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KENT COUNTY COUNCIL, SCOTT WILSON & LEVETT-THERIVEL

Sustainability Appraisal (SA) of Kent Joint Municipal Waste Management Strategy

FINAL SA REPORT – TECHNICAL APPENDIX 2

May 2006

Scott Wilson Business Consultancy
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Sustainability Appraisal (SA) of Kent Joint Municipal Waste Management Strategy

Final SA Report - Technical Appendix 2

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1 INTRODUCTION

1.1 This appendix

1.1.1 This Technical Appendix sets out the detailed findings of the Sustainability Appraisal (SA) of the 20 policies set out in the Joint Municipal Waste Management Strategy (JMWMS) Headline Strategy. This appendix should be read in conjunction with the Final SA Report for the JMWMS which is available on Kent County Council's website.

1.1.2 In developing the JMWMS, the Kent Waste Forum (KWF) generated a series of policies for delivering the strategy. The appraisal of these policies is set out in the next section. It should be noted that the KWF intend to prepare detailed action plans for implementing the policies. However, these were not available at the time the appraisal was undertaken. The options were appraised against the 12 sustainable development objectives in Table 1.

Table 1. ***SA objectives used to appraise the JMWMS***

Flood risk	
Objective 1	To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment
Air pollution and climate change	
Objective 2	To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts
Water quality and water resources	
Objective 3	To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Biodiversity	
Objective 4	To conserve and enhance Kent's biodiversity, including coastal and marine biodiversity
Countryside and the historic environment	
Objective 5	To protect, enhance and make accessible for enjoyment, Kent's countryside and coast, and its historic environment
Efficient use of land and buildings	
Objective 6	To improve efficiency in land use through the re-use of previously developed land and existing buildings, including re-use of materials from buildings
Road traffic and sustainable transport	
Objective 7	To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car/lorry
Waste management	
Objective 8	To reduce waste generation and disposal, and achieve the sustainable management of waste
Energy efficiency and renewable energy	
Objective 9	To increase energy efficiency and the proportion of energy generated from renewable sources in Kent
Sustainable production and local products and services	
Objective 10	To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services
Health and well-being	
Objective 11	To improve the health and well-being of the population and reduce inequalities in health
Economy	
Objective 12	To build a strong, stable and sustainable economy which provides prosperity and opportunities (including learning and skills) for all, and in which environmental and social costs fall on those who impose them, and efficient resource use is incentivised

2 HEADLINE STRATEGY POLICIES

Policies for resource management	
Policy 1	The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda
Policies for partnership	
Policy 2	To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives
Policies for education and engagement	
Policy 3	All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation
Policy 4	Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders
Policy 5	The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services
Policies for waste minimisation and re-use	
Policy 6	Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth
Policy 7	The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels
Policies for recycling and composting	
Policy 8	The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13
Policy 9	The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole
Policy 10	The KWF will secure higher rates of performance from existing services through education and awareness-raising
Policy 11	The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community
Policy 12	The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes
Policy 13	The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service

Policies for residual waste management services	
Recovery	
Policy 14	A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste
Policy 15	The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.
Policy 16	Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability
Policy 17	Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income.
Disposal	
Policy 18	Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted
Policy 19	Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County
Waste Transfer Facilities	
Policy 20	The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.

Key to the appraisal matrices

Symbol	Likely effect on the SA Objective
+	Positive
?	Uncertain or insufficient information on which to determine impact
-	Negative
0	No significant effect / no clear link

Sustainability Appraisal objective	1) To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment
Baseline During the scoping stage the following indicators were identified as a priority for action: Properties at risk from flooding in Kent 56,000 homes in Kent are at risk of flooding and the fact that houses are still being built in flood risk areas was identified as a key sustainability issue. Increasing potential for flooding was also identified as a sustainability issue. Targets By 2010, to increase the number of properties protected in the South East by 15,000 – South East Integrated Regional Framework To prevent all inappropriate development in the floodplain – South East Integrated Regional Framework	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0

Sustainability Appraisal objective	1) To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including those on flood risk through landtake for waste treatment facilities. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and whether or not these sufficiently reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? The options for recycling and composting (see Technical Appendix 1) are focused on collection strategies and will have a relatively limited impact on land use and therefore issues such as flood risk. However, new recycling and composting facilities may be necessary to deal with the increasing amount of waste collected and these could impact on flood risk depending on location, scale, design etc.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0

Sustainability Appraisal objective	1) To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Impacts on flood risk will depend on the location of additional in-vessel composting facilities.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? See Policy 8 for details
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	? Impacts on flood risk will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and flood risk will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as flood risk – is negligible.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	? Impacts on flood risk will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and flood risk will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as flood risk – is negligible.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0

Sustainability Appraisal objective	1) To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	? Impacts on flood risk will depend on the location and nature of individual landfill sites.
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? Impacts on flood risk will depend on the location of transfer stations
Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.) Any impacts on flood risk in Kent (as well as on other issues with a spatial expression such as landscape and biodiversity) will arise from the provision of new waste facilities. Several of the policies indicate the need for new or expanded facilities (e.g. Policy 16 on additional recovery capacity and Policy 20 on an improved transfer station network) but the impact of these policies on flood risk will ultimately depend on where new facilities are located, how they are designed etc. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and flood risk will be considered as part of that analysis. Technical Appendix 1 sets out the appraisal of the options for energy recovery and disposal including the amount of land take associated with the various technologies. The technical work undertaken by ERM indicates that the differences between these options in terms of the land they require – and therefore their likely impacts on issues such as flood risk – is negligible.	

Sustainability Appraisal objective	2) To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts
Baseline During the scoping stage the following indicators were identified as a priority for action: Number of days when air pollution is high – ozone and PM10. Poor air quality was identified as a sustainability issue.	
Targets Annual reduction in number of days when air pollution is high – Kent Environment Strategy: PM10 – 50 μg/m^3 not to be exceeded more than 35 days per year Ozone - 100μm/m^3 not to be exceeded more than 10 times a year Nitrogen dioxide concentration 200 μm^3 not to be exceeded more than 18 times per year - National Air Quality Strategy Carbon dioxide emissions – By 2050 reduce greenhouse gas emissions from activities in the region by 60% - South East Integrated Regional Framework	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	? This approach could help to reduce the amount of waste disposed of and the distance that waste is transported with associated air quality and climate change benefits.
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0 Promoting behavioural change is the key to reducing waste arisings and associated impacts including impacts on air quality and climate change

Sustainability Appraisal objective	2) To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	? It is uncertain as to whether or not promoting the Community and Social Enterprise Sector will lead to *reductions* in waste arisings (and therefore reductions in impacts on air quality and climate change)
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including those on air quality and climate change. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and the degree to which these reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0

Sustainability Appraisal objective	2) To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	+ The technical work by ERM concluded that the options for recycling and composting (see Technical Appendix 1) all result in a net reduction in air pollution and – with the exception of Option F - a net reduction in greenhouse gas (GHG) emissions (NB Option F involves expanding the current cardboard collections to all households). The results indicate that the avoidance of air pollution and GHG emissions through recycling and composting outweighs the air pollution and GHG costs of waste processing and transportation. Option B – increasing the coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - involves the greatest amount of material recovery and therefore the most benefits in terms of reducing air pollution and GHG emissions. The degree of benefit generally depends on the materials targeted for collection with those options that displace virgin non-ferrous metals and plastics performing particularly well. It is important to note that the benefits of reducing air pollution and GHG emissions associated with the avoidance of resource extraction and processing are only likely to be felt outside of Kent (in the short term at least). Please see Technical Appendix 1 for further details.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	+ See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	? Enhancing household access to recycling facilities – assuming this refers to proximity - could reduce the need to transport waste by car. Increasing collections directly from households could also reduce the need to transport waste by car.

