

Material Resources Strategy

Outputs from Workshop 5

Material Resources Strategy (MRS) Workshop 5 was held on 23rd September 2004 at the Guildhall in Winchester and was an all day event. There was also be an abridged version of the daytime event held in the evening of the same day in the Conference Room at Hampshire County Council's offices. The turnout was again excellent, with 121 stakeholders participating between the two events.

The purpose of Workshop 5 was to provide information on the overall picture for waste and resources in Hampshire. Feedback was also provided on the work of the individual process chain and resources stream working groups, including the outcomes of the appraisals for identifying the preferred recycling 'solution' for Hampshire.

Specifically, it was an opportunity for stakeholders to discuss and give us your views on the following issues:

- The preferred option for recycling and the process chain issues in Hampshire and how this can be achieved;
- Technologies for dealing with unavoidable waste; and
- Minerals supply in Hampshire.

The record of the discussions has been transcribed below.

Discussion Session 1:

To consider the extent to which the Stretching Best Practice recycling / recovery option is achievable for each resource stream and the process chain

The Process Chain

Comments on the information presented on the process chain in Hampshire

- The information presented was extremely thorough and detailed. There was a lot to comprehend.
- Needed to analyse quantity of returns (if not already done so).
- Hampshire needs to adopt a pioneering approach - do not ask if "we feel comfortable".
- Miscellaneous waste: this was too large an element not to know what it was - a better waste analysis was needed. Although it may be made up of small, non-recyclable, possibly contaminated material, better information was required in case we were missing a waste stream.
- European figures: It would be a good idea to compare figures to other European countries.

- Stretching best practice: do the figures reflect the process chain elements?

Implications of the “big picture” for the stretching best practice scenario for the process chain (is it ambitious enough, too ambitious or about right?)

- It was very tough - business was not interested - may therefore be impossible to achieve. Requires a major culture change.
- Project Integra have set themselves a 50% recycling target in a shorter time period. However this was just for household waste.
- The worst case was waste growth at 3% which was not reflected in the figures. Process chain figures were also not there.

Do we therefore need to adjust the stretching best practice scenario percentages for the process chain and if so to what?

- There was general agreement that the figures were acceptable (although it was acknowledged that it was a tough target).
- However, how far did we need to create demand? Should go for the stretching best practice target? What about not reaching the target?

Agricultural Waste & Wood

Comments on the information presented on the waste/resource arisings of agricultural waste & wood for Hampshire

- Information in the paper was considered to be very comprehensive.

Implications of the ‘big picture’ for the stretching best practice scenario for agricultural waste & wood (is it ambitious enough, too ambitious or about right?)

- Animal waste covered already.
- Common Agricultural Policy (CAP) review now covers waste and waste treatment.
- Problems - asbestos waste, plastic (fertiliser bags), tractor tyres.
- Chemical containers expensive.
- Plenty of land for disposal.
- Economic barriers to marketing things like straw for insulation.
- Wood (household) seems under-recycled. Farmland could be used to achieve greater wood recycling.
- Issue of technology for burning wood safely.

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual agricultural waste & wood and if so to what?

- Stretching best practice was considered achievable for agricultural waste and wood. Generally easy to reach 50% -the problem would be sustaining it.

Bio-Waste

Comments on the information presented on the waste/resource arisings of bio-waste for Hampshire

- What is in the miscellaneous waste - how was number arrived at?
- Data should be put on the website - more transparency.

Implications for the 'big picture' of the stretching best practice scenario for Bio-Waste (is it ambitious enough, too ambitious or about right?)

- Definitely possible; targets about right.
- Collection easy, there were no practical problems. Many exit routes already exist e.g. pig farms. The main issue relates to quality control.
- Composting at home was considered to be the best option for green waste but this would reduce % recycling for the council.

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual Bio-Waste and if so to what?

- Agree with %s but if arisings were reduced at source (e.g. home composting) the % collected will have a different composition and less of it may be recyclable. If 100% green waste was recycled at source, then would not reach target.
- Target for food waste was too low. Aim should be to recycle 60% (but was this realistic?).

Construction & Demolition Waste

Comments on the information presented on the waste/resource arisings of Construction & Demolition waste for Hampshire

- Need for sites and further investment.
- Stream needs to be separated into construction, demolition and excavation waste.
- Recycled aggregate not included in the paper.
- Suggestion for survey on Hampshire border as a high % of material was being recycled in other counties. There was no measure for non-regulated sites.
- Need to know more about how the figures had been arrived.
- Was there much in the way of blue sky thinking about measures that could be influential e.g. carbon balance?
- Problems with figures for miscellaneous waste and definition of construction and demolition waste.

Implications of the 'big picture' for the stretching best practice scenario for Construction & Demolition waste (is it ambitious enough, too ambitious or about right?)

- Different views expressed, which comprised:

- Achievable with incentives, about right.
- The scenario should be more ambitious (however if facilities were designed for a high % which were not achieved, that would result in 'empty space' and cost implications).
- Central government could take a stance on landfill tax for recycled aggregate that was being landfilled i.e. provide a financial driver to encourage more re-use and recycling.
- The Environment Agency needed to review its policy on inert waste.
- Maximise recycling within the waste stream - needed more information on the composition of the waste stream.
- Need to plan for the target, although it should be borne in mind that a strategy of aim high and achieve less would be ineffective as it would lead to blight & over-provision.
- Need more information about the miscellaneous waste category.

