

## Minerals and Waste Joint Plan



## Preferred Options

Sustainability Appraisal Update Report

Volume 1: Appendix 2 - Full Policy Assessment

November 2015

# **Joint Minerals and Waste Plan**

**Preferred Options Consultation**

**Sustainability Appraisal Update Report**

**Volume I: Appendix 2: Full Policy Assessments**

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## Policy M01- Broad geographical approach to supply of aggregates

### Preferred Option

The Joint Plan area outside the North York Moors National Park, the Areas of Outstanding Natural Beauty and the City of York will be the main focus for extraction of aggregate (sand and gravel and crushed rock). Exceptions to this principle will be made for:

- 1) In the National Park and Areas of Outstanding Natural Beauty, the extraction of crushed rock aggregate where it is incidental to building stone extraction as the primary activity, and where the removal of crushed rock from the site will not compromise the high quality reclamation and afteruse of the site.
- 2) In the Areas of Outstanding Natural Beauty, the extension of time for the extraction of remaining permitted reserves at existing quarries and/or, subject where necessary to the major development test, the limited lateral extension or deepening of existing quarries where necessary to help ensure continued operation of the site during the plan period. Any proposals in these areas will need to demonstrate a particularly high standard of mitigation of any environmental impacts including, where practical, enhancement of mitigation and quality of site reclamation compared with that required by the existing permission/s.
- 3) In the City of York area, the small scale extraction of sand and gravel where the development will comply with the development management policies in the Plan

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓	✓	✓	✓	This preferred policy would provide protection to the National Park and AONBs (which are amongst the most biodiverse parts of the plan area), though as the National Park and AONBs aren't likely to provide sand and gravel in any significant way, in practice this effect only relates to crushed rock. The policy would still allow for sites in AONBs to extend their working period and also incorporate lateral expansions. While effects from continued operation are likely to be relatively low level and often a continuation of extant effects (which will have mostly been managed down to acceptable levels), lateral extensions may in some cases affect potentially biodiverse or geologically interesting areas (for instance some sites in AONBs lie close to woodland and local SINC sites). However the policy's insistence on a high level of mitigation and where possible enhancement should minimise effects.
	-	-	-					
	?	?	?					

								<p>Other exceptions in the policy include for incidental crushed rock extraction at building stone sites, which is considered to be a neutral effect on biodiversity / geodiversity as the site footprint is not expected to be extended. Small scale extraction in York must comply with development control policies, which should moderate effects to a relatively small and temporary scale and ultimately achieve a net gain.</p> <p>Some uncertainty is noted as this policy relies on other as yet unadopted policies in the plan for mitigation.</p>
2.	- ?	- ?	- ?	✓	✓	✓	✓	<p>This preferred policy would provide protection to the National Park and AONBs, though as the National Park and AONBs aren't likely to provide sand and gravel in any significant way, in practice this effect only relates to crushed rock. Water constraints are situated throughout the plan area, so effects are likely to continue to occur as the wider plan area outside of designated landscapes will be a focus. Incidental extraction in the National Parks and AONBs is unlikely to have a significant effect at a strategic level (though small scale local effects may still occur).</p> <p>Lateral expansion and deepening of extant quarries in the AONB, and allowance of small sites in York may also heighten effects locally in those areas depending on the site and issues such as the depth of water table; however references to high standards of mitigation and the development control policies will ensure effects are reduced significantly.</p> <p>Overall effects are minor negative.</p>
3.	+	+	+		✓	✓		<p>Meeting the need for aggregates largely from outside of National Parks and AONBs is likely to have a minor positive effect on this objective as it will direct extraction closer to the main road networks and locations where they are likely to be used, though this effect is minor as it essentially only occurs in relation to crushed rock (as other aggregates are largely confined to the are outside of designated landscapes anyway) The preferred policy also allows for small scale extraction close to York and incidental extraction in National Parks and deepening and lateral extension in AONBs, which is likely to help with local supply in these areas.</p>
4.	+ ?	+ - ?	+ - ?	✓		✓		<p>This option will protect air quality in the National Park, which is a part of its Special Qualities, as dust and transport impacts will be reduced. In the AONBs and York there is likely to be a continuation of effects into the longer term, though the policy offers strong mitigation for these areas. In the wider plan area effects may increase very modestly if it attracts additional crushed rock extraction as a result of the policy, but such effects are generally local to sites and will be controlled to a large extent by other policies in the plan (i.e. the</p>

							development control policies). Overall the policy is minor positive, though some uncertainty is noted as this policy relies on other as yet unadopted policies in the plan for mitigation.
5.	0 -	0 -	0 -	✓		✓	Generally, land outside of the National Park and AONBs is of higher agricultural quality and therefore this option could lead to a low level loss of high quality agricultural land if crushed rock is sourced from the wider plan area.
6.	+	+	+	✓		✓	Meeting the need for aggregates from outside of National Parks and AONBs is likely to have a minor positive effect on this objective as it may direct some crushed rock extraction closer to the main road networks and locations where aggregates are likely to be used, thus reducing greenhouse gas emissions from transport. It may also to a small degree help avoid locating additional sites in areas which would cause the loss of carbon rich soils or habitats (which are more prevalent in protected landscapes), though extensions in AONBs may still cause the loss of minor carbon sinks.
7.	0	0	0	✓		✓	As sand and gravel will continue to be extracted from the wider plan area any flood storage benefits and issues of increased flooding are likely to continue broadly as before, though there may be some additional crushed rock expansion in this area which may have local positive and negative effects. Broadly neutral.
8.	0	0	0				There would be no effect as the preferred policy does not address the amount of or principle of aggregates extraction.
9.	0	0	0				Although extraction can result in waste being produced, this option is considering the strategic locations for extraction, not the principle or amount of extraction.
10.	+	+	+				<p>The rich historic environment of the National Park and AONBs would be protected from non-incidentally crushed rock extraction, and the allowance of the supply of incidental aggregate from building stone sites may help to keep some building stone sites viable (which is important for preserving historic buildings and architectural styles). Some minor impacts may still occur through extensions to sites in AONBs and small sites in the City of York Area, though the policy provides for a high standard of mitigation.</p> <p>While the wider plan area also has a large amount of nationally and even internationally significant historic interest. Some additional crushed rock extraction may occur here. It is assumed that this would be mitigated to an extent by other policies in the plan (e.g. the development control policies – but see objective 1 for mitigation in this regard).</p> <p>Some uncertainty is noted as this policy relies on other as yet unadopted policies in the plan for mitigation.</p>
11.	+	+	+	✓		✓	This preferred policy is likely to be positive for National Parks, but could cause some continuation of effects in AONBs, though high levels of mitigation would apply. Overall though crushed rock extraction in this area would decrease going forward as new sites wouldn't be permitted. Around the City of York small scale



							<p>extraction may have small scale effects on the setting of the city and its Green Belt, though this would be moderated by the development control policies. Overall effects are likely to be slightly positive in this area.</p> <p>Elsewhere there may be some additional crushed rock sites which could have largely local negative effects. Some uncertainty is noted as this policy relies on other as yet unadopted policies in the plan for mitigation.</p>
12.	+	+	+		✓	✓	<p>Overall, as this option does not relate to the principle or amount of extraction, it is likely that the impact on employment and the economy would be around the same as the current situation. There may be slight positive effects through the protection of protected landscapes which might prevent possible future reductions in tourist spend close to sites in those areas.</p> <p>The provision of incidental crushed rock in the National Park and AONBs may help to support the viability and vitality of communities through job creation / retention at building stone quarries (very small scale effect).</p>
13.	+	+	+		✓	✓	<p>Whilst there may be localised effects on tourism associated with assets in the NYCC area, it is considered that the protection afforded to the National Park and AONBs (where quarrying could be particularly intrusive on the visitor experience) would result in minor positive effects on this objective.</p> <p>The provision of incidental crushed rock in the National Park and AONBs may help to support the viability and vitality of communities through job creation / retention at building stone quarries (very small scale effect).</p>
14.	+	+	+	✓	✓	✓	<p>This option would have minor positive effects on enjoyment and understanding of the National Park and recreation in AONBs, particularly if crushed rock aggregates extraction decreased in the National Park and AONBs (though at least a continuation of existing effects is likely to arise as quarries in the AONBs continue to be deepened, have their operating period extended or lateral extensions approved). Higher quality restorations in AONBs may also occur for extended / deepened sites.</p> <p>There could however be minor negative effects on recreation opportunities in the wider North Yorkshire planning area due to possible minor increases in crushed rock extraction, bearing in mind the extensive Rights of Way network and areas of open access land, although there may be positive effects in the longer term should quarry reclamation provide new recreational opportunities (as directed by the reclamation and after use proposed policy (D10) in the draft plan). Future small scale quarrying in York may have negative small scale negative effects which would be mitigated to a degree by development control policies.</p> <p>Some uncertainty is noted as this policy relies on other as yet unadopted policies in the plan for mitigation.</p>

15.	?	?	?		✓	✓		Whether or not there are any effects on the health, safety and wellbeing of communities will depend upon the location of any quarries. There may be long term benefits from restoration/reclamation but again the benefits would depend on the location and the details of the restoration scheme.
16.	0	0	0	✓			✓	As sand and gravel will continue to be extracted from the wider plan area any flood storage benefits and issues of increased flooding are likely to continue broadly as before, though there may be some additional crushed rock expansion in this area which may have local positive and negative effects. Broadly neutral.
17.	+	+	+		✓		✓	This option may result in shorter supply chains by directing extraction towards the NYCC area where there is a greater concentration of users of aggregates.

**Summary of assessment** This preferred option exhibits a range of different effects. In the main the sustainability objectives recorded minor positive effects for the protected landscapes in the plan area. However, some minor negative effects associated with crushed rock extraction shifted location away from protected areas and into the remaining plan area.

**Recommendations:** No recommendations are made.

## Policy M02: Provision of sand and gravel

### Preferred Option

Total provision for sand and gravel over the 16 year period 1st January 2015 to 31st December 2030 will be made in the range of 41.3mt to 42.8mt, at an equivalent annual rate between 2.58mt and 2.68mt.

Additional provision shall be made, through a mid-term review of provision in the Plan, if necessary in order to maintain a 7 year landbank of sand and gravel at 31 December 2030 based on an annual rate of provision to be determined through the review.

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SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	?	?	?	?	?	?	?	The impact of this on biodiversity is uncertain as no indication is given of where this provision would be, so it is not known the extent to which biodiversity and geodiversity would be affected though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be consumed (equivalent to 21 times the amount of land required by submission site MJP41 if all sites followed the same pattern of development, which of course they don't <sup>1</sup> ) which will inevitably have some negative impacts, the magnitude of which is unknown.
2.	?	?	?	?	?	?	?	The impact of this on water is uncertain as no indication is given of where this provision would be, so it is not known the extent to which water would be affected though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be consumed (equivalent to 21 times the amount of land required by submission site MJP41 if all sites followed the same pattern of development, which of course they don't <sup>2</sup> ) which will inevitably have some negative impacts.
3.	?	?	?	?	?	?	?	The impact of this on transport is uncertain as no indication is given of where this provision would be, so it is not known the extent to which transport would be affected. All that can be said is that between 41.3 and 42.8 mt of sand and gravel will need to be moved by some type of transport (most likely road), which will inevitably

<sup>1</sup> In practice no two sites are the same as the distribution, depth and accessibility of the resource varies between sites leading to large variations in how much material can be extracted.

<sup>2</sup> As objective 1

								lead to some impacts.
4.	?	?	?	?	?	?	?	The impact of this on air quality is uncertain as no indication is given of where this provision would be, so it is not known the extent to which air quality would be affected. All that can be said is that between 41.3 and 42.8 mt of sand and gravel will need to be moved by some type of transport (most likely road), which will inevitably lead to some air impacts.
5.	?	?	?	?	?	?	?	The impact of this on soils / land is uncertain as no indication is given of where this provision would be, so it is not known the extent to which soils / land would be affected though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be consumed (equivalent to 21 times the amount of land required by submission site MJP41 if all sites followed the same pattern of development, which of course they don't <sup>3</sup> ) which will inevitably have some negative impacts.
6.	--	--	--	✓		✓		A further 41.3 to 42.8 mt of sand and gravel extraction would require an increased amount of energy to extract and transport the resource (however transport distance, which determines the magnitude of emissions, is determined by location), and further release of carbon from soil loss. As carbon in the atmosphere is cumulative this option works against the climate change objective.
7.	?	?	?	?	?	?	?	The impact of this on climate adaptation is uncertain as no indication is given of where this provision would be, so it is not known the extent to which climate adaptation would be affected.
8.	--	--	--	✓		✓		This would work against minimising the use of resources as effectively this would allow for a further 41.3 to 42.8 mt of primary resources to be consumed at a steady rate. To some extent this policy is mitigated by policy M11 which encourages alternatives to land won primary aggregate, though it is acknowledged that many secondary and recycled aggregates are not direct substitutes for sand and gravel.
9.	-	-	-		✓		✓	While an argument could be put that provisioning for primary aggregates at a substantial level might disincentivize the uptake of secondary and recycled aggregate, such materials are not necessarily good substitutes for primary aggregates, and to an extent operate as distinct markets as demand for primary aggregates is driven by demand for higher quality aggregates, whereas secondary and recycled materials tend to be for lower grade uses. However, this preferred policy would work in combination with M11: 'Supply of Alternatives to Land Won Primary Aggregates' which would support supply infrastructure for this source of materials (though would not set a target figure for provision in the same way as this policy).
10.	?	?	?	?	?	?	?	The impact of this on the historic environment is uncertain as no indication is given of where this provision would be, so it is not known the extent to which historic environment would be affected, though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be

<sup>3</sup> As objective 1

								consumed (equivalent to 21 times the amount of land required by submission site MJP41 if all sites followed the same pattern of development, which of course they don't <sup>4</sup> ) which will inevitably have some negative impacts in a plan area that is rich in archaeological potential and historic environment assets.
<b>11.</b>	?	?	?	?	?	?	?	The impact of this on the landscape is uncertain as no indication is given of where this provision would be, so it is not known the extent to which the landscape would be affected, though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be consumed (equivalent to 21 times the amount of land required by submission site MJP41 if all sites followed the same pattern of development, which of course they don't <sup>5</sup> ) which will inevitably have some negative impacts in a plan area that has high quality and valued landscapes that are often within range of visual receptors.
	-	-	-					
<b>12.</b>	+	+	+	✓		✓		This option is likely to have positive effects on economic growth as supply of minerals should be met in line with Plan area demand and demand for exports, with a review half way through the plan period to ensure sufficient provision going forward and that the 7 year landbank at 2030 is maintained. This will help underpin future development which is vital for economic growth, and incorporates a level of flexibility.
	+	+	+					
<b>13.</b>	?	?	?		✓	✓	✓	The impact of this preferred policy on the vitality of communities is uncertain as no indication is given of where this provision would be, so it is not known the extent to which communities would be affected. However, there is some likelihood (albeit at an unknown extent) that communities would come under increased pressure (e.g. from traffic or noise), and that additional local jobs may be available.
<b>14.</b>	0	0	+	✓			✓	Through this preferred policy, combined with other policies in the plan, long term opportunities for creation of leisure and recreation opportunities in the plan area may occur through site reclamation.
	?	?	?					Some uncertainty is noted as the policy relies on other as yet unadopted policies in the plan to achieve this effect.
<b>15.</b>	?	?	?	✓			✓	The impact of this preferred policy on the vitality of communities is uncertain as no indication is given of where this provision would be, so it is not known the extent to which communities would be affected. However, there is some likelihood (albeit at an unknown extent) that communities near to sites would come under increased pressure (e.g. from traffic, dust or noise) which could affect health and wellbeing, though there may also be some benefits as sites are restored.
<b>16.</b>	+	+	+	✓			✓	Continued provision of sand and gravel resources is likely to continue to open up opportunities for future flood storage as sand and gravel often occurs in the floodplain and is often restored to flood storage.
<b>17.</b>	+	+	+	✓			✓	The development needs of local communities are likely to continue to be supported by this objective.

<sup>4</sup> See footnote 1

<sup>5</sup> See footnote 1

**Summary of assessment** This preferred policy's effects are in the main uncertain as no indication of where provision would be obtained from is presented. However, clearly extracting a substantial volume of sand and gravel will have at least some environmental effects, though the magnitude of these effects is dependent on location. There are a small number of exceptions to this. For instance, it requires energy to extract and to transport minerals which, assuming continued reliance on fossil energy, would generate significant CO<sub>2</sub> and other greenhouse gases, with strongly works against the climate change objective. Similarly, the 'minimising resource use' use objective displays strong negative effects, as this policy will allow for the consumption of up to 42.8 Mt of primary minerals. There are also some positive effects noted, for instance the recreation objective receives indirect positive support, as further extraction would ultimately lead to further restoration in line with other policies in the plan, while the economic development, flooding and changing population objectives would also be supported.

**Recommendations** While much is uncertain in relation to this objective, it is recognised that this is the nature of policies such as this. To some extent this policy is mitigated by policy M11 which encourages alternatives to land won primary aggregate, though it is acknowledged that many secondary and recycled aggregates are not direct substitutes for sand and gravel. Further consideration of the potential contribution made by recycled and secondary aggregate is recommended when this policy is considered at the mid-term review, depending on the availability of reliable data.

## Policy M03: Overall distribution of sand and gravel provision

### Preferred Option

Overall provision of sand and gravel will be allocated in the following proportions:

Southwards distribution area: 50%

Northwards distribution area: 45%

Building sand: 5%

If it is not practicable to make overall provision, through grant of permission on allocated sites in accordance with this ratio, then provision for concreting sand and gravel shall be made across both areas in combination.

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SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	?	?	+	✓		✓	✓	<p>Planning for a 50:45:5 split would align the plan with current market demand; meaning more efficient transport of minerals with fewer impacts on species (in terms of traffic fatalities) and less air pollution impacts on biodiversity than not planning in this way. However, these effects are expected to be relatively minor. The split may lead to some cumulative pressure on the network of SINC sites and ancient woodlands in the south of the plan area, however, in the main impacts would not be known until locations are confirmed. The distribution may also help create greater opportunities for biodiversity in the long term if sites are restored to flood storage / nature conservation.</p> <p>45 per cent of the split would also favour a more northward distribution which would bring effects on the SINC / woodland network in that area too (albeit to a lesser extent).</p> <p>There is, however, significant uncertainty in this assessment.</p>

2.	?	?	?		✓	✓	✓	<p>A greater rate of extraction in the south may bring some sites closer to Source Protection Zones than the opposite approach. Water quality in the south is generally moderate, which given operations like dewatering may be used, at a local scale this might have a negative effect on the achievement of water body status objectives. The net effect is therefore rated as minor negative in the medium to long term.</p> <p>45 per cent of the split would also favour a more northward distribution which would continue to bring (slightly lesser) effects there.</p> <p>There is, however, significant uncertainty in this assessment</p>
3.	+	+	+	✓		✓		<p>Planning for a 50:45:5 split would align the plan with current market demand meaning more efficient transport, particularly over time as more provision adheres to the split.</p>
4.	+	+	+	✓			✓	<p>Planning for a 50:45:5 split would align the plan with current market demand meaning more efficient transport, and therefore fewer emissions to air, particularly over time as more provision adheres to the split. It is not possible to say, though it is not thought likely, that Air Quality Management Areas would be affected by this split.</p>
5.	?	?	?	✓		✓		<p>A greater emphasis on southward distribution would potentially steer more development to some of the best agricultural land in the plan area. However, a northward distribution would also steer sand and gravel extraction towards best and most versatile agricultural land.</p> <p>45 per cent of the split would favour a more northward distribution which would bring slightly lesser, though still significant, negative effects.</p> <p>There is, however, significant uncertainty in this assessment</p>
6.	+	+	+	✓			✓	<p>Although a greater emphasis on the south might affect slightly more woodland, leading to increased carbon loss, this is likely to be cancelled out by savings in traffic (see option 3) and corresponding reductions in carbon from vehicles.</p>
7.	0	0	0					No clear link
8.	0	0	0					This option does not affect the quantities of sand and gravel that might be extracted; rather it focusses on sand and gravel's broad spatial distribution. The effect is therefore neutral.
9.	0	0	0					This option does not affect the quantities of sand and gravel that might be extracted, and thus future waste generated, rather it focusses on sand and gravel's broad spatial distribution. The effect is therefore neutral.
10.	?	?	?	✓		✓	✓	<p>There is the potential for some sand and gravel sites to be steered close to concentrations of historic assets in the south of the plan area (and still some slightly lesser potential for a similar effect in the north) under this option. This may affect historic assets' settings or directly affect those sites. Effects will be cumulative over</p>



								time as more development occurs. No indication is made of where building sand is favoured under this option.  There is, however, significant uncertainty in this assessment
11.	?	?	?	✓		✓	✓	This configuration may make more sites visible from AONBs and the setting of York may also be affected, depending on location of allocations. However, a lesser amount (45 per cent) of the sand and gravel development would also be in the northern part of the plan area which may bring it within visible range of the national parks. Restoration may bring some positive effects in the longer term.  There is, however, significant uncertainty in this assessment.
	-	-	-					
			+					
12.	+	+	+	✓		✓		Planning for a 50:45:5 split would align the plan with current market demand (meaning more efficient transport of minerals and quicker delivery times). This will help keep costs down, and therefore businesses and quarry operators alike will benefit.
		+	+					
13.	0	-	-	✓		✓		Planning for a 50:45:5 split would align the plan with current market demand but would direct slightly more development towards parts of the plan area with a higher population density, which may result in a higher probability of both positive and negative impacts on the viability of local communities over time.
		+	+					
14.	?	?	?			✓	✓	There is a more or less even distribution of right of way and green infrastructure across the northern and southern parts of the plan area, however the northern area might fall within visual range of national parks, while in the south views out of AONBs may be affected. This 50:45:5 split potentially has minor negative effects on these recreational assets as views and access may be disturbed (particularly in the south), but in the longer term sand and gravel sites may well create recreational resources in themselves or enhance views from other recreational areas.  There is, however, significant uncertainty in this assessment.
	-	-	+					
15.	+	+	+	✓			✓	Although this configuration may bring more sand and gravel development closer to higher population densities, this configuration also reduces vehicle miles travelled as a whole, so there is likely to be small scale benefits on health and wellbeing from less traffic, though local scale negative impacts may also be more likely to occur.  There is, however, significant uncertainty in this assessment.
	-	-	-					
	?	?	?					
16.	0	0	+	✓			✓	As 'water compatible' development, sand and gravel sites can be appropriately located in the floodplain. A more southerly orientation may bring sites lower down river catchments, though they will still have potential for flood storage (albeit slightly less effective flood storage as this would not benefit settlements upstream) in the long term.
17.	0	+	+	✓		✓		Bringing sites closer to markets will help support the development needs of local communities as this should

								bring costs down.
--	--	--	--	--	--	--	--	-------------------

**Summary of assessment** There are a range of effects that arise from this preferred policy and all effects are tentative with significant uncertainty at this scale. For instance, the biodiversity, water, soils, historic environment and recreation objectives all show a negative relationship with this preferred policy, largely because the balance of development proposed favours areas that are richer in terms of the environmental assets associated with those SA objectives.

More positive contributions towards objectives are reported for the traffic, air quality and climate change objectives because, as the policy seeks to fit with the distribution of markets and demand, the length of minerals freight journeys will be slightly less on balance. This will also keep costs down and benefit the economy SA objective. Other objectives are either neutral or report more mixed effects. For instance, while journeys may be shorter, because the southern plan area is closer to centres of population, there may be a greater probability that traffic will affect communities.

**Recommendations** No further mitigation is proposed.

## Policy M04: Landbanks for sand and gravel

Assumptions - It is assumed that the southern distribution areas included sites more likely to serve the Leeds City Region

### Preferred Option

A minimum 7 year landbank of concreting sand and gravel will be maintained throughout the plan period for each of the northwards and southwards distribution areas identified on the key diagram.