Sustainability Appraisal objective	2) To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Home composting rather than larger scale composting could be considered superior as this can provide a means to reduce waste arisings (and therefore the impacts of waste generation). Explicitly promoting in-vessel capacity could work against the principle of home composting.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	+
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	+ The technical work by ERM concluded that the options for energy recovery and disposal (see Technical Appendix 1) would all result in a reduction in air pollution and GHG emissions and that the differences between the options were relatively insignificant. Options that result in the greatest level of recovery particularly of metals and plastics perform well in terms of reducing air pollution and GHG emissions. Option 4 (MBT plant in East Kent stabilising material to be sent to landfill) and Option 8 (In-vessel composting facilities across Kent for kitchen and garden waste) perform the least well because they do not generate energy. It is important to note that the benefits of reducing air pollution and GHG emissions associated with the avoidance of resource extraction and processing are only likely to be felt outside of Kent (in the short term at least). Please see Technical Appendix 1 for further details.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0 To minimise the impacts of waste transportation on air quality and climate change it will be important to ensure that facilities are not of a scale that will attract waste imports from outside Kent.

Sustainability Appraisal objective	2) To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	+ The technical work by ERM concluded that the options for energy recovery and disposal (see Technical Appendix 1) would all result in a reduction in air pollution and GHG emissions and that the differences between the options were relatively insignificant. Options that result in the greatest level of recovery particularly of metals and plastics perform well in terms of reducing air pollution and GHG emissions. Option 4 (MBT plant in East Kent stabilising material to be sent to landfill) and Option 8 (In-vessel composting facilities across Kent for kitchen and garden waste) perform the least well because they do not generate energy. It is important to note that the benefits of reducing air pollution and GHG emissions associated with the avoidance of resource extraction and processing are only likely to be felt outside of Kent (in the short term at least). Please see Technical Appendix 1 for further details.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? Waste transportation will have impacts on air quality and climate change. However, waste transfer stations offer the potential to increase the efficiency of waste transport through bulking up waste etc.

Sustainability Appraisal objective	2) To reduce air pollution and ensure air quality continues to improve; and to address the causes of climate change through reducing emissions of greenhouse gases and ensure that Kent is prepared for its impacts

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

Impacts on air quality and climate change arise from the treatment and transportation of waste. Reducing these impacts ultimately depends on reducing waste arisings to the point where the number of treatment, recovery and disposal facilities and the corresponding level of waste transportation necessary is reduced. Many of the policies are premised on the need to minimise waste arisings, particularly Policy 6. The success of policies such as these will depend on the measures adopted in the Strategy's detailed Action Plans and the success with which these are implemented. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.

The technical work by ERM concluded that the options for recycling and composting (see Technical Appendix 1) all result in a net reduction in air pollution and – with the exception of Option F - a net reduction in greenhouse gas (GHG) emissions (NB Option F involves expanding the current cardboard collections to all households). The results indicate that the avoidance of air pollution and GHG emissions through recycling and composting outweighs the air pollution and GHG costs of waste processing and transportation. Option B – increasing the coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - involves the greatest amount of material recovery and therefore the most benefits in terms of reducing air pollution and GHG emissions. The degree of benefit generally depends on the materials targeted for collection with those options that displace virgin non-ferrous metals and plastics performing particularly well. It is important to note that the benefits of reducing air pollution and GHG emissions associated with the avoidance of resource extraction and processing are only likely to be felt outside of Kent (in the short term at least). Please see Technical Appendix 1 for further details.

Similarly, the technical work by ERM also concluded that the options for energy recovery and disposal (see Technical Appendix 1) would all result in a reduction in air pollution and GHG emissions and that the differences between the options were relatively insignificant. Options that result in the greatest level of recovery particularly of metals and plastics perform well in terms of reducing air pollution and GHG emissions. Option 4 (MBT plant in East Kent stabilising material to be sent to landfill) and Option 8 (In-vessel composting facilities across Kent for kitchen and garden waste) perform the least well because they do not generate energy. It is important to note that the benefits of reducing air pollution and GHG emissions associated with the avoidance of resource extraction and processing are only likely to be felt outside of Kent (in the short term at least).

Two further factors should be noted. Firstly, home composting can serve to reduce waste arisings whereas the collection of garden and / or kitchen waste for large scale composting (e.g. using an in-vessel compost facility) involves waste processing and transportation. Home composting could therefore be considered superior and the KWF should consider promoting this over in-vessel composting.

Secondly, the impacts of air pollution that are most likely to have an impact on Kent residents are those resulting from the transportation of MSW. Mitigation measures should therefore include adhering to the proximity principle – ensuring that waste is processed as close to source as possible – and promoting more sustainable modes of waste transport (rail, river and sea as opposed to road).

Sustainability Appraisal objective	3) To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Baseline During the scoping stage the following indicators were identified as performing reasonably but still needing action: Rivers of Good or Fair chemical and biological water quality *(See objective 10 regarding water consumption figures)* Targets By 2005, for 91% of river length to achieve compliance with Environment Agency River Quality Objectives – South East Integrated Regional Framework 85% compliance with Bathing water directive guideline standard by 2010	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0

Sustainability Appraisal objective	3) To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including those on water quality through landtake for, or pollution from, waste treatment facilities. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and whether or not these sufficiently reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? The options for recycling and composting (see Technical Appendix 1) are focused on collection strategies and will have a relatively limited impact on land use and therefore issues such as water quality and water resources. However, new recycling and composting facilities may be necessary to deal with the increasing amount of waste collected and these could impact on water quality and water resources depending on location, scale, design etc. However, a recent literature review[1] showed that in general there are unlikely to be significant impacts for water quality associated with recycling and composting facilities. Actual impacts are a consequence of the standards of facilities management and the proximity to sensitive receptors and are therefore site dependent (see Annex 5 of the JMWMS by ERM).

[1] *Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes*, Enviros Consulting Ltd and University of Birmingham with Risk and Policy Analysts Ltd, Open University and Maggie Thurgood, 2004 available at: http://www.defra.gov.uk/ENVIRONMENT/WASTE/research/health/pdf/health-report-contents.pdf

Sustainability Appraisal objective	3) To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Impacts on water quality and water resources will depend on the location of additional in-vessel composting facilities.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? See Policy 8 for details

Sustainability Appraisal objective	3) To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	? Impacts on water quality and water resources will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and water quality and water resources will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as water quality and water resources – is negligible. However, ERM's work also included an analysis of the likelihood of water pollution arising from the different technologies and the consequences of such an event. This appraisal indicated that the options resulting in the most landfilling performed worst since landfill and hazardous landfill are associated with the highest risk of pollution. The appraisal also indicated that gasification and incineration present a marginally higher risk in terms of water pollution than other facilities.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0

Sustainability Appraisal objective	3) To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	? Impacts on water quality and water resources will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and water quality and water resources will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as water quality and water resources – is negligible. However, ERM's work also included an analysis of the likelihood of water pollution arising from the different technologies and the consequences of such an event. This appraisal indicated that the options resulting in the most landfilling performed worst since landfill and hazardous landfill are associated with the highest risk of pollution. The appraisal also indicated that gasification and incineration present a marginally higher risk in terms of water pollution than other facilities.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	? Impacts on water quality and water resources will depend on the location and nature of individual landfill sites. The technical work by ERM indicates that options for recovery and disposal which result in the most landfilling present the greatest risk to water quality since landfill and hazardous landfill are associated with the highest risk of pollution.
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0

Sustainability Appraisal objective	3) To maintain and improve the water quality of Kent's rivers, coasts and groundwater and to achieve sustainable water resource management
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? Impacts on water quality and resources will depend on the location of transfer stations.

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

Any impacts on water quality and water resources in Kent (as well as on other issues with a spatial expression such as landscape and biodiversity) will arise from the provision of new waste facilities. Several of the policies indicate the need for new or expanded facilities (e.g. Policy 16 on additional recovery capacity and Policy 20 on an improved transfer station network) but the impact of these policies on water quality and water resources will ultimately depend on where new facilities are located, how they are designed etc. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and water quality and water resources will be considered as part of that analysis. Technical Appendix 1 sets out the appraisal of the options for energy recovery and disposal including the amount of land take associated with the various technologies. The technical work undertaken by ERM indicates that the differences between these options in terms of the land they require – and therefore their likely impacts on issues such as water quality and water resources – is negligible. However, ERM's work also included an analysis of the likelihood of water pollution arising from the different technologies and the consequences of such an event. This appraisal indicated that the options resulting in the most landfilling performed worst since landfill and hazardous landfill are associated with the highest risk of pollution. The appraisal also indicated that gasification and incineration present a marginally higher risk in terms of water pollution than other facilities.

