

APPENDIX 8

RESPONSE TO INSPECTORS REQUEST FOR FURTHER INFORMATION

APPENDIX E OF THE PREFERRED OPTIONS CORE STRATEGY

NUMBERS OF WASTE MANAGEMENT FACILITIES NEEDED

APPENDIX E

HOW MUCH WASTE?

References have been made to the forecasts of waste arisings in the draft Regional Spatial Strategy (RSS). The County Council's concerns about some of these forecasts were programmed to be discussed at the RSS Examination in Public in January 2007. The table below sets out the estimates of the management capacity requirements for municipal waste that are included in Table 11.5 of the draft RSS. These are figures for total capacity requirements including existing facilities.

Table E.1 Municipal waste capacity estimates

Draft Regional Spatial Strategy estimate of indicative capacity requirements for Cumbria's municipal waste by 2015 - 2020 (from Table 11.5 of the draft RSS)				
Predicted waste arisings	Composting facilities ⁽ⁱⁱ⁾	Material Recovery Facilities (MRFs)	Residual waste treatment ⁽ⁱⁱⁱ⁾	Residual landfill capacity required.
380,000 tonnes/year	55,000 tonnes/year	115,000 tonnes/year	345,000 tonnes/year	530,000 cubic metres (over the 5 years)
2005/06 actual figures for Cumbria's municipal waste (rounded figures)				
358,000 tonnes	43,500 tonnes	52,000 tonnes	nil	263,000 tonnes

It can be seen that the draft RSS estimates that, by 2015 to 2020, waste management capacity of around 615,000 tonnes/year will be needed for the estimated 380,000 tonnes/year of municipal waste arisings. This includes Materials Recovery Facilities and residual waste treatment facilities with a total capacity of 460,00 tonnes/year together with landfill capacity for around 100,000 tonnes/year (assuming 1tonne/cubic metre) to deal with the 325,000 tonnes/year of municipal waste after 55,000 tonnes of compostables have been removed.

These estimates reflect the fact that after each stage of waste treatment there is residual waste that requires further treatment or disposal. The assumption used is that any given tonnage of municipal waste will require nearly twice that tonnage of waste management capacity. Whilst this may be technically correct the way the figures are presented makes it difficult to use them for the Minerals and Waste Development Framework. This is because it is difficult to derive from the table the actual number or locations of facilities or sites that will be needed.

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- iii These treatments are stated to include Mechanical and Biological Treatment, Solid Recovered Fuel, Energy from Waste (mass burn) and anaerobic digestion
 - ii Composting is stated to include open windrows and in vessel composting and anaerobic digestion

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Since the draft RSS was written the Government has published a consultation paper about its review of the national waste strategy, this sets out views about growth rates for waste streams. It is, therefore, intended to refine the draft Regional Spatial Strategy figures for the purposes of this MWDF. This will take account of the latest views expressed by the government and the details of the bids for the municipal waste management contract.

It is considered appropriate to use the details of the bids for the 25-year municipal waste management contract because these show how experienced waste management companies would manage Cumbria's municipal waste. The County Council has chosen the bid based around Mechanical and Biological Treatment but keeping the other bid in reserve. The total amount of municipal waste on which the bids are based is around 350,000 tonnes/year.

Amount of municipal waste

The latest figures for household waste show a reduction in waste arisings. However, it may be jumping to conclusions to assume that one year's figures demonstrate that the long standing pattern of increases has been reversed. For example, during the previous two five-year periods household waste/person increased by 22% 1995/96 to 2000/01 and 23% 2000/01 to 2005/06. In 2004/05 alone there was a 9.6% increase over the previous year which coincided with an increase in green garden waste collection arrangements. Such collection arrangements for recyclables are continuing to be offered to increasing numbers of households by the waste collection authorities and may also result in increased figures.

Because of the unavoidable uncertainties about the success of these initiatives it appears appropriate that this Framework should be flexible and plan for a range of volumes of municipal waste arisings.

At the high end of the range is the Government's consultation paper about the review of the national waste strategy. This takes the view that we need to plan on the basis that the amount of household waste is likely to increase at 1.5%/year for 10 to 15 years (this takes account of 0.5%/year population growth). On that basis the 2005/6 amount of approximately 315,000 tonnes would increase to around 366,000 tonnes/year over 10 years and to 394,000 tonnes/year over 15 years. In addition to this the municipal waste stream may continue to include around 44,000 tonnes/year of collected non-household wastes.

