Waste Strategy

Q1. Do you have a waste strategy?

A1. The Joint Waste Strategy to cover the period up to 2025, was adopted by the Waste Partnership for Buckinghamshire (made up of four district councils and ourselves) in May 2007. Its main aims are to reduce waste at source, recycle more of what is left, and find a proven technology to deal with the rest.

Q2. Who is responsible for delivering the waste strategy?

A2. The Waste Partnership for Buckinghamshire consists of the county council, Aylesbury Vale, Chiltern, South Bucks and Wycombe District Councils working in partnership together. All authorities are responsible for delivering the strategy. The county council disposes of the waste and runs the Household Waste Recycling Centres. The district councils collect the waste and recyclable materials.

Q3. Did you consult on the waste strategy?

A3. Yes, via a survey sent with the residents' newsletter Buckinghamshire Times and through our website. We received over 10,600 responses, representing more than five per cent of residents, which is very high for this type of survey. Ninety-six per cent of respondents agreed we should recover as much waste as possible, while 83% suggested we should use proven technologies.

Q4. Why can't we just keep on sending waste to landfill?

A4. Because European and national laws say we can't. From 2010 heavy fines can be imposed on the council if we fail to find alternatives to landfill, which could significantly impact on Council Tax. The council has been set reduced targets for the waste it is allowed to send to landfill and despite more recycling, our waste is increasing yearly. The council also has to plan for managing waste from the thousands of extra homes the Government says we must build in Buckinghamshire by 2026. In 2008/09 landfill tax cost the county £4.5 million. Currently we pay £48 a tonne for landfill and this will rise to £72 a tonne by 2013. If we fail to reduce our landfill use, we will also be fined up to £150 for every extra tonne. Doing nothing could cost us around £17m a year by 2015 in landfill taxes.

By combusting our waste efficiently in an EfV facility, we will be reducing both methane (CH₄) emissions from landfill and CO₂ emissions from conventional energy generation. (Please also see Question 27 for more information about CO₂.)

Q5. Where are the preferred areas for building waste facilities?

A5. As the Waste Planning Authority, the county council is required by central government to identify potential sites that may be suitable for future waste treatment and recovery, in order to reduce the amount of rubbish going to landfill. It will be up to the county council to give planning permission to the waste industry to build the majority of these sites.

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Q5 continued

We have undertaken detailed assessments of nearly 200 possible sites across Buckinghamshire. The review considered which locations met planning policies, and reflected views expressed in earlier consultations. The selection process was further supported by a sustainability appraisal. This ensured that all possible impacts of waste development were taken into account.

The council's preferred locations have been widely consulted upon during 2007 and the public were again consulted on a revised list of sites between February and April 2008. There are now just two Preferred Areas identified in the emerging strategy as potential locations for Strategic Waste Complexes (SWC), which will have facilities for recycling, composting and recovery (which could include an Energy from Waste modern incinerator):

Calvert Landfill Site, Calvert
Wapseys Wood Landfill Site, Gerrards Cross

Sites for Waste Transfer facilities which will be needed to feed household waste to the SWC(s) have been identified as:

College Road North, Aston Clinton
London Road, Amersham
High Heavens, High Wycombe
Richings Park, Iver
Osier Way, Buckingham

Additionally, two Safeguarded for reserve SWCs, if needed, have been identified at:

Springfield Farm Landfill Site, Beaconsfield
Woodham Industrial Area, Woodham

Comments received during the 2008 consultation will help to inform the final version of the Minerals and Waste Core Strategy, which will be published for a further six week consultation in Spring 2010 before submission to Government. This will be followed by a Public Examination by an Independent Planning Inspector in the Autumn. The Inspector's Report will be binding on the county council.

An Energy from Waste (EfW) facility, using modern incineration, is just one part of the bigger picture in how we will provide for the management of Buckinghamshire's, not just household waste. Any operator who submits a bid to build *any* new waste facility will have to go through rigorous planning application procedures as usual.

Q6. One of the sites proposed for the incinerator is out of the county. How does that fit with the proximity principle?

A6. Managing waste as closely as possible to where it arises (the proximity principle and regional self-sufficiency) underlies sustainable waste management in England and is reflected in the Waste Strategy for England 2007 (DEFRA).

The emerging Buckinghamshire Minerals and Waste Core Strategy has a key role in ensuring that sufficient capacity can be provided with a suitable mix of facilities to manage all waste streams arising until 2026 in a sustainable manner, consistent with the Waste Hierarchy and the requirements of national and regional waste policy.

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Q6 continued

The county council's policy, as outlined in the Joint Municipal Waste Management Strategy produced by the county's Waste Partnership, is to "aim to manage our waste as near as practicable to its place of production". The regional context of the proximity principle is particularly important to Buckinghamshire. Part of the South East region, the county is also adjacent to the East, East Midlands and London regions. Too narrow a view of the proximity principle could inhibit choosing the nearest appropriate location for dealing with our waste. For example, recyclates may have to be taken longer distances to appropriate reprocessing plants.

Administrative boundaries may not reflect where waste arises, the movement of waste or the most suitable location for waste management facilities. The Regional Spatial Strategy for the South East takes account of this and clarifies:

"Sub-regional self-sufficiency will be sought, while accepting that movement of waste between sub-regions will occur and is often necessary to reduce long distance transport" (South East plan, para 10.18).

Therefore the proposed out of county location for the EfW in Bedfordshire can still be consistent with the proximity principle and self-sufficiency on a wider level.

Q7. The EfW needs waste transfer stations. If one is near me, won't it increase heavy traffic near my village?

A7. Traffic movements, routing of vehicles and HGV restrictions will be fully assessed when planning consent for waste transfer stations is considered by the county council's independent Development Control Committee. We understand that residents will have concerns about traffic movements associated with any waste facility. A single EfW site serving the whole county may involve more 'waste miles' in taking waste to the site but, to reduce this mileage, waste transfer stations will be used as collection points for bulking waste into larger vehicles so that traffic movements are minimised.

Q8. What facilities are you going to build on each of the waste disposal sites?