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual Construction & Demolition waste and if so to what?

- Need to address the question about Hampshire facilities that were able to deal with recovered products (aggregates/minerals).
- Need to develop policies that make it mandatory (if possible) for existing aggregates/materials on a brownfield site to be re-used in redevelopment.
- Construction & demolition waste was separate from excavation waste - there should thus be two targets.

Revised stretching best practice option for Construction & Demolition waste

- 50% considered appropriate for Construction & demolition waste.

ELV (End of Life Vehicles) & Metals

Comments on the information presented on the waste/resource arisings of ELV & metals for Hampshire

- All advice and help from local government focuses on household waste, which is only 20% of the total waste in Hampshire.
- There was no breakdown of household versus commercial in the specific waste stream figures.
- Question mark over 5.3 million tonnes arisings figure - it could well be far less.
- Much more research was required into what the commercial sector was doing. Legislation was also required to ensure that waste companies have to produce waste figures.

- ISO 14001 forces companies to manage their environmental aspects and ensures they recycle reuse and reduce.

Implications of the big picture for the stretching best practice scenario for ELV & metals (is it ambitious enough, too ambitious or about right?)

- ELV best practice should be 95% and pushed by legislation. The current figure was wrong.
- 95% was about as good as can be achieved but there were areas that could be focused on now to improve figures e.g. shredder waste.
- Economic barriers to many of the options.
- Metals: separate kerbside collections were required to reduce the amount of metal in bins. Plastic was the prime residue from metals - incineration was the best option to achieve 90% recycling as it means that all metals can be collected at the front or rear end.

Do we therefore need to adjust the stretching best practice scenario percentages for ELVs & metals and if so to what?

- ELVs: 95% from 85% for “stretching best practice” and 78% from 75% for “business as usual”.
- Metals: 95% from 90% for “stretching best practice”.

Glass

Comments on the information presented on the waste/resource arisings of glass for Hampshire

- It was easy to collect glass on kerbside but the weight of glass means that there were problems taking glass to banks.
- Need to separate glass to give it greater value. Green glass has little value - can be used as aggregate substitute though.
- Trials of kerbside mixed glass collection have had little effect on bottle banks i.e. they draw out little new glass.
- Glass issue is about the cost of collection (significant issue for authorities involved) rather than about facilities.
- Need improved recycling facilities and incentives to encourage people to recycle more.
- Need to know more about how the figures had been arrived at.

Implications of the ‘big picture’ for the stretching best practice scenario for glass (is it ambitious enough, too ambitious or about right?)

- 80% stretching best practice would be achievable if the right facilities were available.
- Kerbside collection would give increased levels of collection.

- Need to set a target though, which should be 80%.
- Issue of too many recycling collection boxes on the street - will it begin to look untidy, cluttering up the pavements?
- Could be more than 80%, but it may not be realistic.
- Need more information about the miscellaneous category.

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual glass and if so to what?

- 80% realistic and achievable for glass.
- Critical point is providing collection proven method.

Hazardous/Chemical Waste

Comments on the information presented on the waste/resource arisings of Hazardous/Chemical waste for Hampshire

- Technologies exist but lack support to take them forward from DEFRA, Environment Agency etc.
- Do the figures for hazardous waste include packaging/pallets? Could be an overestimation of arisings.
- Tracking system is currently very stringent and should not be more so. The new system under the Hazardous Waste Regulations would potentially be less stringent.

Implications of the 'big picture' for the stretching best practice scenario for hazardous/chemical waste (is it ambitious enough, too ambitious or about right?)

- Targets are not ambitious enough - with source separation and emerging technologies could be pushed up to 60% (although it was noted that 60% was ambitious considering that materials were very difficult to recycle).

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual Hazardous/Chemical waste and if so to what?

- There were some hazardous waste materials that could only be treated/disposed of in a certain way, i.e. asbestos.
- There was already a lot of hazardous waste capacity in Hampshire but would it be there in the future?
- 43% was achievable (especially considering cost of source segregation to business). Could stretch beyond 43% but issues regarding pulling this out of waste stream. A 43% target was thus considered more reasonable.
- Segregation at source was the key and new technologies would help to achieve the stretching best practice option.

Paper & Card

Comments on the information presented on the waste/resource arisings of paper & card for Hampshire

- Concern about what makes up the 19% of miscellaneous waste.
- Concern about whether Hampshire should be seen as sink for others' waste.
- Access to recycling collections for small and medium businesses (SMEs), problems of economics, particularly with reference to paper and card.
- Table 1 in stakeholder handout 1 - tonnages will have increased by 2020, this was not shown.
- Packaging waste - weights were decreasing with smarter technology

Implications of the 'big picture' for the stretching best practice scenario for paper & card (is it ambitious enough, too ambitious or about right?)

- 60% possible with alternate weekly collections for domestic waste but domestic was only 20% of waste composition.
- Health & safety and storage problems.
- Change in legislation may be required, maybe MRS could influence this.

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual paper & card and if so to what?

- 60% was broadly achievable, although how this figure was arrived at seems uncertain. Could we do more?
- Harder to achieve for commercial waste, may be too ambitious (key issues relate to capture and storage).