A separate minimum 7 year landbank will be maintained throughout the plan period for building sand.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0 -	-	✓		✓	✓	Maintaining separate seven year land banks in the north and south areas is likely to mean that in both areas permissions must be held at a level which meets expected requirements for at least the next seven years. In the longer term this could mean that there is increased pressure to maintain the landbank in defined (and therefore finite) areas (i.e. a northern or southern distribution area), which may put additional pressure to approve sites in areas where cumulative effects on biodiversity are already starting to build. The net effect of this is, therefore, a cumulative negative effect for biodiversity / geodiversity.
2.	0	0 -	-	✓		✓	✓	Maintaining separate seven year land banks in the north and south areas is likely to mean that in both areas permissions must be held at a level which meets expected requirements for at least the next seven years. In the longer term this could mean that there is increased pressure to maintain the landbank in defined (and therefore finite) areas (i.e. a northern or southern distribution area), which may put additional pressure to approve sites in areas where cumulative effects on water are already starting to build. The net effect of this is, therefore, negative for water quality.
3.	0	0	0	✓		✓		As with the above objectives, in the longer term this could mean that there is increased pressure to maintain the landbank in defined (and therefore finite) areas (i.e. a northern or southern distribution area), which may

		-						put additional pressure to approve sites in areas where cumulative traffic effects are already starting to build. The net effect of this is, therefore, negative for transport. However, market demand will ultimately dictate how much is extracted, so traffic may normalise (to the baseline) over time.
4.	0	0	0	✓		✓	✓	As this policy would lead to increased traffic in defined areas in the medium term (as is the case at objective 3), local air quality would be affected by the associated emissions of that traffic. However, market demand will ultimately dictate how much is extracted, so emissions may normalise (to the baseline) over time.
		-						
5.	0	0	--	✓		✓		In the longer term this could mean that there is increased pressure to maintain the landbank in defined (and therefore finite) areas (i.e. a northern or southern distribution area), which may increase pressure to approve sites in areas where cumulative effects on soils and land are already starting to build. The net effect of this is, therefore, negative for soils and land. Because the resource area for sand and gravel is mostly grade 2 or grade 3 agricultural land and effects on soils and land are more likely to be cumulative, the long term effect is rated major negative.
		-						
6.	0	-	-	✓			✓	This policy, because of its 7 year land bank requirement, will potentially require a greater amount of development (than not maintaining a land bank) to be permitted at any one time and in two separate distribution areas. This could bring forward some carbon emissions (which are considered to be permanent additions to the atmosphere in this assessment).
7.	0	0	0					No clear link.
8.	--	--	--	✓		✓		Maintaining a land bank is likely to decrease any incentive for reducing the use of resources.
9.	--	--	--	✓		✓		Maintaining a land bank is likely to decrease any incentive for using recycled / secondary resources.
10.	0	0	-	✓		✓	✓	Maintaining separate seven year land banks in the north and south areas is likely to mean that in both areas permissions must be held at a level which meets expected requirements for at least the next seven years. In the longer term this could mean that there is increased pressure to maintain the land bank in defined (and therefore finite) areas (i.e. a northern or southern distribution area), which may put additional pressure to approve sites in areas where cumulative effects on the historic environment are already starting to build. The net effect of this is, therefore, a cumulative negative effect for the historic environment.
		-						
11.	0	0	-					Maintaining separate seven year land banks in the north and south areas is likely to mean that in both areas permissions must be held at a level which meets expected requirements for at least the next seven years. In the longer term this could mean that there is increased pressure to maintain the land bank in defined (and

		-						therefore finite) areas (i.e. a northern or southern distribution area), which may put additional pressure to approve sites in areas where cumulative effects on the landscape are already starting to build. The net effect of this is, therefore, a cumulative negative effect for the landscape.
12.	+	+	+		✓		✓	This policy would enable sufficient materials to be provided to support the economy and would also help to support jobs in the minerals sector.
13.	0	+	+	✓			✓	Maintaining separate seven year land banks in the north and south areas is likely to mean that in both areas permissions must be held at a level which meets expected requirements for at least the next seven years. In the longer term this could mean that there is increased pressure to maintain the land bank in defined (and therefore finite) areas (i.e. a northern or southern distribution area), which may detract from the tourism dividend enjoyed by some communities or, alternatively, may provide a source of local employment. The net effect of this is, therefore, mixed positive and negative effects for community vitality.
		-	-					
14.	0	0	-	✓			✓	As cumulative effects are identified as occurring on a number of recreational assets (e.g. landscape and biodiversity) elsewhere in this assessment, and are equally likely to occur to the access and green infrastructure network, effects are likely to become minor negative in the longer term.
		-						
15.	0	0	0		✓		✓	Elsewhere in the assessment of this policy a number of factors that contribute or detract from health and wellbeing (e.g. traffic, air quality) have been identified as potentially deteriorating and then normalising. Other issues such as noise may also behave in the same way, as land banks in the two separate areas require maintaining. This may have temporary effects on health and wellbeing objective.
		-						
16.	0	0	0					No clear link
17.	0	+	+	✓			✓	Under this policy the maintenance of seven year land banks in separate areas is likely to positively impact on the needs of a changing population as it will help secure shorter supply chains for a key building material and will help development that supports changing communities through a more secure supply of building materials.

**Summary of assessment** Impacts in relation to this policy are largely neutral in the short term with minor negative impacts occurring in the medium to long term. This is because in the longer term separate northwards and southwards distribution area landbanks could mean that there is increased pressure to maintain the landbank in defined (and therefore finite) areas, which may put additional pressure to approve sites in areas where cumulative effects on are already starting to build. Major negative impacts have been recorded in relation to minimising resource use and prioritising management of waste as high up the waste hierarchy as practicable as maintaining a landbank is likely to reduce incentive to work towards these objectives. Positive impacts have been identified in relation to the economy and meeting the needs of a changing population as this policy would ensure that adequate resources are available to support growth.

**Recommendations** No further mitigation is proposed.

## Policy M05: Provision of crushed rock

<b>Preferred Option</b>								
Total provision for crushed rock over the 16 year period 1 <sup>st</sup> January 2015 to 31 <sup>st</sup> December 2030 shall be 60mt, at an equivalent annual rate of 3.75mt, within which specific provision for a total of 22.2mt at an equivalent annual rate of 1.39mt per annum shall be for Magnesian Limestone.								
Additional provision shall be made, through a mid-term review of provision in the Plan, if necessary in order to maintain a 10 year landbank of crushed rock, including a separate 10 year landbank for Magnesian Limestone, at 31 December 2030 based on an annual rate of provision to be determined through the review.								
SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs								
SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	?	?	?	?	?	?	?	The impact of this policy on biodiversity is uncertain as no indication is given of where this provision would be, so it is not known the extent to which biodiversity and geodiversity would be affected. There are some important habitats in the area of Magnesian limestone, particularly SINC's in the southern part of the plan area. In the longer term, as sites are restored impacts may be offset to a degree. A substantial amount of land will be consumed in order to provide 60mt of crushed rock which will inevitably have some negative impacts (habitat loss/species displacement etc.).
2.	?	?	?	?	?	?	?	The impact of this policy on water is uncertain as no indication is given of where this provision would be, so it is not known the extent to which water would be affected though as sites are restored impacts would be offset to a degree. It should be noted that the Magnesian limestone resource does coincide with Nitrate Vulnerable Zones and Groundwater Source Protection Zones in some places.
3.	?	?	?	?	?	?	?	The impact of this policy on transport is uncertain as no indication is given of where this provision would be, so it is not known the extent to which transport would be affected. All that can be said is that 60 mt of crushed rock will need to be moved by some type of transport (most likely road), which will inevitably lead to some impacts.
4.	?	?	?	?	?	?	?	The impact of this policy on air quality is uncertain as no indication is given of where this provision would be, so it is not known the extent to which air quality would be affected. All that can be said is that 60 mt of crushed rock will need to be moved by some type of transport (most likely road), which will inevitably lead to some air quality impacts.

5.	?	?	?	?	?	?	?	The impact of this on soils / land is uncertain as no indication is given of where this provision would be, so it is not known the extent to which soils / land would be affected though as sites are restored impacts would be offset to a degree. Magnesian limestone is found mostly in areas of grade 2 agricultural land (high quality) and therefore there could be negative effects against this objective.
6.	--	--	--	✓		✓		A further 60 mt of crushed rock extraction would require an increased amount of energy to extract and transport the resource (however transport distance, which determines the magnitude of emissions, is determined by location), and further release of carbon from soil loss. As carbon in the atmosphere is cumulative this option works against the objective to reduce the causes of climate change.
7.	?	?	?	?	?	?	?	The impact of this on climate adaptation is uncertain as no indication is given of where this provision would be, so it is not known the extent to which climate adaptation would be affected.
8.	--	--	--	✓		✓		This would work against minimising the use of resources as this would allow for a further 60 mt of primary resources to be consumed at a steady rate.
9.	-	-	-		✓		✓	While an argument could be put that provisioning for primary aggregates at a substantial level might disincentivize the uptake of secondary and recycled aggregate, such materials are not necessarily good substitutes for primary aggregates, and to an extent operate as distinct markets as demand for primary aggregates is driven by demand for higher quality aggregates, whereas secondary and recycled materials tend to be for lower grade uses. However, this preferred policy would work in combination with M11: 'Supply of Alternatives to Land Won Primary Aggregates' which would support supply infrastructure for this source of materials (though would not set a target figure for provision in the same way as this policy).
10.	?	?	?	?	?	?	?	The impact of this policy on the historic environment is uncertain as no indication is given of where this provision would be, so it is not known the extent to which historic environment would be affected, though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be consumed which will inevitably have some negative impacts in a plan area that is rich in archaeological potential and historic assets.
11.	?	?	?	?	?	?	?	The impact of this policy on the landscape is uncertain as no indication is given of where this provision would be, so it is not known the extent to which the landscape would be affected, though as sites are restored impacts would be offset to a degree. All that can be said is that a substantial amount of land will be consumed which will inevitably have some negative impacts in a plan area that has high quality and valued landscapes that are often within range of visual receptors.
12.	+	+	+	✓		✓		This option is likely to have positive effects on economic growth as supply of minerals should be met in line with plan area demand and demand for exports, with a review half way through the plan period to ensure sufficient provision going forward and that the 10 year landbank at 2030 is maintained. This will help underpin future development which is vital for economic growth, and incorporates a level of flexibility.
13.	?	?	?		✓	✓	✓	The impact of this preferred policy on the vitality of communities is uncertain as no indication is given of where this provision would be, so it is not known the extent to which communities would be affected. However, there

								is some likelihood (albeit at an unknown extent) that communities would come under increased pressure (e.g. from traffic or noise), and that additional local jobs may be available.
14.	0 ?	0 ?	+ ?	✓			✓	Through this preferred policy, combined with other policies in the plan, long term opportunities for creation of leisure and recreation opportunities in the plan area may occur through site reclamation.  Some uncertainty is noted as the policy relies on other as yet unadopted policies in the plan to achieve this effect.
15.	?	?	?	✓			✓	The impact of this preferred policy on the vitality of communities is uncertain as no indication is given of where this provision would be, so it is not known the extent to which communities would be affected. However, there is some likelihood (albeit at an unknown extent) that communities near to sites would come under increased pressure (e.g. from traffic, dust or noise) which could affect health and wellbeing, though there may also be some benefits as sites are restored.
16.	? +	? +	? +	✓			✓	Continued provision of crushed rock resources may provide opportunities for future flood storage.
17.	+	+	+	✓			✓	The development needs of local communities are likely to continue to be supported by this policy.

**Summary of assessment** This preferred policy's effects are in the main uncertain as no indication of where provision would be obtained from is presented. However, clearly extracting a substantial volume of crushed rock will have at least some environmental effects, though the magnitude of these effects is dependent on location. There are a small number of exceptions to this. For instance, it requires energy to extract and to transport minerals which, assuming continued reliance on fossil energy, would generate significant CO2 and other greenhouse gases, which strongly works against the climate change objective. Similarly, the 'minimising resource use' use objective displays strong negative effects, as this policy will allow for the consumption of up to 60 Mt of primary minerals. There are also some positive effects noted, for instance the recreation objective receives indirect positive support, as further extraction would ultimately lead to further restoration in line with other policies in the plan, while the economic development, flooding and changing population objectives would also be supported.

**Recommendations** While much is uncertain in relation to this objective, it is recognised that this is the nature of policies such as this. No recommendations are made.



## Policy M06: Maintenance of landbanks for crushed rock

### Preferred Option

A minimum overall landbank of 10 years will be maintained for crushed rock throughout the plan period. A separate 10 year landbank will be monitored and provided for Magnesian Limestone crushed rock.

Where new reserves of crushed rock are required in order to maintain the overall landbank above the 10 year minimum period these will be sourced from outside the National Park and Areas of Outstanding Natural Beauty.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	- + + ?	✓		✓	✓	Should additional Magnesian Limestone extraction be permitted, along with additional reserves of other crushed rock resources in the longer term, depending on location, there could be additional effects on biodiversity, over and above any resulting from planning permissions already granted, in particular there are a number of SINCS in areas of Magnesian limestone towards the south of the Plan area. In the longer term there may be opportunities for enhancements for biodiversity through site reclamation. Providing new reserves of crushed rock outside of the National Park and the AONBs would have positive effects for habitats and wildlife as many of the SACs, SPAs and SSSIs lie within these areas, thus protecting the highest level of designated sites.
2.	0	0	--	✓		✓	✓	In the longer term there could be additional effects on water quality and supply, over and above any resulting from planning permissions already granted, in particular as the Magnesian Limestone resource coincides with Nitrate Vulnerable Zones and Groundwater Source Protection Zones in a number of places. As the Nitrate Vulnerable Zones and Groundwater Source Protection Zones are generally in the area outside of the National Park and the AONBs, this option is also likely to result in additional pressure for extraction within NVZs and GSPZs.
3.	0	0	0 -	✓		✓		In the longer term, should additional reserves be permitted to maintain the Magnesian limestone and crushed rock land banks, this would result in more traffic movements and associated effects. However, under this policy extraction would take place closer to users of the resource and closer to the main road network, both of which largely exist outside of the National Park and AONBs. Overall impacts are considered to be neutral to minor negative.

4.	0	0	- +	✓		✓		Should additional Magnesian limestone extraction be permitted, along with additional reserves of other crushed rock resources in the longer term, this would result in additional localised air quality issues. Under this option air quality would be protected in the National Parks and AONBs, this is particularly important in the National Park as clean, unpolluted air is one of the Park's special qualities. Impacts are considered to be a combination of minor positive and minor negative.
5.	0	0	--	✓		✓		Negative effects may arise under this option as much of the Magnesian limestone resource is in areas of Grade 2 agricultural land quality. This policy would also direct extraction away from the lower quality agricultural land of the designated areas and towards the higher quality land.
6.	0	0	- +		✓	✓	✓	In the longer term should additional reserves be permitted to maintain the Magnesian limestone landbank this would result in more traffic movements and associated effects. However, under this policy extraction would take place closer to users of crushed rock and closer to the main road network, both of which largely exist outside of the National Parks and AONBs, thus reducing greenhouse gas emissions.
7.	0	0	+	✓			✓	Should a greater level of reserves be needed to maintain the land banks, once these quarries close there would be increased opportunities for water storage to help reduce flood risk (albeit in areas lower down the catchment as development in the National Park and AONBs would not be permitted). Impacts are considered to be neutral in the short and medium term and minor positive in the long term.
8.	--	--	--	✓		✓		Maintaining a landbank is likely to decrease any incentive for reducing the use of resources.
9.	--	--	--	✓		✓		Maintaining a landbank is likely to decrease any incentive using previously used resources.
10.	0	0	-- + ?	✓		✓		In the longer term there could be additional effects on the historic environment, over and above any resulting from planning permission already granted, in particular there are a number of historic assets in areas of Magnesian limestone resource. There are many heritage assets in the National Park and the AONBs, in addition to conservation and enhancement of the cultural heritage being a part of the statutory National Park purposes, and therefore this option is likely to have positive effects for these designated areas by directing extraction elsewhere. Impacts are considered to be a combination of minor to major negative and minor positive.
11.	0	0	-- + + ?	✓		✓		In the longer term should additional reserves be permitted this would have effects on the landscape although it is not possible to identify the scale, location and significance of any effects though providing additional landbanks of Magnesian limestone could have effects on the setting of the Nidderdale AONB. By requiring landbanks to be met from outside the National Park and AONBs, this policy would help to protect the designated landscapes of greatest importance within the plan area. Impacts are a mix of minor to major negative for those areas outside of the National Park and AONBs and major positive for the designated landscapes.
12.	0	0	+ +		✓	✓	✓	This option would enable sufficient materials to be provided to support the economy, in particular through providing for a landbank of Magnesian limestone, and would also help to support jobs in the minerals sector. By requiring landbanks to be met from outside the National Park and AONBs, this policy would see jobs in the

								minerals sector being provided closer to the larger centres of population.
13.	0	0	-- + +	✓	✓	✓	✓	Whilst this policy would have positive effects on jobs and local economies it could have negative effects on the tourism economy by affecting visitors to local tourism assets. On the other hand, this policy may result in jobs in the minerals sector being provided closer to the larger centres of population and away from the sensitive tourism economies of the National Park and AONBs. Conversely, crushed rock extraction currently provides local jobs within the AONBs, so by not supporting any further extraction in these areas, a negative impact on community viability and vitality may occur. Mixed positive and negative effects.
14.	0	0	- + + ?	✓	✓	✓	✓	In the longer term should additional reserves be permitted this could have effects on recreation assets although it is not possible to identify the scale, location and significance of any effects. In the longer term there may also be opportunities for enhancements for recreation through site reclamation.  This option is also likely to have positive effects on recreation opportunities in National Parks and AONBs as minerals extraction can have negative effects on the recreational activities.
15.	0	0	-- + ?	✓		✓	✓	Should additional Magnesian limestone extraction be permitted, along with additional reserves of other crushed rock resources in the longer term, this could have effects on the health and wellbeing of communities although it is not possible to identify the scale, location and significance of any effects. By requiring landbanks to be met from outside the National Park and AONBs, this policy could have positive effects by directing quarries, and therefore traffic, away from the generally minor road network in the National Park and AONBs.
16.	0	0	+	✓		✓		Should a greater level of reserves be needed to maintain the landbanks, once these quarries close there would be increased opportunities for water storage to help reduce flood risk (albeit in areas lower down the catchment as development in the National Park and AONBs would not be permitted). Impacts are considered to be neutral in the short and medium term and minor positive in the long term.
17.	+	+	+	✓		✓		This option enables the types of crushed rock needed to come forward to support development, particularly recognising a potential shortfall in Magnesian limestone. As crushed rock would be extracted from areas outside of the National Park and AONBs, this policy may result in a shortened supply chain as crushed rock would be supplied from quarries closer to main centres of population.

**Summary of assessment** This policy could have negative effects on the environment, including biodiversity / geodiversity, air and water quality, landscape, resource use, minimising waste and the historic environment, and communities of the Plan area should these landbanks result in the need to release more land for extraction than is currently permitted. The policy would however, enable a level of minerals supply to meet demand for development and therefore would result in major positive impacts in relation to the economy and meeting the needs of a changing population. By requiring new reserves of crushed rock to be sourced from outside the National Park and AONBs, this policy would result in some positive effects for these designated areas particularly relating to landscape, recreation and tourism, cultural heritage and amenity. Some negative impacts may occur in these designated landscapes as there would be a decrease in local job opportunities.

**Recommendations** No mitigation is proposed.

## Policy M07: Meeting concreting sand and gravel requirements

### Preferred Option

Requirements for concreting sand and gravel will be met through existing permissions and the grant of permission on sites allocated in the Plan for working.

Part 1 Sand and gravel (northwards distribution) allocations:

1) Allocations required in order to meet requirements during the plan period:

Land at Killerby (MJP21)

Land at Home Farm, Kirkby Fleetham (MJP33)

2) Allocations potentially required to contribute to maintenance of an adequate landbank at 2030. Permission will not be granted for development of these allocations prior to 2025, unless there is a shortfall in the sand and gravel landbank in the northwards distribution area:

Land South of Catterick (MJP17)

Land West of Scruton (MJP43)

Part 2 Sand and gravel (southwards distribution) allocations:

1) Allocations required in order to meet requirements during the plan period:

Land at Langwith Hall Farm (MJP06)

Land at Oaklands (MJP07)

Land at Pennycrofts and Thorneyfields and Manor Farm, Ripon (MJP14)

Land at Great Givendale, Ripon (MJP51)

2) Allocations potentially required to contribute to maintenance of an adequate landbank at 2030. Permission will not be granted for development of these allocations prior to 2025, unless there is a shortfall in the sand and gravel landbank in the southwards distribution area and, for site MJP35 a satisfactory outcome to a project-specific Appropriate Assessment:

Land at Aram Grange, Asenby (MJP04)

Land at Ruddings Farm, Walshford (MJP35)

SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
	See Site Sustainability Appraisal Report for scoring for each individual site							Extraction of sand and gravel from the sites specified in this policy may result in a range of impacts in relation to the Sustainability Appraisal objectives. Each site has been individually assessed as part of the site assessment methodology and the results are presented in the Site Sustainability Appraisal Report.

**Summary of assessment** A wide range of impacts will result from extraction of sand and gravel at the sites specified in this policy. These are outlined in the Site Sustainability Appraisal Report. As many of the site allocations lie in close proximity to other existing or allocated sites, cumulative impacts will be of particular importance.

As this policy includes support for MJP35 (Land at Ruddings Farm) the Habitats Regulations Assessment ‘Likely Significant Effects’ report has highlighted that this policy should be further assessed in an Appropriate Assessment.

**Recommendations** Appropriate mitigation should be incorporated at each allocation site in line with recommendations in the Site Sustainability Appraisal findings for each site and with other policies in the Plan. Cumulative impacts should be given particular regard through the planning application process.

## Policy M08: Meeting building sand requirements

<b>Preferred Option</b>									
Requirements for building sand will be met through existing permissions and the grant of permission on sites allocated in the Plan for working.									
Building sand allocations:									
Land at Hensall Quarry (MJP22)									
Land at West Heslerton Quarry (MJP30)									
Land adjacent to Plasmor blockworks, great Heck (MJP44)									
Land at Mill Balk Quarry, Great Heck (MJP54)									
<i>SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs</i>									
<b>SA objective</b>	<b>Impact / timescale</b>			<b>Type of effect</b>				<b>Analysis</b>	
	<b>S</b>	<b>M</b>	<b>L</b>	<b>P</b>	<b>T</b>	<b>D</b>	<b>I</b>		
	See Site Sustainability Appraisal Report for scoring for each individual site			Extraction of sand from the sites specified in this policy may result in a range of impacts in relation to the Sustainability Appraisal objectives. Each site has been individually assessed as part of the site assessment methodology and the results are presented in the Site Sustainability Appraisal Report.					

<p><b>Summary of assessment</b> A wide range of impacts will result from extraction of sand at the sites specified in this policy. These are outlined in the Site Sustainability Appraisal Report. As many of the site allocations lie in close proximity to other existing or allocated sites, cumulative impacts will be of particular importance.</p> <p><b>Recommendations</b> Appropriate mitigation should be incorporated at each allocation site in line with recommendations in the Site Sustainability Appraisal findings for each site and with other policies in the Plan. Cumulative impacts should be given particular regard through the planning application process.</p>
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## Policy M09: Meeting crushed rock requirements

### Preferred Option

Requirements for Magnesian Limestone over the plan period will be met through existing permissions and the grant of permission on sites allocated in the Plan for working.