A8. The county council has assessed what types of facilities it believes to be suitable at each location. They could be composting facilities, biological treatment plants, household waste recycling centres or waste transfer stations. The Core Strategy concentrates on those sites capable of accommodating major waste recovery facilities, designated Strategic Waste Complexes. At Calvert and Wapseys Wood landfill sites, the county council will support the provision of Strategic Waste Management Complexes, which could take a variety of different facilities. Ultimately, the majority of these sites and new facilities will be provided by private waste industry operators.

Q9. Why do we need more facilities?

A9. We must divert as much waste as we can from landfill but this needs new, modern treatment facilities which use the latest technology. During the next 15 to 20 years the county council must find other ways of dealing with 2.5 million tonnes of waste (household, trade and commercial) each year to meet Government targets. Landfill tax increases each year making it progressively more expensive to continue to dispose of rubbish to landfill.

Q10. I want to file an official complaint about waste sites' planning. Who do I speak to?

Q11. Where is the proposed out of county site?

Q12. If Veolia have been deselected, does that mean that the site they were proposing is no longer under consideration?

Q13. Why did you buy more land than you actually need for the HWRC in Aston Clinton? What are you going to build next to it?

A10. There was an opportunity during the public consultation on the Minerals and Waste Core Strategy (between 29 February and 25 April 2008) to complete a representation form about the identified sites, stating what your objections were. All responses are stored on a database, publicly reported and made available to the Independent Inspector at the Public Examination. The next formal publication will be in April 2010 prior to the plan's submission to the Government. You can email us about the EfW project at: waste_strategy@buckscc.gov.uk

A11. Covanta Energy are one of the final two companies bidding to treat the county's household waste left after recycling and composting. The company proposes to build a new plant on a disused claypit site at Rookery South Pit near Stewartby, Bedfordshire.

A12. Although the Veolia Environmental Services solution will no longer be part of the county council's EfW procurement process, Veolia's landfill site at Wapseys Wood near Gerrards Cross could still remain as a proposed Strategic Waste Complex for commercial waste recovery in the emerging Minerals and Waste Core Strategy. The technology need not be EfW and could be one of the biological alternatives.

A13. We bought the area of land that was identified to be safeguarded for a new Household Waste Recycling Centre (HWRC) in the Minerals and Waste local plan and purchased slightly more for landscaping purposes. Now that the HWRC has been built and opened there is still an area of land free in front of the facility, which we currently have no plans to develop.

Under the new planning legislation, the council prepared its Waste Development Plan Document (WDPD) *Preferred Options*, about which local people were consulted during summer 2007. This draft plan sought their views on a number of possible waste management uses at College Road North. Any further uses would be additional to the new HWRC. The planning team considered the responses made and has decided that an incinerator (with energy recovery) should not be built here. This was announced at the Council's Cabinet meeting on 5 November 2007.

Other possible uses proposed by the Waste Plan still being considered for this site are: in-vessel composting, anaerobic digestion, mechanical biological treatment and waste transfer.

Future development of this area will be determined by a number of factors, linked to the progression of the County Councils Minerals and Waste Local Development framework, Aylesbury Vale Local Development framework, the delivery of the Waste Strategy, the Waste Procurement Process and other market factors.

For more information please visit

<http://www.buckscc.gov.uk>

(look under Environment, Minerals and Waste Plans, Core Strategy Development Plan Document).

Waste Procurement Project

Q14. Why did the Council decide to re-open discussions on the Waste Procurement Project?

A14. Since the end of September 2009, the Council has been holding discussions with Covanta Energy to agree the terms of the Preferred Bidder appointment and clarifying aspects of Covanta's solution, following the regulations set out under the UK's Public Contracts Regulations 2006. During these discussions Covanta made the Council aware of an issue which had emerged during their final due diligence. The issue is associated with legal constraints on Covanta's site, which impacts on the commercial aspects of their bid. This has affected the Council's evaluation of final tenders as the matter was not taken into account at the previous evaluation phase. In order for the Council to discuss this matter further, the rules of the competitive procurement process meant that we had to re-open discussions with both bidders. Failing to re-open discussions could have resulted in a legal challenge to the Council.

Q15. Who are the short-listed bidders that the County Council is considering to build the incinerator?

A15. The bidders will be the same as those shortlisted in August 2008, when we publicised the selection of the final two bidders to go forward to final tender stage. They are:

Covanta Energy Limited;

Waste Recycling Group (WRG).

The preferred bidder for the Waste Procurement Project is due to be selected by Cabinet by the end of 2010.

Q16: What is the commercial issue and why didn't you know about it when you carried out your evaluation in 2009?

A16. The issue is associated with legal constraints on their site, which impacts on commercial aspects of their bid. The Council is not able to disclose precise details of the legal constraints on Covanta's site, because the matter is commercially confidential to Covanta. Disclosing details could prejudice the competitive element of the procurement procedure going forward and undermine the Council's ability to secure a value for money solution for Buckinghamshire.

Q17: How serious is the commercial issue?

A17. The rules of the competitive procurement process mean that in order to discuss the issue further, the Council has to re-open discussions (dialogue) with both Covanta Energy and WRG. If we fail to do this then we could face a legal challenge from the bidders, which would involve substantial delay and cost to the Council. It could also potentially result in the case being referred to the European Court of Justice.

Q18: How long have you known about this commercial issue?

A18. Covanta initially drew the issue to the attention of the Council in October 2009. Since that point we have been carrying out extensive investigations into the issue and its significance. This was done to ensure that the Council full understood the implications and took the right course of action for Buckinghamshire. The issue and its potential impact on the evaluation is very complex and the investigation of its potential effect upon the evaluation process were not concluded until very recently. We have taken the decision to re-open the competition as promptly as was reasonably possible.

Q19: Is it common for problems to occur at this stage of the procurement process?

A19. It is not uncommon in complex procurement processes of this nature that clarification occurs in the final stages when the details of the contract and finance arrangements are being finally settled and final due diligence is conducted by all parties. Indeed, that is precisely why there is

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Q19 continued

Q20: Was the final phase of the procurement process conducted properly?

Q21: I'm confused, hasn't the Council already awarded a contract to Covanta? Won't there be penalties involved in breaking this deal?

Q22: What happens next, what is the new process?

period of 'preferred bidder status.' It is unfortunate that an issue has arisen, but it is better for it to have happened now than after contracts had been exchanged.

