



# **Initial Sustainability Appraisal of Issues and Options for West of England Waste Management and Planning Strategy**

**Executive Summary**

January 2007


West of England Partnership

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For and on behalf of Environmental Resources Management
Approved by: Dr D Ackroyd _____
Signed:  _____
Position: Partner _____
Date: 16 <sup>th</sup> January 2007 _____

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## EXECUTIVE SUMMARY

This report sets out an Initial Appraisal of issues and options being proposed for the development of the Joint Waste Development Plan Document (JWDPD) and Joint Residual Municipal Waste Management Strategy (JRMWMS) in the West of England. The issues and options are set out in the consultation document *Issues and Options*<sup>1</sup>. The Initial Appraisal represents a first stage in the process of a Sustainability Appraisal (SA) of the JWDPD and a Strategic Environmental Assessment (SEA) of the JRMWMS. **Comments are invited on the Initial Appraisal as well as the Issues and Options document.**

The following issues and options have been assessed for the JWDPD, and the principal sustainability impacts identified as follows:

- **the vision and aims of the Joint Waste Plan;**  
The vision and aims are broadly compatible with sustainable development objectives, although it is recommended that two objectives are added, one to highlight the importance of locating development in accordance with land use priorities and the other to ensure good access to services.
- **exports of waste: whether the West of England should deal with its own waste or continue to export to other areas;**  
Eliminating exports of waste will reduce waste transport distances in comparison to a continuation of exports. It will also promote taking responsibility for waste within the sub-region. Reducing exports will require facilities to treat residual waste. If thermal, this would increase energy generation but would also produce some hazardous waste. Construction and operation of residual treatment facilities will have some impacts on communities in the area, both positive and negative. Increased sub-regional capacity will help to retain economic benefits and promote local enterprises and innovation, although reduction of transport costs needs to be offset against the cost of providing increased capacity.
- **imports of waste: whether the West of England should only plan to deal with its own waste or take waste from other areas;**  
Allowing waste imports may encourage more waste transport than prohibiting imports and may add to congestion. It may also undermine the objective of managing waste close to its source and taking responsibility elsewhere. However, importing waste could help to promote local waste businesses and capture additional economic benefits. If this results in more thermal treatment of waste, it would encourage more energy recovery but also increase the generation of hazardous waste.

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(1) <sup>1</sup> *Issues and Options: A Consultation Document to Develop a Waste Management and Planning Strategy for the West of England*, West of England Partnership, January 2007

- **locational strategy: a concentrated distribution of larger facilities, a dispersed distribution of smaller facilities, or a combination of the two;** The more dispersed option is likely to minimise waste transport distances by siting facilities near the main urban areas, so spreading responsibility for waste most broadly of all the options but affecting more communities. The centralised option will affect fewer communities but share responsibility less broadly and require more waste transport. The combined option provides a middle position. Costs of waste management will be lower with centralised facilities and greatest with the dispersed option. If the residual treatment generates energy, larger facilities are likely to have greater generation efficiency and enable the greatest avoidance of greenhouse gas emissions.
- **landfill: extending existing landfills or constructing new landraise sites.** Creating new landraise sites instead of extending existing facilities will spread the responsibility for waste and the burden of proximity to sites more widely. However, creating new sites is likely to have visual impacts and possibly also impacts on landscape and open spaces, although extending existing landfill may delay any open space benefits in landfill closure plans. Good design may help to mitigate visual impacts to an extent. Extending existing landfill can also avoid potential adverse effects on land and soil quality from landraise, and will ensure that previously developed land continues to be used. It is also likely to have lower economic costs than constructing new landraise facilities.

The following issues and options have been assessed for the JRMWMS, and the principal sustainability impacts identified as follows:

- **the vision and objectives of the Joint Waste Management Strategy;** The vision and aims are broadly compatible with sustainable development objectives and no amendments are recommended.
- **the options for residual treatment technology.** Energy from waste and pyrolysis/gasification both perform well in terms of potential amenity impacts and estimated costs and will also require the fewest vehicle movements. Pyrolysis/gasification performs better than energy from waste on energy consumption/generation, and possibly also on renewable energy generation. It also is likely to have the most positive effect on air emissions. However, neither technology performs particularly well on greenhouse gas emissions, where biological and mechanical treatment with thermal treatment of the residue performs best. Autoclave and anaerobic digestion give highest recycling levels and promotion of the waste hierarchy, and will produce no additional hazardous waste. Biological/mechanical treatment options are unlikely to achieve sub-regional self-sufficiency in waste management capacity.