Magnesian Limestone allocations:

1) Allocations required in order to meet requirements during the plan period:

Land at Jackdaw Crag South, Stutton (MJP23)  
 Land at Barnsdale Bar Quarry (MJP28)  
 Land at Went Edge Quarry, Kirk Smeaton (MJP29)

2) Allocations potentially required to contribute to maintaining an adequate landbank at 2030:

Land at Gebdykes Quarry (MJP11)

Maintenance of supply of crushed rock is also supported through the identification of allocated sites at:

Land at Scarborough Field, Forcett (MJP03) (Carboniferous Limestone)  
 Land at Settrington Quarry (MJP08) (Jurassic Limestone)  
 land at Whitewall Quarry (MJP12) (Jurassic Limestone)  
 Land at Darrington Quarry (MJP24) (retention of processing plant site and haul road)

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	



	See Site Sustainability Appraisal Report for scoring for each individual site	Extraction of crushed rock from the sites specified in this policy may result in a range of impacts in relation to the Sustainability Appraisal objectives. Each site has been individually assessed as part of the site assessment methodology and the results are presented in the Site Sustainability Appraisal Report.
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**Summary of assessment** A wide range of impacts will result from extraction of crushed rock at the sites specified in this policy. These are outlined in the Site Sustainability Appraisal Report. As many of the site allocations lie in close proximity to other existing or allocated sites, cumulative impacts will be of particular importance.

**Recommendations** Appropriate mitigation should be incorporated at each allocation site in line with recommendations in the Site Sustainability Appraisal findings for each site and with other policies in the Plan. Cumulative impacts should be given particular regard through the planning application process.

## Policy M10: Unallocated extensions to existing quarries

### Preferred Option

Proposals for extensions to minerals extraction sites on land not allocated for working in the Plan will be supported subject to the following criteria;

- i) Where necessary in the National Park and AONBs, a satisfactory outcome in respect of the requirements for major development as set out in Policy D04;
- ii) Where the development would not compromise overall delivery of the strategy for the sustainable supply and use of minerals, including encouragement of the use of alternatives to primary minerals;
- iii) Where the development would be consistent with the development management policies in the Plan.

SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓	✓	✓	✓	<p>This preferred policy, through requiring the major development test in National Parks and AONBs and requiring consistency with development management policies (including DO7: 'Biodiversity and Geodiversity' and D10: 'Reclamation and Afteruse' in particular) is expected to have positive impacts on this SA objective, particularly as some of the most protected biodiversity and geodiversity lie in protected landscapes. In the medium to longer term, permitting extensions may delay any opportunities for enhancements for biodiversity through site reclamation, though this may ultimately be better than requiring new sites to deliver minerals.</p> <p>Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.</p>
	?	-	-					
		?	?					
2.	+	+	+	✓	✓	✓	✓	<p>This preferred policy, through requiring the major development test in National Parks and AONBs and requiring consistency with development management policies everywhere (including DO9: Water Environment), is expected to have positive impacts on this SA objective. However, as DO9 states that 'development which would have an adverse impact on principal aquifers and Source Protection Zones will only be permitted where the need for, or benefits, of the development clearly outweigh any harm caused' there remains the prospect that water designations could continue to be affected at important minerals sites in rare instances, while lower level (not unacceptable) residual effects could also be extended at undesignated water assets through processes such as dewatering, though many of these effects would also be addressed (to at least acceptable' levels) through the licensing / permitting regime.</p>
	-	-	-					
	?	?	?					

								Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.
3.	+	+	+		✓	✓	✓	<p>This preferred policy option would to some extent reduce the need for new sites which is positive. As existing sites would be extended, those sites would benefit from supporting infrastructure (such as buildings, processing facilities and access roads). This is in contrast to new sites, all of which would generate a quantum of vehicle journeys to build new supporting infrastructure. However, the preferred policy may also extend the duration of operational traffic impacts at existing sites or even increase traffic (depending on the size and timing of the extension).</p> <p>However, traffic would be moderated by the requirement for extensions to be consistent with the strategy for the sustainable supply of minerals, as well as the 'Transport' development management policy (D03).</p> <p>Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.</p>
	-	-	-					
	?	?	?					
4.	+	+	+		✓	✓	✓	<p>There may be localised impacts on air quality (including an extension of the time that local receptors would be subject to factors such as dust and traffic pollution) around extended sites (which would be most likely outside of protected landscapes). However, for the same reasons as objective 3 there may be some positive effects on traffic from the policy, and because of the policy's requirement to consider development management policies. This would include policy DO2 'Local Amenity and Cumulative Impacts'.</p> <p>Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.</p>
	-	-	-					
	?	?	?					
5.	+	+	+		✓	✓		<p>Under this preferred policy permitting extensions would result in more land take equalling more loss of soil and agricultural land. Over time the cumulative effects would become greater. However, the development management policy D12 for 'Protection of Agricultural Land and Soils' would be applicable, which would moderate effects significantly and make them more likely to be temporary effects. Minor negative<sup>6</sup>. To some degree the need for new sites (which would also require new supporting infrastructure) would be lessened.</p> <p>Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.</p>
	-	-	-					
	?	?	?					
6.	-	-	-	✓		✓	✓	<p>There is the likelihood of additional / extended vehicle movements under this preferred policy option (which cumulatively adds to climate change), though at the same time the carbon footprint of new minerals sites would be avoided as extended sites may benefit from existing supporting plant and infrastructure (as opposed to requiring new plant and infrastructure at a new site). Overall the impact is considered to be minor negative,</p>
	?	?	?					

<sup>6</sup> Arguably a case might also be made that if this policy didn't exist then development would come through either new site allocations or new unallocated sites. However, this argument to some extent ignores the economics of quarrying, in that a new site may be considerably more expensive than extending a site which already has plant and traffic access.

							though there is considerable uncertainty over the extent to which the carbon benefits of making the best use of existing infrastructure offsets the transport effects.
7.	0	-	-		✓	✓	In the medium to long term, permitting extensions may delay any opportunity for quarries to be used for flood water storage.
		?	?				
8.	-	-	-		✓	✓	Permitting extensions may not help with promoting the use of secondary and recycled materials, and would consume a non-renewable resource, although this preferred policy option recognises that there would be a requirement for extensions to not undermine the potential for a greater proportion of minerals to be supplied from alternative sources (through not compromising overall delivery of the strategy for the sustainable supply and use of minerals).
9.	0	0	0				No clear link
10.	+	+	+	✓		✓	While the preferred policy requires the major development test (where applicable) in National Parks and AONBs, which are rich in historic assets, it is still possible that there may be impacts on the historic environment elsewhere (as the area outside of designated landscapes is often also rich in historic assets). However, this would depend upon the location of any extension in relation to historic assets. The development management policy D08 'Historic Environment' would also lessen most effects.
	-	-	-				
	?	?	?				Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.
11.	+	+	+	✓		✓	As this preferred policy option offers protection to protected landscapes through the major development test and also requires consistency with the development management policies, including D06 'Landscape', the effect is positive (as it will reduce the amount of landscape incompatible extensions that would without this policy be permitted). However, locally there are likely to be residual negative effects after these policies have been applied as any unallocated extension is likely to alter the landscape in some way. However the positive effect is seen as the most significant on balance.
	?	?	?				Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.
12.	+	+	+	✓		✓	Under this preferred policy option additional minerals would be provided which may have a positive effect on the economy through additional / extended jobs being provided in the minerals sector. Tourism in the National Park and AONBs may also be protected through the stringency of the major development test requirements. In addition, it would allow quarry operators the chance to maximise the return on existing investments made in infrastructure at quarry sites. However, allowing unallocated extensions may, in the longer term, lead to a reduced need for new sites somewhere else, effectively displacing future job creation.
	+	+	+				
			?				
13.	+	+	+	✓		✓	Under this preferred option, additional jobs may be provided in the minerals sector which would contribute positively towards this objective. As with objective 12, tourism jobs and revenue would also be protected.

	-	-	-					However, there may be continued (or increased) traffic at a local level, which may affect community vitality to a degree. Allowing unallocated extensions may, however, in the longer term lead to a reduced need for new sites somewhere else, effectively displacing future job creation.
14.	+	+	+	✓		✓		This preferred option provides protection, through the major development requirements, to the nationally important recreational assets of the National Park and AONB. However, it is possible that there may be impacts on the recreational opportunities elsewhere in the Plan Area, but this would depend upon the location of any extension in relation to recreational assets such as rights of way (uncertain). Effects may become greater over time as cumulatively more assets are affected. In the medium to longer term permitting extensions may delay any opportunities for enhancements for recreation through site reclamation.
	-	-	-					
		?	?					
15.	-	-	-		✓	✓	✓	Under this preferred option there may be negative effects on the health and safety of communities / residences close to extended quarries through additional / extended noise, traffic, dust etc. However, this effect would be moderated by the policy D02 'Local Amenity and Cumulative Impacts' so that any impacts would be small scale.
	?	?	?					Uncertainty is noted as this assessment relies on as yet unadopted policies in the Plan.
16.	0	-	-		✓		✓	In the medium to long term, permitting extensions may delay any opportunity for quarries to be used for flood water storage.
17.	+	+	+	✓			✓	This preferred option would have positive effects on the supply of minerals which would help to enable new development to come forward.

**Summary of assessment.** For most SA objectives this preferred policy results in mixed positive and negative effects when compared to the SA objective. This is because the option allows unallocated extensions to sites, which would ordinarily result in a range of negative environmental and social effects (largely because it will either extend or increase issues that affected areas surrounding quarries during the lifetime of the quarry). However, the preferred policy does include a number of safeguards against this that should lessen effects and make sites more sustainable, not least the major development test and the reference to consistency with development control policies. The policy would also offset the need for some new sites to be developed.

Some objectives vary from this pattern slightly. For instance, for climate change the extended negative traffic impacts at sites are seen as outweighing the benefits of making use of existing infrastructure at site (though there is considerable uncertainty here), while the soils objective notes the loss of land / soils that is potentially allowed by this policy. Similarly, although this option might reduce the need for new sites elsewhere to some degree, there will be jobs and revenue / viability benefits from allowing site extensions, as well as benefits to tourism that will result from the protections afforded to protected landscapes in the policy. This leads to strongly positive effects on the economy objective. Other objectives where positives outweigh the negative, or are positive in their own right are the landscape and changing population needs objectives.

**Recommendations.** This policy is largely already mitigated for by the Development Management Policies. No further mitigation is proposed.

## Policy M11: Supply of alternatives to land won primary aggregates

### Preferred Option

Proposals which would facilitate the use of secondary and recycled aggregate as an alternative to primary aggregate will be supported including:

- 1) The development of appropriately scaled new ancillary infrastructure, including ancillary manufacturing facilities, utilising secondary aggregate as the primary raw material, at sites where secondary aggregates are produced;
- 2) The supply of secondary aggregate from waste disposal sites provided it would not involve disturbance to restored ground or landscaped features;
- 3) The separation of materials with potential for use as aggregate during waste management activity and the maximum recovery of recycled aggregate during demolition activity;
- 4) The use of appropriately located aggregates mineral extraction sites as locations for the ancillary reception, processing and onward sale of recycled aggregate during the associated period of minerals extraction at the site;
- 5) The use of appropriately located sites for the transport of minerals as locations for the ancillary reception, processing and onward sale of recycled aggregate during the associated period of minerals transport activity at the site.

Proposals will need to demonstrate consistency with relevant development management policies in the plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓			✓	<p>This preferred policy would have benefits for biodiversity as it would help reduce the land take and environmental impacts, and thus biodiversity and geo-diversity impact, of primary extraction sites by increasing the supply of secondary and recycled aggregates.</p> <p>It would also protect against the disruption of agreed restoration of waste disposal sites by allowing for supply from unrestored sites but requiring that it would not involve disturbance to restored land.</p> <p>Some gains for biodiversity / geo-diversity would be offset; however, as restoration opportunities at primary</p>
	?	?	?					

							minerals sites are foregone and new infrastructure for processing recycled aggregates is built.  Uncertainty will increase in the longer term as supply of secondary aggregates may or may not decrease, depending on the source of those secondary aggregates. Uncertainty is also noted as the Habitat Regulations Assessment of Likely Significant Effects report has highlighted that <i>'this policy refers to appropriately located sites but does not provide any specific guidance about where these may occur or what criteria would need to be met nor does it refer to the Biodiversity and Geo-diversity development management policy in the plan'</i> . It suggests that <i>'the policy wording could be altered to remove this minor uncertainty by stating that <u>'any development would need to be compliant with development management policies in the Plan, and by including policy DO7 (biodiversity) and D09 (water) in the key links. If this wording is not added then Appropriate Assessment would be required'</u></i> .
2.	+	+	+		✓	✓	This preferred policy would reduce many of the water impacts associated with primary extraction. However, processing of construction aggregates may require washing processes that demand water. There are also water impacts associated with the use of secondary aggregates; particularly materials such as colliery spoil. While these are required to be in an inert state when used in construction, during working and processing care will need to be taken to avoid sensitive receptors for water pollution.
3.	+	+	+	✓		✓	Broadly effects are positive as secondary aggregate sources tend to be relatively close to the major areas of demand around large population centres in the south of the Plan Area. In addition, construction and demolition waste is likely (though not always) to be used relatively close to where it is sourced (as urban areas tend to be key sources of CDE waste and also the key consumers of it – particularly where mobile plant is employed). This all reduces the demand for long journeys made by road.  Uncertainty will increase in the longer term as supply of secondary aggregates may or may not decrease, depending on the source of those secondary aggregates.
4.	?	?	?				In terms of air quality, there may be localised dust issues around recycled aggregates processing sites and sources of secondary aggregate such as spoil tips, and there will be a need to ensure construction waste received at processing facilities is inert (dealt with through the environmental permitting regime) though there is the prospect that emissions from transport could be less.
5.	+	+	+	?	✓	✓	The offsetting of future primary minerals extraction by this option will lead to benefits to soils and land take. Uncertainty will increase in the longer term as supply of secondary aggregates may or may not decrease, depending on the source of those secondary aggregates.

6.	+	+	+	✓		✓	This preferred policy will reduce the embodied energy of aggregates (as a waste rather than a primary resource is utilised) and is considered to be likely to reduce transport (though there remains some uncertainty here). It will also reduce land take of both extraction and disposal. These things taken together will lead to positive effects on the climate change objective. These benefits may decline in the longer term if the supply of sources of secondary aggregates declines.
7.	0	0	0				No clear link
8.	+	+	+	✓		✓	Using recycled and secondary aggregate saves the equivalent amount of primary aggregate from being used up. The only limiting factor is the quantity used.  The effects are more uncertain in the long term as the supply of colliery spoil may run out.
9.	+	+	+	✓		✓	This preferred policy would recycle or reuse a range of construction and demolition materials and utilise secondary aggregate preventing future landfilling, and offsetting future generation of more waste (that results from primary extraction). This would lead to major beneficial effects on the waste SA objective.
10.	+	+	+	✓		✓	Effects on the historic environment are generally thought to be positive as continued use of recycled and secondary aggregates will be reducing the level of demand for primary extraction (and thus land take and historic environment loss). However, there is some uncertainty as to whether any new infrastructure required would have historic environment / setting impacts (though this would be limited as existing minerals sites are encouraged to be possible locations for some of this infrastructure).
11.	+	+	+	✓		✓	Harm to landscapes resulting from the visual intrusion of quarries will be lessened as recycled and secondary aggregates offset some of the demand for primary aggregates. This is countered to an uncertain degree by the possibility that new built infrastructure may be required to support this objective.
12.	0	0	0		✓	✓	This objective will have a broadly neutral effect as jobs may be created in recycled and secondary aggregates as demand reduces for primary extraction and the jobs connected with it.
13.	0	0	0		✓	✓	This objective will have a broadly neutral effect on community vitality as jobs may be created in recycled and secondary aggregates as demand reduces for primary extraction and the jobs connected with it. This will help boost levels of spend in some communities, and will reduce levels of spend in others.  Issues around sites for storing and processing secondary aggregate, such as traffic and dust may, however, work against the objective. To a degree this will be mitigated by other policies in this Plan (such as the amenity / cumulative effects policy).  The situation becomes less certain in the longer term if the supply of sources of secondary aggregates declines.



								Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.
14.	0	0	0					There is no significant relationship between this option and the recreation, leisure and learning objective.
15.	0	0	0		✓	✓	✓	Promoting recycled aggregates will not in itself lead to negative effects on health and wellbeing, though there may be local negative effects around new facilities resulting from noise, dust and road journeys. However, as this option reduces demand for primary minerals, there will be a reduction in the health effects associated with those sites. A certain amount of concentration of impacts are expected to occur close to secondary aggregate sites (particularly from dust) in the short and medium term which may tip the balance away from neutral towards negative. This will affect wellbeing levels though this will be mitigated to a degree by other policies in this Plan (such as the amenity / cumulative effects policy). Much depends on the availability of sources of secondary aggregates in the future as to whether such impacts will continue to the long term.  Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.
	-	-	-					
	?	?	?					
16.	?	?	?					The risk from flooding will depend on the location of individual sites (see also site assessment for the flood risk associated with individual sites).
17.	+	+	+		✓	✓		This would help sustain future supplies of minerals.  The effects are less certain in the long term as the supply of colliery spoil in particular may run out
			?					

**Summary of assessment** For most of the SA objectives positive effects arise because supporting the use of secondary and recycled aggregates would offset the need to extract primary aggregates (and the negative effects associated with this). Some SA objectives report neutral effects as impacts associated with primary extraction are simply shifted to new locations. However, the health and wellbeing and community vitality objectives note some additional negative effects associated with the dusty nature of some secondary aggregates, while the water objective recognises the potential for water pollution from the storage and processing of some secondary aggregates (which would be dealt with via the environmental permitting regime). There are also uncertainties associated with the supply of secondary aggregates such as colliery spoil (particularly if sources of colliery spoil close down).

Some uncertainty is noted as the Habitats Regulations Assessment of this preferred policy as the policy does not make an explicit link to the biodiversity and geo-diversity development management policy and could, in theory allow development in any location across the plan area, provided it is consistent with the requirements of the policy.

**Recommendations** This policy is largely mitigated by other policies in the plan (particularly D02 Local Amenity and Cumulative Impacts) as well as

the environmental permitting / pollution control regime. However, monitoring of the supply of secondary and recycled aggregates is recommended due to uncertainties over supply. To address concerns raised through the Habitats Regulations Assessment process, policy wording could be altered to state that any development would need to be compliant with development management policies in the Plan, and by including policy DO7 (biodiversity) and D09 (water) in the key links.

## Policy M12: Continuity of supply of silica sand

### Preferred Option

1) Proposals for the continuing extraction of silica sand at Burythorpe Quarry, including proposals for lateral extensions or deepening, will be supported in principle where necessary in order to maintain reserves during the period to 2030 and a minimum 10 year landbank for the site.

Compliance with relevant Development Management policies in the Plan will need to be demonstrated.

2) Proposals for development of silica sand resources at Blubberhouses Quarry, including proposals for the extension of time to complete existing permitted development, lateral extensions or deepening, will only be supported subject to the satisfactory outcome of assessment in relation to the major development test set out in national policy, the satisfactory outcome of Appropriate Assessment under the Habitats Regulations and where it can be demonstrated that compliance with other relevant Development Management policies in the Plan can be achieved.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	- ?	- ?	- ?	✓	✓	✓	✓	<p>Burythorpe is adjacent to areas of priority habitat (deciduous woodland) so lateral extensions and a landbank could have a detrimental effect on this habitat and the species associated with it if the woodland is lost. However, compliance with development management policies (particularly for biodiversity and geodiversity) should mitigate effects and seek to achieve a net gain. Nonetheless, a negative effect is recorded as loss of woodland would a take significant amount of time to recover from. Minor negative.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. Effects on biodiversity included possible impacts on the nearby North Pennine Moors SAC, impacts on protected species, impacts on blanket bog and impacts on deep peat (overall rated as minor negative with some benefits likely through restoration). Lateral extensions could elevate these effects significantly. However, it is considered that the biodiversity and geodiversity development management policy would help moderate effects to a degree, though it may be difficult to fully compensate for a loss of blanket bog and deep peat, so potentially major residual effects may remain. However, the satisfactory completion of a project level appropriate assessment would ensure no likely</p>

							<p>significant effects remain on the Natura 2000 site, so we estimate the effects of the policy to be minor negative to uncertain.</p> <p>The overall score for both sites is minor negative to uncertain.</p>
2.	0 -	0 -	0 -		✓	✓	<p>Deepening or extending Burythorpe could affect the aquifer or surface drainage / hydrological links to the nearby Mill Beck. However, the site is not in a Source Protection Zone. However, the 'Water Environment' development management policy is likely to bring impacts down to acceptable levels.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. Key possible impacts included the risk from fuel spills leaching off site. These impacts would also apply to extensions to the site. Effects are likely to be controlled by the 'Water Environment' development management policy.</p> <p>The overall score for both sites is insignificant to minor negative.</p>
3.	0 -	0 -	0 -		✓	✓	<p>Traffic impacts from Burythorpe would depend on routes taken, though there are several properties close to roads in the vicinity that could experience increased noise and vibration. Distance from the strategic road network also means that impacts such as a minor contribution to local congestion might occur if the site is deepened or extended.</p> <p>Blubberhouses Quarry was considered through the sites assessment process which concluded that the application at the site would generate 80 two way trips per day which is acceptable onto the A59, though minor works may be required to extend existing footway / street lighting to serve the site and a traffic assessment will be needed. There are few significant settlements or junctions close by so effects are considered to be negligible to minor negative on account of the minor works Further lateral extensions / deepening may cause these impacts to continue into the longer term. Neutral to minor negative in the long term.</p> <p>The overall score for both sites together is neutral to minor negative.</p>
4.	0	0	0				<p>The Burythorpe site is relatively small, and while occasional buildings might be within range of dust impacts, the site is well screened. Coupled with the Amenity and Cumulative Impacts development management policy impacts are unlikely to be significant.</p> <p>Blubberhouses Quarry was considered through the sites assessment process which concluded no significant effects. It is expected that deepening or extending the site would result in a similar outcome.</p>

								The overall score for both sites together is insignificant.
5.	-	-	-	✓	✓	✓		<p>Burythorpe lies in an area of Grade 3 land, which is possibly best and most versatile land. While some soil could be taken out of production temporarily it is likely that the Soils and Agricultural Land policy will ensure that this will be either restored or put to some other productive use. Lateral extensions would have a land take however. Negligible to minor negative.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. For Blubberhouses there would be no impact on best and most versatile land, but lateral extensions would have a land take. Minor negative.</p> <p>The overall score for both sites together is minor negative.</p>
6.	-- ?	-- ?	-- ?	✓		✓	✓	<p>The Burythorpe site is distant from the strategic road network, and silica sand would serve a national market, so carbon is expected to be at least of minor significance.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. This identified significant impacts arising from, primarily the loss of deep peat, but also traffic serving a national market. The loss of deep peat through further extensions would further amplify the effects on the climate change objective.</p> <p>The overall score for both sites together is major negative / uncertain.</p>
7.	- +	- +	- +	✓		✓		<p>Burythorpe is not affected by surface water or fluvial flooding and any risk would be dealt with by the 'Water Environment' development management policy. The site is adjacent to woodland patches in the England Habitat Network which could be separated by an extension.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. This concluded that there were no flooding issues on or off site; however, a large amount of ecological network would be lost, though given the size of the network it would be unlikely that species movement would be blocked, though uncertainty would remain until an HRA report had looked into this. Given this policy requires a satisfactory outcome to an HRA this is considered to be a suitable response to a key climate change vulnerability. Positive.</p> <p>The overall score for both sites together is minor negative to minor positive.</p>

<b>8.</b>	-	-	-	✓		✓	<p>Silica sand is a nationally important mineral. Clearly extracting it will diminish the resource. Alternatives to silica sand in relation to its key applications (e.g. high purity glass and foundry sand) are currently available. However, they are limited in supply<sup>7</sup>.</p> <p>The overall score for both sites together is minor negative.</p>
<b>9.</b>	?	?	?		✓	✓	<p>It is not known whether extracting silica sand dis-incentivises the uptake of recycled alternatives so the effects on this objective are unknown.</p> <p>The overall score for both sites together is uncertain.</p>
<b>10.</b>	- ?	- ?	- ?	✓		✓	<p>Burythorpe is quite close to a scheduled monument, so impacts on setting may be a possibility, while there may be direct impacts on archaeology from extending the site. Effects would be moderated by the Historic Environment development management policy.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. While no effect on historic character was noted there could be major effects on archaeology. Lateral extensions could extend impacts, though effects would be moderated by the historic environment development management policy.</p> <p>The overall score for both sites together is minor negative / uncertain.</p>
<b>11.</b>	- ?	- ?	- ?	✓	✓	✓	<p>Although screened to the west, north and south by trees the Burythorpe site may be visible from receptors to the east if extended – e.g. the designated landscape of Burythorpe House. However, effects will be reduced to ‘not unacceptable’ by the ‘Landscape’ development management policy. Minor negative / uncertain.</p> <p>Blubberhouses Quarry was considered through the sites assessment process. The site is within an AONB and impacts could combine with the A59. Deepening and extension could amplify impacts further, though effects would be moderated by the Landscape development management policy. Major negative / uncertain.</p> <p>The overall score for both sites together is minor negative / uncertain.</p>
<b>12.</b>	++	+ +	+ +		✓	✓	<p>Silica sand is of national importance for glass making and for use in foundries. Jobs will also be secured.</p> <p>The overall score for both sites together is major positive.</p>

<sup>7</sup> See BGS, 2009. Minerals Planning Factsheet: Silica Sand.