A20. The Council had taken all the necessary steps to ensure that the procurement process was carried out in a robust and comprehensive manner. We have used very experienced and highly respected external legal, financial and technical advisors throughout the process. Our procedures were independently reviewed by Deloitte during May 2009, and they concluded that "the procurement process followed was in line with the Office of Government and Commerce good practice on competitive dialogue procurement."

Unfortunately it is not uncommon in complex procurement processes of this nature that clarification occurs in the final stages when the details of the contract and finance arrangements are being settled and final due diligence is conducted by all parties. The decision to re-open dialogue has been the best decision for the Council.

A21. Covanta were only identified as the Council's Preferred Bidder following the Council's evaluation of the Final Tenders and a decision made by Cabinet in September 2009 to award them that status. There was no actual contract signed at that point because the Council still had to clarify and confirm aspects of Covanta's proposals. This is standard practice within the procurement processes and the Council had been discussing the fine detail of the contract with Covanta when the new commercial issue emerged. The Council never had any contractual obligation to Covanta and had always reserved the right to withdraw their Preferred Bidder status if it felt it was necessary to do so at any stage. Again, this is entirely standard for a complex procurement of this kind.

A22. We will re-enter the final stage of competition with WRG and Covanta from mid March 2010. During this period there will be discussions around all aspects of each company's proposals. WRG and Covanta will be asked to submit new Final Tenders at the end of the summer, and the Council will rigorously assess these proposals against the published evaluation criteria. Cabinet will then be asked to make a decision on the appointment of a new preferred bidder at the end of the year. The decision will be taken at a Cabinet meeting in the same way as the previous decision in September 2009. Details of this will be issued to all interested parties nearer the time.

Q23: Will the decision criteria now change?

A23. No, in order to ensure a fair and consistent evaluation process the Council will apply the same evaluation criteria that were used during the assessment of Final Tenders in summer 2009 and the Council's needs and requirements remain the same. The detailed criteria and weightings used were as follows:

Tier I Criteria	Weighting	No.	Tier 2 Criteria	Weighting
A - Technical & Operational	10%	A1	Availability-ability of the proposed process to process the contract waste (Buckinghamshire's municipal waste is a priority over all other waste streams...)	23%
		A2	Feedstock flexibility—ability of proposal to effectively manage variation in waste composition	21%
		A3	Contribution to recycling, recover, energy & emissions targets	35%
		A4	Service quality to include evidence of track record and proposed plans on: quality assurance, health & safety, staffing, resourcing, data managements, reporting, etc.	21%
B - Deliverability & Planning	25%	B1	Deliverability	50%
		B2	Planning & permitting	50%
C - Environmental & Social	10%	C1	Process residue levels generated by the solution	10%
		C2	Energy balance of the solution (considering inputs & outputs)	15%
		C3	Greenhouse gas emissions, other gaseous, particulate emissions & carbon footprint (assessed using Environment Agency's WRATE tool)	25%
		C4	Transport impact of solution	25%
		C5	Jobs created due to development of solution	10%
		C6	Stakeholder engagement experience & track record as well as development proposals for solution	15%

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Tier I Criteria	Weighting	No.	Tier 2 Criteria	Weighting
D - Financial & Commercial	40%	D1	Affordability of the cost of service provision (The Council reserves the right not to award the contract solely on the fact that any Final Tender is unaffordable)	20%
		D2	Economic cost of the proposal to the Council	60%
		D3	Robustness of commercial structure and financial viability	20%
E - Legal	15%	E1	Delivery vehicle is lawful & robust structure with appropriate board consents and vires— Consortium members are suitably committed	20%
		E2	No state aid or other legal impediments arise	5%
		E3	Project agreement and other contract documents represent a commercially acceptable position and reflect a sharing of risk that represents value for money and is reasonable for the Council to accept	50%
		E4	Suitable warranties and other security offered	15%
		E5	Facility(ies) transfers to Council on expiry or termination or other proposals for continued service provision in the event of failure	10%

Q24: What does this mean for the residents locally to the potential sites?

;A24. In their last bids, Covanta had proposed to build an Energy from Waste facility near Stewartby, Bedfordshire, with Waste Transfer Stations locations at Griffin Lane, Aylesbury, London Road, Amersham and High Heavens, High Wycombe.

WRG had proposed an Energy from Waste facility at Calvert, north Buckinghamshire, with Waste Transfer Stations at College Road North, Aston Clinton and High Heavens, High Wycombe.

Until the Council re-engages in commercial discussions with each company in March we will be unable to confirm whether WRG or Covanta wish to propose any changes to the solutions previously proposed. It is up to each bidder to decide when they publicise their chosen sites, although we will endeavour to let local residents know as soon as we can.

Q25: Why aren't other companies being invited to take part in discussions?

A25. The commercial issue that prompted this decision would only have affected the way in which we evaluated the Final Tenders; the Council decided it would only be necessary to hold further discussions with those companies that submitted Final Tenders: namely Covanta and WRG. Bidders that were de-selected or withdrew during earlier stages of the procurement will not be involved. The Council has two solutions on the table that it can explore further without the additional cost and delay of a new procurement process. The Council does not need to restart or abandon the process and it would not be prudent to do so given the environmental, financial and legislative drivers to ensure we get an alternative to landfill at the earliest possible date.

Q26: How much is it going to cost to re-open dialogue? Who will pay for this?

A26. The decision to re-open dialogue will result in an extension to the project timetable, which will clearly carry with it associated costs. These costs will be manageable within the budget already set for the project in the next financial year and subsequent years.

Q27. Where can we find details about the waste project?

A27. The project history is easily accessed on our website. Look up <http://www.buckscc.gov.uk/bcc/waste/timescale.page?>

Q28. What have you done to tell us about this project?

A28. Two years ago we conducted a survey of all residents (Your Waste, Your Choice) regarding their views on waste disposal and we organised a series of workshops with the aim of engaging the community in developing a strategic waste management plan for the county. The results of this work informed the development process thereafter and the headline results were published in the Buckinghamshire Times, the county council magazine which is delivered to all households in the county. Early news releases about the proposals were issued in November 2006 and January 2007 and to local media. Since then, there have been regular articles in the local press and the Buckinghamshire Times giving information about the project, within the constraints of commercial confidentiality. Further news releases announcing short-listed bidders have been issued during 2008. The project, its history and the original Outline Business Case, approved by the Cabinet can all be viewed on our website at <http://www.bucks.gov.uk>.