Sustainability Appraisal objective	4) To conserve and enhance Kent's biodiversity, including coastal and marine biodiversity
Baseline During the scoping stage the following indicators were identified as performing reasonably but still needing action: % of Sites of Special Scientific Interest (SSSIs) in favourable condition Population of wild birds Extent of UK BAP priority habitats Decline in the quality and extent of countryside and biodiversity was identified as a sustainability issue. Targets 95% of the SSSI area favourable or recovering by 2010 – English Nature target By 2010, achieve a sustained increase in the wild bird population index (including reversing the historical declines in indices for the farmland and woodland species) - South East Integrated Regional Framework. To maintain the condition and extent of all key regional habitats which are judged to be at a favourable conservation status - South East Integrated Regional Framework To restore and / or re-create key regional habitats so these reach a favourable conservation status - South East Integrated Regional Framework Kent BAP targets / objectives - To retain and maintain all ancient semi-natural woodland; to increase the area of semi-natural woodland by 1,500 ha by 2007; to increase the area of plantation woodland by 350 ha by 2007.	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0

Sustainability Appraisal objective	4) To conserve and enhance Kent's biodiversity, including coastal and marine biodiversity
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including those on biodiversity through landtake for, or pollution from, waste treatment facilities. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and whether or not these sufficiently reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? The options for recycling and composting (see Technical Appendix 1) are focused on collection strategies and will have a relatively limited impact on land use and therefore issues such as biodiversity. However, new recycling and composting facilities may be necessary to deal with the increasing amount of waste collected and these could impact on biodiversity depending on location, scale, design etc.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0

Sustainability Appraisal objective	4) To conserve and enhance Kent's biodiversity, including coastal and marine biodiversity
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Impacts on biodiversity will depend on the location of additional in-vessel composting facilities.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? See Policy 8 for details
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	? Impacts on biodiversity will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and biodiversity will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as biodiversity – is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on biodiversity as negative on the basis that in the short term all the options are likely to have some negative impact on biodiversity and none of the options are likely to enhance biodiversity. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits for biodiversity.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0

Sustainability Appraisal objective	4) To conserve and enhance Kent's biodiversity, including coastal and marine biodiversity
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	? Impacts on biodiversity will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and biodiversity will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as biodiversity – is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on biodiversity as negative on the basis that in the short term all the options are likely to have some negative impact on biodiversity and none of the options are likely to enhance biodiversity. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits for biodiversity.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	? Impacts on biodiversity will depend on the location and nature of individual landfill sites.
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? Impacts on biodiversity will depend on the location of transfer stations.

Sustainability Appraisal objective	4) To conserve and enhance Kent's biodiversity, including coastal and marine biodiversity

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

Any impacts on biodiversity in Kent (as well as on other issues with a spatial expression such as flood risk and landscape) will arise from the provision of new waste facilities. Several of the policies indicate the need for new or expanded facilities (e.g. Policy 16 on additional recovery capacity and Policy 20 on an improved transfer station network) but the impact of these policies on biodiversity will ultimately depend on where new facilities are located, how they are designed etc. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and biodiversity will be considered as part of that analysis. Technical Appendix 1 sets out the appraisal of the options for energy recovery and disposal including the amount of land take associated with the various technologies. The technical work undertaken by ERM indicates that the differences between these options in terms of the land they require – and therefore their likely impacts on issues such as biodiversity – is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on biodiversity as negative on the basis that in the short term all the options are likely to have some negative impact on biodiversity and none of the options are likely to enhance biodiversity. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits for biodiversity.

Sustainability Appraisal objective	5) To protect, enhance and make accessible for enjoyment, Kent's countryside and coast, and its historic environment
Baseline During the scoping stage the baseline identified data gaps particularly with regard to heritage. The decline of the marine environment and loss of countryside were both identified as sustainability issues. Targets Remove 40% of the entries on the 1999 'at risk' list [2006]	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0

Sustainability Appraisal objective	5) To protect, enhance and make accessible for enjoyment, Kent's countryside and coast, and its historic environment
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including those on the countryside and historic environment through landtake for, or pollution from, waste treatment facilities. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and whether or not these sufficiently reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? The options for recycling and composting (see Technical Appendix 1) are focused on collection strategies and will have a relatively limited impact on land use and therefore issues such as the countryside and the historic environment. However, new recycling and composting facilities may be necessary to deal with the increasing amount of waste collected and these could impact on the countryside and the historic environment depending on location, scale, design etc.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0

Sustainability Appraisal objective	5) To protect, enhance and make accessible for enjoyment, Kent's countryside and coast, and its historic environment
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Impacts on the countryside and historic environment will depend on the location of additional in-vessel composting facilities.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? See Policy 8 for details
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	? Impacts on the countryside and the historic environment will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and the countryside and the historic environment will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as the countryside and the historic environment – is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on the countryside and the historic environment as negative on the basis that in the short term all the options are likely to have some negative impact on these and none of the options are likely to enhance the countryside or the historic environment. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits for the countryside and the historic environment.

Sustainability Appraisal objective	5) To protect, enhance and make accessible for enjoyment, Kent's countryside and coast, and its historic environment
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	? Impacts on the countryside and the historic environment will depend on the location and nature of any new recovery facilities. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and the countryside and the historic environment will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them – and therefore their likely impacts on issues such as the countryside and the historic environment – is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on the countryside and the historic environment as negative on the basis that in the short term all the options are likely to have some negative impact on these and none of the options are likely to enhance the countryside or the historic environment. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits for the countryside and the historic environment.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	? Impacts on the countryside and historic environment will depend on the location and nature of individual landfill sites.
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0

Sustainability Appraisal objective	5) To protect, enhance and make accessible for enjoyment, Kent's countryside and coast, and its historic environment
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? Impacts on the countryside and historic environment will depend on the location of transfer stations.

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

Any impacts on the countryside and the historic environment in Kent (as well as on other issues with a spatial expression such as flood risk and biodiversity) will arise from the provision of new waste facilities. Several of the policies indicate the need for new or expanded facilities (e.g. Policy 16 on additional recovery capacity and Policy 20 on an improved transfer station network) but the impact of these policies on the countryside and the historic environment will ultimately depend on where new facilities are located, how they are designed etc. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and the countryside and the historic environment will be considered as part of that analysis. Technical Appendix 1 sets out the appraisal of the options for energy recovery and disposal including the amount of land take associated with the various technologies. The technical work undertaken by ERM indicates that the differences between these options in terms of the land they require – and therefore their likely impacts on issues such as the countryside and the historic environment – is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on the countryside and the historic environment as negative on the basis that in the short term all the options are likely to have some negative impact on these and none of the options are likely to enhance the countryside or the historic environment. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits for the countryside and the historic environment.

Sustainability Appraisal objective	6) To improve efficiency in land use through the re-use of previously developed land and existing buildings, including re-use of materials from buildings
Baseline During the scoping stage the following indicators were identified as performing reasonably but still needing action: (Number of) New homes built on previously developed land The decline in the quality and extent of countryside and biodiversity was identified as a sustainability issue. Targets Kent Environment Strategy - 80% of new homes on previously developed land (PDL), UK Target - 60% of houses in England on PDL	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0

Sustainability Appraisal objective	6) To improve efficiency in land use through the re-use of previously developed land and existing buildings, including re-use of materials from buildings
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including landtake for waste treatment facilities. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and whether or not these sufficiently reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? The options for recycling and composting (see Technical Appendix 1) are focused on collection strategies and will have a relatively limited impact on land use and therefore issues such as the efficient use of land. However, new recycling and composting facilities may be necessary to deal with the increasing amount of waste collected and these could have an impact depending on their location, scale, design etc. Any new recycling and composting facilities should be located on previously developed land wherever possible.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0

Sustainability Appraisal objective	6) To improve efficiency in land use through the re-use of previously developed land and existing buildings, including re-use of materials from buildings
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? In-vessel composting facilities should be located on previously developed land wherever possible.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? See Policy 8 for details
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	? The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and the status of the land (e.g. greenfield, previously developed etc.) will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on the efficient use of land as negative on the basis that in the short term all the options are likely to have some negative impact on the efficiency of land use. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits. All new recovery facilities should be built on previously developed land wherever possible.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0

Sustainability Appraisal objective	6) To improve efficiency in land use through the re-use of previously developed land and existing buildings, including re-use of materials from buildings
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	? The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and the status of the land (e.g. greenfield, previously developed etc.) will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on the efficient use of land as negative on the basis that in the short term all the options are likely to have some negative impact on the efficiency of land use. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits. All new recovery facilities should be built on previously developed land wherever possible.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	? Landfill is unlikely to represent an efficient use of land although landfill sites may be located on former mine workings etc.
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? Any new transfer stations should be located on previously developed land wherever possible.