Plastics

Comments on the information presented on the waste/resource arisings of plastics for Hampshire

- Plastics were growing as a proportion of the overall waste stream.
- It was good that the MRS process acknowledged that plastics were different (polymer classification important). However there could be more detail in the paper on types of plastics.
- Regional facilities required for different plastics types.
- Plastics should be regarded as a resource (e.g. oil).
- Agree strongly that additional sorting capacity for more types of plastic was necessary, (in order to recover high value). Sorting methods - the technology existed to sort plastics/polymer types.
- Public perception was that only certain types of plastics are recyclable.

Implications of the 'big picture' for the stretching best practice scenario for plastics (is it ambitious enough, too ambitious or about right?)

- The figures were not ambitious enough (12% - 40%).
- More resources were need to be put into recovery and sorting in order to deliver. Suggestion was that this should be delivered by the household.
- Suggestion that more information was needed for the general public on what plastics are comprised of.
- Needed to look at collection, sorting and processing outside Hampshire (i.e. not just recycling). If we require increased collection we needed to be clear about where recycling can happen.

Revised stretching best practice option for percentages for recycled and residual plastics

- 50% - 60% recycling.
- All plastics were high value materials so it was therefore possible to have a higher target.
- Difficult to judge in a short amount of time what a good target would be. More information was required.
- The recycling target should be compared to the position in other countries in Europe.
- Oil prices impact on the economics of plastics collection & separation.
- Potential for segregating the highest value plastics and revising the target up in areas of highest value.
- Needed to look at best practice for processing.

WEEE (Waste Electrical and Electronic Equipment) & Textiles**Comments on the information presented on the waste/resource arisings of WEEE and textiles for Hampshire**

- Zero waste was impossible to achieve.
- Overall recycling target of 50% for stretching best practice was considered low. However it was also considered difficult to achieve a higher recycling rate.
- What about research on best practice in other countries?
- Was there enough demand for all the recyclables?
- Sustainable purchasing was considered to be a key issue.
- Waste reduction message was a very important one.
- Quality of material for reprocessing - people were nervous about buying recycled products - education was necessary about the quality of recycled products.

Do we therefore need to adjust the stretching best practice scenario percentages for recycled and residual WEEE and textiles and if so to what?

- Recycling was not convenient enough.
- Commercial sector waste was important. Domestic waste was only a small proportion and often not good quality.
- Do we need champions?
- Children's education - sustainability is in curriculum now.
- Need to normalise people's behaviour, possibly through legislation.

Revised stretching best practice option for WEEE and textiles

- No change to the existing options.

Group Work 2: ***Action planning for each resource stream and the process chain based on the amended stretching best practice scenario***

The Process Chain

The model and the role of Natural Resources Initiative in the delivery of this model

- The role of the Minerals and Waste Development Framework in the process chain work and getting strategy into policy was key.
- Needed to highlight more legislative changes as these would have a big impact. This comes under influencing government but also impacts other sectors.
- Good mix of legislative and societal change.
- Involve and build support from current networks.
- Evaluation of existing capacity/facilities.
- Health and safety issues - conflicts with packaging reduction requirements.
- Influence design in other countries.
- Need to engage businesses - make factories deal with residuals.
- Business creation - new products.

Views on the list of opportunities

- Add to list:
 - Packaging legislation - was this good enough? Should the process chain tackle this issue too?
 - Government legislation/policy impacts in relation to planning and reuse of land.
 - Normalising of recycled products - they have to be cost effective.

Moving forward

- Need a greater understanding of why products are chosen.
- How do we get business to change? We should highlight our activities to businesses so that they change their attitudes.
- Understand limits of what we can achieve in Hants and how we can link to existing larger initiatives.
- Need legislation.
- Education - promote home composting.

- Campaign - incentives, best practice promotion.
- Healthy living - reduce packaging.
- Map what is already going on and pool resources.
- Provide additional benefits.
- Start with children and mums.
- Focus on source of waste.
- Decouple environmental impact from appearance.

What can you contribute to helping deliver this?

- Raise awareness of technology through exhibition/website.
- Hampshire County Council procurement pressure.

What are your priorities in terms of the opportunities?

- Hampshire County Council to set an example.
- Sell on environmental/sustainability issues from producers.
- Need to normalise more sustainable products.
- Education - changing children's buying and recycling habits.
- Local government procurement - authorities need to have a sustainable procurement policy.
- Speak to big producers - commercial waste was the key.
- Speak to small and medium businesses (SMEs) and encourage them, provide financial benefits.
- Community sector - people don't have the time.

Who should be involved in delivering this?

- Hampshire Strategic Partnership
- Environment Agency
- Residents' Associations
- Medici
- Network of British Industry
- Green investors network
- Institute of Directors
- SEEDA

- Big business and SMEs
- Retailers and manufacturers

Agricultural Waste

- Farm Management Plans will have a role to play.
- Better to deal with fallen stock on farm, but not possible due to regulations - must be collected under fallen stock scheme.
- Paper and card might be used for combined heat and power (CHP) on farm rather than disposed of or recycled through conventional routes.

Bio-Waste

Producers

- Identify where commercial/industrial portion is coming from and develop collection infrastructure.
- Develop healthy living projects, these are proven to reduce residual food waste (e.g. West Sussex Health Living Project). Encourage more local projects.
- Putting producer responsibility onto supermarkets (link to packaging ?)

Technology

- Maximise use of low technology, low cost, low impact option of home recycling to take green and food waste out of the arisings figure.
- If everything is co-collected can you still use it at green waste facilities?
- See whole process - integrate transport, process technology and existing locations (e.g. sewage works).
- Need to think about processing and develop the most appropriate collection infrastructure to work with that. Needs to be developed in an integrated way - involve contractors who are currently involved in collection.
- Create incentives for waste contractors to be proactive in recycling (existing contracts may not encourage this).
- More data collection.