Waste Management

Q29. How is waste in Buckinghamshire presently managed?

A29. We deal with about 2.5 million tonnes of all waste types every year, with some 24% originating outside Buckinghamshire (mainly commercial and industrial waste). Most of it ends up in landfill. However, our rates of home recycling and composting are good. About 43% of household waste is recycled thanks to increased efforts by householders to sort their waste and to doorstep collections. Of commercial and industrial waste, about 50% is recycled or recovered with most of the remainder being disposed to landfill. Of construction and demolition waste, about 33% is recycled for use in things like restoring mineral workings, landfills, land improvement and engineering works.

Q30. What is the Waste Partnership for Buckinghamshire?

A30. The Waste Partnership for Buckinghamshire consists of the County Council, Aylesbury Vale, Chiltern, South Bucks and Wycombe District Councils working in partnership. The county council disposes of the waste and runs the Household Waste Recycling Centres. The district councils collect the waste and recyclable materials.

Q31. What does the Waste Partnership for Buckinghamshire do?

A31. The Waste Partnership for Buckinghamshire is supported by a Joint Waste Committee which has representation from each council's lead Member for waste and recycling. This committee is founded on a memorandum of understanding which helps the four district councils and the county council in Buckinghamshire to work together to deliver more effective waste collection, recycling, recovery and disposal. Where district and county councils cover the same area (so-called two-tier areas) there is a statutory duty to consult and develop a joint strategy for dealing with household waste. This duty was undertaken by the Waste Partnership and the resulting Waste Strategy then approved by the various councils.

Q32. Don't waste facilities cause smells/flies/rats?

A32. Properly run facilities are usually all enclosed and waste is treated to prevent smells, rats or flies. They are subject to strict monitoring by the Government's Environment Agency. Operators usually provide public helplines to report any problems.

Q33. Are you intending to dispose of waste from other counties too?

A33. Regional planning policy (South East Plan) requires the County to provide for some of London's landfill needs, although this obligation is expected to decline beyond 2016. How they use up spare capacity in any plant is a commercial decision for the operator, but the origins of the waste will be a consideration at the planning application stage.

Waste technology

Q34. Have you decided what waste technology to use?

A34. Cabinet agreed the broad technology group (Energy from Waste) for the project on 15 January 2007, approving a solution to re-use as a fuel any waste left over after we have maximised recycling. The options were researched by leading independent technical and financial advisers. You can find the Cabinet report and decisions at the web link below:
<http://www.buckscc.gov.uk/moderngov/Data/Cabinet/20070115/Agenda/Item09a.pdf>.

Q35. How are you going to pay for this technology? Will it increase my council tax?

A35. We could fund the solution through Prudential Borrowing, this means borrowing money from the Government at a preferential interest rate. A report about this went to Cabinet on 15 January 2007, and the report and decision can be found on our website at
<http://www.buckscc.gov.uk/moderngov/Data/Cabinet/20070115/Agenda/Item09a.pdf>.

The project could also be funded through private enterprise. This issue is not yet finalised as the funding depends on the solutions offered by each bidder. The precise funding arrangements and their structure are among the issues examined in the dialogue that we are holding with the two remaining bidders, Covanta Energy and Waste Recycling Group.

With regard to council tax, you should actually as a result of savings from this project. You will benefit from the Council avoiding high landfill taxes and heavy fines that would otherwise have increased your council tax substantially and could have meant cuts to vital services. We have been at pains to select the most environmentally sound, technically robust and most affordable option when considering treatment technologies. Affordability was weighted highly among our criteria for selection.

Q36. Waste treatment plants cause health problems. Why are you considering building them?

A36. We know people are concerned about emissions particularly and we hope that the following hard facts will reassure you. The 2007 data shows that air pollution from modern incineration is a fraction of one per cent. Industry and traffic account for more than 50%. The latest *National Atmospheric Emissions Inventory* for 2007 shows EfW municipal waste incineration as contributing just 0.2% of dioxins (carcinogens) and 0.02% of particulates to the UK annual emissions for these substances. EfW is therefore a minimal source of such pollutants. Modern flue cleaning technology and strict regulation mean controls are now in place that weren't there for older incinerators.

www.naei.org.uk/emissions. Relevant category for EfW is IA, Ia)

There are around 23 household waste incinerators operating in the UK today. They provide data on emissions which are strictly monitored by the Environment Agency (EA). This information is public and can be viewed on their website. The data show that the plants are safe and well within the requirements.

The Health Protection Agency reviewed the latest scientific evidence on the health effects of modern incinerators and concluded, in their position paper of 3 September 2009, that any potential damage from modern, well-run and regulated incinerators is likely to be so small that it would be un

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Q36 continued

detectable. The Agency's role is to provide expert advice on public health matters to Government, stakeholders and the public. (*The Impact on Health of Emissions to Air from Municipal Waste Incinerators, Sept.2009*)

Concerns about the health of people living near an EfW facility have also been addressed by the UK Committee on Carcinogenicity of Chemicals in Food, Consumer Products & the Environment.

In its March 2000 report, it said: "The Committee is reassured that any potential risk of cancer due to residency (for periods in excess of 10 years) near to municipal solid waste incinerators was exceedingly low and probably not measurable by the most modern epidemiological techniques. The Committee agreed that, at the present time, there was no need for any further epidemiological investigations of cancer incidence near municipal solid waste incinerators."

The Committee reviewed this statement in March 2009 (CoC/09/S2) in the light of more recent research and concluded that there was no need to change their advice from 2000.

Q37. What is the timetable for developing/building an EfW Facility?

A37. Cabinet will be asked to select a preferred bidder by the end of 2010, and the EfW facility should be operational around 2014/15. The timescale and history of the project are published on the BCC website at:

<http://www.buckscc.gov.uk/bcc/waste/timescale.page?>

Q38. If you build an incinerator won't it discourage recycling?

A38. No. The two have been demonstrated in Europe to be complementary. We have a *recycling-led* joint strategy that seeks to recycle at least 45% by 2010/11 and 60% by 2025. We recycle first, then we try to recover more from what is left over. Our policy is to encourage as much recycling as possible and only process the minimum waste left over. Also, by using an Energy from Waste technology, we use what cannot be recycled to produce energy.