Sustainability Appraisal objective	6) To improve efficiency in land use through the re-use of previously developed land and existing buildings, including re-use of materials from buildings

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

In order to promote the efficient use of land, any new waste facilities arising from the Strategy (e.g. in-vessel composting facilities, recovery facilities or transfer stations) should be located on previously developed land wherever possible. The Waste Development Framework will include an analysis of potential sites for locating waste management facilities and the status of the land (e.g. greenfield, previously developed etc.) will be considered as part of that analysis. The options for energy recovery and disposal are set out in Technical Appendix 1. The technical work by ERM indicates that the difference between these options in terms of the land required for them is negligible. The appraisal of these options (see Technical Appendix 1) scored their impacts on the efficient use of land as negative on the basis that in the short term all the options are likely to have some negative impact on the efficiency of land use. However, in the longer-term all of the options will reduce the requirement for landfill and it is assumed that this will have positive benefits.

Sustainability Appraisal objective	7) To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car / lorry
Baseline During the scoping stage the following indicators were identified as a priority for action: Travel to work Road traffic Average daily motor vehicle flows The following indicators were identified as performing reasonably but still needing action: Heavy goods vehicles High and growing traffic levels were identified as a sustainability issue. Targets Car use no greater than the 1991 census To reduce regional road traffic in the short to medium term, in line with the Government's national 10 Year Plan (that is, improving the ratio of traffic growth to GDP by 0.8:1 to 0.6:1 by 2010) - South East Integrated Regional Framework To reduce 'private vehicle kilometres travelled' - South East Integrated Regional Framework Number of people killed or seriously injured on roads in the authority - 604 by 2010 (DFT) PSA Target 40% of 1994 / 98 average	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	? This approach could help to reduce the distance that waste is transported.
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0 Promoting behavioural change is the key to reducing waste arisings and the need to transport waste and waste products

Sustainability Appraisal objective	7) To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car / lorry
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	? It is uncertain as to whether or not promoting the Community and Social Enterprise Sector will lead to *reductions* in waste arisings and therefore the need to transport waste and waste products. It may be that community and social enterprise initiatives are more locally based and waste is therefore transported shorter distances for treatment.
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts including those arising from waste transportation. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and the degree to which these reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0

Sustainability Appraisal objective	7) To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car / lorry
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	- ERM's technical work included an analysis of the transport impacts of each of the options for recycling and composting. The requirement to reduce road traffic and the need to travel by car and lorry was identified as a priority for action during the scoping stage of the SA process. As it is assumed that none of the options will result in a net decrease in waste associated traffic, all the options score a negative in relation to the objective. Generally speaking, the negative impacts associated with each of the options increases with an increase in the quantity of material recycled and the distance each material has to travel to reprocessing sites. Option B – increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - results in the most transportation impacts as it delivers the highest levels of recycling / composting. Please see Technical Appendix 1 for further details.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	- See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	? Enhancing household access to recycling facilities – assuming this refers to proximity - could reduce the need to transport waste by car. Increasing collections directly from households could also reduce the need to transport waste by car.
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Home composting rather than larger scale composting could be considered superior as this can provide a means to reduce waste arisings (and therefore the impacts of waste generation including those associated with transportation). Explicitly promoting in-vessel capacity could work against the principle of home composting.

Sustainability Appraisal objective	7) To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car / lorry
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? Increasing capacity at HWRCs may increase private car trips to such sites.
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	- ERM's technical work included an analysis of the transport impacts of each of the options for energy recovery and disposal. The requirement to reduce road traffic and the need to travel by car and lorry was identified as a priority for action during the scoping stage of the SA process. As it is assumed that none of the options will result in a net decrease in waste associated traffic, all the options score a negative in relation to the objective. Option 2 – expanding current contracted capacity at Allington EfW – results in the least transport impacts, mainly because there is no pre-sorting of waste and any by-products are sent to Sheppey for subsequent landfill. There is little to separate the remaining options in terms of transport impacts since these will be dependent on the location of the facility (except for Option 8 which involves transporting recyclables to St Helens in Merseyside for processing). Please see Technical Appendix 1 for further details.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0 It will be important to ensure that facilities are not of a scale that will attract waste imports from outside Kent, as this will mean waste being transported further with associated impacts.

Sustainability Appraisal objective	7) To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car / lorry
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	- ERM's technical work included an analysis of the transport impacts of each of the options for energy recovery and disposal. The requirement to reduce road traffic and the need to travel by car and lorry was identified as a priority for action during the scoping stage of the SA process. As it is assumed that none of the options will result in a net decrease in waste associated traffic, all the options score a negative in relation to the objective. Option 2 – expanding current contracted capacity at Allington EfW – results in the least transport impacts, mainly because there is no pre-sorting of waste and any by-products are sent to Sheppey for subsequent landfill. There is little to separate the remaining options in terms of transport impacts since these will be dependent on the location of the facility (except for Option 8 which involves transporting recyclables to St Helens in Merseyside for processing). Please see Technical Appendix 1 for further details.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? While an improved transfer station network may increase the efficiency of waste transport (e.g. through bulking up waste), transporting waste will nonetheless give rise to a variety of adverse impacts.

Sustainability Appraisal objective	7) To reduce road traffic and its impacts, promote more sustainable modes of transport and reduce the need to travel by car / lorry

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

The transportation of waste for treatment, recovery or disposal gives rise to a range of impacts including on air quality, climate change and local amenity. Reducing these impacts ultimately depends on reducing waste arisings to the point where the number of treatment, recovery and disposal facilities and the corresponding level of waste transportation is reduced. Many of the policies are premised on the need to minimise waste arisings, particularly Policy 6. The success of policies such as these will depend on the measures adopted in the Strategy's detailed Action Plans and the success with which these are implemented. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.

ERM's technical work included an analysis of the transport impacts of each of the options for recycling and composting. The requirement to reduce road traffic and the need to travel by car and lorry was identified as a priority for action during the scoping stage of the SA process. As it is assumed that none of the options will result in a net decrease in waste associated traffic, all the options score a negative in relation to the objective. Generally speaking, the negative impacts associated with each of the options increases with an increase in the quantity of material recycled and the distance each material has to travel to reprocessing sites. Option B – increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - results in the most transportation impacts as it delivers the highest levels of recycling / composting. Please see Technical Appendix 1 for further details.

ERM also undertook an analysis of the transport impacts of each of the options for energy recovery and disposal. As it is assumed that none of the options will result in a net decrease in waste associated traffic, all the options score a negative in relation to the objective. Option 2 – expanding current contracted capacity at Allington EfW – results in the least transport impacts, mainly because there is no pre-sorting of waste and any by-products are sent to Sheppey for subsequent landfill. There is little to separate the remaining options in terms of transport impacts since these will be dependent on the location of the facility (except for Option 5 which involves transporting recyclables to St Helens in Merseyside for processing). Again please see Technical Appendix 1 for further details.

Two further factors should be noted. Firstly, home composting can serve to reduce waste arisings whereas the collection of garden and / or kitchen waste for large scale composting (e.g. using an in-vessel compost facility) involves waste processing and transportation. Home composting could therefore be considered superior and the KWF should consider promoting this over in-vessel composting.

Secondly, the impacts of air pollution that are most likely to have an impact on Kent residents are those resulting from the transportation of MSW. Mitigation measures should therefore include adhering to the proximity principle – ensuring that waste is processed as close to source as possible – and promoting more sustainable modes of waste transport (rail, river and sea as opposed to road).