Consumers

- Life cycle analysis (LCA) structure to establish what is best practice for each specific area e.g. different schemes may be better for different types of areas (e.g. small rural communities, airports, docks).
- Importance of getting householders on board (education and awareness).
- Identify markets and shift regulatory blockages (sewage, water, electricity, planning, soil protection strategy).

- Little support for waste disposal units - lot of potential issues.
- Key players are the Waste Disposal Authorities, waste industry and water companies.

Construction, Demolition & Excavation Waste

- Larger strategic facilities required.
- Separate larger and smaller waste (strip-waste).
- Exploit ex-landfill sites (as brownfield).
- Survey of existing facilities and cross border flows.
- Engage on demolition sites - zero net export approach.
- Promote on-site recycling.
- Encourage use of recycled materials in building requirements.
- Work on specifications.
- Work with local authorities on promoting/recycling/reuse via procurement and encourage sustainable construction and demolition via planning system and liaison.
- Spatial planning and policy issues.
- This type of waste cannot travel very far (uneconomic).
- Look at utilising current facilities as opposed to developing new sites.
- Existing facilities appear to be near where the market is for these products.
- Need to address the issues of product variability and site size.
- Perhaps need to look at 2 to 3 large bulk sites which can take large amounts with 10 to 12 more specific skip sites. The large bulk sites need to be strategically placed (i.e. good road access, haulage etc). Could use existing brownfield site, perhaps one that already experiences high background noise levels (between M3 and old A30/between Winchester and Basingstoke).
- Use closed landfilled sites - typically they have good accessibility. Enclose the smaller sites.
- Small scale operations potentially use old farm buildings.
- Should be noted that construction and demolition waste recycling is being developed to encourage less use of virgin material (primary aggregate) and greater use of reused aggregate.
- Survey of facilities to discover what they are currently handling and future plans/potential.
- Cross border issues.

- Recycling facilities tend to have longer planning permissions - issue arises from site restoration and financial drivers i.e. that the site runs for longer for investment to be recovered.
- Temporary facilities to address the immediate needs of a construction site i.e. do not export waste.
- Also need to look at producing less excavation and construction waste in the first place.
- Flexibility in operating hours required.
- Bigger projects should have as standard an on-site recycling facility.
- Debates between county and districts in terms of location etc.
- Encourage separation and separate targets - practicalities of 2 skips or sorting facilities. Financial incentives already exist.
- Additional facilities - planning issues are key, need to be able to expand, possibly need 10-20, new facilities. This will be influenced by economy.
- Location policy - need to find secure sites. Need large, flexible facilities, minimal environmental impact (enclosed building). Issue of out of county waste.
- Longer hours/longer permissions - planning considerations, transport, dust, health and safety conditions, 24 hour access.
- Specification standards/quality on site is key.
- Financial incentives/market forces.
- Planning permission - buffer zones should be included.
- Joined up working (regulatory agencies, transport planning etc.)
- Promote sustainable construction.
- Need to raise awareness of where recycled materials can be reused.
- Include recycled materials as part of planning policy.
- Create a commercial driver - companies that use more recycled aggregates as opposed to virgin material get 'rewarded' with perks such as easier planning permission or lower rates.

ELV

- There are a total of 5 'areas' in Hampshire based on legislation requiring a maximum distance for a member of public to take a vehicle. Three 'areas' are not currently covered by any authorised treatment facilities (ATFs).
- We could use 'collection points' instead of treatment facilities.

- Fleet/company cars make up a large proportion of the cars and these change frequently.
- Cars are becoming more recyclable - driven by manufacturers. Cars will be disposed of rather than repaired as they are so cheap but they will be made from more recyclable/recoverable materials.
- Plastics reprocessing plant should be part of the picture; can combine with plastics coming from the metals/WEEE resource streams.
- Identify 3 extra “facilities” to cover Hampshire and 1 site for plastics recycling to be combined with other plastic streams - resource parks a potential solution.

Glass

- Need to remove demarcation between household and commercial.
- Technological approach e.g. on board crushing/sorting.
- High value end uses need to be aimed for.
- Provide facilities at household waste recycling centres (HWRCs) for flat glass.
- Seek to influence manufacturers.
- Collection banks in high rise/high density buildings (including underground) - could be part of planning consent.
- Issues for regulation, process chain, market development and technology.
- Issues of incentives to increase collections of glass from specific traders (e.g. for pubs, clubs).
- Demarcation between commercial and domestic - take away the cost of the service to encourage more collection. May require legislation change.
- Use technology so that glass can be collected mixed and then separated.
- Use of green glass as aggregate, filter medium (e.g. swimming pools).
- Create regional monopoly in Hampshire, instead of exporting the processed glass why not bring the other works to Hampshire. Or can we add value by processing the glass still further? Need to understand the impacts e.g. dust suppression. What about importing glass from Europe (although unlikely as other European countries are ahead of us)
- Export of green glass back to Europe is being investigated.
- Roll out the kerbside collection - joint agreements between several districts to give economies of scale.
- How to collect and deal with flat glass - need very high quality input to reuse it or may be used for making glass fibre - need to separate plate glass from laminated glass.