Other European countries see good results from having both recycling and thermal treatment, with the main impact being to reduce landfill. (*Eurostat 2006*) For example, in Denmark, they recycle 40%, incinerate 50% with the remaining 10% going to landfill. In Holland, 50% is recycled and 40% goes through an EfW plant so very little ends up in holes in the ground. (*EU Waste management strategy and the importance of biogenic waste. Centre for the Study of Institutions, Population and Environmental change (CIPEC) September 06*)

Q39. How much will the Energy from Waste facility cost?

A39. In respect of the proposed EfW plant, our original business case estimated almost five years ago that the cost of building might be around £96million, with running costs of about £12.6million a year. Selling the electrical power produced back to the National Grid could raise £4.6million a year. However, these figures were only estimates at an early stage of the project, and the realities of planning and building long-term, large projects meant that the cost will be greater by the time building starts. We cannot be specific about how much at this stage because much depends on the global financial situation, UK inflation rates, and the size of the plant in the successful bid, which is up to the bidders to propose using their commercial judgement.

Q40. Isn't the ash from incinerators bad for your health and dangerous?

A40. The waste is burnt under controlled conditions to generate energy and is reduced to ash. A large proportion of this, the bottom ash, can be recycled and used in construction. The other ash, fly ash, is a small proportion but requires controlled landfill as hazardous waste. Fly ash is classified as hazardous because it is very *alkaline*.

Q41. Aren't the emissions from incinerators bad for your health and dangerous?

A41. An EfW plant can only operate with a permit from the Environment Agency (EA) under the Pollution Prevention and Control regulations. It must continuously monitor and report emissions from the plant and the EA has the power to close a plant if it breaches these. EA inspections are both scheduled and unannounced.

The Health Protection Agency reviewed the latest scientific evidence on the health effects of modern incinerators and concluded, in their position paper of 3 September 2009, that any potential damage from modern, well-run and regulated incinerators is likely to be so small that it would be undetectable. The Agency's role is to provide expert advice on public health matters to Government, stakeholders and the public. (*The Impact on Health of Emissions to Air from Municipal Waste Incinerators, Sept.2009*)

EfW waste incineration contributes very little (0.2%) to dioxin emissions and even less (0.02%) to total particulate emissions in the UK annually. These figures are from the National Atmospheric Emissions Inventory for 2007 (NAEI). To put EfW results in context, industry and traffic account for more than 50% of particulate emissions.

(www.naei.org.uk/emissions. Relevant category for EfW is IA ,1a)

Concerns about the health of people living near an EfW facility have also been addressed by the UK Committee on Carcinogenicity of Chemicals in Food, Consumer Products & the Environment. In its March 2000 report, it said: 'The Committee is reassured that any potential risk of cancer due to residency (for periods in excess of 10 years) near to municipal solid waste incinerators was exceedingly low and probably not measurable by the most modern epidemiological techniques. The Committee agreed that, at the present time, there was no need for any further epidemiological investigations of cancer incidence near municipal solid waste incinerators.'

The Committee reviewed this statement in March 2009 (CoC/09/S2) in the light of more recent research and concluded that there was no need to change their advice from 2000.

World Health Organisation adviser, Dieter Schrenk is Professor of Toxicology at the University of Kaiserslautern, Germany. He critically reviewed* many peer-reviewed studies and two others by the British Society of Ecological Medicine and Greenpeace on the issue of exposure, health effects and municipal waste incinerators in 2006. He concluded: 'In summary, modern municipal waste incinerators can be regarded as safe facilities which have an imperceptible impact on the environmental and health situation in their neighbourhood.'

(*Schrenk, D. *Health Effects of Municipal Waste Incinerators—a Literature Survey, June 2006.*)

Q42. Isn't incineration going to increase greenhouse gases?

A42. No. EfW replaces energy from dirtier, fossil fuels and reduces our dependence on landfill, thereby cutting methane (CH₄) emissions from

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Q42 continued

landfill and carbon dioxide (CO₂) emissions from conventional energy generation. Currently 70% of the UK's electricity is generated by burning fossil fuels (DECC). In the UK, landfill accounts for 41% of methane, which is 23 stronger as a greenhouse gas than CO₂. (*Environment Agency/DEFRA*).

Both conventional power stations and EfW facilities generate carbon dioxide emissions in the production of power. However, EfW facilities result in a lower overall greenhouse gas impact than conventional coal and gas power stations. A typical EfW plant will produce 220gm of CO₂ per Kwh of energy generated, whereas gas-fired power stations produce roughly twice this amount (400gm) and coal-fired stations four times (950gms) this amount (*RPS TPD 0.3*). The EfW impact is also lower because, when considering the carbon footprint of different energy-generating technologies, it is appropriate to consider only the emissions which relate to 'fossil carbon'.

Carbon dioxide emissions associated with biogenic carbon are not considered to increase atmospheric CO₂ concentrations. Much of the combustible part of waste is biogenic, short-cycle carbon (e.g. the paper and food content). It is the emissions associated with this component which are not considered to contribute to overall greenhouse gas emissions. This is the approach used by the Inter-governmental Panel on Climate Change (IPCC) and the Environment Agency. They state: '*The CO₂ emissions from biomass sources—including the CO₂ in landfill gas, the CO₂ from composting and CO₂ from incineration of waste biomass are not taken into account in GHG inventories as these are covered by changes in biomass stocks in the land-use and forestry sectors.'

EfW therefore emits less greenhouse gas than burning fossil fuels and it also cuts methane by reducing landfill.

(*). *Bogner et al "Waste Management in Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change" [Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.]*

Q43. I've heard plasma gasification is better. Why can't Bucks have that technology?

A43. Plasma gasification is a thermal process too, like EfW, and it still leaves gas cleaning residues to be dealt with. Unlike EfW, the technology is in its infancy, meaning no reliable, long-term operational information is available on which to base sound decisions. That means it is riskier at this stage. This lack of information hindered even Friends of the Earth from analysing its CO₂ emissions in their 2006 report (*Dirty Truths, Incineration and Climate Change, May 2006*) stating: "This is new technology and it is too early to comment on its performance."