13.	+	+	+		✓	✓	✓	<p>These sites would support some jobs, and some employees may live near to Burythorpe. There may be some very minor traffic impacts on access to nearby settlements depending on traffic routing.</p> <p>The overall score for both sites together is minor positive.</p>
14.	- ?	- ?	- ?	✓	✓	✓	✓	<p>A bridleway runs to the north of Burythorpe, while a footpath lies around 250m south, so these may be affected by extensions in particular, and may need diverting.</p> <p>Blubberhouses quarry was considered through the sites assessment process. The site might impair the experience of users of open access land and rights of way. Extensions may amplify effects. However, these effects would be moderated by the Amenity and Cumulative Effects development management policy. Minor negative to uncertain.</p> <p>The overall score for both sites together is minor negative to uncertain.</p>
15.	-	-	-		✓	✓		<p>The Burythorpe site is relatively small, and while occasional buildings might be within range of dust and noise impacts, the site is well screened. Coupled with the Amenity and Cumulative Impacts development management policy impacts are unlikely to be significant.</p> <p>Blubberhouses quarry was considered through the sites assessment process. This considered that effects to local receptors of noise and dust would be of minor significance. Extending or deepening this site could amplify effects, though these effects would be moderated by the Amenity and Cumulative Impacts development management policy. Minor negative.</p> <p>The overall score for both sites together is minor negative.</p>
16.	0	0	0					<p>Burythorpe is not affected by surface water or fluvial flooding and any risk would be dealt with by the 'Water Environment' development management policy.</p> <p>Blubberhouses quarry was considered through the sites assessment process. No flooding issues were noted.</p> <p>The overall score for both sites together is insignificant.</p>
17.	0	0	0					No clear link

**Summary of assessment** Supporting these two sites and the deepening of or extension of them could lead to a range of negative effects. These are outlined in the site sustainability report. Major positive effects are also identified for the economy objective, as silica sand is a nationally

significant mineral resource.

While the development management policies should help moderate many of the effects noted, particular issues that would need satisfactory resolution include the Blubberhouses site's potential impact on peat and possibly deep peat as well as any issues that might be identified through appropriate assessment of the effects of the Blubberhouses site on the blanket bog habitats and species associated with the North Pennine Moors SAC/SPA.

**Recommendations:** Appropriate mitigation should be incorporated at each allocation site in line with the Site Sustainability Appraisal findings (where relevant) and with other policies in the Plan. Cumulative impacts should be given particular regard through the planning application process.



## Policy M13: Continuity of supply of clay

### Preferred Option

The provision of sufficient permitted reserves of clay in order to provide a 25 year supply for existing manufacturing operations at Alne Brickworks and Plasmor Blockworks, Great Heck, is supported.

Additional reserves to help meet this requirement are provided through a site allocation for:

- 1) Allocations required in order to meet requirements during the plan period:

Land to north of Hemingbrough clay pit (MJP45)

Proposals for development of this site will be supported subject to compliance with the development management policies in the Plan.

- 2) Allocations potentially required to contribute to maintaining longer term supply for Plasmor Blockworks:

A Preferred Area on land adjacent to former Escrick brickworks (MJP55)

Proposals for development within this site will be supported only where it can be demonstrated that additional reserves are required in order to maintain an adequate longer term supply of clay to the Plasmor blockworks site and subject to compliance with the development management policies in the Plan.

Maintenance of supply of clay is also supported through the identification of an allocated site for engineering clay at:

Land north of Duttons Farm, Upper Poppleton (MJP52)

Working of unallocated brick clay resources will be supported where it can be demonstrated that the mineral is needed in order to maintain an adequate supply to existing manufacturing facilities in line with national policy, where sufficient mineral cannot be provided from sites allocated in the Plan and subject to compliance with relevant development management policies in the Plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
	See Site Sustainability Appraisal Report for scoring for each individual site							<p>Extraction clay from the sites specified in this policy may result in a range of impacts in relation to the Sustainability Appraisal objectives. Each site has been individually assessed as part of the site assessment methodology and the results are presented in the Site Sustainability Appraisal Report.</p> <p>However the policy also refers to unallocated brick clay resources that will be allocated in line with relevant development management policies. The assessment below considers the effects of unallocated sites only.</p>
1.	+	+	+	✓	✓	✓	✓	Unallocated clay sites are likely to lead to a range of effects on biodiversity depending on location. These will largely be mitigated by policy D: 02 Biodiversity and Geo-diversity. This is expected to 'protect' biodiversity and achieve net gains, though uncertainty is noted individual circumstances at sites may still result in residual effects. In the longer term, the Reclamation and After Use policy is likely to apply, leading to some further potential for positive effects.
2.	+	+	+	✓	✓	✓	✓	Unallocated clay sites are likely to lead to a range of effects on water depending on location. These will largely be mitigated by policy D: 09 Water Environment, though as that policy seeks demonstration of no unacceptable it is possible temporary residual effects may remain (e.g. minor changes to the surface water drainage, run off etc.).
3.	-	-	-	✓		✓		As unallocated sites would, through policy D: 03 need to consider access arrangements and may require a transport assessment and green travel plan. However, allowing unallocated site may allow sites which are located in less than ideal positions in terms of transport impacts, though because they will support existing manufacturing facilities, this effect is not likely to be major.
4.	0	0	0		✓	✓	✓	Unallocated clay sites may have short term dust impacts during construction, though generally dust is less of an issue at these sites and would be largely mitigated by policy D:02 Local Amenity and Cumulative Impacts. Some minor effects from transport (e.g. dust, air pollution) may also result, but at a low level and depending on location.
5.	-	-	-		✓	✓		Clay is often extracted from lowland areas which may coincide with best and most versatile land. Although the policy D12: Protection of Agricultural Land and Soils would at least the conservation of soils, there would still be a temporary loss of soils from food production. The magnitude of impacts is dependent on location.
6.	-	-	-	✓		✓		Transport effects and possible loss of soils is likely to lead to negative effects on climate change.
7.	0	0	+	✓		✓		In the long term clay sites may provide a potential flood storage opportunity, particularly given policy D: 09.

8.	-	-	-	✓		✓		Unallocated sites will extract a non-renewable material, though only to maintain an adequate supply in relation to existing facilities.
9.	0	0	0					No direct relationship with this objective.
10.	+	+	+	✓	✓	✓	✓	Unallocated clay sites are likely to lead to a range of effects on the historic environment depending on location. These will largely be mitigated by policy D: 08 Historic Environment.
	?	?	?					
11.	-	-	-	✓	✓	✓	✓	Unallocated sites will inevitably lead to landscape change of varying significance depending on location. To some extent these will be mitigated by policy D06, though it is likely some residual effects may be unavoidable.
	?	?	?					
12.	+	+	+		✓	✓	✓	Unallocated sites will help support extant manufacturing facilities directly, and indirectly will help support the construction industry through the supply of bricks.
	+	+	+					
13.	+	+	+		✓	✓	✓	Unallocated sites will help support extant manufacturing facilities and the jobs that depend on them as well as providing jobs in their own right.
	+	+	+					
14.	+	+	+		✓	✓		Rights of way would most likely be diverted as a result of Policy D: 02 interacting with this policy (minor negative). Other recreational impacts are also likely to be mitigated by the policy. Recreation opportunities may come in the longer term through restoration.
	-	-	?					
	?	?						
15.	0	0	0	✓	✓	✓		Unallocated clay sites may have short term dust impacts during construction, though generally dust is less of an issue at these sites and would be largely mitigated by policy D:02 Local Amenity and Cumulative Impacts. Some minor effects from transport (e.g. dust, air pollution) may also result, but at a low level and depending on location. Recreation opportunities may come in the longer term through restoration.
	-	-	-					
	?	?	+					
	?	?	?					
16.	0	0	+	✓		✓		In the long term clay sites may provide a potential flood storage opportunity, particularly given policy D: 09.
			?					
17.	+	+	+		✓	✓	✓	Unallocated sites will indirectly help support the population through the supply of bricks and thus opportunities for future development.
	+	+	+					

**Summary of assessment** A wide range of impacts will result from extraction of clay at the sites specified in this policy. These are outlined in the Site Sustainability Appraisal Report. As many of the site allocations lie in close proximity to other existing or allocated sites, cumulative impacts will be of particular importance.

In terms of unallocated sites, a range of minor positive and negative effects are recorded for most SA objectives as such sites will need to comply with development management policies, which will either control effects or may leave some minor residual effects when they are applied to clay development (such as on soils / land, water and landscape) or may result in minor positive effects (e.g. through mitigation providing a net gain or a high level of protection – as is the case for biodiversity and the historic environment). Strong positive effects are observed in relation the economy,

community vitality and population change as ultimately clay extraction supports the brick industry and the wider construction industry and the jobs associated with those industries.

**Recommendations** Appropriate mitigation should be incorporated at each allocation site in line with recommendations in the Site Sustainability Appraisal findings for each site and with other policies in the Plan. Cumulative impacts should be given particular regard through the planning application process.

## Policy M14: Incidental working of clay in association with other minerals

<b>Preferred Option</b>								
The incidental working of clay in association with production of other minerals will be supported, where the incidental extraction of clay would help secure the most sustainable use of resources and would not significantly increase any adverse environmental or amenity impacts associated with the primary working, or the subsequent reclamation and afteruse of the site.								
SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs								
SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	0	✓		✓		This policy would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for biodiversity. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown (i.e. there is uncertainty as to what 'not significantly increase any adverse environmental or amenity impacts' might mean in practice). Therefore the effects from this are considered neutral as well as uncertain.
	?	?	?					
2.	0	0	0	✓		✓	✓	This policy would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for water. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown.
	?	?	?					
3.	-	-	-	✓		✓		Whilst this policy would only support incidental clay extraction where overall environmental and amenity impacts are not significantly increased, there may be potential implications on transport. This would be in relation to additional trips generated by working the clay. The effects would be commensurate to scale of clay resources gained. This is considered to be a minor negative with some uncertainty attached to not knowing the volume of clay to be extracted through this policy.
	?	?	?					
4.	0	0	0	✓		✓		This policy would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for air quality. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown. Also, there may be some impacts from increased trips from a site in relation to road transportation of the clay, which may affect air quality. Therefore the effects from this policy are considered neutral as well as uncertain.
	?	?	?					
5.	+	+	+	✓		✓		This would not take any more land in terms of extraction but may incur land take for processing. Positively, it would maximise the productivity of the land already in use and help to minimise additional land take elsewhere for primary extraction. This is considered to have net positive effects.

6.	0	0	0	✓		✓		This policy would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for climate change. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown. Also, there may be some impacts from increased trips from a site in relation to road transportation of the clay, which would incur emissions and add to the causes of climate change. Therefore the effects from this policy are considered neutral as well as uncertain.
	?	?	?					
7.	0	0	0					There is no clear link between this objective and adapting to climate change.
8.	+	+	+	✓		✓		This policy would promote efficient use of resources through supporting the extraction of clay through other mineral workings. This would support the objective by reducing the need for primary extraction as well as using minerals resources wisely.
	+	+	+					
9.	+	+	+	✓	✓	✓		This policy would minimise waste of minerals by processing the by-products from other mineral extraction into useful resources.
	+	+	+					
10.	0	0	0	✓				This policy would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for heritage assets. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown. Any additional effects are likely to be in locations which are in close proximity to historic townscapes, such as York. Therefore the effects from this are considered neutral as well as uncertain.
	?	?	?					
11.	0	0	0	✓		✓		This policy would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for landscape and landscape designations. Where clay occurs alongside other minerals, clay is often retained onsite and replaced in worked out areas in order to achieve a satisfactory landform. This policy would therefore ensure that the incidental working of clay would not have a significant negative impact upon site reclamation. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown. Therefore the effects from this are considered neutral as well as uncertain.
	?	?	?					
12.	+	+	+	✓	✓	✓	✓	This policy is likely to have significantly positive economic effects given that it would maximise the productivity of working mineral extraction locations. This would enable the sites to feed into different markets and usefully use waste by-products of existing mineral extraction. This would not be suitable for all types of extraction however, and may incur additional costs to implement. On balance, this is likely to have positive effects.
13.	0	0	0	✓				This policy would only support incidental clay extraction where overall amenity impacts are not significantly increased, including consideration for local communities. Some uncertainty is noted as the stringency in relation to understanding amenity impacts resulting from the primary working is unknown. Therefore the effects from this are considered neutral as well as uncertain.
	?	?	?					
14.	0	0	0	✓		✓		This policy would only support incidental clay extraction where overall amenity is not prejudiced, and this should include consideration of recreation and leisure. Some uncertainty is noted as the stringency in relation to understanding amenity impacts resulting from the primary working is unknown. Therefore the effects from
	?	?	?					

								this are considered neutral as well as uncertain.
15.	0	0	0	✓		✓		This policy would only support incidental clay extraction where overall environmental impacts and amenity impacts are not significantly increased, which should include consideration for health and well-being in relation to noise, lighting and contamination. Some uncertainty is noted as the stringency in relation to understanding environmental and amenity impacts resulting from the primary working is unknown. Therefore the effects from this are considered neutral as well as uncertain.
	?	?	?					
16.	0	0	0	✓		✓		This option would only support incidental clay extraction where overall environmental impacts are not significantly increased, which should include consideration for flood risk. Some uncertainty is noted as the stringency in relation to environmental impacts resulting from the primary working is unknown. Therefore the effects from this are considered neutral as well as uncertain.
	?	?	?					
17.	+	+	+	✓		✓		There may be positive effects relating to helping to meet local demand for clay. This would be commensurate to the volume of clay produced.
	+	+	+					

**Summary of assessment** The impacts associated with this policy are predominantly neutral to uncertain. The policy would support incidental clay extraction where overall sustainability and environmental / amenity impacts would not be significantly increased. However, there is some uncertainty as to the scope of impacts that will be considered and also the stringency in relation to environmental impacts resulting from the primary working is unknown (i.e. there is uncertainty as to what 'not significantly increase any adverse environmental or amenity impacts' might mean in practice).

Some positive impacts would result from this policy as it would increase productivity from mineral extraction, minimising the generation of clay waste, providing a valuable building material and providing positive benefits for the economy.

**Recommendations** No mitigation is proposed.

## Policy M15: Continuity of supply of building stone

Assumptions- The specific impacts of MJP63 Brows Quarry have been assessed in detail in the site assessment SA and therefore impacts referred to in this assessment are general rather than specific to this site.

### Preferred Option

In order to secure an adequate supply of building stone, proposals will, where consistent with other policies in the Plan, be supported for:-

- (i) the extension of time for completion of extraction at permitted building stone extraction sites;
- (ii) the lateral extension and/or deepening of workings at permitted building stone extraction sites;
- (iii) the re-opening of former building stone quarries in appropriate locations;
- (iv) the opening of new sites for building stone extraction in appropriate locations, including the small scale extraction of building stone at new sites adjacent to existing historic buildings or structures where the use is specifically for their repair;
- (v) the incidental production of building stone in association with the working of crushed rock;
- (vi) the grant of permission on sites allocated in the Plan for working of building stone.

Where development is proposed in the National Park and AONBs under criteria i to iv above and where the development comprises major development due to its scale and the nature, proposals will need to meet the requirements for major development set out in Policy D04.

Proposals for the supply of building stone should be supported by evidence to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built and/or historic environment in the Plan area and/or to the meeting of important requirements for building stone outside the area and the scale of the proposal should be consistent with the identified needs for the stone.

For proposals for supply of building stone from locations within the National Park or AONBs, it will need to be demonstrated that the stone is required primarily to meet requirements arising from new build or repair work within the National Park and/or AONBs or is for the repair of important designated or undesignated buildings or structures which rely on the proposed source of stone as the original source of supply, or can provide a directly equivalent product which can no longer be provided from the original source quarry.

Additional reserves to help maintain supply of building stone are also provided through a site allocation for:

Land at Brows Quarry (MJP63).

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*



SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	-	-	- +	✓	✓	✓	✓	Areas of building stone resources in the Plan area are covered by nature conservation designations, particularly within the North York Moors National Park, and therefore this policy could lead to harm to these sites. In the longer term there may be opportunities for enhancements for biodiversity through site reclamation. It is considered that due to the generally small scale nature of building stone extraction operations and the requirement for evidence to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built/historic environment, that impacts are likely to be minor in magnitude.
2.	-	-	-	✓		✓	✓	Under this option there is potential for effects on Nitrate Vulnerable Zones and Groundwater Source Protection Zones as these coincide with building stone resources in many locations. It is considered that due to the generally small scale nature of building stone extraction operations and the requirement for evidence to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built/historic environment, that impacts are likely to be minor in magnitude.
3.	-	-	-		✓	✓	✓	Support for new building stone quarries and the extension of existing quarries is likely to result in more transport movements, which may increase over time as more quarries become operational. This policy would however allow for the small scale extraction of building stone adjacent to existing historic buildings where the use is specifically for their repair, and this proximity between source and market may reduce transport miles in some cases. It is considered that due to the generally small scale nature of building stone extraction operations and the requirement for evidence to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built/historic environment, that impacts are likely to be minor in magnitude.
4.	-	-	-		✓	✓	✓	Under this option there are likely to be more localised effects on air quality across any areas where building stone could be extracted as well as air quality issues associated with transportation of stone. It is considered that due to the generally small scale nature of building stone extraction operations and the requirement for evidence to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built/historic environment, that impacts are likely to be minor in magnitude.
5.	-	-	-	✓		✓		This option is likely to result in a greater amount of land take for building stone quarries including the loss of soil and the loss of agricultural land. In many places (particularly in the NYCC area) building stone resources are overlain by Grade 3 and Grade 2 agricultural land. This is considered to constitute a minor negative impact due to the generally small scale nature of building stone quarries.
6.	-	-	-		✓	✓	✓	Under this option there are likely to be more transport movements, and therefore greater emissions of

							greenhouse gases, which may increase over time as more quarries become operational. This is considered to constitute a minor negative impact due to the generally small scale nature of building stone quarries.
7.	0	0	+	✓		✓	In the longer term this option may provide more opportunities for water storage, due to a greater number of closed quarries, thus reducing the risk of flooding downstream <sup>8</sup> .
8.	--	--	--	✓		✓	This policy would support the extraction of building stone and would not therefore serve to minimise the use of resources or re-use of primary materials. The requirement to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built/historic environment and for extraction to be consistent with identified needs would moderate this effect to an extent.
9.	-	-	-	✓		✓	By supporting the extraction of building stone this option would not help to encourage the re-use of previously used building stone. The policy would however support the incidental supply of building stone from crushed rock quarries, ensuring that less resource is wasted.
10.	++	+	+	✓		✓	For the repair and restoration of some heritage assets, it will be essential that the material used comes from the original source of the building stone or, where they exist, from a compatible quarry source. Therefore, in some cases, the only option will be to re-open a face on a currently disused or dormant quarry. This policy will be likely to contribute positively to the achievement of SA objective 10 insofar as it helps to conserve the historic environment of the area and the character of its heritage assets. A limited amount of stone is likely to be required for the repair of most heritage assets. Although building stone extraction operations are likely to be small scale, some negative impacts may occur as a result of an increase in the amount of active building stone quarries in the plan area and the impacts that these may have on archaeology/ the setting of historic assets.
	-	-	-				
11.	-	-	-	✓		✓	There could be negative effects on the landscape resulting from the opening of new quarries (impacts are considered to be minor in magnitude as building stone extraction operations are generally fairly small scale), however there could also be major positive effects through providing opportunities to enable the correct type of stone to be obtained to ensure that new buildings are appropriate in the landscape or townscape. Within protected landscapes i.e. the National Park and the AONBs, effects on the landscape may be particularly pronounced.
	++	+	+				
12.	+	+	+			✓	Under this option it is likely that more jobs would be created in the building stone extraction sector. The provision of building stone will also enable new buildings/housing to be constructed with associated economic benefits.
13.	+	+	+			✓	This option may support jobs and businesses in communities close to building stone quarries but may equally have a negative effect on tourism in the locality. This policy supports the extraction of building stone adjacent to historic assets where practicable and this may have some impacts on tourism (albeit on a very small scale).
	-	-	-				

<sup>8</sup> It should however be noted that in most cases building stone quarries are of limited value for flood storage, particularly in comparison to other forms of quarry such as sand, gravel and clay.

14.	-	-	-	✓		✓	✓	Under this option there may be negative effects through the diversion of recreation assets such as Public Rights of Way in addition to potentially more significant indirect effects on the experience of those using such assets. This may increase over time should more quarries become operational. In the longer term there may be opportunities for enhancements for recreation through site reclamation.
			+					
15.	-	-	-		✓	✓	✓	Under this option it is likely that the health and wellbeing of more communities would be affected by quarries as there is likely to be more noise, traffic and dust. This may increase over time as more quarries become operational. It is considered that due to the generally small scale nature of building stone extraction operations and the requirement for evidence to demonstrate the contribution that the stone proposed to be worked would make to the quality of the built/historic environment, that impacts are likely to be minor in magnitude.
16.	0	0	+	✓		✓		In the longer term this option may provide more opportunities for water storage, due to a greater number of closed quarries, thus reducing the risk of flooding downstream <sup>9</sup> .
17.	++	+	+	✓		✓		This option would enable a sufficient supply of building materials to come forward for new developments and would ensure that a wide range of building stone types can be extracted.

**Summary of assessment** It is considered that this policy would provide an adequate supply and range of building stone to market and therefore positive impacts have been recorded in relation to the economy, community viability and vitality and meeting the needs of a changing population. The policy would enable building stone to be extracted in close proximity to historic assets or from former quarries where required in order that the correct type of stone can be sourced, conserving the historic environment of an area and the character of its heritage assets. This would result in minor to major positive impacts in relation to the historic environment and landscape objectives.

Although building stone extraction tends to be a relatively small scale operation, negative impacts have been identified in relation to a number of the environmental objectives as this policy is likely to result in an increase in active building stone sites with associated biodiversity, water, air quality, recreation, landscape and amenity impacts.