- Future for glass - there is still is a strong market. What about changing the practice of manufacturers - manufacturers will be driven by demand of consumers.
- What about high density housing - new development/planning requirements could require recycling facilities to be installed by developers. DEFRA funding to look in more detail at best practice for flats.
- Funding incentives to get people to recycle e.g. scheme in Lambeth getting reduction in council tax.

Hazardous and Chemical Waste

- Important to recognise that the management of hazardous waste is very different to other waste streams/materials and we will need to look at regionally significant facilities in many areas.
- Do we need a hazardous waste landfill site in Hampshire or are facilities in other parts of country adequate to meet needs?
- Need to retain existing infrastructure.
- Would make sense to have a facility central to the area of contaminated soil arisings (south / central?) based around an existing waste management facility i.e. a landfill site where treated soil may be used as daily cover (existing infrastructure upgrades).
- Attitudes and behaviours - is there more we can do to raise awareness - programmes are not well co-ordinated - people don't know the information is there.
- Location of a new soil treatment facility could be a brownfield site.
- Location needs to be appropriate e.g. away from aquifers.
- Link new soil treatment facility to house-building/development.
- Request chemical manufacturers to list hazardous waste quantity, state what they could do to avoid it and what would it cost. Perhaps with this knowledge we could work out a sensible non-punitive cost-effective policy to avoid driving industry overseas.

Metals

- Materials recycling facility (MRF) as a means of separating metals has become outdated and no longer works (health and safety issues).
- Mechanical biological treatment should be used to pull out valuable materials.
- Incineration "rear end" sorting does not work for ferrous metals.
- Front end sorting is critical to capturing the materials.
- Landfill costs remain so low that it is cheaper to put in the ground.
- Increase landfill and also increase the capacity of recycling/recovery.

- It must be mandatory to have front end sorting to force separation and improve the value of the captured material.
- There must be a push from the top down (i.e. in Government) and staff must be trained to ensure they follow.
- Separate metals collection in the kerbside system (to include WEEE).
- Landfill tax allowance scheme/fines will mean many counties will have to reduce the amount of material landfilled.
- There is an issue of the relationship between collection authorities and disposal authorities as increased costs on one side may have to be countered by the other side.
- Front end sorting must ensure that materials are of a marketable quality as if there is not a market then there is no point in recycling.
- SMEs - must be commercially driven (cost/benefit analysis). 'One stop' office recyclers to take away certain materials.

Paper & Card

- More mini-recycling centres - those in the New Forest have been successful.
- Requirement for owners at industrial sites to provide waste storage/transfer space with bailing facility for onward movement.
- Large companies champions for smaller companies.
- Promote what Environment Agency/councils are doing as demonstration of what is achievable.
- Links to education and citizenship to influence attitudes and behaviour from an early stage, so that more people sort more of their waste (e.g. WRAP week, Blue Peter).
- Review range of incentives (education to financial).
- Opportunities for communication and networking.
- Overcome barriers to collections for SMEs. At present there was no incentive for SMEs to recycle as they are charged when vehicle arrives at HWRCs.
- Look at legislation for separation of domestic/commercial waste. The MRS is a powerful tool to influence Government.
- Six recycling officers in each district. Could be co-ordinated by a private company so that the Council was not criticised over costs/rates.
- Make information available on successes, where material goes and what it is used for. Let people know it's worthwhile.
- Must increase landfill tax.
- The problem is simply economics (incentives/costs/feasibility).

Plastics

- Use state of the art “technologies” in order to separate more polymer types (more mechanised/automatic mechanical sorting facilities) - more material recycling facility (MRF) capacity capacity will be required.
- Domestic kerbside collection - plastics collected together but sorted at a purpose-built facility - enhanced collection will mean that more sorting is required.
- Look at changes in domestic collection systems to make more household segregation possible.
- Look at influencing national policy in order to increase effectiveness of product labelling.
- Look at issues associated with collections - increased segregation at household level with greater numbers of polymer types will increase volume of recyclables collected and may need additional vehicle capacity - options include a separate bag of mixed plastics in household collections. However perception was key - if a member of the public sees plastics bags being put into the same vehicle with other waste the perception is that it is not being recycled.
- Look at changing culture.
- Look at problems associated with food waste on domestic plastics
- 20% of waste stream is domestic - will this apply to plastics? If yes then the domestic fraction is not the most significant issue.
- Commercial plastics - problem materials include PVC on windows - perception is that this is a difficult material to get rid of.
- More information on what is happening to plastics from business and look at enhancing high value plastic recycling from the commercial sector.
- Difficult to use HWRCs for commercial. HWRCs will need bigger facilities - but if a facility is available and can cope then use it - if it cannot cope (but is appropriate) expand it.
- HWRC are for households If businesses were allowed to use, depending on price charged, Local Authorities may be taken to task on competitiveness.
- Problems also with auditing and recording - if commercial waste then will need to look at bigger sites with weigh bridge facilities, charging and more staff.
- More sites of appropriate types needed.
- Technology for separation of different types of plastic. Look at provision of Hampshire facility for sorting plastics from domestic and commercial plastics (high technology sorting).
- Sorting to mixed plastics or to difference polymer types? Look at some pre-processing (e.g. washing, floating) to increase value of plastics exported from

Hampshire - this may increase residual waste (rejects) but this is conceived worthwhile to increase value of material exported to market.

- What sort of plastics are businesses producing? What do we need to do to get this data? E.g. PVC window frames, replacement kitchen furniture, plastic floor tiles. The focus should be on the commercial sector and high volume/weight/value materials.
- Is it economic for each county to be sorting/processing each polymer type - suggestion to look at economies of scale and splitting counties/regions into dealing with different types.