Sustainability Appraisal objective	8) To reduce waste generation and disposal, and achieve the sustainable management of waste
Baseline During the scoping stage the following indicators were identified as a priority for action: Household waste arisings Growth in waste and lack of landfill capacity was identified as a sustainability issue. Targets To reduce the growth in volume of waste to zero by 2012 - Kent Environment Strategy Target To recover value from 45 per cent of municipal waste and to recycle 30 per cent of household waste by 2010 - 2000 Waste Strategy To reduce landfill for industrial and commercial waste to 85 per cent of the 1998 level by 2005. To increase recovery of all waste in the region by 71% by 2010 - South East Integrated Regional Framework To increase recycling and composting of waste in the region by 50% by 2010 - South East Integrated Regional Framework	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	+ Could help to promote the perception of waste as a resource and promote a 'green economy' in Kent whereby local markets for Kent's wastes are developed
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	+? Promoting behavioural change is key to reducing waste arisings and the sustainable management of waste. The impact of the policy will clearly depend on the success of different campaigns. The Headline Strategy does not provide details of proposed campaigns; these will presumably be set out in the Strategy's detailed Action Plans.

Sustainability Appraisal objective	8) To reduce waste generation and disposal, and achieve the sustainable management of waste
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	? It is uncertain as to whether or not promoting the Community and Social Enterprise Sector will lead to *reductions* in waste arisings and associated impacts. However, community initiatives may serve to promote behavioural change (e.g. a greater local 'ownership' of waste) and the localised management of waste may, for example, help to reduce the distances that waste is transported.
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated impacts. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and the degree to which these reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0 Unlikely to have a significant impact on waste arisings at least in the short- to medium- term.

Sustainability Appraisal objective	8) To reduce waste generation and disposal, and achieve the sustainable management of waste
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	+ Currently, almost 30% of waste produced by households in Kent is separated through kerbside collection, household waste recycling centres (HWRCs) and bring back facilities for recycling and composting. The target therefore represents a considerable increase in recycling and composting relative to the current baseline and – assuming its achievement – should provide a strong boost for sustainable waste management in Kent. However, the ultimate solution lies in reducing waste arisings and the Strategy's primary emphasis should be on promoting waste minimisation and re-use. The target also appears to be significantly below that for the wider South East (see baseline section above). ERM's technical work included an analysis of the degree to which each option for recycling and composting increased recycling relative to the baseline. The analysis concluded that all of the options would result in an increase in recycling and composting. Option B – increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - resulted in the most recycling / composting followed by Option C (expanding glass collections to all households). Option F – expanding the current cardboard collections to all households – resulted in the least recycling / composting. Please see Technical Appendix 1 for further details.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	+
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	+ It clearly makes sense to maximise the capacity of existing schemes to deliver recycling and composting. Increasing rates of household participation in particular will help to promote behavioural change.

Sustainability Appraisal objective	8) To reduce waste generation and disposal, and achieve the sustainable management of waste
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	+ Ensuring that recycling facilities are accessible and easy to use for all householders, across all housing types and sectors of the community will be key to increasing household participation rates and promoting behavioural change. The precise meaning of the term 'accessible' in this context should be clarified. Ideally recycling facilities should be within walking distance of residential areas to reduce the need for car use. Increasing collections directly from households could also reduce the need to transport waste by car.
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Home composting rather than larger scale composting could be considered superior as this can provide a means to reduce waste arisings (and is therefore at the top of the waste hierarchy). Explicitly promoting in-vessel capacity could work against the principle of home composting.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	+
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	+ ERM's technical work included an analysis of the degree to which each option for energy recovery and disposal reduced the amount of waste going to landfill. The analysis concluded that all the options will result in a reduction in the need for landfill. Option 8 – in-vessel composting facilities across Kent for garden and kitchen waste – performs best as it increases the tonnage of waste composted as well as reducing the dependence on landfill. Option 5 (autoclave in East Kent with fluff to Allington EfW) and Option 7 (anaerobic digestion facility in East Kent) perform strongly since they involve recycling and energy recovery. Option 4 – MBT plant in East Kent stabilising material to be sent to landfill – performs the worst as it results in the most waste being sent to landfill. Please see Technical Appendix 1 for further details.

Sustainability Appraisal objective	8) To reduce waste generation and disposal, and achieve the sustainable management of waste
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0 It will be important to ensure that facilities are not of a scale that will attract waste imports from outside Kent, as this will mean waste being transported further with associated impacts.
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	+ ERM's technical work included an analysis of the degree to which each option for energy recovery and disposal reduced the amount of waste going to landfill. The analysis concluded that all the options will result in a reduction in the need for landfill. Option 8 – in-vessel composting facilities across Kent for garden and kitchen waste – performs best as it increases the tonnage of waste composted as well as reducing the dependence on landfill. Option 5 (autoclave in East Kent with fluff to Allington EfW) and Option 7 (anaerobic digestion facility in East Kent) perform strongly since they involve recycling and energy recovery. Option 4 – MBT plant in East Kent stabilising material to be sent to landfill – performs the worst as it results in the most waste being sent to landfill. Please see Technical Appendix 1 for further details.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	+
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? It is unclear whether an improved transfer network will reduce the distance that waste is transported.
Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.) Unsurprisingly, the Headline Strategy generally performs well in relation to the objective. However, several key points should be made. Firstly, the Strategy should clearly prioritise waste	

Sustainability Appraisal objective	8) To reduce waste generation and disposal, and achieve the sustainable management of waste

minimisation and re-use over recycling and composting and recovery and disposal. Most of the options for waste minimisation and re-use involve increasing participation in various schemes (e.g. home composting, waste aware shopping, reusable nappies etc.). Increasing participation will depend on successful campaigns under Policy 4; however, the Headline Strategy does not provide details of these campaigns and much will depend on what is set out in the detailed Action Plans. The uncertainty over this leads to uncertainty as to how successful the Strategy will be in reducing overall waste arisings. This is crucial because in order to reduce the impacts associated with waste, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent.

Secondly, currently almost 30% of waste produced by households in Kent is separated through kerbside collection, household waste recycling centres (HWRCs) and bring back facilities for recycling and composting. The target under Policy 8 – that the KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13 – therefore represents a considerable increase in recycling and composting relative to the current baseline and – assuming its achievement – should provide a strong boost for sustainable waste management in Kent. A key issue in relation to this is home composting versus the collection of garden and / or kitchen waste for large scale composting (e.g. using an in-vessel compost facility). It would be helpful if the Strategy clarified the relationship between home composting and larger scale composting and whether promoting the latter could potentially undermine progress in promoting the former.

Thirdly, ERM's technical work included an analysis of the degree to which each option for recycling and composting increased recycling relative to the baseline. The analysis concluded that all of the options would result in an increase in recycling and composting. Option B – increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - resulted in the most recycling / composting followed by Option O – increasing recycling at HWRCs to 75%. Option F – expanding the current cardboard collections to all households – resulted in the least recycling / composting. Please see Technical Appendix 1 for further details.

Fourthly, ERM also undertook an analysis of the degree to which each option for energy recovery and disposal reduced the amount of waste going to landfill. The analysis concluded that all the options will result in a reduction in the need for landfill. Option 8 – in-vessel composting facilities across Kent for garden and kitchen waste – performs best as it increases the tonnage of waste composted as well as reducing the dependence on landfill. Option 5 (autoclave in East Kent with fluff to Allington EfW) and Option 7 (anaerobic digestion facility in East Kent) perform strongly since they involve recycling and energy recovery. Option 4 – MBT plant in East Kent stabilising material to be sent to landfill – performs the worst as it results in the most waste being sent to landfill. Again please see Technical Appendix 1 for further details.

Fifthly, as stated under Policy 11, the KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community. The precise meaning of the term 'accessible' in this context should be clarified. Ideally recycling facilities should be within walking distance of residential areas to reduce the need for car use and this principle should be supported in the Strategy.

Finally, Policy 1 - encouraging the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent - could help to promote the perception of waste as a resource and promote a 'green economy' in Kent whereby local markets for Kent's wastes are developed. Developing such a green economy should be a key overarching aim of the Strategy.