**Recommendations** None

<sup>9</sup> It should however be noted that in most cases building stone quarries are of limited value for flood storage, particularly in comparison to other forms of quarry such as sand, gravel and clay.

## Policy M16: Overall spatial policy for hydrocarbon development

### Preferred Option

Proposals for development of unconventional hydrocarbons, including proposals involving hydraulic fracturing, will not be supported where they are located within the National Park, AONBs, Heritage Coast, Protected Groundwater Source Areas and World Heritage Sites, Scheduled Monuments, Registered Historic Battlefields, Grade I and II\* Registered Parks and Gardens, Special Areas of Conservation, Special Protection Areas, Ramsar sites and sites of Special Scientific Interest

For conventional hydrocarbons development within and lateral hydraulic fracturing underneath designated areas identified above, applicants will need to demonstrate that all options for undertaking the development in other, non-designated, areas licenced to the applicant by DECC have been fully considered before bringing forward proposals in designated areas. Where such proposals are for appraisal or production and are located in, or in the case of hydraulic fracturing underneath, the National Park or AONBs these will be considered to comprise major development and will be refused except in exceptional circumstances in accordance with Policy D04.

Where proposals are within or in close proximity to the National Park and AONBs special care must be taken to avoid harming the setting and/or special qualities of these designated areas. Hydrocarbons development which comprise 'straddling applications' will be assessed in accordance with Policy D04.

Proposals for conventional and unconventional hydrocarbons development across the rest of the Plan area will be supported where it can be demonstrated that there would be no unacceptable impacts, taking into account proposed mitigation measures, on the environment or on local amenity or on the setting of heritage assets including the historic City of York and where they are consistent with other relevant policies in the Plan. Particular regard will be had to protecting designated Green Belt from harm resulting from hydrocarbons development.

In determining proposals, consideration will be given to any cumulative impacts arising from other hydrocarbon development activity in proximity to the proposed development, including any impacts arising from successive hydrocarbons development taking place over substantial periods of time. Proposals will be supported where there would be no unacceptable cumulative impacts.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	

1.	- ?	- ?	- ?		✓	✓	✓	<p>Proposals with unacceptable cumulative impacts will not be allowed and such development would need to accord with other relevant policies. This should help protect biodiversity and geodiversity as it protects European designated nature conservation sites and SSSIs. In addition, biodiversity in the National Park, AONBs and Heritage Coast (which contain some of the most valued biodiversity) will be protected from all unconventional hydrocarbon development, while for conventional hydrocarbons major development will be refused in these areas except in exceptional circumstances.</p> <p>There could still be low level effects outside of National Parks and AONBs (such as 'land take' affecting on site habitats which even when mitigated may still represent a loss of biodiversity value).</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
2.	- ?	- ?	- ?		✓	✓	✓	<p>There is potential for harm to water quality and supply from hydrocarbon developments such as through accidental spills or contamination of surface and groundwater during different stages of hydrocarbon extraction. Parts of the areas which contain hydrocarbon resources that are accessible to hydraulic fracturing are outside of National Parks and AONBs but within Source Protection Zones. However, the policy will not support unconventional hydrocarbons in groundwater source areas. However, the preferred option also seeks to avoid unacceptable impacts on the environment (taking into account mitigation measures), so any impact outside of these areas would be at a low level.</p> <p>Where development of conventional hydrocarbons takes place inside of National Parks the major development requirements would apply, which would give consideration to any detrimental effect on the environment and the extent it can be moderated. Elsewhere avoidance of unacceptable impacts would need to be demonstrated and such development would need to accord with other policies in the plan (such as policy D;09).</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
3.	+	+	+		✓		✓	<p>To a limited degree under this preferred option there could be minor positive effects on minimising travel as developments are more likely to be located closer to centres of population. This may be counterbalanced to some extent by the protection the preferred policy offers the Green Belt. Overall there is a slightly positive effect.</p>
4.	0	0	0					<p>While flaring may occur at some sites under this policy, effects are unlikely to be significant.</p>
5.	- ?	- ?	- ?		✓	✓		<p>The lowest quality agricultural land is generally found in the National Park and AONBs so this option would therefore direct some hydrocarbon developments to areas which have higher quality agricultural land, though the land take is likely to be relatively small and temporary. Uncertainty is noted as the policy could be made</p>

							clearer on its links with the development management policy relating to soils (D12).
6.	+	+	+		✓	✓	Under this preferred policy there could be minor positive effects on minimising travel and therefore greenhouse gas emissions as developments are less likely to be in the most remote parts of the plan area (due to the avoidance of hydraulic fracturing and use of the major development requirements in those areas) and may be located closer to centres of population or the strategic road / rail network (though hydrocarbons themselves may be transported by pipeline). However there may be effects on climate change through fugitive emissions of greenhouse gases.
	-	-	-				
7.	+	+	+		✓	✓	Protecting groundwater source areas will help protect an asset that is vulnerable to climate change, so the policy is positive in this regard. Outside of these areas protection of water and biodiversity through links to those development management policies is also indirectly positive.
	?	?	?				Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.
8.	--	--	--	✓		✓	Despite the restrictive caveats in this policy it still supports hydrocarbon development in principle and therefore does not support reducing the use of resources.
9.	0	0	0				No clear link
10.	+	+	+	✓		✓	Positive effects would be experienced in relation to World Heritage Sites, Registered Parks and Gardens / Registered Battlefields and the historic environment in the National Park and AONBs and whilst there may be increased negative effects elsewhere depending on the location of the development, the emphasis on the setting of heritage assets should moderate impacts. As part of the statutory purpose of National Parks is to conserve and enhance cultural heritage it is considered that overall this option is positive. In other parts of the plan area hydrocarbon developments may have negative effects on the historic environment though these would be moderated to below unacceptable levels, as this policy signposts readers to the development management policy on the historic environment.
	-	-	-				Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.
	?	?	?				
11.	+	+	+	✓		✓	This preferred option would protect the highest level of landscape designations in the Joint Plan area and would therefore be strongly positive against this objective. In the longer term, the positive effects may increase further should the number of hydrocarbon related developments in the National Park reduce from current levels. In other parts of the plan area hydrocarbon developments may have negative effects on landscape even with mitigation.
	+	+	+				Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.
	-	-	-				
	?	?	?				

12.	+	+	+	✓		✓	Under this preferred option hydrocarbon developments could be directed to areas closer to centres of population (as National Parks and AONBs are comparatively sparsely populated) and therefore would support these economies and potentially provide jobs for local populations.
13.	+	+	+	✓		✓	Under this option hydrocarbon developments could be directed to areas closer to centres of population (as National Parks and AONBs are comparatively sparsely populated) and therefore would support these economies and potentially provide jobs for local populations.  At the strategic level this preferred policy would help protect the National Park and AONBs and would therefore have positive effects overall as tourism is a relatively large sector of the National Park's and AONBs' economies. Over time this may increase should the hydrocarbon related development in the National Park reduce from current levels. Effects on tourism outside of the National Park may, on the whole, be less significant.
14.	+	+	+	✓		✓	As the preferred policy steers development away from the National Parks, AONBs, SPAs and SSSIs, which are key recreational assets in the plan area, and also has particular regard to protecting Green Belt, the most significant recreational assets in the plan area are likely to avoid effects. However, local recreational resources outside of these designations may experience effects such as impacts on the setting and character of recreational places, even with mitigation in place.
15.	+	+	+		✓	✓	Effects would depend upon the precise location of hydrocarbon related development and could be the same either within or outside of designated assets such as protected landscapes. However, the policy does link to development management policy D02 (local amenity) which should reduce any impacts, and also considers cumulative effects which should go some way to protecting health and wellbeing, though in some locations concentrations of industrial features associated with hydrocarbon extraction may have effects on personal perceptions of an area, which might affect wellbeing.  Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.
16.	0	0	0				No clear link.
17.	0	-	-	✓		✓	This preferred policy may potentially restrict hydrocarbon developments from coming forward, as parts of the National Park and the Howardian Hills AONB are PEDL licensed, as are parts of the Green Belt, which would have a negative effect on providing minerals for the population during the medium and longer term bearing in mind that there are existing gas developments that will provide for the shorter term.

**Summary of assessment** This preferred option exhibits a range of mostly minor effects, some positive and some negative. Most positive effects occur because the preferred policy steers development away from a broad range of protected areas such as National Parks / AONBs and other nationally or internationally protected environmental designations, either by not supporting it in such areas or requiring proposals for conventional

hydrocarbons in National Parks / AONBs to meet the requirements for major development set out in Policy D04. Negative effects tend to occur because development may concentrate in other areas that are not afforded protection by the policy, though unacceptable effect will still be avoided, with particular regard given to the Green Belt.

**Recommendations:** Some uncertainty in relation to impacts on soils and land take could be removed by including a reference to policy D12 in the 'key links to other relevant policies and objectives'



## Policy M17: Exploration and appraisal for hydrocarbon resources

### Preferred Option

Proposals for the exploration and appraisal of hydrocarbon resources will be supported where they are considered to be in accordance with the overall spatial policy as set out in Policy M16 for onshore hydrocarbon development and the following requirements are met:-

- i. any unacceptable adverse impact on the environment, local amenity, and heritage assets is avoided or can be appropriately mitigated so far as practicable taking into account the geological target being explored or appraised; and
- ii. a robust assessment has been carried out to demonstrate that there will be no harm to the quality and availability of ground and surface water resources, ground stability and that public safety can be adequately protected;
- iii. Following completion, of exploration and/or appraisal any wells are sealed to prevent the risk of any contamination of ground or surface waters or any emissions to air; and
- iv. development would be consistent with other relevant policies in the plan

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SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+		✓	✓	✓	<p>There are a range of impacts that may affect biodiversity and geodiversity from exploration and appraisal, including disturbance to wildlife through exploration activity such as vibration from seismic testing and drilling exploratory wells. In addition, water usage in connection with exploratory hydrocarbon development such as through hydraulic fracturing ('fracking') may also have an impact on biodiversity where wildlife sites are reliant on good quality supply of water. However, this policy supports only proposals which would not have any unacceptable impacts on the environment or can be appropriately mitigated and also ensures development would be consistent with other policies in the plan.</p> <p>In addition, consistency with the overall spatial policy (which avoids international and national biodiversity / geodiversity) locations will help to limit effects.</p> <p>This would result in mixed effects to this objective as although biodiversity would in the main be protected</p>
	-	-	-					
	?	?	?					

							(which is part of the intent of this 'protect and enhance objective'), there may still be some potential for small scale residual direct and indirect effects depending on location (e.g. temporary loss of habitat).  Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.
2.	+	+	+		✓	✓	This preferred policy would require a robust assessment to demonstrate that there will be no harm to the quality and availability of ground and surface water. Although exploration and appraisal can have a range of effects on water when unmitigated, the insistence upon 'no harm' would equate to maintenance of water quality and availability, which is broadly positive. In the longer term the policy also insists on the sealing of wells which should help prevent further risk.
3.	- ?	- ?	- ?		✓	✓	Exploration and appraisal of hydrocarbons can give rise to peaks in transport movements to and from exploratory sites. In addition, where large volumes of water are used, this may incur lorry movements if it needs to be brought in to the site or needs to be taken off-site for treatment and discharge. The effects of this will be commensurate to the location and the type of exploration and appraisal, which is currently uncertain, other than through the guidance given by the overall spatial policy. However, given the policy seeks to avoid unacceptable amenity impacts, and also requires consistency with other policies (including DO3 'Transport of Minerals and Waste and Associated Traffic Impacts') any effects would be kept at low levels.  Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.
4.	0 -	0 -	0		✓	✓	Air quality impacts might come through the generation of dust, through transport or the generation of fugitive emissions (e.g. from drilling test wells). These effects are likely to be temporary and small scale, but would also be prevented from rising to more significant levels by the emphasis in the policy on avoiding any unacceptable environmental effect. While a minor deterioration in local air quality may still be possible, overall the effect is considered to be insignificant to minor negative. In the longer term the policy also insists on the sealing of wells which should help prevent further risk.
5.	- ?	- ?	- ?		✓	✓	The appraisal of hydrocarbons does have a land footprint. For instance, DECC's Strategic Environmental Assessment of further onshore oil and gas licensing recognised that pad preparation and provision of associated infrastructure (for conventional and unconventional oil and gas and VCBM [Virgin Coal Bed Methane]) is likely to have negative effects due to direct land take, soil loss and compaction <sup>10</sup> . Well testing may also result in adverse impacts relating to instability or subsidence through the use of hydraulic fracturing

<sup>10</sup> DECC, 2013. Strategic Environmental Assessment for Further Onshore Oil and Gas Licensing – Environmental Report [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/273997/DECC\\_SEA\\_Environmental\\_Report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/273997/DECC_SEA_Environmental_Report.pdf) ]

								<p>(which involves fracturing of rock below ground). While effects are clear, their magnitude will depend on the quality of land affected.</p> <p>Given this policy's avoidance of unacceptable environmental effects and requirement for consistency with the other relevant policies in the plan (including D12: Protection of Agricultural Land and Soils) effects are likely to be reduced, though could still result in minor negative effects.</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
6.	-	-	-	✓			✓	<p>The exploration and appraisal of hydrocarbons has some potential for release of fugitive methane, while carbon releases might come from transport, the embodied carbon within construction materials, well testing including flaring or from loss of carbon rich vegetation / soils.</p> <p>This preferred policy refers to avoiding unacceptable effects on the environment, which could help reduce climate change emissions. However, it is the nature of this type of development that residual effects would remain (e.g. the risk of fugitive emissions can only be reduced, while the embodied energy of construction may be difficult to substantially reduce). Minor negative impacts are likely to occur (accepting that the plan has no control over subsequent hydrocarbon / fossil fuel use).</p>
7.	0	0	0					There is no clear link between the policy and objective of adapting to climate change.
8.	--	--	--	✓			✓	This option supports the exploration and appraisal of hydrocarbons, which in principle conflicts with this objective by aiming to find non-renewable resources (fossil fuels) for later extraction. It also promotes development that will have a significant material footprint.
9.	+	+	+	✓		✓	✓	<p>Wastes are likely to be generated from test drilling including construction wastes and drilling flowback (waste water). DECC cite studies showing a wide range of water recycling rates from hydrocarbon development (between 10 and 77% of water used across the life time of development, which would in part encompasses exploration drilling)<sup>11</sup>. Given the policy requires no harm to the availability of water one could assume that water recycling would be an option for developers where water availability is limited. . However, while the policy is clear that other relevant policies in the plan would be considered, it is not clear that the policy D11 'Sustainable Design, Construction and Operation of Development (which requires 'minimisation of waste generated by new minerals and waste development') would be amongst the policies considered as it is not listed in the 'key links to other relevant policies and objectives'. Therefore policy D11 should be added to the links.</p>

<sup>11</sup> ibid

							Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.
<b>10.</b>	+	+	+		✓	✓	<p>Any unacceptable adverse impact on heritage assets would be avoided or appropriately mitigated by this policy. Similarly, policy M16 does not support proposals for hydrocarbons which unacceptably affect the setting of heritage assets including the historic city of York.</p> <p>This would result in mixed effects to this objective as although heritage would in the main be conserved (which is part of the intent of this 'conserve and enhance objective') there may still be some potential for small scale residual direct and indirect effects depending on location (e.g. an inevitable temporary change to character through built infrastructure).</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
	-	-	-				
	?	?	?				
<b>11.</b>	+	+	+		✓	✓	<p>Any unacceptable adverse impacts on landscape (through the policy's consideration of 'the environment') would be avoided or appropriately mitigated by this policy. Similarly, policy M16 does not support proposals for hydrocarbons which unacceptably affect the setting of heritage assets (which are also landscape receptors) including the historic city of York. Furthermore M16 employs a sequential approach to first considering development outside of designated landscapes before considering National Parks and AONBs. Hydraulic fracturing would not be supported in National Parks or AONBs.</p> <p>This is likely to protect aspects of the landscape, though residual effects may remain (e.g. an inevitable temporary change to character / disturbance through built infrastructure). To some extent these may also be controlled by the 'Landscape' development management policy (D06).</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
	-	-	-				
	?	?	?				
<b>12.</b>	+	+	+		✓		<p>The exploration and appraisal of hydrocarbon development is likely to be the bridge between the potential (which has already been identified) and the realisation of extracting a valuable material that is likely to remain a source of fuel. This is a necessary step in realising significant economic benefits such as increases in GDP and jobs. The preferred policy is likely to support exploration and appraisal but in a way that minimises economic disbenefits, such as negative impacts on tourism.</p>
	+	+	+				
<b>13.</b>	+	+	+		✓		<p>As reported for the previous objective, this preferred policy is likely to minimise impacts on tourism, and if exploration and appraisal is successful may bring future employees to local communities. However, there may also be some low level impacts on community vitality, such as temporary raised traffic levels.</p>
	-	-	-				

14.	0 - ?	0 - ?	0 - ?		✓	✓	<p>This preferred policy avoids unacceptable impacts on the environment and heritage, which will help to minimise impacts on this recreation objective. It also links to policy M16 which does not support proposals for hydrocarbons which unacceptably affect the setting of heritage assets (which are also recreational receptors), including the historic city of York, and employs a sequential approach to first considering development outside of designated landscapes before considering National Parks and AONBs. Hydraulic fracturing would not be supported in National Parks or AONBs.</p> <p>This will minimise impacts on recreational assets, though some residual impacts may remain, such as impacts on local rights of way. These are rated as being small scale and temporary impacts that will range in significance from negligible to minor negative.</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
15.	+ -	+ -	+ -		✓	✓	<p>This preferred policy would protect public safety and local amenity (adequately protected), so it is expected that the policy would have a positive impact on the heath safety and wellbeing objective. However, raised traffic levels may be a residual risk that could affect wellbeing.</p>
16.	+ ?	+ ?	+ ?		✓	✓	<p>This preferred policy would protect public safety and have no unacceptable impacts on the environment (or it would mitigate for them), which would presumably include flood risk. In addition, the policy links to other policies in the plan, which if flooding is an issue would include the water environment objective (D09) so it is expected to perform well against this objective.</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
17.	0	+	+		✓	✓	<p>The exploration for gas is likely to have positive impacts in the longer term in terms of addressing the needs of a changing population (i.e. addressing the greater demand for energy) subject to gas deposits being found</p>

**Summary of assessment** The preferred policy mostly acts as a positive safeguard against the main impacts of hydrocarbon exploration and appraisal, particularly as it combines with preferred policy M16 and other policies such as the development management policies, though uncertainty is noted as these other policies are as yet unadopted.

There are, however, some minor negative effects. These stem largely from the fact that despite the strong protection in the policy combined with other plan policies, residual effects which are difficult to avoid or mitigate for will remain. For instance, historic environment character, landscape character, biodiversity, community vitality and health and wellbeing were all objectives which reported this residual risk.

The climate change objective reported outright minor negative effects as the policy ultimately supports hydrocarbon exploration and appraisal development which could cause release of fugitive methane or cause emissions of CO<sub>2</sub> from traffic, soils and through the embodied energy of structures on site. A major conflict with the minimising resource use objective was also recorded as proposals brought forward under this policy could eventually lead to non-renewable resource extraction.

**Recommendations** A potential approach to reducing resource intensity, waste and climate change impacts could be through better links to policy D11 'Sustainable Design, Construction and Operation of Development' (which requires 'minimisation of waste generated by new minerals and waste development' and 'reduction or minimisation of greenhouse gases') by listing it in the 'key links to other relevant policies and objectives'.

## Policy M18: Production and processing of hydrocarbon resources

### Preferred Option

Proposals for the production and processing of hydrocarbon resources will be supported where they are in accordance with the overall spatial policy as set out in Policy M16 for onshore hydrocarbon development and the following requirements are met:-

- Any unacceptable impact on the environment, local amenity and heritage assets is avoided or can be appropriately mitigated. Where proposals are for unconventional resources particular care will need to be given to demonstrate that there will be no harm to the quality and availability of ground and surface water resources, ground stability and that public safety can be adequately protected; and
- Transportation of gas from locations of production, including to any remote processing facilities, will be via underground pipeline, with the routing of pipelines selected to have the least environmental or amenity impact; and
- Proposals are in accordance with other relevant policies in the plan.

A co-ordinated approach should be adopted through the preferential use and/or adaptation of any available and suitable processing and transport infrastructure for the processing and transport of any new gas finds. In relation to any development of new gas resources not accessible to available and suitable processing infrastructure preference will be given to siting of new processing infrastructure on brownfield, industrial or employment land, particularly where there are opportunities for use of combined heat and power. Where this requirement cannot be met applicants should seek to steer new development sites away from best and most versatile quality agricultural land. The Minerals Planning Authority will support co-ordination between licence operators and the development of shared processing infrastructure where this will help reduce overall impacts on the environment and local amenity.