Textiles

- Kerbside collection for textiles.
- Combine with existing collection services and bring banks.
- Retailers have surplus which is shredded at the moment but could be reused.
- Giving to charity is key.

WEEE

- Need to think in broader terms (include commercial WEEE).
- Bring-bank for WEEE next to glass bank.
- Difficulties with kerbside collection for WEEE as materials is not thrown out on a regular basis.
- Take-back scheme for retailers.
- WEEE Directive will have retailer take-back scheme.
- Rule out kerbside collection due to costs. Also problems because of hazardous waste.
- Increase household waste recycling centre (HWRC) capability for accepting WEEE.

Wood

- On-farm wood recycling. Also include waste from land management - grain drying, lighting, farmhouse, milking sheds.
- Collection facilities need to be easily accessible from major roads.
- Support activities like wood recycling project. Buy or take back system for things like wood so B&Q can process and resell.
- Large supermarkets may help to drive this.
- Cherry pick high value wood resources.

Group Work 3: ***Discussion about the implications on how unavoidable waste created from individual resource streams could be dealt with***

Mechanical Biological Treatment

Pros	Cons	What issues need to be addressed?
Flexibility	High residual/anaerobic output requiring another treatment	Planning
Creates employment	Requires landfill of residue, especially regarding contaminated material. No markets for outputs.	Energy use
Possible 100% solution for biowaste	Energy intensive	Resolve NIMBY issues by building at the same time as housing
Good market for range of end products e.g. farmland fertiliser, landfill cover	Lots of traffic movement	Markets and quality of end-product
Some energy production	Chemical contamination	What happens to the residue?
Reduces volume of biological waste	Costly process that sometimes duplicates what incinerators are doing	Guaranteed input of residual waste of sufficient quality
Proven technology	Potential odour problems	Contractual issues on raising the funding
Suitable process for gathering non-ferrous metals allowing higher value recovered material	Poor atmospheric conditions for operatives of the facility	Siting of facilities
Allows for a number of smaller facilities needing less material throughput	Landscape blight	Cost effectiveness
Will generally be inevitable as the required precursor for many of the other technologies	Low-quality output can limit end uses, may not be a market for end-product	Land-take
Opportunity to look at tie-in with new developments and a CHP type system.	Land take/finding a suitable site for facilities. Unlikely to be possible at small, local plants	Can smaller scale plants be made viable?
	RDF markets	Public acceptance of the technology
	Construction costs	Is it just paying lip service - to try to meet the need for recycling
	Can only deal with a fairly small amount of waste at each facility	Design
	Higher capital costs and gate fee compared with landfill	More information required on autoclave treatment
	Could reduce interest in kerbside and other recycling	Could be commercial opportunity as landfill regulations prevent untreated waste being landfilled
	Expensive	Opportunities to link in with CHP processes
	Is just preparing waste to be burnt elsewhere	Compensation for local residents
	Unproven technology	Standards of inputs and outputs in order to ensure investment

Energy Recovery Facilities

Pros	Cons	What issues need to be addressed?
Gets rid of it	MAIN CONS:	Public perception that it locks councils into contracts and discourages recycling.
Reliable, proven technology	Public opposition and bad reputation	Education/promotion so that public are more aware of the benefits to this technology and reassured about safety.
Environmentally friendly with clean up of the flue gas	Air emissions (i.e. dioxins, burning plastics)	Planning/location
Ash bi-product can be recycled as an aggregate	Disposal of residual waste/ fly ash	Emissions quality
Potential for district heating/CHP	CO ₂ emissions	Architectural appearance
Long term future	Visual impact of facilities	Site options adjacent to motorways?
Not weather dependent	Transportation of waste to the facilities	Need Government to address funding
'One stop shop' single process	Could discourage recycling	Would be better received and accepted if the plant was to serve only the local area
Very heavily regulated	OTHER CONS:	Options for creating a power plant using crops (either waste crops or non food crops)
Can cope with a varied feedstock	High cost	More small facilities rather than one large facility.
Makes meeting Landfill Directive very simple	Impacts on community	Need to maximise extraction of materials prior to recovery
Sweden, France and Germany have been successful	Problem with financing commercial waste	Greater energy use of plants and relation to district heating/CHP
Doesn't require new markets for recyclate	Technology/plant could start to deteriorate in a few years.	Businesses that produce high waste could have mini energy recovery plants
When properly built and operated emission levels are very low	Lengthy planning and construction due to public opposition	Need strong government policy on issues (similar to wind farms)
An important means of dealing with residual waste	Plants tend to be large to make them economic to run	Must be included in the local plans and South East plans/guidance/policy
Reduces need for fossil fuels	Wastes valuable recyclables as they are devalued at end of process	Social equity issues associated with new development
Reduces need for extensive source separation	Legislative barriers to companies - how electricity can be marketed	Do we repeat and expand the 3 incinerators we have at present or do we use this experience to look at new technologies? Would energy recovery facilities bring inflexibility?
Mass tonnages catered for	Opportunities to look at refuse derived fuel (RDF) output from mechanical biological treatment for 'biomass' type plants	Pre treatment to remove metals
Cost effective	Facilities need to be very big	
Promising new technologies		
Political acceptability		
Economic acceptability		
Option to look at small facilities tied in with CHP		
Great potential for electricity generation.		