A recent independent worldwide review of plasma gasification plants* identified that just one company had technology proven commercially for handling the complex mix of municipal solid waste but that there had been 'significant technical, operational and environmental issues making it a cause for concern'. A further seven companies had only pilot or demonstration projects, typically in time-limited trials, while another 12 only had process concepts for which very limited data are available. Pilot plants don't help us identify if the technology can be scaled up to accommodate realistic mixed waste loads and that won't be known until a full-size commercial plant has been in operation for some time.

*(*Juniper Ratings Report, updated March 2009*)

Q44. How will you come up with a capacity for the plant?

A44. Briefly, we have examined nine scenarios with variables regarding waste composition and amounts. This was done due to uncertainty about the level of waste growth long-term and future changes in waste composition. The scenarios were refined from nine to four ranging from the best to the worst case. We ultimately chose one of the middle options, based on projections from council data.

These waste figures have then been reviewed and adjusted regularly during the procurement process to ensure they are based on the most up-to-date information we have. Ultimately, it will be up to the companies bidding for the project to define the capacity of the facilities that they propose.

Q45. Can the waste products from the proposed facility escape?

A45. The systems for managing solid residues from Energy from Waste facilities are sealed and contained. The disposal of all residues is controlled and safe. The waste is burnt under controlled conditions to generate energy and is reduced to ash, which amounts to roughly 30% of the original tonnage. A large proportion of this, the bottom ash (about 25%), can be recycled and used as construction aggregate. The other ash, fly ash (about 3-5%), requires controlled landfill as hazardous waste because it is very alkaline. It is worth noting that all waste treatment processes produce residues, some in very significant quantities. These must be processed or treated. Some residues are more difficult to process than others and some rely on difficult-to-negotiate contracts to create a complete solution.

Q46. How are harmful substances in chimney emissions captured and to what extent?

A46. The two primary solid residues produced by municipal waste thermal treatment are:
incinerator bottom ash (a combination of grate ash and boiler ash);
and fly ash, lime and carbon, together known as air pollution control residues (APC).

The ash residues are captured using various processes, and different types of Energy from Waste technologies have different designs to clean the flue gas. Most use dry removal systems. All EfW technologies are subject to maximum emission limits (regulated under the EU Waste Incineration Directive or WID) to protect the environment and human health.

The emission limits and monitoring requirements for EfW plants are very strict compared to other combustion activities. For instance, the limits are significantly more stringent than those for coal-fired power stations. There are controls in place to ensure that emissions are within permitted limits.

Bottom ash is the ash that left at the bottom of the incinerator and mainly consists of heavy inert materials which don't burn such as glass, rubble, metals etc, The hot gases produced from the boiler, which raises steam for energy generation, contain fine particles of ash. These gases are treated and removed before being emitted through the chimney. Within this system, the gases are cleaned by adding lime to neutralize any excess acid. Carbon is then added to remove dioxins and heavy metals and, lastly, the fine particles, together with the carbon and lime, are removed by high efficiency filters.

In a paper by Lind et al (*Elsevier's Fuel Processing Technology 2007*) researchers

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Q46 continued

compared fine particulate and trace element emissions from waste combustion in a fluidised bed and grate firing plants. They found particle and trace element emissions were very low from both and that filter particle collection efficiency was 99.99% by mass at both plants.

A combined Swiss and German paper* concluded: 'According to our measurements, we can state that waste incineration plants with up-to-date flue gas cleaning systems are not a relevant source for the emission of ultrafine particles into the environment.' *(Zurcher et al, Malmo, Sweden, Oct. 2001)

The small amount of Air Pollution Control (APC) residue left over as a fine ash after filtration must be collected and stored in an enclosed system to ensure that there can be no escape of the material to the local environment. It is then transported in enclosed containers to specially contained cells on landfill sites to prevent leaching.

Q47. How are the bottom ash, fly ash, effluent water and filter cake disposed of?

A47. The systems for managing solid residues from EfW are sealed and contained. Their disposal is controlled and safe. Bottom ash is the ash that is left at the bottom of the incinerator and mainly consists of heavy inert materials which don't burn such as glass, rubble, metals etc. Bottom ash is classified as non-hazardous waste. The recycling of this type of ash from Energy from Waste plants is becoming more common. Bottom ash is commonly reused as an aggregate or reprocessed into construction products.

Fly ash (also known as Air Pollution Control or APC) residues represents about 3-5% of waste input. Fly ash can contain substances that would classify it as hazardous waste but not always. If hazardous, it may be possible to treat that fraction of the material to reduce its classification but it is dependent on what exactly is produced.

It should be noted that EA Technical Guidance considers the potential classification of the APC as hazardous not due to the toxicity of the material but based on its high pH (the material is alkaline). This alkalinity is characteristic of a number of commonly used materials in the construction industry such as cement, concrete and of natural materials such as lime.

If APC is classified as hazardous waste, its storage, transport and disposal are regulated by the hazardous waste regulations and duty of care regulations.

These regulations make waste producers responsible for ensuring they only pass waste to an authorized person, providing enough information to enable the waste to be properly managed by others and preventing its illegal management. The waste can only be transported by registered waste carriers and the movement of such waste must be notified to the EA. It must be deposited in special hazardous waste sites.

Q48. How are any toxins in the fly and bottom ashes to be prevented from leaching out into the sub-soil?

A48. A full Environmental Statement is required as part of the planning process for a new waste treatment facility. This statement must provide

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Q48 continued

Q49. How noisy is the EfW process, bearing in mind that it is likely to be operating 24 hours a day?

Q50. How can you decide proposals for incinerator sites when the Minerals and Waste Core Strategy Development Plan Document (DPD) has not been publicly examined by the Government's inspector yet?

Q51. I read in the UK Air Quality Strategy that PM 2.5 particles (very tiny particles) increased mortality and caused adverse effects on human health? (*Air Quality Strategy 2007, Volume 1, page 16*)

details on how the facility will operate including air pollution control and the management of any by-products, their storage, transport and final disposal. In short, all infrastructure provided to ensure prevention and control of pollution from the facility will have to comply with strict regulations. The management of hazardous landfill is a highly technical subject and details can be found on the Environment Agency website.

A49. As with any development activity, noise will be a key consideration in considering any planning application that might be submitted. The potential effects of any proposed facility on existing and future noise levels would be assessed in detail as part of an Environmental Impact Assessment.