At the end of production facilities should be dismantled with any wells sealed to prevent the risk of any contamination of ground or surface waters or any emissions to air and the site restored to its former use or other agreed use in accordance with Policy D10 Reclamation and after-use of minerals and waste sites.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	

1.	+	+	+		✓	✓	✓	<p>According to the Government's SEA for further onshore oil and gas licensing there are a range of facilities that may be constructed (though some may be retained from exploration and appraisal stages) along with management processes involved in conventional and unconventional gas extraction, including virgin coal bed methane<sup>12</sup>.</p> <p>This policy supports only proposals which would not have any unacceptable impacts on the environment or can be appropriately mitigated and also ensures development would be consistent with other policies in the plan. In addition, consistency with the overall spatial policy (which avoids international and national biodiversity / geodiversity) locations will help to limit effects.</p> <p>This would result in mixed effects to this objective as although biodiversity would in the main be protected (which is part of the intent of this 'protect and enhance objective'), there may still be some potential for small scale residual direct and indirect effects depending on location (e.g. temporary loss of habitat from infrastructure / pipeline placement or water disposal), though as a co-ordinated approach to providing supporting infrastructure as well as a sequential approach to land use is proposed for gas infrastructure this may enhance some positive effects (as new greenfield sites are not favoured and the preferred policy is likely to minimise the amount of surface construction causing disturbance for wildlife).</p> <p>In the longer term sites would be restored to either their former use or an agreed restoration which is an uncertain effect (which could be positive or neutral depending on the restoration outcome).</p>
	-	-	-					
	?	?	?					
2.	+	+	+		✓	✓		<p>The preferred policy would require that '<i>for unconventional resources particular care will need to be given to demonstrate that there will be no harm to the quality and availability of ground and surface water resources</i>' which would have positive effects in relation to this SA objective and would reduce any residual water effects</p>

<sup>12</sup> These include: pad preparation, road connections, pipeline connections, hydraulic fracturing, possible flaring, water disposal, emissions, facility construction, and site equipment removal. See (DECC, 2013. Strategic Environmental Assessment for Further Onshore Oil and Gas Licensing – Environmental Report [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/273997/DECC\\_SEA\\_Environmental\\_Report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/273997/DECC_SEA_Environmental_Report.pdf)]). According to that SEA "*Construction activities associated with well pad preparation and drilling (for conventional and unconventional oil and gas and virgin coal bed methane (VCBM) exploration) and the construction of gas storage facilities and pipeline works may have a negative effect on biodiversity, principally as a result of the loss or fragmentation of habitat or disturbance from both activities on site and HGV movements, such as noise, light or human presence. The discharge of the produced water from de-watering (from VCBM), and the risk of accidental spillage of flowback arising from hydraulic fracturing (associated with shale gas) and pollutants, could have an adverse impact on aquatic environments, although it is assumed that any discharge would be subject to licence and that risks of spillage would be controlled (through planning requirements, regulatory controls and implementation of good practice in construction and management)*"



							<p>associated with unconventional resources to insignificant. For other hydrocarbon resources the policy avoids or mitigates for unacceptable effects to the environment (which would include water). Coupled with other relevant policies (including for the Water Environment (D09)) further protection will be in place, as D09 will not permit unacceptable impacts to water. However some residual effects may remain. It is assumed that this approach would work in tandem with the permitting regime, and would take account of possible residual effects on water quality where they are significant.</p> <p>A co-ordinated approach is likely to reduce likely impacts through minimising the need for development and through helping to identify cumulative impacts from any new development. In the longer term the sealing of wells is likely to prevent any enduring risk to water.</p> <p>As water may be particularly sensitive to hydrocarbon development it is suggested that policy D09 is added to the list of 'key links to other relevant policies and objectives'.</p>	
3.	+	+	+		✓	✓	✓	<p>This preferred policy requires that "transportation of gas from locations of production, including to any remote processing facilities, will be via underground pipeline". This is likely to be positive (though most gas transport would be by pipeline in any case). The sequential approach taken by the policy to the siting of hydrocarbon development, which prefers use of existing infrastructure for processing gas, followed by brownfield, industrial and employment land, is also positive as such sites are more likely to be located close to a potential workforce and supporting industries thus reducing travel miles.</p>
4.	+	+	+	✓		✓		<p>The preferred policy includes reference to avoiding or mitigating adverse impacts on the environment, which would include air quality. It is assumed that this approach would work in tandem with the permitting regime, and would take account of possible residual effects on air. It also refers to proposals being in accordance with other policies in the plan, which would include policy D02 'Local Amenity and Cumulative Effects' which avoids unacceptable impacts on air. In the longer term the sealing of wells is likely to prevent any enduring risk to air. As this assessment relies on the consideration of other as yet unadopted policies an element of uncertainty is noted.</p>
5.	+	+	+		✓	✓		<p>This policy would support production and processing of hydrocarbons which would inevitably have a land take. As hydrocarbons would be extracted where they are found so long as the impact on the environment is acceptable, soils and land would still be used up, though presumably higher quality land would avoided to at least some degree.</p> <p>However, this policy would prefer brownfield land and would avoid best and most versatile land for processing / transport infrastructure. It would also require land to be restored in accordance with policy D10 / other policies in the plan. This is likely to make a positive contribution, though residual effects such as lower quality land loss beneath road connections, pads etc. may be likely at local and temporary scale.</p>

6.	+	+	+	✓		✓	✓	<p>In terms of positive effects, this option may help retain greenfield land as a carbon store (storing carbon in trees, other plants or soil) thus helping to reduce emissions of greenhouse gases into the atmosphere. In addition, encouragement of the use of combined heat and power would help to reduce reliance on conventional forms of energy generation which generally have higher emissions of greenhouse gases.</p> <p>However, significant negative effects may remain. For instance, there will be embodied carbon within construction materials (though some of this will already have been expended at the exploration and appraisal phases and to some degree will be reduced by this policy's preference for use of existing infrastructure) and transport emissions from construction traffic may also be significant. Meanwhile, during production and processing, emissions would arise through fugitive emissions from wells or pipelines and from flaring and venting<sup>13</sup>. However, we have not considered the emissions from energy generation in this assessment as that is outside the scope of the Plan.</p> <p>Restoration may bring some minor benefits, particularly if earlier carbon sequestration ecosystem services are restored or enhanced at the restored site (as could happen when D10 is considered).</p> <p>As this assessment relies on the consideration of other as yet unadopted policies an element of uncertainty is noted in the long term</p>
7.	0	0	0					No clear link
8.	+	+	+	✓		✓		<p>This option would seek to make good use of land and existing infrastructure where available which would reduce the overall resource use. However, supporting this development would remove hydrocarbons from the ground and continue to require materials for construction, particularly at the point of extraction.</p>
	+	+	+					
	--	--	--					
9.	+	+	+	✓		✓	✓	<p>Wastes are likely to be generated from drilling including construction wastes and drilling flowback (waste water). DECC cite studies showing a wide range of water recycling rates from hydrocarbon development (between 10 and 77% of water used across the life time of development, which would in part encompass the production phase)<sup>14</sup>. Given the policy requires no harm to the availability of water, if water availability is a local issue recycling of water would seem to be an option under this policy, while the policy may also likely drive waste reduction of other sources of waste (as unacceptable environmental impacts wouldn't be supported).</p>
	?	?	?					

<sup>13</sup> See DECC, 2013. Strategic Environmental Assessment for Further Onshore Oil and Gas Licensing – Environmental Report [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/273997/DECC\\_SEA\\_Environmental\\_Report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/273997/DECC_SEA_Environmental_Report.pdf) ]

<sup>14</sup> ibid

							<p>However, while the policy is clear that other relevant policies in the plan would be considered, it is not clear that the policy D11 'Sustainable Design, Construction and Operation of Development (which requires 'minimisation of waste generated by new minerals and waste development') would be amongst the policies considered as it is not listed in the 'key links to other relevant policies and objectives'. Therefore policy D11 should be added to the links.</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
<b>10.</b>	+	+	+		✓	✓	<p>Any unacceptable adverse impact on heritage assets would be avoided or appropriately mitigated by this policy. Similarly, policy M16 does not support proposals for hydrocarbons which unacceptably affect the setting of heritage assets including the historic city of York.</p> <p>This would result in mixed effects to this objective as although heritage would in the main be conserved (which is part of the intent of this 'conserve and enhance objective') there may still be some potential for small scale residual direct and indirect effects depending on location (e.g. an inevitable temporary change to character through built infrastructure). Similarly, impacts in archaeology may result through the support for buried pipelines.</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
	-	-	-				
	?	?	?				
<b>11.</b>	+	+	+		✓	✓	<p>Any unacceptable adverse impact on landscape would be avoided or appropriately mitigated by this policy (through the policy's consideration of 'the environment'). Similarly, policy M16 does not support proposals for hydrocarbons which unacceptably affect the setting of heritage assets (which are also landscape receptors) including the historic city of York. Furthermore M16 employs a sequential approach to first considering development outside of designated landscapes before considering National Parks and AONBs. Hydraulic fracturing would not be supported in National Parks or AONBs.</p> <p>This is likely to protect aspects of the landscape, though residual effects may remain (e.g. an inevitable temporary change to character / disturbance through built infrastructure). To some extent these impacts may also be controlled by the 'Landscape' development management policy (D06).</p> <p>In the longer term sites would be restored to either their former use or an agreed restoration which is an uncertain effect (which could be positive or neutral for this objective depending on the restoration outcome).</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in</p>
	-	-	-				
	?	?	?				

							the plan.
12.	+	+	+		✓	✓	<p>The production and processing of hydrocarbon resources is likely to extract a valuable material that is likely to remain a key source of fuel for many years to come. This will realise significant economic benefits such as increases in GDP and jobs. In addition, because of the sequential approach to locating processing facilities, preferring brownfield and employment land to greenfield sites, it is more likely that a workforce would be available locally as such sites are likely to be located close to existing communities. The preferred policy is likely to support production and processing but in a way that minimises economic disbenefits, such as negative impacts on tourism.</p> <p>As the policy allows for opportunities to pursue combined heat and power through co-location this may also reduce costs between co-operating premises.</p>
13.	+	+	+		✓	✓	<p>As reported for the previous objective, this preferred policy is likely to minimise impacts on tourism, and if production and processing is successful it may bring future employees to local communities. However, there may also be some low level impacts on community vitality, such as raised traffic levels.</p>
14.	0	0	0		✓	✓	<p>This preferred policy avoids unacceptable impacts on the environment and heritage, which will help to minimise impacts on this recreation objective. It also links to policy M16 which does not support proposals for hydrocarbons which unacceptably affect the setting of heritage assets (which are also recreational receptors), including the historic city of York, and employs a sequential approach to first considering development outside of designated landscapes before considering National Parks and AONBs. Hydraulic fracturing would not be supported in National Parks or AONBs. This will minimise impacts on natural and historic assets, though some residual impacts may remain, such as impacts on local rights of way. These are rated as being small scale and temporary impacts that will range in significance from negligible to minor negative.</p> <p>In the longer term sites would be restored to either their former use or an agreed restoration which is an uncertain effect (which could be positive or neutral for this objective depending on the restoration outcome).</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
15.	+	+	+		✓	✓	<p>This preferred policy would protect public safety and local amenity (adequately protected), so it is expected that the policy would have a positive impact on the heath safety and wellbeing objective. However, raised traffic levels may be a residual risk that could affect wellbeing.</p>

16.	+	+	+		✓	✓		<p>This preferred policy would protect public safety and have no unacceptable impacts on the environment (or it would mitigate for them), which would presumably include flood risk. In addition, the policy links to other policies in the plan including potentially the water environment objective (D09) where relevant so it is expected to perform well against this objective.</p> <p>Additional uncertainty is noted as this assessment relies on consideration of other as yet unadopted policies in the plan.</p>
	?	?	?					
17.	+	+	+					<p>The production and processing of hydrocarbons is likely to have strong positive impacts on a changing population as it will address their demand for energy.</p>
	+	+	+					

**Summary of assessment** There are a range of mixed effects from this option, though it is more positive than negative. The preferred policy mostly acts as a positive safeguard against the main impacts of hydrocarbon extraction, particularly as it combines with preferred policy M16 and other policies such as the development management policies, though uncertainty is noted as these other policies are as yet unadopted.

There are, however, some negative effects. These stem largely from the fact that despite the strong protection in the policy combined with other plan policies, residual effects which are difficult to avoid or mitigate for will remain. For instance, historic environment, landscape character, biodiversity, community vitality, recreation and health and wellbeing were all objectives which reported this residual risk.

The climate change objective reported a mixture of positive and up to major negative effects. This is because the policy supports combined heat and power generation and prefers brownfield land at the same time as supporting hydrocarbon production and processing development though sealing of wells at the end of production should limit longer term emissions. A major conflict with the minimising resource use objective was also recorded as this policy will allow non-renewable resource extraction and may also have a considerable 'materials footprint'. However that same objective also recorded some positive effects as it seeks to make good use of land and existing infrastructure where available which would reduce the overall resource use.

**Recommendations:** A potential approach to reducing resource intensity, waste and climate change impacts could be through better links to policy D11 'Sustainable Design, Construction and Operation of Development' (which requires 'minimisation of waste generated by new minerals and waste development' and 'reduction or minimisation of greenhouse gases') by listing it in the 'key links to other relevant policies and objectives'.

## Policy M19: Carbon and gas storage

### Preferred Option

Proposals for carbon capture and storage and the underground storage of gas will be permitted where it has been demonstrated that:

- The local geological circumstances are suitable; and
- There will be no harm to the quality and availability of ground and surface water resources, land stability and public health and safety
- There would be no unacceptable impact on the environment or local amenity
- The proposals are consistent with other relevant policies in the plan.

Transport of carbon or gas is expected to be via pipeline with the routing of lines selected to give rise to the least environmental or amenity impact.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	- ? 0	- ? 0	- ? 0	✓	✓	✓	✓	<p>If carbon storage occurs there is likely to be some degree of effect on biodiversity from surface infrastructure and the pipeline although the extent of this would depend upon the precise location of any development (though the policy suggests that pipelines would be in areas with the least environmental impact). Underground storage of carbon has the potential for a range of impacts on biodiversity, which range from acute toxicity to fauna and changes in the PH of soils in the event of infrastructure failure causing leaks. Natural gas transport and storage may also have toxic effects where leaks occur<sup>15</sup>, while both types of development would have construction impacts such as loss or disturbance to habitat. Pipelines are a key impact on biodiversity for both carbon storage and natural gas storage as land is disturbed temporarily during construction<sup>16</sup>.</p> <p>While other policies in the plan would moderate impacts and may even create enhancements, the scale of pipelines in particular, coupled with surface works should mean that biodiversity impacts may still occur. These effects would increase over time should more developments under this option take place.</p>

<sup>15</sup> Natural gas is not thought to be toxic to plants, but is toxic to fauna

<sup>16</sup> Environment Agency, undated. Scoping the Environmental Impacts of Carbon Capture, Transport and Storage [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/297115/geho0811bucq-e-e.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297115/geho0811bucq-e-e.pdf) ]

								Uncertainty is noted as this policy relies on other policies in the plan which are, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.
2.	0	0	0					<p>Surface water can be affected by leaks of CO<sub>2</sub>, which can acidify water bodies, while groundwater could be affected by mechanisms such as through the displacement of brines during injection. Construction impacts may also occur as spills leach into water bodies<sup>17</sup>.</p> <p>Similar effects would occur with underground storage of gas. For instance, in aquifer storage displacement of groundwater flow pathways may occur and contaminants may be mobilised. In storage in salt cavities mobilisation of salts and water demand are the key issues, alongside above ground construction impacts and disposal of brines to sensitive receptors<sup>18</sup>.</p> <p>The gas fields and coal beds are, in many places, in areas identified as Nitrate Vulnerable Zones, and additional development in these areas may have effects on these through such factors as run-off from new areas of hard standing. Similarly, CCS may require water use. For instance CCS may require water for cooling<sup>19</sup> The option seeks to mitigate these impacts through insisting upon no harm to the quality and availability of ground and surface water resources. This would, if implemented, reduce effects below the threshold of significance, though it may be difficult to reduce effect down to zero (so the effect is noted as negligible rather than zero effect).</p>
3.	+	+	+		✓	✓	✓	<p>The option requires transportation via pipeline and would therefore have positive effects in terms of reducing any impacts from transportation. However, there would be likely to be impacts on transport associated with construction and some minor traffic impacts associated with maintenance and operation which moderates the positive effect slightly.</p> <p>Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely</p>
	?	?	?					
	0	0	0					
4.	0	0	0		✓	✓		Local air quality can be affected during construction due to production and suspension of dust as well as fuel

<sup>17</sup> ibid

<sup>18</sup> Department of Energy and Climate Change, 2011. National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47857/1941-nps-gas-supply-oil-en4.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47857/1941-nps-gas-supply-oil-en4.pdf) ]

<sup>19</sup> This is because a common form of carbon capture is known as amine based wet scrubbing. Amines absorb CO<sub>2</sub> from flue gas but require cooling to be able to do this. Source IEEE, 2010. The Water Cost of Carbon Capture [http://spectrum.ieee.org/energy/environment/the-water-cost-of-carbon-capture ] Oxyfuel CCS is less water intensive with the main water use being needed for energy production via a steam turbine rather than for subsequent capture of the carbon (see BBC, 2008. Clean Coal Plants get Go Ahead [URL: <http://news.bbc.co.uk/1/hi/sci/tech/7586569.stm> ]).

	- ?	- ?	- ?					<p>use by machinery and vehicles if (human and biotic) receptors are nearby. For carbon capture, according to the Environment Agency 'Fugitive emissions of CO2 may be experienced from inadequate seals and fittings along the CCS chain' and 'CO2 releases would cause local air quality reductions, being worst during calm weather conditions'<sup>20</sup>. Such effects however would be a product of poor maintenance and not of carbon storage per se, and would be very local in scale. Similar effects may, under conditions of poor maintenance, be observed for gas pipelines, with natural gas leaks having locally toxic effects. However, given the value of natural gas there would be even more of an imperative to quickly repair leaks.</p> <p>Compliance with other policies in the plan and the 'no unacceptable impact on the environment' aspect of this preferred policy is likely to restrict such impacts to low and possibly insignificant levels.</p> <p>Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.</p>
5.	- ? 0	- ? 0	- ? 0	✓	✓	✓	✓	<p>As reported under objective 1, land could experience local changes in soils as a result of enduring carbon or gas leaks. This could have positive or negative effects on the productivity of soils (for instance CO2 can at lower levels act as a fertiliser<sup>21</sup>). For both CO2 and gas however, impacts are expected to be local and restricted to the immediate vicinity of the pipeline and injection point.</p> <p>Land take is also an issue. Gas storage injection facilities, if they are sited on land, and with the inclusion of ancillary buildings / processing, can have a significant land take<sup>22</sup>. The pipeline, if buried, would only have a temporary impact on soils. CCS injection facilities are, however, currently without precedent in the UK with initial details only currently available for the capture sites, but not for non-marine storage sites. However, it is assumed that such facilities would be significantly smaller owing to their function being purely related to storage and requiring no onward processing.</p> <p>Given no indication is given of the location of future CCS or gas storage it is not possible to accurately assess the likely impact. However, this policy seeks to guard against unacceptable impacts on the environment and also considers other policies in the plan (including the Protection of Agricultural Land and Soils policy). This would likely either steer facilities away from or mitigate for the best quality land.</p>

<sup>20</sup> Environment Agency, *ibid*.

<sup>21</sup> Noomen, M.F. et al. 2003. Detecting the Influence of Gas Seepage on Vegetation using Hyperspectral Remote Sensing, University of Twente, Netherlands [URL: [http://www.itc.nl/library/Papers\\_2003/peer\\_ref\\_conf/noomen.pdf](http://www.itc.nl/library/Papers_2003/peer_ref_conf/noomen.pdf) ]

<sup>22</sup> See Hydrocarbons-Technology.com, undated. Aldbrough Underground Gas Storage Facility, Yorkshire, United Kingdom [URL: <http://www.hydrocarbons-technology.com/projects/aldbrough-underground-gas-storage-facility> ]



								Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.
6.	+	+	+	✓		✓		Supporting carbon capture and storage would have clear benefits on climate change, as it reduces the input of carbon to the atmosphere from the burning of fossil fuels. Natural Gas storage is not expected to have significant impacts on climate change (though its later burning might well have a very significant impact on flows of CO2 to the atmosphere), though as leaks are a potential issue in the transport of both forms of storage, small scale negative effects might also be observed.  Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.
	+	+	+					
	0	0	0					
	-	-	-					
7.	0	0	0					No observed effect.
8.	0	0	0					Storage of gas does not encourage the depletion or conservation of a resource. While it could be argued that carbon storage perpetuates future utilisation of fossil fuels by making the burning of fossil fuels less damaging to the climate, the opposite argument, that without carbon storage hydrocarbons will continue to be burned releasing great quantities of CO2, is also put forward. As it is not within the scope of this SA to question the underlying premises upon which the idea of storing carbon is based we have noted no effects.
9.	0	0	0					Neither carbon nor gas storage has a material effect on the minimisation or appropriate management of waste.
10.	?	?	?	✓		✓		Injection of carbon or underground storage of gas would be below the level at which archaeological impacts could occur though there is the possibility that the injection site or pipeline could disrupt historic assets. These would be entirely dependent on location, though given that pipelines may be buried and range over a significant distance it seems possible that there would be some level of at least minor disruption to historic assets as a result of this option. This would be kept at a low level by the policy's insistence on 'no unacceptable impact on the environment' and also the consideration of other policies in the plan (most notably the 'Historic Environment' policy).  Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely
	-	-	-					
	0	0	0					
11.	?	?	?		✓	✓		Gas storage injection sites as well as carbon injection sites are visible industrial facilities in the landscape if

	- 0	- 0	- 0				<p>they are sited on land, and with the inclusion of ancillary buildings / processing can have a significant land take. The pipeline, if buried, would only have a temporary impact on the landscape. CCS injection facilities are currently without precedent in the UK with initial details only currently available for the capture sites, but not for non-marine storage sites. However, it is assumed that such facilities would be significantly smaller owing to their function being purely related to storage and requiring no onward processing.</p> <p>Given no indication is given of the location of future CCS or gas storage it is not possible to accurately assess the likely landscape impact. Presumably, however gas storage would most likely be in the east of the plan area, while CCS storage elements could either be similarly located in saline formations or depleted oil/gas fields, or, if used in conjunction with Enhanced Coalbed Methane Recovery<sup>23</sup> in coalfield areas. This could mean that in the eastern part of the plan area in particular, injection sites may be visible from landscape receptors such as the National Park, tourism assets or the AONB or Yorkshire Wolds. However, This would be kept at a low level by the policy's insistence on 'no unacceptable impact on the environment' and also the consideration of other policies in the plan (most notably the 'Landscape' policy).</p> <p>Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely</p>
<b>12.</b>	+ 0	+ 0	+ 0		✓	✓	<p>Gas storage can bring major economic benefits to the UK economy by helping to ensure energy security, while at a local level such facilities can bring jobs to an area. Carbon Capture and Storage, although still untested in the UK is thought to have significant economic benefit, to the extent that the Carbon Capture and Storage Association projects that there is the potential to create 100,000 jobs across the UK by 2030<sup>24</sup> and DECC predict export opportunities for UK firms at between £3- 6.5 billion per year by the late 2020s<sup>25</sup>. Given that the storage element of CCS essentially underpins the wider CCS process (though it is accepted that</p>

<sup>23</sup>See Carbon Capture and Storage Association, undated. Enhanced Hydrocarbon Recovery [URL: [ccsassociation.org/what-is-ccs/storage/enhanced-hydrocarbon-recovery/](https://ccsassociation.org/what-is-ccs/storage/enhanced-hydrocarbon-recovery/) - URL is no longer available] for a discussion of this topic

<sup>24</sup> Carbon Capture and Storage Association, undated. Economic importance [URL: [ccsassociation.org/why-ccs/economic-importance/](https://ccsassociation.org/why-ccs/economic-importance/) - URL is no longer available ]. According to this source  
*"The importance of CCS should not be underestimated. CCS is applicable to both the power sector and the industrial sectors, and will therefore play a vital role in the move to a low-carbon economy. In the power sector, fossil-fuel power with CCS is one of the options which has been identified as a major part of the low-carbon energy mix – alongside nuclear and renewables. CCS will be an increasingly important and necessary option for many industrial sectors, such as steel, cement, chemicals and ammonia."*

<sup>25</sup> For a detailed breakdown of the economic benefits of various options for CCS please see Ricardo AEA / DECC, 2008. Future Value of Coal Carbon Abatement Technologies

							<p>marine sites may offer alternative locations) the option can be assumed to have a large indirect positive impact on this objective as well as a smaller direct positive impact<sup>26</sup>.</p> <p>Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely</p>
13.	+	+	+		✓	✓	<p>As stated above there is a large indirect benefit to jobs from this option, and a smaller direct benefit. There is a risk that this option may, through promoting development that may be visible from tourist receptors, have some degree of negative effect, though other policies in the plan (e.g. 'Landscape') should go a long way towards mitigating this.</p> <p>Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.</p>
14.	?	?	?		✓	✓	<p>Although construction of the pipeline and land take of injection sites may have some direct short term impacts, impacts from the continued operation of sites would be in the form of indirect impacts on recreational receptors, e.g. impacts on views from rights of way. Because such impacts may or may not occur, depending on the location of future development, they are considered uncertain. The policy also seeks to avoid 'unacceptable impacts on amenity' which should ensure that if any negative impacts occur on recreation they are reduced.</p> <p>Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.</p>
15.	0	0	0		✓	✓	<p>CCS could have health and wellbeing effects. According to the Environment Agency "any significant release of CO2 along the chain has the potential to accumulate in dips or slumps on the surface in calm weather conditions. This poses a risk for humans in the affected area, potentially causing fatalities, due to asphyxiation". Similar impacts would be expected from gas storage.</p> <p>However, this policy places public health and safety as a paramount consideration so effects would be considered very low to negligible.</p> <p>Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely.</p>

<sup>26</sup> Although the indirect economic benefit of this option is very large, the *direct* benefit is somewhat smaller (though still significant). According to Ricardo AEA 'the costs of measuring, monitoring and verifying emissions from ongoing CO2 storage has been estimated at £10 million in 2030. We have been unable to quantify the value associated with qualification and licensing of sites and so this figure underestimates the total market opportunity for the UK from CO2 storage'.

16.	0	0	0		✓	✓		<p>There may be some potential for runoff from sites, which may feature ancillary buildings, and hard standing. This is likely to be at a low level, though in an area already prone to flooding this could be significant. However, impacts would be entirely location dependent, and avoidable due to the 'Water Environment' policy in the Plan</p> <p>Uncertainty is noted as this policy relies on other policies in the plan which is, as yet, unadopted. Equally there could be no impacts as proposals for carbon storage within the plan area are currently seen as unlikely</p>
	?	?	?					
17.	0	0	0					There is unlikely to be a significant impact from this option on this objective.