Anaerobic Digestion

Pros	Cons	What issues need to be addressed?
Low temperature	MAIN CONS:	Need physical treatment to provide material to make anaerobic digestion efficient.
Low pressure	Need consistent, high specification feedstock. Problems of contamination	Planning
Low cost	Capacity issue - can only deal with small amounts	More smaller facilities versus fewer larger facilities
Low risk	Expensive	Quality of input - separate collection to ensure quality
Accepts liquid waste	OTHER CONS:	Potential for synergies with other waste streams
Smaller facilities which can be more flexible	Problems with heavy metal contamination - could not use as land conditioner	Potential odour issue
We can relate to it - natural human process	Only deals with biological waste, not appropriate for mixed unavoidable waste	Treatment of kitchen waste
Low transport movements - can pipe waste to it	Market for end product	What amount comes out compared to what goes in
Energy production	Land take	Part of an integrated approach but requires a very specific input specification
Good for single waste streams like sewage sludge	Separate collection system	Link up with sewage treatment plants that are already using this process?
Produces a gas for collection	Needs a lot of pre-screening & sorting	Possibility for locally-based small scale community facilities. Some strategic facilities backed up by a few smaller scale facilities would be acceptable. Small scale facilities have less visual/odour impact
Fits in with a sequence of other processes as a way of reducing the organic content of waste	Complicated	How many plants would Hants need?
Can deal with all kinds of organic waste e.g. sewage waste, agricultural waste, kerbside green waste	Problems with residuals	Product viability and end markets
Acceptable to communities	Pollution of air/water	The better quality the material put into anaerobic digestion (less recycle) the better the material produced.
Sealed units have limited amenity impacts, low odour	Batch process demanding a larger footprint	Can landfill leachate be used in anaerobic digestion process?
Commercial opportunities	Obtrusive plant - hard to find a site	Minimise this type of waste, especially in households, by promotion/funding of home composting
Could be part of resource parks along motorway	Takes a long time	
Generation of gas and electricity	Sometimes have to flare the gas off	
	Landscape blight	

Landfill

Pros	Cons	What issues need to be addressed?
Will always be needed	MAIN CONS:	Must be large scale to be viable
Well known technology	Constraint of finding suitable sites. Limited availability in Hants.	Must be part of a regional strategy
Can join up with mineral extraction - geological recycling	Inefficient use of land, restricts future use	Longer term issues for communities
Non-hazardous landfill is historically cheap	Odour	No planning gain requirements
Potential for energy recovery	Litter and dust	Planning
Inert landfill has a role in land reclamation/restoration	Problems with hazardous landfill, leachate and gas leakage	Odours Restoration concerns
Cheap	Road haulage	Need to reduce the amount of waste being produced in the first instance
Flexible	OTHER CONS:	Will have a smaller role in the future but still relevant
Landfill can be the only option e.g. for asbestos	Need a mix of waste - may become more difficult with increased diversion and recycling	Because of lack of landfill we need to look at conservation of landfill as far as possible, capacity needs to be reserved for the last fraction of unavoidable waste residue. Should always be the last option.
If inert material is used then it is relatively safe	Expensive	Minimise the use whilst recognise the need.
	Landscape blight	Leachate/gas generation issues could be reduced by taking bio waste elements out.
	Licensing getting more expensive	Need for specialist landfill to deal with substances such as fly ash in Hants
	Noise	Need to divert everything possible from landfill
	Vermin	Issues with unknown pre-1975 landfill sites
	Limited use - depending on weather etc	Still attractive to commercial sector - we need to redress the balance so that landfill is not the preferred option
	Least acceptable in terms of public opinion	Evaluation of land gain opportunities associated with inert waste
	May not meet Landfill Directive targets for diversion of biodegradable waste	Potential for landfill mining
	Associated problems with biodegradable waste in landfills	Processing material to increase void space, e.g. processing of organic fraction.
	Threats to drinking water supply	
	Biodegradable content - landfill effects the time it takes to degrade	
	Strong environmental objections to looking at coastal landfill issues in Hants	

Physio-Chemical Treatment

Pros	Cons	What issues need to be addressed?
Good potential as pre-treatment process, needed as a precursor for anaerobic digestion, help pre-sorting/treatment prior to landfill.	Noise	Evaluate in context of the overall system
Intermediate technology	Dust	Depends what waste goes into it
Niche market	Health impacts	How energy intensive is the process?
End product can be used	Can be energy intensive, needs prior energy input	Planning
Potential to use for fuel 'pellets'	Not a total solution - an intermediate technology	Soil remediation - deal with through planning - this should determine if remediation is BPEO
Tried and tested	Site specific	Need to consider whether output will have a use
Will be needed for contaminated soil treatment - brownfield sites	Unproven	Public perception - will people believe it's ok?
Good for plastics separation	Too complex	Could be part of an integrated waste treatment but needs further investigation
Very energy conservative and efficient	Too expensive	
	Emerging legislation (i.e. re food packaging) will make sorting/physical methods difficult	
	Dependent on waste streams - not really related to paper waste stream	
	Only treating small quantities of material through specialist systems	
	Need precursor treatment	