Sustainability Appraisal objective	9) To increase energy efficiency and the proportion of energy generated from renewable sources in Kent
Baseline Low levels of renewable energy provision identified as a sustainability issue at the scoping stage Targets Renewable energy provision estimated at 0.65% in Kent (compared to 1% for the South East) – Kent targets of 111 MW by 2010 and 154 MW by 2015 derived from regional targets in the South East RPG.	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0 The use in Kent of energy recovered from wastes produced in Kent fits with the idea of increased energy efficiency.
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0

Sustainability Appraisal objective	9) To increase energy efficiency and the proportion of energy generated from renewable sources in Kent
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and associated energy use. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and the degree to which these reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	+ ERM's technical work included an analysis of the energy consumption associated with each option for recycling and composting. The analysis concentrated on the energy consumed in waste treatment; energy generated (e.g. through the capture and utilisation of landfill gas); and the displacement of energy used in the processing of virgin materials. The analysis concluded that Option B – increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - resulted in the greatest reduction in energy consumption. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of reduced energy consumption will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	+ See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0

Sustainability Appraisal objective	9) To increase energy efficiency and the proportion of energy generated from renewable sources in Kent
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	? Ideally recycling facilities should be within walking distance of residential areas to reduce the need for car use (and therefore energy use). Collections from households should also reduce the need to travel by car.
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	? Home composting rather than larger scale composting could be considered superior as this can provide a means to reduce waste arisings (and is therefore at the top of the waste hierarchy). Explicitly promoting in-vessel capacity could work against the principle of home composting.
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	+ See Policy 8 for details
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	+ ERM's technical work included an analysis of the energy consumption associated with each option for energy recovery and disposal. The analysis concentrated on the energy consumed in waste treatment; energy generated (e.g. through the capture and utilisation of landfill gas); and the displacement of energy used in the processing of virgin materials. The analysis concluded that all the options resulted in a net energy saving. These savings are made through reduced demand on virgin materials and through the recovery of energy. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of reduced energy consumption will likely be felt outside of Kent. The Headline Strategy emphasises that no specific technology is favoured in the procurement of additional capacity. In the context of promoting renewables, it should be noted that only anaerobic digestion produces what can be classified as renewable energy (under current definitions). The work undertaken by ERM indicates that the option for an anaerobic digestion facility in East Kent performs the best in terms of energy efficiency. Please see Technical Appendix 1 for further details.

Sustainability Appraisal objective	9) To increase energy efficiency and the proportion of energy generated from renewable sources in Kent
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	? The co-management of different waste streams could potentially contribute to energy efficiency.
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	+ ERM's technical work included an analysis of the energy consumption associated with each option for energy recovery and disposal. The analysis concentrated on the energy consumed in waste treatment; energy generated (e.g. through the capture and utilisation of landfill gas); and the displacement of energy used in the processing of virgin materials. The analysis concluded that all the options resulted in a net energy saving. These savings are made through reduced demand on virgin materials and through the recovery of energy. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of reduced energy consumption will likely be felt outside of Kent. The Headline Strategy emphasises that no specific technology is favoured in the procurement of additional capacity. In the context of promoting renewables, it should be noted that only anaerobic digestion produces what can be classified as renewable energy (under current definitions). The work undertaken by ERM indicates that the option for an anaerobic digestion facility in East Kent performs the best in terms of energy efficiency. Please see Technical Appendix 1 for further details.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0

Sustainability Appraisal objective	9) To increase energy efficiency and the proportion of energy generated from renewable sources in Kent
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	? It is unclear whether an improved transfer network will reduce the distance that waste is transported and therefore energy use.

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

Processing and transporting waste requires energy. Reducing waste arisings and therefore the need to process and transport waste is the key to promoting energy efficiency. Many of the policies are premised on the need to minimise waste arisings, particularly Policy 6. The success of policies such as these will depend on the measures adopted in the Strategy's detailed Action Plans and the success with which these are implemented. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.

ERM's technical work included an analysis of the energy consumption associated with each option for recycling and composting. The analysis concentrated on the energy consumed in waste treatment; energy generated (e.g. through the capture and utilisation of landfill gas); and the displacement of energy used in the processing of virgin materials. The analysis concluded that Option B – increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - resulted in the greatest reduction in energy consumption. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of reduced energy consumption will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.

ERM also undertook an analysis of the energy consumption associated with each option for energy recovery and disposal. The analysis concluded that all the options resulted in a net energy saving. These savings are made through reduced demand on virgin materials and through the recovery of energy. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of reduced energy consumption will likely be felt outside of Kent.

The Headline Strategy emphasises that no specific technology is favoured in the procurement of additional capacity. In the context of promoting renewables, it should be noted that only anaerobic digestion produces what can be classified as renewable energy (under current definitions). The work undertaken by ERM indicates that the option for an anaerobic digestion facility in East Kent performs the best in terms of energy efficiency. Please see Technical Appendix 1 for further details.

Two further factors should be noted. Firstly, home composting can serve to reduce waste arisings whereas the collection of garden and / or kitchen waste for large scale composting (e.g. using an in-vessel compost facility) involves waste processing and transportation. Home composting could therefore be considered superior and the KWF should consider promoting this over in-vessel composting.

Secondly, energy consumption can be reduced through minimising and reducing the impacts associated with waste transportation. Mitigation measures should therefore include adhering to the proximity principle – ensuring that waste is processed as close to source as possible – and promoting more sustainable modes of waste transport (rail, river and sea as opposed to road).

Sustainability Appraisal objective	10) To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services
Baseline Data gaps exist regarding locally produced goods. As part of the monitoring framework for the LTP, the ecological footprint (EF) indicator has been used. The EF for Kent is 3.5. Reduction of this unsustainable ecological footprint is therefore a priority for action. During the scoping stage the following indicators were identified as performing reasonably but still needing action: Per capita consumption (PCC) of water Water use exceeding water availability was identified as a sustainability issue. Targets To stabilise per capita consumption (PCC) of water	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	+ The use in Kent of materials and energy recovered from wastes produced in Kent fits with the philosophy of using local products and services. The policy could help to promote the perception of waste as a resource and promote a 'green economy' in Kent whereby local markets for Kent's wastes are developed
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0

Sustainability Appraisal objective	10) To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	? Several of the options considered by the KWF for waste reduction and re-use include measures which could promote the use of sustainably produced / local products and services. These measures could form the basis for future campaigns and include waste aware (SMART) shopping schemes and product service businesses (involving the loan, hire and lease of services rather than goods). Although initiatives such as these are premised on reducing waste arisings, they could also promote the use of sustainably produced / local products and services. For example product service businesses include libraries, Local Exchange Trading Systems and organic boxes.
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0 Encouraging the Community and Social Enterprise Sector fits with the philosophy of using local products and services.
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	? Several of the options considered by the KWF for waste reduction and re-use include measures which could promote the use of sustainably produced / local products and services. These measures could include waste aware (SMART) shopping schemes and product service businesses (involving the loan, hire and lease of services rather than goods). Although initiatives such as these are premised on reducing waste arisings, they could also promote the use of sustainably produced / local products and services. For example product service businesses include libraries, Local Exchange Trading Systems and organic boxes.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0 Could, if successful, promote more sustainably produced products.