**Summary of assessment.** This preferred policy has strong positive effects for the economy (in terms of the energy security provided by gas storage and the business opportunities associated with CCS technology) as well as for climate change mitigation. Other effects tend to be location specific though could be negative due to factors such as the land footprint of buildings and pipelines and the risk that leaks could occur.

**Recommendations** No further mitigation proposed.

## Policy M20: Continuity of supply of deep coal

### Preferred Option

Proposals for lateral extensions to the permitted underground working area for Kellingley Colliery, in locations accessible from the current colliery site, will be supported where it can be demonstrated that the following criteria have been satisfactorily addressed;

- i) the effects of subsidence upon land stability and important surface structures, infrastructure (including flood defences) and environmental and cultural designations, will be monitored and controlled so as to prevent unacceptable impacts;
- ii) that opportunities have been explored, and will be delivered where practicable, to maximise the potential for reuse of any colliery spoil generated by the development and that proposed arrangements for any necessary disposal of mining waste materials arising from the development are acceptable;
- iii) the proposals would be consistent with the development management policies in the Plan.

SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	?	✓	✓		✓	<p>There are occasional areas of priority habitat, woodland and some SINC sites close to the perimeter of current permissions, and to the southwest and northwest two SSSIs. Some of these features may or may not come within the scope of future underground extensions where subsidence may have an effect on local hydrological / water quality conditions. Such effects, if they occur would be small scale and highly localised and most likely confined to the longer term. However, the preferred policy would seek to avoid unacceptable impacts at least on designated biodiversity features. In addition, the policy would also require consistency with the development management policies, including D07 which extends protection from 'unacceptable impacts' to designations to some undesignated features such as local priority habitats and includes a requirement for a net gain in biodiversity / geo-diversity. While some residual effects may remain, it is felt that the net effect of the policy will be slightly positive.</p> <p>Some uncertainty is noted as this assessment of the preferred policy relies on other as yet unadopted policies.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
2.	0	0		✓	✓	✓	✓	It is possible that groundwater Source Protection Zones could come within the scope of an extension, though

			?				<p>there are also numerous opportunities for extension that avoid these SPZs. In the longer term possible cessation of mine water pumping from deep mine shafts would have an uncertain impact on overlying aquifers without prior mitigation<sup>27</sup>.</p> <p>A number of rivers and streams cross what is already an area that encompasses a Nitrate Vulnerable Zone, and connect to the Aire. Watercourses in the area are generally of moderate ecological quality. So there is some potential for pollution (e.g. through mine water pumping or run off from surface operations).</p> <p>However, the preferred policy would require consistency with the development management policies, including D09 'Water Environment' which requires protection from at least unacceptable impacts to surface and groundwater quality and surface and groundwater supplies and flows. This will work in combination with the environmental permitting regime. Some residual effects may remain, however mostly these will be below significance thresholds. However, the longer term risk of mine water rebound (given it may require decades of management to control) cannot be discounted, so an uncertain impact is recorded, though monitoring and acting upon future mine water discharges is currently the responsibility of the Coal Authority who act in partnership with the Environment Agency<sup>28</sup>.</p> <p>Some uncertainty is also noted as this assessment of the preferred policy relies on other as yet unadopted policies.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
3.	-	-	-		✓	✓	<p>This preferred policy may result in continued HGV journeys if spoil is moved off site (though there is some uncertainty if current levels of road journeys will be maintained or increase or decrease). There are rail connections to Eggborough and Drax which will keep transport impacts from moving coal at a low level.</p> <p>Consideration of Policy DO3 (Transport) may also encourage further use of, for example, the adjacent waterway, for transportation of materials and would require a green travel plan if significant transport is to be</p>

<sup>27</sup> Burke, S and Barber B report that, in relation to the nearby South Yorkshire Coalfield, "mine water is recovering over large parts of the South Yorkshire Coalfield with many receptors potentially at risk from significant mine water pollution. While much work has so far concentrated on preventing and treating mine water discharges to surface water receptors, the risk to major aquifers has not been fully assessed.....mine water could potentially threaten the aquifers from below....." Burke, S and Barber, J. An overview of mine water rebound in the South Yorkshire Coalfield. Environment Agency, Leeds.

<sup>28</sup> See Environment Agency, 2008, Abandoned Mines and the Water Environment [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/291482/LIT\\_8879\\_df7d5c.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291482/LIT_8879_df7d5c.pdf)]

							generated. This will help minimise impacts.
4.	0	0	0 - ?				<p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p> <p>Impacts on air quality are unlikely to be significant in the short and medium term as existing controls (e.g. on dust from vehicles) would be expected to remain in place and HSE controls are expected to control possible issues such as the need to vent methane. Fugitive emissions may increase as an issue across a wider area in the longer term, though coal mine methane extraction for energy use could be a source of mitigation for this.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
5.	0	0	- + ?	✓		✓	<p>In the longer term this option would increase demand for colliery spoil disposal, which would require space (and thus land take). However, the expected closure of Kellingley Colliery may mean that this is not an issue. In any case, Policy M22: Disposal of Colliery Spoil would help ensure that land / soil impacts are minimised.</p> <p>The effects of subsidence upon land stability would also be monitored and controlled by this policy, which is positive.</p> <p>Some uncertainty is also noted as this assessment of the preferred policy relies on other as yet unadopted policies.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
6.	-	-	--	✓		✓	<p>Further mining will inevitably increase the chance of ventilation air methane (VAM) / firedamp or gob gas (methane arising from collapsed workings) reaching the air. While safety controls may require flaring (effectively converting the gas to CO2 and water vapour), venting may also occur. However, energy generation from coal mine methane can provide significant mitigation.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
7.	0	0	0				There are no predicted effects from this option on the climate adaptation objective
8.	--	--	--	✓		✓	<p>This option promotes the further significant extraction of a non-renewable / non-recyclable fossil resource, which can only negatively contribute to the objective. Effects may be lessened to a degree, for instance, by utilising spoil as aggregate (supported by M11: 'Supply of Alternatives to Secondary Aggregate'), or salvaging coal mine methane.</p> <p>Some uncertainty is also noted as this assessment of the preferred policy relies on other as yet unadopted policies.</p>

								As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.
9.	-- ?	-- ?	-- ?	✓		✓		<p>Waste will inevitably be generated in significant quantities under this preferred policy, though because the policy states that 'the proposed arrangements for disposal of mining waste materials arising from the development are acceptable', coupled with other policies in the plan (e.g. M11: 'Supply of Alternatives to Secondary Aggregate'), it is expected that there may be some prospect for utilising colliery spoil as a secondary aggregate. The policy could be strengthened by rewording the disposal arrangements sentence to "the proposed arrangements for disposal of mining waste materials arising from the development are acceptable and opportunities for use as a secondary aggregate (or other productive use)<sup>29</sup> have been explored'.</p> <p>Some uncertainty is also noted as this assessment of the preferred policy relies on other as yet unadopted policies.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
10.	0	0	0 - ?	✓		✓		<p>There are a few listed buildings around the perimeter of the current permission which could conceivably be affected by subsidence, though the area of land around the perimeter with no listed buildings is very much greater, suggesting that the probability of effects occurring is low. The policy states that "the effects of subsidence upon land stability and important surface structures...and environmental and cultural designations, will be monitored and controlled so as to prevent unacceptable impacts'. Nonetheless, some (low level) uncertainty is noted in the long term due to the possibility that residual effects could occur.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
11.	- ?	- ?	- ?	✓	✓	✓		<p>Extending the area of underground mining is likely to lead to some limited development of surface infrastructure (e.g. additional exits to the surface, future coal mine methane power or venting infrastructure etc.) in land that is distant from designated landscapes and is already subject to visual disturbance from features such as power stations and motorways). This will lead to minor effects.</p> <p>As Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.</p>
12.	+ +	+ +	+ +		✓	✓		<p>This option will help to secure significant numbers of jobs and will increase energy security, with benefits to the wider economy. However, negative effects in relation to the climate change objective to some extent limit the degree that that any coal mining development could be regarded as sustainable economic growth. .</p>

<sup>29</sup> Fine discard may also have productive uses, such as use as a substitute clay (see: Aggregate Advisory Service, 1999. The Use of Coal Mining Wastes as Aggregate [URL: <http://infohouse.p2ric.org/ref/14/13990.pdf> ]



	+	+	+					However, as Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these positive effects will take effect.
	?	?	?					
13.	+	+	+	✓		✓		If extensions to Kellingley Colliery are secured communities will potentially be sustained as jobs will be maintained, while restoration (both of site and spoil disposal sites) will also generate or secure jobs. However, as Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these positive effects will take effect.
	+	+	+					
	?	?	?					
14.	0	0	0					As this involves underground working, this option will not significantly affect recreation, leisure and learning.
15.	-	-	-	✓		✓		Traffic (from HGVs) will continue to present a risk of accidents occurring, though this will be moderated by policy D03: 'Transport of Minerals and Waste and Associated Impacts'. Safety risks from fugitive firedamp / methane / shaft collapse etc. are expected to be largely controlled by HSE regulation (though cannot be completely ruled out). In the longer term subsidence may present a risk, though the policy will monitor and attempt to control this. Minor negative.
	?	?	?					However, as Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.
16.	0	0	0	✓		✓		Flooding can be caused by subsidence, which may affect the behaviour of surface water drainage, creating new flow paths. It can also lower the height of defences making fluvial flooding more likely. This preferred policy will monitor infrastructure (including flood defences) and control unacceptable impacts Coal Mining Subsidence legislation should, however, ensure that advance work has been carried out to avoid future impacts <sup>30</sup> .
	?	?	?					However, as Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.
17.	+	+	+	✓		✓		This preferred policy, through securing jobs, will reduce future social exclusion. However, as Kellingley Colliery is expected to close in late 2015 it is highly uncertain that these effects will take effect.
	?	?	?					

**Summary of assessment** This preferred policy exhibits a mixture of mainly minor positive and negative effects. Most minor negative effects occur because, while the preferred policy combines with the development control policies in the plan, because of the nature of deep coal development, residual effects may remain. This is the case for the flooding, health and wellbeing, landscape, historic environment, soils, traffic and water objectives. More significant minor effects occurred in relation to the resource use (as coal mining is the extraction of a non-renewable resource) and

<sup>30</sup> See HM Government, 1991. Coal Mining Subsidence Act 1991 [URL: <http://www.legislation.gov.uk/ukpga/1991/45/contents> ]

climate change (due to longer term greenhouse gas emissions from mines) objectives.

Positive contributions were also recorded, particularly in terms of the economy. However, all options recorded a high level of uncertainty as Kellingley Colliery is expected to close in late 2015.

**Recommendations** To extend the capacity for colliery spoil to be put to productive use as secondary aggregate the policy could be strengthened by rewording the disposal arrangements sentence to *“the proposed arrangements for disposal of mining waste materials arising from the development are acceptable and opportunities for use as a secondary aggregate (or other productive use) have been explored”*.

## Policy M21: Shallow coal

### Preferred Option

Proposals for the extraction of shallow coal will be supported where extraction would take place as part of an agreed programme of development to avoid sterilisation of the resource as a result of the implementation of other permitted surface development; and where the proposal would be consistent with the development management policies in the Plan.

Other proposals for the working of shallow coal will be permitted where all the following criteria are met:

- i) The site is located outside the National Park and AONBs and, where located outside these designated areas, would not cause significant adverse impact within them;
- ii) The site is located outside internationally and nationally important nature conservation designations and, where located outside these designated areas, would not cause significant adverse impact within them;
- iii) Where located in the Green Belt, the working, reclamation and afteruse of the site would be compatible with Green Belt objectives in line with national policy on Green Belt;
- iv) The site is well located in relation to the highway network and intended markets;
- v) The development would be consistent with the development management policies in the Plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	-	-	0 +	✓	✓	✓	✓	<p>While the shallow coal resource generally lies away from the most important areas for biodiversity, the effects of open cast mining, which include loss of habitats from the extraction (and spoil) site and potential problems such as acid drainage and effects on hydrology, can mean that local effects without mitigation have the potential to be wide ranging. Development management policies, the policy's avoidance of nationally important nature conservation designations, and the environmental permitting regime should mitigate for any major impacts, though the level of local disturbance to biodiversity / geo-diversity must still be recorded as being negative.</p> <p>In the longer term there may be some potential for restoration either to the baseline or to an enhanced scenario for biodiversity, though the policy wording is currently unclear as to whether restoration is always</p>

							<p>required for sites outside of the Green Belt which aren't proposed to avoid sterilisation. This could be resolved by referencing a link to policy D10 'Reclamation and Afteruse' in the 'key links to other relevant policies and objectives' section of the policy table.</p> <p>Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
<b>2.</b>	- ?	- ?	- ?	✓	✓	✓	<p>The effects of open cast mining on water can be severe without proper mitigation. Development management policies (principally the 'water environment' policy), coupled with the environmental permitting regime, should mitigate for any major impacts, though there may still be some disruption of surface water drainage patterns due to the large scale land loss; and incorrect site management leading to a pollution risk (e.g. from spills) can never be ruled out.</p> <p>The legacy from acid mine drainage can endure into the long term (though regulatory controls should in practice keep this within acceptable levels).</p> <p>Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
<b>3.</b>	+	+	+	✓		✓	<p>This supportive approach allows greater potential for a more local supply source to feed nearby power stations, thus reducing transport. It also requires 'other proposals' to be 'near the highway network and intended markets'</p>
<b>4.</b>	- ?	- ?	- ?		✓	✓	<p>This option would support open cast development, which could lead to dust and traffic pollution problems. However, it requires 'other proposals' to be 'near the highway network and intended markets'. In addition, other policies (amenity / cumulative impacts, transport) are likely to mitigate these effects to a degree.</p> <p>Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
<b>5.</b>	-- ?	-- ?	? ?	✓	✓	✓	<p>This option increases the chance that large open cast mining (creating a large void) will occur. If development occurs, this will inevitably mean the loss of soil or land (some of which may be high quality) up until sites are restored, at which point it is possible that there will be a return to baseline conditions (depending on restoration proposals). The Agricultural Land and Soils development management policies should help moderate impacts, and sites ultimately may be restored.</p> <p>This last point about restoration is particularly important as this policy only refers to restoration in the context of the green belt. While there is an assumption that restoration would be necessary, to be clear a high quality restoration scheme (or suitable restoration / preparation for the development which would have otherwise</p>

							sterilised the resource) should be required for all shallow coal development. This could be resolved by referencing a link to policy D10 'Reclamation and Afteruse' in the 'key links to other relevant policies and objectives' section of the policy table.
							Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.
<b>6.</b>	-	-	-	✓		✓	<p>Any open cast coal mine will release a quantum of methane (a powerful greenhouse gas) into the air (though substantially less than deep coal as shallow coal tends to have retained little of its original methane). It will also generate significant traffic and may cause loss of areas of carbon sinks. While this policy excludes coal from the National Park and AONBs (where soils are more likely to be carbon rich), and includes measures to reduce traffic (considered alongside the transport development management policy), which will reduce impacts to a degree, it is likely that impacts will still be of moderate significance.</p> <p>Further mitigation might be achieved through restoration which helps to offset greenhouse gases – for instance restoration of habitats that sequester carbon or restoration to renewable energy production.</p> <p>As with all fossil fuels a key impact occurs when they are utilised. This impact is not considered in this assessment of extraction, though has a very significant effect on climate change.</p> <p>Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
	--	--	--				
	?	?	?				
<b>7.</b>	0	0	0				There is no clear link between this preferred policy and the adaptation to climate change SA objective.
<b>8.</b>	--	--	--	✓		✓	This option effectively supports the exploitation of a non-renewable (and non-recyclable – if burned) resources.
<b>9.</b>	0	-	--	✓		✓	In the longer term, as this option encourages mining, significant waste will be generated.
<b>10.</b>	-	-	-	✓		✓	<p>There is significant potential for open cast mining to affect the historic environment, both directly (destruction of archaeology) and in terms of setting, or via indirect means such as dust deposition / vibration. Effects can be mitigated by the development management policies to a significant degree (e.g. Historic Environment / Amenity and Cumulative Effects / Reclamation and After use policies) – but cannot be ruled out. In addition, avoidance of development in National Parks and AONBs should help moderate some of the worst potential effects.</p> <p>Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
	?	?	?				
<b>11.</b>	-	-	-	✓		✓	There is significant potential for open cast mining to affect landscape / townscape quality. As this objective

	-- ?	-- ?	-- ?				<p>supports shallow coal (assuming there is a demand for coal) effects could potentially be major negative. Mitigation would come through the preferred development management policies (particularly Landscape) as well as avoidance of National Parks / AONBs (and areas around them where significant impacts could still occur) as well as the enhanced level of protection afforded to Green Belt areas by the policy. But it is likely that residual effects may remain, which could be major if close to or in the more sensitive parts of the plan area (e.g. district level landscape designations) or close to valued local landscapes, which could see character change substantially as a result of an open cast proposal<sup>31</sup>. High quality screening and restoration might be the best way of mitigating impacts.</p> <p>Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
12.	+	+	+		✓	✓	<p>As a major employer and source of energy security this option may have significant positive effects, particularly as it allows for the extraction of coal in advance of future development. However, given the non-renewable nature of coal, unless linked with future carbon capture and storage, this form of economic growth cannot be said to be sustainable.</p>
13.	?	?	?				<p>The effect of this option on communities is uncertain. On the one hand there may be benefits to community cohesion and viability resulting from coal mining, which could potentially be a significant employer, while on the other hand, the environmental and amenity effects of open cast coal mining may damage the perception of a place, leading to effects such as lower house prices or loss of visitor income. While development management policies may help moderate the negative impacts, residual effects may still remain.</p> <p>Some uncertainty is also noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
14.	- ?	- ?	- ?		✓	✓	<p>While development management (policy DO2: local amenity and cumulative impacts) will mitigate effects, any access, if present on site, is highly likely to need to be re-routed if open cast mining is supported.  <a href="http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm">http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm</a>  Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.</p>
15.	- ?	- ?	- ?	✓		✓	<p>There is significant potential for open cast coal mining to affect health and safety, both directly (open cast sites themselves are dangerous) and in terms of the heavy traffic, particulate matter and other traffic pollutants it can generate. Effects can be largely mitigated by the development management policies – but residual</p>

<sup>31</sup> The European Landscape Convention recognises all landscapes as being potentially important to people and recognises '*landscapes as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity*' (Council of Europe, 2000. European Landscape Convention [URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm> ]

								effects (e.g. from traffic or local dust) may still remain.  Some uncertainty is noted as development management policies in the plan which mitigate for impacts from this policy are not yet finalised.
16.	0	0	0					There is no clear link between this option and the reduction of flood risk.
17.	0	0	0					There is no clear link between this option and the addressing the needs of a changing population sub objective.

**Summary of assessment** This preferred option mainly reports minor negative effects against the SA objectives that result from the potential for shallow coal to create large scale holes in the ground or generate impacts such as traffic, dust and water pollution. While development management policies elsewhere in the plan will help mitigate these impacts (though uncertainty is noted until these are finalised), the possibility that one or more large scale sites could result from the policy may leave some minor residual impacts.

Some objectives fare slightly worse with minor to major / moderate negative effects being reported under the landscape objective and climate change objective, and temporary major negative effects expected in terms of the land and soils and waste objectives.

**Recommendations** This policy is generally mitigated by other policies in the plan (particularly relation to the water environment, local amenity and cumulative impacts, transport, agricultural land and soils, reclamation and after use and historic environment). However, the assessment has concluded that better links could be made to policy D10 'Reclamation and Afteruse' to ensure that all shallow coal development, inside and outside of the Green Belt is suitably restored (or suitable restoration / preparation for the development which would have otherwise sterilised the resource is enabled) Further mitigation might be achieved through restoration which helps to offset greenhouse gases – for instance restoration of habitats that sequester carbon or restoration to renewable energy production.

## Policy M22: Disposal of colliery spoil

### Preferred Option

Disposal of spoil from Kellingley Colliery at the Womersley spoil disposal site, including proposals for increased capacity required to provide for the expected remaining life of the Colliery to the end of 2015, will be supported subject to compliance with development management policies in the Plan.

Any additional spoil disposal capacity requiring development of new disposal facilities in the Joint Plan area will be considered in relation to the following order of preference:

- i) Infilling of quarry voids where this can deliver an enhanced overall standard of quarry reclamation
- ii) Use of derelict or degraded land
- iii) Where use of agricultural land is necessary, use of lower quality agricultural land (ALC Grade 3b or below) in preference to higher quality agricultural land (ALC Grade 3a or higher)

Preference will also be given to proposals which are located;

- iv) Outside the Green Belt unless it can be demonstrated that the development at the particular location proposed would not represent inappropriate development, in line with national policy;
- v) Where spoil can be delivered to the site via sustainable (non-road) means of transport or, where road transport is necessary, transport of spoil can take place without unacceptable impacts on the environment or residential amenity

Proposals should also demonstrate compliance with other relevant development management policies in the Plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	



1.	-	-	-	✓	✓	✓	✓	<p>Although initially land will be lost at Womersley under existing or 'in the pipeline permissions', restoration of Womersley will create opportunities for biodiversity in the longer term as phased restoration will incorporate significant species rich grassland restoration. In the medium term it is anticipated that a small grassland Site of Importance for Nature Conservation will be lost (in 7 to 8 years from approval of the amendment and extension scheme at Womersley, though the effect will be moderated by on-going restoration, including translocation work<sup>32</sup>). This is highly uncertain, however, as the current application at Womersley is as yet undetermined.</p> <p>It is expected that if further capacity increases were required this would be within the current (or proposed) planned area, though increased height of spoil might be a future possible solution. Effects would be dependent on the nature of any proposed future scheme, but restoration would still continue to bring gains for biodiversity.</p> <p>However, development of a new disposal site for colliery waste could lead to significant land take (albeit potentially derelict or degraded land). In addition, if a new spoil site is steered toward quarry voids or derelict land, this could generate significant impacts on biodiversity such as loss of habitats or effects of acid drainage on local watercourses if measures to control drainage are not correctly implemented, though restoration may offset these problems to a degree in the longer term.</p> <p>However the development management policies for biodiversity and geodiversity and the water environment (coupled with the permitting regime) are expected to control impacts on geodiversity down to minor levels.</p>
2.	-	-	-	✓	✓	✓	✓	<p>Colliery spoil can have significant impacts on water quality. However, given that environmental controls will be in place through environmental permitting and the water environment development management policy effects are expected to be relatively minor (though accidental spills may still occur), though is this clearly subject to the outcome of the current planning permission at the Womersley Site.</p> <p>In relation to the policy's approach to a new site, given the location of a new site is unknown, it is not known how sensitive local water bodies will be to change and the efficacy of any future controls. However, as with the Womersley site, the same level of environmental controls would apply/</p>

<sup>32</sup> Whether this impact falls into the short term or medium term depends on whether or not the scheme at Womersley is approved and when this Joint Minerals and Waste Plan is adopted. We have assumed it would occur in the medium term in this assessment.