Any requirements to limit noise and operations from a facility will be dealt with by planning conditions, should such an application be approved. Such requirements may limit specific operations at certain times and certain days, and ensure the facility has appropriate noise attenuation built into the design.

Before operations start, a facility must have a Pollution Prevention & Control (PPC) Permit which deals with operational issues too. Before the Environment Agency issues a PPC Permit, they ensure that:

The environment and human health are protected.
It is designed and operated to meet stringent controls;
Design and maintenance standards will prevent or minimise pollution, can be implemented effectively and
be economically and technically viable and as good as or better than European standards.

All residues and the impact of them are kept to a minimum and recycled where possible.

A50. The process of selecting the final bidder for the EfW project is independent of the strategic planning process to which you refer. Bidders will propose sites as part of their bids, but a detailed planning application by the successful bidder will still need to be submitted to the relevant planning authority before planning permission can be granted for developing any potential site.

A51. According to the National Atmospheric Emissions Inventory 2007, EfW municipal waste incineration produces just 0.02% of the UK's particulate emissions annually. In contrast, industry and traffic produces 50% of particulates. All EfW plants are subject to maximum emission limits (regulated under the EU Waste Incineration Directive [WID]) to protect the environment and human health. The emission limits and monitoring requirements for EfW are very strict compared to other combustion activities. For instance, the limits for EfW are significantly more stringent than those for coal-fired power stations. There are controls in place to ensure that emissions are within these permitted limits.

Q52. My child has asthma. Isn't this going to make that condition a lot worse?

A52. Several studies have been done in this area and six of them were reviewed by the University of Birmingham and the Enviro technical consultancy for DEFRA. They found that the studies produced little evidence to conclude that incinerations caused an excess in respiratory disease, despite the studies being related to emissions long ago when controls were far less stringent. Since then, new regulations under the Waste Incineration Directive have reduced waste incineration emissions by 99%. (CIWM)

Q53. I've seen a report online about incinerators which doesn't agree with what you say about health impact. How do you answer that?

A53. We do know about this report. You may not be aware that the Health Protection Agency (HPA), Chemical Hazards and Poisons Division, commented as follows on the report: "The BSEM report is not a systematic review of the literature and there is no critical assessment of the quality of the included studies. Consequently, the report represents a selective and limited use of the scientific literature." They concluded: "The HPA maintains its position that contemporary and effectively managed and regulated waste incineration processes contribute little to the concentrations of monitored health pollutants in ambient air and that the emissions from such plants have little effect on health." The Health Protection Agency reviewed the latest scientific evidence on the health effects of modern incinerators and concluded, in their position paper of 3 September 2009, that any potential damage from modern, well-run and regulated incinerators is likely to be so small that it would be undetectable. <http://www.hpa.org.uk/HPA/ProductsServices/ChemicalsPoisons/Environment/1267452220567/>

Q54. You keep quoting how successful EfW is compared to other technologies. I'd like to know more about these successful sites.

A54. Europe is far ahead of us in producing energy from waste. There are 23 EfW sites currently in the UK. In 2005, there were 418 EfW plants operating in 18 other European countries, 79 in Scandinavia alone.

These sites process around 58.5 million tones of waste a year. They generate enough energy to supply about seven million households with electricity and 13.4 million households with heat each year. To provide the equivalent energy from conventional power generators would mean that between six to 32 million tones of fossil fuels (gas, oil, hard coal and lignite) would have to be used. (CEWEP)

The German Environmental Ministry stated in 2005 that: 'Without incineration plants, there would be more toxicants in the air.' (*German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (2005). Waste Incineration – A Potential Danger? Bidding Farewell to Dioxin Spouting.* Visit: <http://www.cewep.com/home/news/index.html>

for more information about European sites. Here are a few reference sites in the UK to consider:

<http://www.integra.org.uk/>

<http://www.kentenviropower.co.uk/>

<http://www.veoliaenvironmentalservices.co.uk/sheffield/pages/theprocess.asp>

Q55. Which sites did the council visit as reference sites?

A55. The council visited various sites as part of its investigation into the most suitable treatment facilities for the county. These visits covered mechanical biological treatment, gasification, anaerobic digestion, in-vessel composting and Energy from Waste (EfW) facilities. In particular, for EfW, the council visited Marchwood in Hampshire, Tyseley, Birmingham, New

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Q55 continued

Q56. Why are you proposing one large plant as opposed to several smaller ones in various locations, which would lessen the impact on one area?

Lincs, Grimsby and Chineham, Basingstoke. For more information about UK sites and case studies about a range of waste treatment technologies and their implementation, please visit the DEFRA New Technologies site at

<http://www.defra.gov.uk/environment/waste/residual/newtech/index.htm>

A56. The project Business Case considered this issue. For EfW facilities, economies of scale have a significant effect on cost and it isn't a simple calculation. This is due to the relative cost of the extensive emissions control system, which accounts for some 40% of the build costs and which, for a larger plant, becomes a smaller proportion of the overall cost.

Landfill allowances are also part of the equation. The modelled business case showed an overriding economic argument for a single plant, estimating that (at net present cost) a smaller plant, using landfill for the leftover waste, would cost £72 million more. (*Figure 27, page 51 of the Outline Business Case*)

<http://www.buckscc.gov.uk/moderngov/Data/Cabinet/20070115/Agenda/Item09a.pdf>.

As reported in the Business Case, a single site serving the whole county could involve more 'waste miles' in taking waste to the site. To balance this, there are options to be considered including optimising collection routes in partnership with the Waste Collection authorities, as well as reducing any impact by using waste transfer stations.

Recycling and Composting

Q57. You should be educating people to recycle more. What are you doing?

A57. We have one of the most active waste education campaigns in the country. This includes a county-wide schools education programme, a home composting and Master Composter scheme, a Recycle for Buckinghamshire campaign, a real nappy campaign, and we are helping the district councils with money to increase the amount of food and garden waste they collect to be turned into compost. We also have some 400 publicly accessible 'bring sites' (bottle, can, paper banks etc) around the county and nine household waste recycling centres. And of course, we hope you recycle as much as you can. Currently, around 40% of Buckinghamshire waste is recycled and we aim to reach 45% by 2010/11 and 55% by 2020/21.

Q58. Why don't we just recycle everything and go for zero waste?