Other Issues

- Cost of infrastructure versus long term revenue cost
 - Better understanding of what materials are still in the residual waste stream and what is the best treatment option.
 - Whatever technology is going to be used the "why" needs to be explained to the public
 - Which waste streams are suited best for which option?
 - Understanding in more detail pros and cons
 - Costs is important
 - Commercial opportunities for alternatives to landfill for commercial waste need to be maximised. LAs don't have responsibility to deal with commercial waste - they can only encourage industry to.
 - Need a combination of solutions to deal with waste
 - Encase waste in concrete and use as sea defences
 - Which is the most energy efficient option?
 - Perception of all waste technologies must be improved
 - Need to have markets for end products
-

Overall Views from Discussion Session 3

Issue	Number of Groups in Agreement (out of a total of 12)
Whether MBT was considered useful for Hampshire - particularly as a means of further sorting the waste stream	5
Whether energy recovery was a suitable technology for Hampshire (post recycling)	7
It was important to consider energy balance issues (which may in fact counteract benefits to particular technologies) when considering a suitable solution for Hampshire's unavoidable waste)	3
Emissions (and the respective levels) was a key consideration when determining what technology would represent a suitable option for Hampshire	5
The need to adopt / exploit synergies between waste streams when identifying a preferred solution for managing unavoidable waste in Hampshire	5
Whether the co-location of facilities represented a suitable way forward	6
Whether energy recovery was a proven technology, which could offer potential benefits	7
Extracting the maximum amount of recoverable material before final treatment	5
The importance of identifying and securing markets for end products derived from mechanical biological treatment and anaerobic digestion technologies	8
The need to identify entrepreneurial opportunities when developing a preferred solution for handling Hampshire's unavoidable waste.	2

Group Work 4:***Discussion on what might be considered the most appropriate balance to aim for between primary minerals and recycled mineral and soil resources*****Views on SEERA's proposed 2.52 mtpa apportionment for land-won sand and gravel in Hampshire, Portsmouth and Southampton**

- General support for reducing the apportionment. Suggested alternatives were: reduce by half, reduce by 280,000 tonnes per annum (tpa), to 2.24mtpa.
- Formation of National Parks may affect apportionment.
- To meet the apportionment would mean new sites throughout Hampshire.
- What figure has the government assumed will be recycled within these figures?
- When deciding on allocations more information is needed on issues of environment versus cost versus proximity.
- Just because a site was allocated does not automatically mean that it will be worked. If sites were taken out of the plan they will be difficult to reinstate.
- Concern regarding ability to achieve target on a continuing basis.
- Does the figure account for housing apportionment? Does decreasing figure reflect lack of house building?

Justification for Hampshire to set a reduced target

- Increase the level of recycling, imports and marine aggregate. There should be a hierarchy of recycling, >marine aggregate and then >land-won.
- There is a smaller demand for aggregates in house building (more are timber framed and clad in other materials) and construction of factories (more are steel framed).
- Importance of construction specifications (and perceptions of different materials). If alternative building materials were used (e.g. timber framed houses) then there will be less need for sand and gravel. Need to increase the demand from construction companies for recycled materials. Supplementary Planning Guidance from councils should stipulate use of recycled materials and the Government should provide incentives for recycled material.
- Trend of decreasing demand so reduce apportionment.

Related issues

- Marine aggregates: could be an alternative to land-won sand and gravel but concern over environmental impacts e.g. coastal erosion, impacts on marine life etc. More information was needed.

- More research was needed to determine if the aggregate was being used in Hampshire and to quantify what construction, demolition and excavation waste was available.
- Collection and processing should be away from households. Use existing sites and old landfills.
- Quarrying is acceptable so long as it is done sympathetically - aggregate has to come from somewhere. However contentious issues mean that it is hard to find minerals sites. Need to address access issues in allocating new sites.

Role of existing mineral sites, aggregates, wharves and railway depots play in meeting the need for longer-term construction and demolition waste recycling capacity

- General consensus that existing sites are very suitable for recycling facilities. Infrastructure already exists.
- Transport is a key issue. Sites should be chosen to minimise transport and should ideally have rail and/or water access. Need to make maximum use of existing transport infrastructure.
- Location needs to be economically viable.
- Mineral sites: major role in meeting the need for recycling of construction, demolition and excavation waste. There could be a presumption that all mineral sites should also have construction, demolition and excavation waste processing facilities. Can engineer quarries into recycling sites. However rural quarries may be unsuitable for new facilities and their use may mean new environmental objectives and may want to reduce amenity impacts (e.g. noise, dust) for people who have already lived with extraction sites. Such sites would need to be in the right location.
- Permissions should be temporary for the life of the site, although if the location is particularly appropriate then permission could be extended.
- Do we need areas for open storage of materials?
- Lots of small sites would be more flexible than a small network of larger facilities.

Other types of potentially suitable sites

- Greater use of mobile plant at demolition sites. This reduces transport costs, which can have significant impacts on economic feasibility.
- Inert landfill sites.
- Farms with good access (although lack infrastructure).
- Industrial estates on the edge of town.
- County Highway Depots - for small scale facilities.
- MoD land.

- Land underneath motorway junctions.
- Resource Parks.
- Excavation sites.
- Industrial sites (especially those that are currently under-used, close to new development).
- Brownfield sites (although competing with developers for premium land).

Overall views on discussion session 4

- Only one group agreed that Hampshire County Council should meet its draft regional apportionment. The vast majority (8) were of the view that the Council should argue for a lower apportionment.
- 7/8 groups agreed that the “stretching best practice” recycling option for Hampshire (and its associated targets) should be used to drive the arguments for a lower sub-regional apportionment (particularly those targets that relate to construction and demolition waste).