The figures that are likely to be used in connection with the the Joint Municipal Waste Management Partnership Strategy and its Local Area Agreements could represent the lowest end of the range. These are based on achieving a very challenging 1% annual reduction for the next three years. On that basis the plan should be seeking to make provision for a maximum of 343,000 tonnes/year of municipal waste.

A mid-range estimate could be the draft Regional Spatial Strategy figure of 380,000 tonnes/year of municipal waste 2010 - 2020.

On the basis of the Landfill Allowance targets for biodegradable municipal waste and targets for recycling around xxxx cubic metres of landfill capacity will be required for municipal waste over the period 2006 to 2020.

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Amounts of commercial and industrial waste

With regard to commercial and industrial wastes the Government's consultation paper about the review of the national waste strategy considers that we need to plan for waste facilities on the basis that :-

- total industrial waste is likely to fall by 5% 2002 to 2010, then rise by 1% by 2015 and another 1% by 2020.
- total commercial waste is likely to grow from 2002 levels by 13% by 2010, 33% by 2015 and 52% by 2020.

The Environment Agency's 2002/3 waste returns show that 722,275 tonnes of commercial and industrial waste were managed in Cumbria of which 425,224 tonnes (59%) were landfilled. It may be assumed that these comprise 54% industrial and 46% commercial waste which is in line with, or similar to, the regional and national figures. On that basis around 390,000 tonnes would have been industrial waste and 332,000 tonnes commercial in 2002. It should be stressed that the figures are for waste that is managed in Cumbria and not necessarily waste that arises within the county.

If the Environment Agency's 2002/3 figures and the Government consultation paper's figures for waste growth are used then Cumbria's managed industrial waste stream would be around 378,000 tonnes/year by 2020 and its commercial wastes around 504,600 tonnes/year. This gives a total for commercial and industrial wastes of approximately 885,000 tonnes/year by 2020. This compares with the draft RSS estimate that Cumbria arisings would require 750,000 tonnes/year capacity by 2020. With regard to all of these figures it should be noted that the Environment Agency's returns show that in 2004/5 the amount of commercial and industrial waste managed in Cumbria had fallen to 541,944 tonnes. The forecasts may, therefore, overestimate the amounts of waste that will need to be managed.

Targets for re-use, recycling and composting for these waste streams could be adopted. The national waste strategy review's consultation paper proposes phased targets for reducing landfilling of commercial and industrial wastes to 35% of their total by 2020. That implies 575,000 tonnes/year of treatment capacity and 310,000 tonnes/year of landfill capacity would be required by 2020. The cumulative requirement for landfill capacity for commercial and industrial wastes 2006 to 2020 would be around 4.4 million tonnes on the basis of the consultation paper's assumptions and targets. The draft RSS provides no real guidance on capacity requirement because it assumes there will be no change from the position in 2004. That assumption seems unrealistic in the light of pressures that are driving changes in waste management for these sectors.

There are serious difficulties in monitoring the commercial and industrial waste streams at the moment because data is not available. It is considered any targets should be considered in a review of this plan once additional Environment Agency information is available and improved data collection procedures are in place from 2008 onwards.

How many facilities?

The main details of the bids for the 25-year municipal waste management contract are as follows (approximate figures).

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Option A (chosen by the County Council)

- 25,000 tonnes/year at HWRCs including a new one at Carlisle and limited upgrades of other ones;
- 140,000 tonnes/year waste transfer/bulking facilities including the Kendal one and three new ones at the MBT plants and another new one near Penrith ;
- 180,000 tonnes/year Mechanical and Biological Treatment to process residual Municipal Solid Waste;
- 39,000 tonnes/year at three new Windrow Stabilisation Facilities for organic rich fine waste materials from the MBT plant and street sweepings.
- 100,000 tonnes a year of Solid Recovered Fuel from the MBT plant requiring a gasification plant if other markets for it cannot be found.
- 57,000 tonnes/year landfill residues from the MBT plants.
- 10,000 tonnes/year landfilling from the HWRCs (60% recycling/.composting).

A total 551,000 tonnes/year waste management capacity.