Sustainability Appraisal objective	10) To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	+ ERM's technical work included an analysis of the resource depletion resulting from each option for recycling and composting (see Technical Appendix 1). This exercise measured resource depletion using crude oil, coal and gas as proxies for non-renewable resources. The appraisal indicated that all the recycling and composting options scored positively in terms of resource depletion. Option B – Increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - resulted in the greatest recovery of materials and would achieve the greatest reduction in resource depletion. It is important to note that as resources are not sourced solely within Kent, the benefits of resource depletion will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	+ See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	0
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	+ See Policy 8 for details

Sustainability Appraisal objective	10) To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	+ ERM's technical work included an analysis of the resource depletion resulting from each option for energy recovery and disposal (see Technical Appendix 1). This exercise measured resource depletion using crude oil, coal and gas as proxies for non-renewable resources. The appraisal indicated that all the energy recovery and disposal options scored positively in terms of resource depletion. Option 5 (autoclave in East Kent with fluff to Allington EfW) and Option 7 (Anaerobic digestion facility in East Kent) scored highly since they result in the greatest amount of plastic and metal recovery and generate energy. Option 4 (MBT plant in East Kent stabilising material to be sent to landfill) and Option 8 (in-vessel composting facilities across Kent for garden and kitchen waste) scored the worst since they do not generate energy. It is important to note that as resources are not sourced solely within Kent, the benefits of resource depletion will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0

Sustainability Appraisal objective	10) To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	+ ERM's technical work included an analysis of the resource depletion resulting from each option for energy recovery and disposal (see Technical Appendix 1). This exercise measured resource depletion using crude oil, coal and gas as proxies for non-renewable resources. The appraisal indicated that all the energy recovery and disposal options scored positively in terms of resource depletion. Option 5 (autoclave in East Kent with fluff to Allington EfW) and Option 7 (Anaerobic digestion facility in East Kent) scored highly since they result in the greatest amount of plastic and metal recovery and generate energy. Option 4 (MBT plant in East Kent stabilising material to be sent to landfill) and Option 8 (in-vessel composting facilities across Kent for garden and kitchen waste) scored the worst since they do not generate energy. It is important to note that as resources are not sourced solely within Kent, the benefits of resource depletion will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	0

Sustainability Appraisal objective	10) To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products and services

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

Policy 1 - encouraging the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent - could help to promote the perception of waste as a resource and promote a 'green economy' in Kent whereby local markets for Kent's wastes are developed. This reflects the philosophy of using local products and services.

Several of the options considered by the KWF for waste reduction and re-use include measures which could promote the use of sustainably produced and / or local products and services. These measures include waste aware (SMART) shopping schemes and product service businesses (involving the loan, hire and lease of services rather than goods). Although initiatives such as these are premised on reducing waste arisings, they could also promote the use of sustainably produced and / or local products and services. For example, product service businesses include libraries, Local Exchange Trading Systems and organic boxes.

The Headline Strategy also emphasises the role of the Community and Social Enterprise Sector and this fits with the philosophy of using local products and services.

ERM's technical work included an analysis of the resource depletion resulting from each option for recycling and composting (see Technical Appendix 1). This exercise measured resource depletion using crude oil, coal and gas as proxies for non-renewable resources. The appraisal indicated that all the recycling and composting options scored positively in terms of resource depletion. Option B – Increasing coverage of recycling and composting collections to 100% and increasing participation and capture to 80% - resulted in the greatest recovery of materials and would achieve the greatest reduction in resource depletion. It is important to note that as resources are not sourced solely within Kent, the benefits of resource depletion will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.

ERM also undertook an analysis of the resource depletion resulting from each option for energy recovery and disposal (see Technical Appendix 1). The appraisal indicated that all the energy recovery and disposal options scored positively in terms of resource depletion. Option 5 (autoclave in East Kent with fluff to Allington EfW) and Option 7 (Anaerobic digestion facility in East Kent) scored highly since they result in the greatest amount of plastic and metal recovery and generate energy. Option 4 (MBT plant in East Kent stabilising material to be sent to landfill) and Option 8 (in-vessel composting facilities across Kent for garden and kitchen waste) scored the worst since neither generates energy. It is important to note that as resources are not sourced solely within Kent, the benefits of resource depletion will likely be felt outside of Kent. Again please see Technical Appendix 1 for further details.

Sustainability Appraisal objective	11) To improve the health and well-being of the population and reduce inequalities in health
Baseline During the scoping stage the following indicators were identified as performing reasonably but still needing action: Average life expectancy Percentage of people describing their health as good Long-term illness, health problem or disability which limits people's daily activities or the work they could do The proportion of Kent residents who had a long-term illness, health problem or disability in 2001 which limited their daily activities was 17%, compared with 15.5% in the South East and 18% nationally. However this had risen sharply, from 11% in 1991 – this has been identified as a sustainability issue Over the long term, to reduce death rates from circulatory disease, cancer, accidents and suicides appreciably - South East Integrated Regional Framework Targets Public service target: DH: Reduce substantially the mortality rates from major killers by 2010: from heart disease by at least 40 per cent in people under 75; from cancer by at least 20 per cent in people under 75.	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	0
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0

Sustainability Appraisal objective	11) To improve the health and well-being of the population and reduce inequalities in health
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	0
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	+? Minimising waste arisings and promoting re-use are the key to reducing overall levels of waste generation and the impacts associated with this including those on public health. However, in order to reduce sustainability impacts, waste arisings need to decline to the point where fewer waste treatment facilities are necessary in Kent. Much will depend on the measures put in place in the Strategy's detailed Action Plans and the degree to which these reduce waste arisings. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? + ERM's technical work included an analysis of the health impacts associated with each option for recycling and composting. The analysis was based on human toxicity related to the inputs (full life cycle) and outputs of the waste treatment activities. Option B – increasing coverage of recycling and composting collections to 100% and increase participation and capture to 80% - results in the greatest recovery of materials and therefore the greatest benefit. The results again demonstrate that the major benefit of recycling / composting is that it reduces the need for primary resource extraction and production. In this case, as the production of virgin aluminium generates toxic pollution, so the options that recycle non-ferrous metal score highly. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of improved health will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.

Sustainability Appraisal objective	11) To improve the health and well-being of the population and reduce inequalities in health
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? + See Policy 8 for details
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	0
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	? + See Policy 8 for details
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	? - The construction of new waste management facilities for energy recovery and disposal is often controversial, with their perceived public health impacts central to the debate. However, there are numerous conflicting reports and opinions about the relative impacts of different facilities. Although any health impact should be treated with concern, studies show the total number of emissions to hospital associated with waste technologies to be relatively low. The technical work by ERM indicates that the greatest impact on health is associated with the energy from waste (EfW) options. Option 1 – new EfW facility in East Kent – and Option 2 – expand current contracted capacity at Allington EfW – therefore perform the worst. However, as stated above, the impacts are relatively insignificant. Option 7 – anaerobic digestion facility in East Kent – has the smallest health impacts since anaerobic digestion is currently believed to be benign and because the end product is landfilled. Please see Technical Appendix 1 for further details.

Sustainability Appraisal objective	11) To improve the health and well-being of the population and reduce inequalities in health
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	? - The construction of new waste management facilities for energy recovery and disposal is often controversial, with their perceived public health impacts central to the debate. However, there are numerous conflicting reports and opinions about the relative impacts of different facilities. Although any health impact should be treated with concern, studies show the total number of emissions to hospital associated with waste technologies to be relatively low. The technical work by ERM indicates that the greatest impact on health is associated with the energy from waste (EfW) options. Option 1 – new EfW facility in East Kent – and Option 2 – expand current contracted capacity at Allington EfW – therefore perform the worst. However, as stated above, the impacts are relatively insignificant. Option 7 – anaerobic digestion facility in East Kent – has the smallest health impacts since anaerobic digestion is currently believed to be benign and because the end product is landfilled. Please see Technical Appendix 1 for further details.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0

Sustainability Appraisal objective	11) To improve the health and well-being of the population and reduce inequalities in health
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	0

Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.)

ERM's technical work included an analysis of the health impacts associated with each option for recycling and composting. The analysis was based on human toxicity related to the inputs (full life cycle) and outputs of the waste treatment activities. Option B – increasing coverage of recycling and composting collections to 100% and increase participation and capture to 80% - results in the greatest recovery of materials and therefore the greatest benefit. The results again demonstrate that the major benefit of recycling / composting is that it reduces the need for primary resource extraction and production. In this case, as the production of virgin aluminium generates toxic pollution, so the options that recycle non-ferrous metal score highly. It is important to note that as resources are not sourced solely within Kent, many of the benefits in terms of improved health will likely be felt outside of Kent. Please see Technical Appendix 1 for further details.