A58. Not everything can be recycled and still less can it be recycled economically. Some judgement is needed. There is a balance between recycling materials and the energy and costs it takes to do this. For example, plastic is made of oil, which also fuels the collection trucks used to take it for recycling. This has an environmental cost.

Recycling relies on selling the separately collected material to make new goods. There is not always a market for things that can be recycled and if there is, materials may have to be transported long distances for recycling. If there is no market, there is no point in collecting them, hence the need for balanced judgement.

Q59. Why should I have to sort out all this recycling? That's what I'm paying you for.

A59. If we have to invest in machines to separate waste it is likely to cost you, the council taxpayer, more. Separating our recycled waste properly ensures it is of sufficiently high quality to get a good price in the market. A telephone survey of 500 residents in the county in February 2006 showed that 85% agree it is very important to recycle household rubbish; 77% said they recycle even if it requires extra effort; and 91% said recycling is becoming part of their every day life. So, non-recyclers seem to be in the minority.

Q60 Why don't you make manufacturers cut down their packaging?

A60. We don't have the direct power to do that. However we would definitely support any national campaign to do so. We do what we can to remind businesses to follow packaging guidelines, to be responsible with their own waste by recycling it where possible, and to make sure they use registered waste carriers who will not fly-tip.

We fully support WRAP (Waste Resource Action Programme) which recently had an agreement signed by 13 top retailers. This is called the Courtauld Commitment. In it, the retailers pledge to deliver reductions in packaging by 2010 and also to identify ways to tackle food waste. WRAP engages constructively with leading retailers, brand owners and their supply chain to identify collaborative approaches towards reducing the amount of food and packaging waste that ends up in the household bin.

All Trading Standards in the county can prosecute for excess packaging under existing law – the Packing (Essential Requirements) Regulations 2003.

Q61. Doesn't recycling cause more environmental harm than good?

A61. Government-funded WRAP (Waste Resources Action Programme) commissioned the most comprehensive assessment ever undertaken on

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Q61. continued

this subject. This looked at the environmental impacts of recycling compared to other disposal methods for seven of the most commonly recycled materials. The results clearly showed that recycling offers more environmental benefits than other options. According to WRAP, the greenhouse gas savings associated with recycling are clear and positive. The UK's current recycling rate saves between 10 and 15 million tonnes of CO₂ emissions a year compared to not recycling, the equivalent of taking 3.5 million cars off UK roads.

Q62. Doesn't recycling just end up in holes in China or elsewhere?

A62. Everything collected in Buckinghamshire goes to UK recycling companies. However, recycled plastics are regularly bought in the UK and elsewhere for export to China. China is now a major manufacturer of plastic items. Therefore, if we want recycled plastics to be used again, it is inevitable that at least a proportion of our waste plastics will be exported to China to be reused. A tonne of plastic bottles for recycling can fetch around £200 so it would make no economic sense to ship it half the way round the world to then simply dump it.

Q63. Why do you only collect my waste every two weeks? It causes problems with rats, maggots and smells.

A63. Your district council is responsible for collecting your waste. It decides how it will do this in partnership with other districts and the county council through the Waste Partnership for Buckinghamshire. The county council is responsible for disposing of it after that. If you have a problem with your waste collection you should contact your district council directly.

There are three main reasons for district councils collecting kitchen and garden waste every two weeks and this is now becoming common practice in Britain and Europe. The first is that it reduces the number of waste collection vehicles making journeys and thus contributing to CO₂ emissions. Secondly, it reduces costs to the council taxpayer. Thirdly, alternate weekly collections mean that residents simply throw less away. The fact is that if the public are not willing to work with these collections, we will have to build bigger facilities to deal with waste that is leftover.

An independent survey of Wycombe residents using the alternate system found that there were no health impacts from using this system and where there were problems with maggots and smells, it was down to poor hygiene or food being left out overnight. This report can be seen on the DEFRA website.

Q64. Why don't you compel people to recycle 100% and fine them when they don't?

A64. We don't have that sort of power. However, we hope to achieve 60% recycling and composting by 2025. Our whole waste strategy is recycling-led.

We all need to work with the 3Rs – reuse, recycle, recover. As part of this social commitment, the council is seeking to provide a balanced approach without too much regulation. We'd rather encourage people to take part and we can all affect this by changing our habits at home and at work right now.

Q65. The Council is asking me to reduce, reuse, recycle, what is it doing about all this?

A65. We have facilities so that staff can recycle foil, cans, paper, plastic, card and toner cartridges. We are also running a personal awareness campaign to reduce energy use and link that in with our travel choice campaign, which encourages staff to use alternatives to the car for getting

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Q65. continued

to work. We encourage staff to print double-sided and to recycle paper wherever possible. We also aim to reduce our fuel consumption and therefore our carbon emissions, and have an interest-free loan scheme for parish/town councils so they can do the same. We also plan to change our practices for lease or loan cars to encourage people to choose vehicles which cut back on CO₂ emissions.

Q66. What is the Council doing about global warming/climate change?

A66. Buckinghamshire Strategic Partnership, of which the county council is part, has developed a Climate Change action plan which all partners can adopt. It identifies actions to tackle the causes of climate change and to adapt to its effects. We have also undertaken a Local Climate Impacts profile (LCLIP), with Aylesbury Vale District Council. This used historical evidence to determine the impact of extreme weather on local services, which will help prepare us for a changing climate.

We have also signed up to the Carbon Trust's Carbon Management Programme to help tackle the causes and effects of changing climate. We've taken practical actions to reduce carbon emissions include the installation of solar panels on County Hall, purchasing 'green' electricity, a wood-burning boiler at Shortenills education centre, and the installation of wind turbines at a number of schools.

Q67. What about recycling Tetra Paks[™]? Aren't they difficult to dispose of?

A67. Currently Tetra Paks[™] represent 0.6% of Buckinghamshire's household waste composition. Therefore, our management focus is on collecting, recycling and composting food and garden waste, which represents over 40% of our waste. While we are always seeking to enhance our recycling service, the provision of Tetra Pak[™] recycling does not form part of our current agreed action plan. However, we will keep these matters under review in the light of changing circumstances. For further information about Tetra Pak[™] recycling visit <http://www.tetrapakrecycling.co.uk/>.