The other bid is being held in reserve , its main details are as follows.

Option B

- 55,000 tonnes/year at HWRCs following a major programme for replacing and upgrading them.
- 295,000 tonnes/year at five transfer stations (three new ones) and Material Recovery Facilities for District Councils
- 150,000 tonnes/year at two Energy from Waste plants;
- 36,000 tonnes/year on-farm and other composting for green waste from HWRCs and kerbside collections;
- possibly an in-vessel composting facility for kitchen waste;
- 28,500 tonnes/year landfilling of residues from the Energy for Waste plants and their flue gas treatment.

A total of around 564,000 tonnes/year of waste management capacity.

At the first stage of the waste management process after waste has been collected Cumbria is likely to need a network of transfer/bulking stations, prudently one in each District Council area. This is because of the dispersed pattern of population and of waste arisings in the county. These would be required to bulk recyclates, for example those collected and separated at the kerbside, for transport to reprocessors and also residual wastes, collected by the district councils, for transfer to waste treatment facilities and landfills. Such facilities are not mentioned in Table 11.5 of the draft RSS.

Some of the existing bulking up and transfer of recyclables is carried out by local businesses and other organisations and there are advantages in supporting the continuation of these arrangements. Not all of the facilities that this prudent approach would make provision for are, therefore, likely to be needed.

With regard to composting, on the basis of the figures in the draft RSS table an additional 11,500 tonnes of capacity would need to be provided. A composting facility can be expected to have a throughput of 25-30,000 tonnes a year. There are existing open windrow

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composting facilities at Lillyhall and Hespian Wood landfills, at Goldmire quarry, at Silloth and smaller ones on farms. It is considered they would be able to cope with the relatively small additional amount of material. There does not, therefore, appear to be a need to provide additional facilities for composting municipal waste. (Ref Box 1, paragraphs 5.8, 5.11 and 7.18 of the Discussion Paper).

Materials Recovery Facilities (MRFs) would be required to separate out co-mingled collected dry recyclables but not for kerbside separated ones or for residual waste processing. It also seems prudent to assume that capacity should be provided for the recyclables from Household Waste Recycling Centres to be processed through a MRF. On the basis of these assumptions a maximum of approximately 100,000 tonnes/year MRF capacity would be needed for the municipal waste stream. A MRF can be assumed to have a capacity for around 60,000 tonnes/year and two facilities could therefore be needed. It is possible that more capacity would be needed if collection systems are changed to collecting co-mingled dry recyclables but two facilities would probably be able to cope with this.

On the basis of the figures in Table 11.5 of the RSS only 63,000 tonnes/year of additional MRF capacity would be needed. That is approximately the capacity of one facility. However, taking into account the need for modern day facilities which are suitable for the long term i.e. at least 25 years, it is more realistic to assume that provision should be made for a network of new facilities for the whole of the waste stream.

For the purposes of the plan it could be assumed that five new ones will be needed to serve five district council areas (the one at Carlisle would be retained).

Transfer/bulking stations are likely to be on the same sites as the MRFs. With regard to RSS Table 11.5 the equivalent total capacity required of the MRFs and transfer /bulking stations would be around 345,000 tonnes/year (390,000 less 55,000t composted).

Residual waste after EfW includes bottom ash which should be recycled as an alternative aggregate, and ferrous metal which can also be recycled. Around 19% of the residual waste including flue gas treatment residues would need to be landfilled, around 28,500 tonnes/year for a 150,000 tonnes/year plant.

Materials Recovery Facilities do not form a separate part of the proposed waste facilities network based on Mechanical/ Biological Treatment because the MBT plant itself performs this function. New transfer/bulking stations would be likely to be co-located with these, one additional transfer/bulking station would be likely to be needed to serve the sparsely populated Eden district and the existing one at Kendal would be retained. Assuming 25% loss through drying, and 30% materials recovery of recyclates there would be around 45% solid recovered fuel requiring Energy from Waste or other capacity of around 100,000 t/year.

In order to keep both waste management network options open the site requirements on the basis of the above details and site sizes would be:-

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- 2ha sites for either four new transfer/bulking facilities or three new Material Recovery Facilities
- 2 to 4.5ha sites for either two Energy from Waste plants or one gasification plant and two or three 4.5 ha ones for a strategy based around Energy from Waste