ERM has emphasised that the construction of new waste management facilities for energy recovery and disposal is often controversial, with their perceived public health impacts central to the debate. There are also numerous conflicting reports and opinions about the relative impacts of different facilities available to fuel this debate. In an attempt to clarify the situation, DEFRA recently published a health effects report[2] that aimed to bring together, in one place, information from all the studies conducted to date. Although there are a number of data gaps (notably on composting and emerging technologies such as autoclaving), this is the best reference information that is available, and ERM used it as the basis for the technical appraisal work. Although any health impact should be treated with concern, the studies show the total number of emissions to hospital associated with waste technologies to be relatively low (although this is clearly reliant on the correct operation of facilities).

ERM also undertook an analysis of the health impacts associated with each of the options for energy recovery and disposal. This indicates that the greatest impact on health is associated with the energy from waste (EfW) options. Option 1 – new EfW facility in East Kent – and Option 2 – expand current contracted capacity at Allington EfW – therefore perform the worst. However, as stated above, the impacts are considered relatively insignificant. Option 7 – anaerobic digestion facility in East Kent – has the smallest health impacts since anaerobic digestion is currently believed to be benign and because the end product is landfilled. Please see Technical Appendix 1 for further details.

Notwithstanding the above, the most effective way to reduce health risks (perceived or otherwise) is to reduce overall waste arisings and therefore the need for additional waste management facilities. Many of the policies are premised on the need to minimise waste arisings, particularly Policy 6. The success of policies such as these will depend on the measures adopted in the Strategy's detailed Action Plans and the success with which these are implemented. The appraisal of the four options for waste reduction and re-use (see Technical Appendix 1) indicates that only Options 3 and 4 could lead to the necessary reduction in MSW arisings.

[2] *Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes*, Enviros Consulting Ltd and University of Birmingham with Risk and Policy Analysts Ltd, Open University and Maggie Thurgood, 2004 available at: http://www.defra.gov.uk/ENVIRONMENT/WASTE/research/health/pdf/health-report-contents.pdf

Sustainability Appraisal objective	12) To build a strong, stable and sustainable economy which provides prosperity and opportunities (including learning and skills) for all, and in which environmental and social costs fall on those who impose them, and efficient resource use is incentivised
Baseline During the scoping stage the following indicators were identified as a priority for action (i.e. performing poorly relative to various comparators): Change in total employment over time Average gross weekly earnings VAT registered business per 1000 population Changes in total VAT registered business stock Proportion of businesses in knowledge-driven sectors Proportion of professional occupations among employed workforce GVA per capita During the scoping stage the following indicators were identified as performing reasonably but still needing action: Unemployment rate Proportion of people of working age in employment The following were identified as sustainability issues: Areas of deprivation and social exclusion; pockets of unemployment Shortage of skills in key growth areas Some town centres in decline, particularly coastal towns Targets Improve average wage levels in Kent compared to the national average so that the variance is 5% or less, on one or more years over the life of the LAA. [LAA Outcome 8] To narrow the gap in GVA per capita between the best and worst performing parts of the region - South East Integrated Regional Framework	
Policy	**Likely impact of policy on objective (short- to long-term)**
Policy 1 The KWF will encourage the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent. It will aim to influence other areas of public policy and service delivery to support this agenda	+ Could help to promote a 'green economy' in Kent whereby local markets for Kent's wastes are developed with associated prospects for job creation
Policy 2 To deliver the Strategy, the County, District and Borough Councils will work towards a new Kent Waste Partnership with a formal joint committee structure; they will actively seek the views of stakeholders, and their contribution to achieving the Strategy's objectives	0

Sustainability Appraisal objective	12) To build a strong, stable and sustainable economy which provides prosperity and opportunities (including learning and skills) for all, and in which environmental and social costs fall on those who impose them, and efficient resource use is incentivised
Policy 3 All stakeholders, including elected Members, will be kept informed and consulted on waste management issues affecting Strategy implementation	0
Policy 4 Targeted and co-ordinated campaigns will be run across Kent to inform, educate and to work towards changing behaviour of householders	0
Policy 5 The authorities will work jointly and individually to encourage the Community and Social Enterprise Sector to reach its full potential in delivering cost-effective and sustainable waste management services	? Could potentially encourage local job creation (though it is unclear whether or not encouraging the Community and Social Enterprise Sector would produce more or less jobs than leaving waste management in the hands of local authorities).
Policy 6 Waste minimisation and re-use will be prioritised and the KWF will seek through its wider policy aims to break the link between waste production and economic growth	? Success in minimising waste and increasing re-use could potentially reduce employment in the waste management sector (although this would seem unlikely given trends in waste arisings). Breaking the link between waste production and economic growth is key to a sustainable economy; however, the Strategy's scope for promoting this is limited.
Policy 7 The KWF will lobby for measures to combat waste growth in areas such as product design and producer responsibility that are most effectively pursued at the national and international levels	0
Policy 8 The KWF will achieve a level of 40% recycling and composting household waste by 2012 / 13	? The demand for a greater number of recycling and composting facilities could provide employment although jobs might be lost lower down the waste hierarchy (e.g. at landfill sites). Efficient resource use is key to promoting a sustainable economy.
Policy 9 The KWF authorities will work together to develop, to maintain and to improve schemes that secure the best recycling and composting performance for Kent as a whole	? See Policy 8 for details

Sustainability Appraisal objective	12) To build a strong, stable and sustainable economy which provides prosperity and opportunities (including learning and skills) for all, and in which environmental and social costs fall on those who impose them, and efficient resource use is incentivised
Policy 10 The KWF will secure higher rates of performance from existing services through education and awareness-raising	0
Policy 11 The KWF will strive to make waste and recycling accessible and easy to use for all householders, across all housing types and sectors of the community	0
Policy 12 The KWF will work to secure additional in-vessel composting capacity in the County to enable the authorities in the east of Kent to provide an efficient and cost-effective service for managing compostable wastes	0 Although could provide a limited number of jobs
Policy 13 The recycling and composting performance of HWRCs will be improved, reaching 60% by 2012 / 13, while maintaining high standards of customer service	+ Technical work by ERM indicates that increasing recycling at the HWRCs to 60% performs well in terms of job creation relative to other options for recycling and composting.
Policy 14 A timely procurement programme will be implemented to provide sufficient capacity for Kent to continue to meet its statutory targets for the diversion of biodegradable municipal waste	0
Policy 15 The procurement programme for additional capacity will take account of the opportunities for co-management with other waste streams, but will discourage facilities of a scale that will attract imports of waste to the County.	0
Policy 16 Procurement of additional capacity will keep technical options open and flexible in terms of the number and scale of facilities to be provided but will need to emphasise deliverability	0 Technical work by ERM indicates that there is only a marginal variation between the employment opportunities offered by different energy recovery and disposal facilities.
Policy 17 Kent County Council will take a pragmatic approach to trading landfill allowances, being willing to trade, but not reliant on trading for compliance or essential income	0

Sustainability Appraisal objective	12) To build a strong, stable and sustainable economy which provides prosperity and opportunities (including learning and skills) for all, and in which environmental and social costs fall on those who impose them, and efficient resource use is incentivised
Policy 18 Kent will procure landfill capacity to meet the need for the disposal of residual waste for which recovery capacity is not contracted	0
Policy 19 Where it is cost effective, Kent will exceed its statutory targets for diversion of biodegradable municipal waste from landfill in order to preserve landfill void space in the County	0
Policy 20 The transfer station network will be improved across Kent to promote the efficient transport of wastes for treatment, recovery and disposal.	0
Summary (e.g. key issues arising, potential mitigation measures, sources of uncertainty, assumptions in making the assessment, important impact dimensions etc.) Policy 1 - encouraging the conservation of resources through the use in Kent of materials and energy recovered from wastes produced in Kent - could help to promote the perception of waste as a resource and promote a 'green economy' in Kent whereby local markets for Kent's wastes are developed with associated prospects for job creation. Developing such a green economy should be a key overarching aim of the Strategy. Policy 6 emphasises that breaking the link between waste production and economic growth is key to a sustainable economy. However, the Strategy's scope for decoupling waste arisings from economic growth appears to be limited. In terms of job creation, technical work by ERM indicates that increasing recycling at HWRCs to 60% performs well relative to other options for recycling and composting (see Technical Appendix 1). The work by ERM also indicates that there is only a marginal variation between the employment opportunities offered by different energy recovery and disposal facilities.	