									We have recorded minor negative to uncertain impacts here to reflect the likelihood that impacts, because of environmental controls, would be expected to be minor negative <sup>33</sup> , but the magnitude would remain unknown until a new site was identified.
3.	- ?	- ?	- ?						There is a relatively short distance between Kellingley Colliery and the Womersley site, so HGV traffic impacts are likely to be relatively low level <sup>34</sup> and of short duration (given that Womersley would only be expected to deal with the spoil generated up to the end of 2015), though local receptors may still experience significant impacts. Impacts at a new site are unknown but moderated by development management policies and the preference for sustainable transit.
4.	- ?	- ?	- ?		✓	✓	✓		<p>The Womersley site represents a relatively local disposal option which would retain reasonably short HGV journeys. The current planning application for extending the site reports that '<i>changes in dust deposition impacts as a consequence of the proposed extension are likely to be of minor adverse significance at Springlodge Crossing and insignificant elsewhere providing the mitigation measures outlined are successfully implemented</i>'<sup>35</sup>. In any case such impacts would be controlled to acceptable levels by the 'Amenity and Cumulative Impacts' development management policy.</p> <p>However, if additional capacity is allowed at a new site it may lead to increased local traffic, and thus increased effects on air quality. The significance of effects would be dependent on factors such as prevailing wind and local receptors, but in most cases would be controlled by the development management policy.</p> <p>Overall this option has minor negative to uncertain effects.</p>

<sup>33</sup> The uncertainty associated with an as yet unidentified site could in certain circumstances turn out to be positive if a limestone quarry void were utilised for disposal. Hubbard, 2011, points to a study of the restoration of Whitwell Quarry in Derbyshire. At this site colliery spoil from a nearby spoil tip was translocated to the quarry as a means of avoiding long term impacts on water quality. This is because surface tips of colliery spoil are often exposed to erosion and weathering which, coupled with the chemical processes that occur to spoil in the presence of air and water, may in some cases result in pollution. Burying spoil in a limestone quarry changes the chemical processes that occur due spoil being stored in anaerobic rather than aerobic conditions and also due to a local supply of neutralising limestone dust (Hubbard, P, 2011. Unspoiling the Environment: sustainable quarry restoration using colliery spoil extractive waste. Aggregates and Recycling Information Network [URL: <http://www.agg-net.com/resources/articles/unspoiling-the-environment?source=search&highlight=unspoiling%20the%20environment>]

<sup>34</sup> 180 to 200 loads per day according to the Transport Statement (URS: 2012. Womersley Quarry Spoil Disposal Scheme)

<sup>35</sup> UK Coal Mining Ltd, 2012, Amendment and extension of Womersley Quarry Spoil Disposal Scheme: Environmental Statement

5.	-	-	-		✓	✓	✓	Given current proposals at Womersley would only extend the site by around 12 ha (to areas of former quarrying and a SINC) the take through this is of low level significance. A new site could extend these effects, though the policy preference for infilling of quarry voids, derelict or degraded land, and where use of agricultural land is necessary, use of lower quality agricultural land, effects should be minimised. Coupled with consideration of the development management policies this should ensure valuable soils are not lost. Minor negative.
6.	- ?	- ?	- ?	✓		✓		Womersley represents a relatively local disposal option, so this policy would retain reasonably short journeys for Kellingley spoil and not significantly affect the CO2 emissions baseline. However, a new site's greenhouse gas footprint is highly uncertain, though the policy does give a preference for sustainable transport. The policy could be strengthened by making a stronger link to policy D11 (which isn't listed in the policy's 'key links to other relevant policies and objectives') so that a carbon assessment for new sites would be required.
7.	0 ?	0 ?	0 ?	✓		✓		No issues at Womersley, but a new site would have uncertain effects on flooding for example.
8.	- +	- +	- +	✓			✓	The policy is a disposal option for spoil and says little about re-use as secondary aggregate, though this is promoted by policy M11 which is linked.
9.	- +	- +	- +	✓		✓		The policy is a disposal option for spoil and says little about re-use as secondary aggregate, though this is promoted by policy M11 which is linked.
10.	- ?	- ?	- ?	✓		✓	✓	Under this policy, existing disposal sites / and previously developed land are to be used at Womersley (subject to planning permission being granted). However a new site could have negative impacts, though the policy generally steers sites to previously used land and away from the Green Belt (which may avoid some impacts on setting). However, previously used derelict sites may have their own historic interest. Effects will to a large degree be mitigated by the 'Historic Environment' development management policy. Minor negative though uncertain.
11.	- ?	-- ?	- +	✓	✓	✓	✓	In the current proposal at Womersley there remains some outstanding concern over landscape impacts, particularly relating to height and slippage and when the Site of Importance for Nature Conservation at Womersley is lost. This would, however, be balanced to a degree by phased restoration (subject to the outcome of the current application at Womersley). For new sites the impact is unknown, though given the size and form of spoil tips (they are often difficult to hide) impacts could be up to major negative, though use of quarry voids could in the longer term benefit landscape. Considered together with the landscape development management policy effects are expected to be reduced to acceptable levels.

12.	0	0	0					This option would help to keep disposal costs down though this is unlikely to be a significant benefit if that site closes. Some benefits to jobs might occur through a new site (though this is highly uncertain given the lack of local sources of spoil currently). No significant effect.
13.	0 -	0 -	0 -	✓	✓	✓	✓	Some benefits to jobs might occur through a new site (though this is highly uncertain given the lack of local sources of spoil currently). No significant effect. Negative effects on local tourism might occur in visual range of Womersley. Neutral to minor negative.
14.	- ?	- ?	+ ?		✓	✓	✓	Although the use of Womersley would have relatively small scale negative effects due to its visual appearance in the landscape, a new site could lead to either minor or major negative effects on recreation and leisure depending on factors such as whether a quarry void is used, height above ground level and location. For instance, the site could alter views from rights of way or green spaces. Positive effects could also occur in the longer term if the policy helps to restore sites. The 'Amenity and Cumulative Impacts' development management policy should also help moderate effects.
15.	- ?	- ?	+ +		✓	✓	✓	Continued use of Womersley within the context of a maximisation of capacity may have some effects on health and wellbeing as journeys are made between Kellingley Colliery and the sites. Many issues such as air quality are subject to management measures that are designed to keep the level of impact at an acceptable level, so minor effects are noted here. Effects would also be controlled by the development management policies. Restoration would have positive effects  Similar issues would be encountered at a new site, though the magnitude of negative effects could be greater depending on the relative location of population receptors. Again controls through the development management policies are expected to keep impacts to a minor level.
16.	0 ?	0 ?	0 ?	✓			✓	No issues at Womersley, but a new site would have uncertain effects on flooding for example, though this would be moderated by the Water Environment development Management Policy
17.	?	?	?					Any benefit to the population objective would depend on whether colliery spoil is utilised as a secondary aggregate.

**Summary of assessment** Minor negative effects were observed for almost all sustainability objectives as most of the potentially major effects of colliery spoil disposal would be mitigated to a large degree by the development management policies. Effects may temporarily rise to major negative for the biodiversity and landscape objectives largely due to the potential loss of a SINC site at Womersley (though this uncertain as it relates to an as yet undetermined application). For any new site there is, however, significant uncertainty on the magnitude of effects as this will depend on the location of the site in relation to population and other environmental receptors.

Objectives for minimising resource use and minimising waste observed mixed positive and negative effects as the policy is a disposal option for

spoil and says little about re-use as secondary aggregate, though this is promoted by policy M11 which is linked. The climate change objective noted the potential for unknown greenhouse gas emissions at a new site, which depending largely on the distance from the source of colliery spoil. Some minor benefits for the recreation and wellbeing objectives may come through restoration in the long term.

**Recommendations** The policy could be strengthened by making a stronger link to policy D11 (which isn't listed in the policy's 'key links to other relevant policies and objectives') so that a carbon assessment for new sites would be required.

## Policy M23: Potash, polyhalite and salt supply

### Preferred Option

Proposals for the extraction of potash, salt or polyhalite from new sites within the North York Moors National Park and renewed applications for the existing sites at Boulby Mine and Doves Nest Farm beyond their current planning permissions will be assessed against the criteria for major development set out in Policy D04.

Proposals for new surface development and infrastructure associated with the existing potash and polyhalite mine sites in the National Park, or their surface expansion, which are not considered to be major development will be supported provided they meet the requirements of Policy D11 and that no unacceptable impact would be caused to the special qualities of the National Park, its environment or residential or visitor amenity in the context of any overriding need for the development.

Proposals for increased volume of potash extraction, the extraction of other forms of potash not included in existing permissions, or sub-surface lateral extensions to the permitted working area in locations accessible from the existing sites at Boulby Potash Mine and the Doves Nest Farm site as well as proposals for new sites outside of the National Park, will be supported where it can be demonstrated that the following criteria have been satisfactorily addressed;

- i. The proposals will reduce the impact on the special qualities of the National Park or where this is not possible include substantial mitigation measures to improve the special qualities of the Park;
- ii. The effects of subsidence upon land stability, coastal erosion and important surface structures, infrastructure (including flood defences) and environmental and cultural designations, can be monitored and controlled so as to prevent unacceptable impacts;
- iii. The proposed arrangements for disposal of mining waste materials arising from the development are acceptable; and
- iv. The requirements of Policy I01 for transport and infrastructure have been fully considered; and
- v. The proposals would be consistent with other relevant development management policies in the Plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	

1.	- ?	- ?	- ?	✓	✓	✓	✓	<p>Whilst there are likely to be effects on biodiversity / geo-diversity from the development of any further mines outside of the National Park, applying the criteria for major development would provide a robust approach to proposals in the National Park and AONBs<sup>36</sup> in line with national policy.</p> <p>The starting position of the major development requirements is that major development in designated areas should be refused. This would clearly protect biodiversity / geo-diversity in these areas. However, schemes can be approved in exceptional circumstances where it is demonstrated that they are in the public interest and there has been an assessment of the need for a development, the cost of locating it elsewhere and the extent that environmental effects could be moderated. This potentially allows an opportunity for a major development requirement compliant development to take place, though the hurdles it must overcome are clearly substantial.</p> <p>This could mean that development (albeit exceptional development) could happen. Given that part of the statutory National Park purposes is to conserve and enhance the natural environment<sup>37</sup>, and that many biodiversity features of the National Park are of international significance, effects on biodiversity / geo-diversity would be likely to occur if any development were to happen, though would, to comply with the Test, need to be moderated to a high standard. We have rated this impact as minor negative to uncertain (the uncertainty arising from the impact that even a mitigated impact may have on the National Park's first purpose).</p> <p>Outside of the National Park there are no internationally and very limited nationally designated sites which coincide with the potash resource but there are a number of locally designated SINC's which may be affected, as well as non-designated biodiversity assets. One consequence of applying the requirements for major development in designated landscapes is that areas outside of the National Park may be seen as relatively more favourable for potash development (assuming that suitable potash resources are extractable). Additionally the policy supports sub-surface lateral extensions to both Boulby Potash Mine and Doves Nest Farm in locations accessible to the existing sites within or outside of the National Park. In relation to lateral extensions, impacts on biodiversity / geodiversity would be limited to indirect effects through subsidence as well as the extension (in terms of the length time they will operate) of existing residual impacts at surface sites and through the delay of decommissioning the site (assuming that additional surface infrastructure would not be required). However, the preferred policy seeks to monitor and control the effects of land instability on environmental designations (including designated biodiversity assets) and would also insist that the development be in accordance with the development management policies. This would reduce most effects,</p>
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<sup>36</sup> Albeit that the current known potash resource area does not include AONBs. It may be, however, that further AONBs will be designated in the future.

<sup>37</sup> A similar primary purpose of AONBs is to conserve and enhance 'natural beauty', though the AONB does not coincide with the potash resource area.

							<p>though could leave some minor residual effects on biodiversity depending on location. We have considered this effect to be most likely to be minor negative to uncertain in the long term for lateral extensions and minor negative to uncertain throughout the plan period for new sites.</p> <p>This leads to an overall score for this option of minor negative to uncertain for the biodiversity / geo-diversity of the Plan Area as a whole.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
2.	- -- ?	- -- ?	- -- ?		✓	✓	<p>This preferred policy would provide a robust approach to the consideration of proposals in the National Park and AONBs in line with national policy.</p> <p>As the major development requirements could allow development to take place in exceptional circumstances (see objective 1 above) it is possible that an exceptional future potash mine could be seen as acceptable. However, a high level of mitigation is likely to be an integral part of meeting the requirements for major development, which would moderate effects significantly. Based on factors such as the likelihood and magnitude of effects we have rated this effect to be minor negative to uncertain.</p> <p>One consequence of applying the requirements for major development in designated landscapes is that areas outside of the National Park / AONB may be seen as relatively more favourable for potash development (assuming that suitable potash resources are extractable). This could lead to significant potentially cumulative negative effects (e.g. as a result of site construction / operation or if subsequent subsidence were to occur). However, consistency with development management policies should help minimise or mitigate for unacceptable effects. We have considered this effect to potentially be major negative to uncertain as the area outside the National Park (to the south of the National Park) includes concentrations of groundwater Source Protection Zones in particular. To some extent this could be mitigated for by making a stronger link to development policy D:09<sup>38</sup>.</p> <p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Doves Nest Farm in locations accessible to the existing sites within or outside of the National Park. In relation to lateral extensions impacts on water would be limited to indirect effects through subsidence as well as the extension of existing residual impacts at surface sites (including extended need for clean-up and discharge of waste water / groundwater recharge / surface run off from shaft platform etc.) and through the delay of decommissioning the</p>

<sup>38</sup> The assessors noted that Policy DO9 'Water Environment' does not provide absolute protection to Source Protection Zones, but allows some development in such areas to be permitted "where the need for, or benefits, of the development clearly outweigh any harm caused"



							<p>site (assuming that additional surface infrastructure would not be required). However, the preferred policy seeks to monitor and control the effects of land instability on environmental designations (which would include water designations) and would also insist that the development be in accordance with the development management policies and would at least reduce impacts on, or provide substantial mitigation for impacts on the special qualities of the National Park. This would reduce most effects, though could leave some minor residuals effect on water depending on location. We have considered this effect to be most likely to be minor negative to uncertain in the long term for lateral extensions.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
3.	- ?	- ?	- ?		✓	✓	<p>This preferred policy would provide a robust approach to the consideration of proposals in the National Park and AONBs in line with national policy, and the means of transporting the mineral in these areas would be taken into account in any decision. However, the major development requirements may make development outside of the National Park more likely than inside the National Park. This could potentially bring transport closer to communities (due to a number of large and small settlements outside of the National Park). However, much is dependent on location, particularly during the operational phase of a site (for instance, a lot would depend on where workers are coming from and where potash is going to). In addition, it is recognised that transport of the potash itself would not necessarily be by road (pipelines or rail may be used). Consistency with policy IO1 should help minimise or mitigate for unacceptable effects for new sites.</p> <p>Additionally the policy supports sub-surface lateral extensions to both Boulby Potash Mine and Doves Nest Farm in locations accessible to the existing sites within or outside of the National Park. In relation to lateral extensions, assuming that additional surface infrastructure would not be required, impacts on transport would be largely a continuation of existing impacts over a longer period of time (unless it is proposes to work lateral extensions simultaneously to extant works). In the case of Dove Farm transport issues will, in part, be mitigated by transport of potash via a pipeline, and at Boulby via the transfer of a proportion of the potash by rail. However, the preferred policy insists that the development be in accordance with the development management policies and policy IO1. This would reduce most effects. However, the minor adverse transport impacts reported in the Environmental Statement for Dove Farm<sup>39</sup> could persist into the longer term if lateral extensions extend the time period the site is worked. We have considered this effect to be most likely to be minor negative to uncertain in the long term for lateral extensions.</p>

<sup>39</sup> See York Potash, 2014. Summary of Environmental Impacts Assessed in the ES, and Mitigation Proposed, that have the Potential to Affect the Special Qualities of the North York Moors National Park [URL: [yorkpotash.co.uk/site/assets/files/3403/ypp\\_sei\\_appendix\\_t\\_-\\_summary\\_of\\_impacts\\_table.pdf](http://yorkpotash.co.uk/site/assets/files/3403/ypp_sei_appendix_t_-_summary_of_impacts_table.pdf) - URL is no longer available.]

								Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.
4.	- ?	- ?	- ?		✓	✓	✓	<p>This preferred policy would provide a robust approach to the consideration of proposals in the National Park and AONBs. However, the major development requirements may make development outside of the National Park more likely than inside the National Park. This would potentially bring transport closer to communities which could affect air quality.</p> <p>Other air quality impacts arising from any site in the National Park would be moderated by the requirements for major development's emphasis on moderating impacts, though because of the range and distribution of air pollution sensitive habitat receptors in the Park the assessment has concluded the effect is unknown if development were to happen, though the policy would require 'substantial mitigation measures to improve the special qualities of the Park'. Elsewhere such impacts would be largely dependent on location but locally negative.</p> <p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Doves Nest Farm in locations accessible to the existing sites within or outside of the National Park. While the impacts on traffic are discussed in the SA objective above (and a key consequence of this would be emissions to air) these would be largely mitigated by preferred policy IO1. In addition, on-going mine vent emissions would take place and dust emissions from site decommissioning may occur at a more distant time, while the dryer stack associated with the Doves Nest Farm site could see its lifespan extended. However, such emissions would be expected to be in line with those currently predicted for the current planning application, which are negligible<sup>40</sup>. The period in which air pollutants are emitted from discharge chimney stacks (associated with the processing of potash) at Boulby will also be extended. Such impacts are presently significantly lower than regulatory limit values, while dust impacts from road traffic impacts at Boulby are also negligible (though dust from train operations was at the time of the Environmental Statement for Boulby rated as having a moderate impact)<sup>41</sup>.</p> <p>The conclusion of this assessment is, therefore, that air quality impacts would be minor negative. There is some uncertainty noted as the location of development is not known. Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
5.	-	-	-	✓	✓	✓	✓	This preferred policy would provide a robust approach to the consideration of proposals in the National Park

<sup>40</sup> See Royal Haskoning DHV, 2015. York Potash Mine, MTS and MHF Environmental Statement – Replacement Non-Technical Statement.

<sup>41</sup> See Cleveland Potash Limited, 1996. Cleveland Potash Limited Environmental Statement [URL: [planning.northyorkmoors.org.uk/MVM.DMS/Planning%20Application/808000/808963/12-0303%20Environmental%20Impact%20Statement.pdf](http://planning.northyorkmoors.org.uk/MVM.DMS/Planning%20Application/808000/808963/12-0303%20Environmental%20Impact%20Statement.pdf)] - URL is no longer available.

	?	?	?					<p>and AONBs in line with national policy. However the best quality agricultural land generally lies outside the protected landscapes, so if this policy option provides a greater incentive to develop in those other areas (due to the restrictive nature of the requirements for major development in designated landscapes) one could expect a higher chance of negative impacts occurring. Given the large size of potash related development these effects could be fairly large scale if in Best and Most Versatile land.</p> <p>However, for sites outside of the National Park and AONBs the preferred policy requires that consistency with development management policies is achieved.</p> <p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Doves Nest Farm in locations accessible to the existing sites within or outside of the National Park. As these extensions will be underground effects are only likely through subsidence or the delayed restoration of extant surface infrastructure. As subsidence will be monitored the effects from this are considered to be minor negative in the long term.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
6.	-	-	-	✓		✓	✓	<p>This preferred policy would provide a robust approach to the consideration of minerals proposals in the National Park and AONBs in line with national policy. However, the major development requirements may make future development outside of the National Park more likely than inside the National Park. This would have an effect on journey length (which in most cases will cause carbon releases through the burning of fuel), though even if a pipeline is utilised, would still be likely to generate some climate change impacts during the construction and decommissioning phases of development.</p> <p>Additionally the policy supports lateral extensions and increases in the volume of material extracted at both Boulby Potash Mine and Doves Nest Farm in locations accessible to the existing sites within or outside of the National Park. Assuming that these lateral extractions will extend the life of extant sites they may extend the period in which carbon will be generated from plant, machinery and necessary journeys to the sites.</p> <p>Simply supporting potash extraction / processing would also have a climate change impact as there could, through a site's impact on soils and vegetation, be a loss of stored carbon to the atmosphere. Additionally, a significant amount of buildings and machinery are required by a potash mine, all of which will contain embodied carbon<sup>42</sup>. To some extent development management policies (particularly D11: 'sustainable design, construction and operation of development') will help moderate impacts.</p>

<sup>42</sup> Embodied carbon is that carbon which has been expended in the lifecycle of infrastructure prior to its use – this may come through the extraction, processing and transportation of materials used to make the item, as well as the carbon expended during production and distribution.

7.	- ?	- ?	- ?	✓	✓	✓	✓	This preferred policy would provide a robust approach to the consideration of minerals proposals in the National Park and AONBs in line with national policy. However, as stated under other objectives it may make areas outside of the National Park more realistic development prospects (while still not ruling out development in the National Park completely – i.e. through development that passes the major development requirements or through lateral extensions to extant sites). The preferred policy is slightly negative as it supports potash extraction from new sites, which would lead to greater hard standing areas associated with surface infrastructure (though these are less likely to be in upland areas). This might have effects such as increased run off, changes to groundwater recharge or could even reduce habitat connectivity. Although negative, the magnitude of effects is dependent on location.
8.	--	--	--	✓		✓		This preferred policy would support increases in extraction of potash which is extraction of a non-renewable resource. The appraisal does however acknowledge that there are limited alternatives to potash as a source of fertilizer <sup>43</sup> , though anaerobic digestate has been shown to contain useful amounts of potash (though field trials are still underway) <sup>44</sup> . The extent to which this may represent an adequate alternative is uncertain.
9.	- ?	- ?	- ?	✓			✓	This preferred policy would be likely to result in increased levels of waste (e.g. waste water, possible waste soils, possible construction waste, waste insoluble clays and sodium chloride waste) being produced, the extent of which would be dependent upon the scale of operation and methods of working. While some waste may be re-used (e.g. recycling of water / soil storage for restoration) other wastes may simply be disposed of (often to sea <sup>45</sup> ).
10.	- ?	- ?	- ?	✓	✓	✓	✓	The effects on this objective are uncertain but potentially negative for the National Park as if proposals for mining are approved following consideration against the major development requirements there could be effects on the historic environment depending on its location, though effects would need to be shown to be moderated (minor / uncertain effect).  There is a greater concentration of Scheduled Monuments in the National Park than in the area of potash resource outside the Park, although there is a greater concentration of Conservation Areas in the area of potash resource outside the Park. As this option could indirectly direct development outside the Park, impacts on Conservation Areas in particular may be possible as traffic is more likely to route through settlements (minor negative / uncertain effect). This could be a cumulative effect with other development. However, consistency with development management policies should help minimise or mitigate for unacceptable effects.

<sup>43</sup> The appraisal also understands that potash is not considered to be in short supply world-wide and that there is currently spare capacity in the

<sup>44</sup> industry. See Wrap, 2012. Using Quality Anaerobic Digestate to Benefit Crops [URL: [wrap.org.uk/sites/files/wrap/Quality%20digestate%20-%20using%20quality%20anaerobic%20digestate%20to%20benefit%20crops.pdf](http://wrap.org.uk/sites/files/wrap/Quality%20digestate%20-%20using%20quality%20anaerobic%20digestate%20to%20benefit%20crops.pdf) ]

<sup>45</sup> Cleveland Potash, undated. Reduction of Waste Discharge By Underground Disposal of Process Residue Life [URL: [iclfertilizers.com/Fertilizers/ClevelandPotash/Pages/Backfill.aspx](http://iclfertilizers.com/Fertilizers/ClevelandPotash/Pages/Backfill.aspx) ]

								<p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Doves Nest. In relation to lateral extensions (which are deep underground) impacts on the historic environment would be limited to indirect effects through subsidence as well as the extension of existing residual impacts at surface sites (assuming significant new surface infrastructure is not required), including extended impacts on historic character (because of the long history of the Boulby mine this is not seen as a significant impact, though the residual impact upon a number of heritage receptors at Dove Nest Farm is seen as negligible to minor adverse<sup>46</sup>). However, the preferred policy seeks to monitor and control the effects of land instability on environmental designations (including historic environment designations). This would reduce most effects, though could leave some minor residual effects on the historic environment depending on location.</p> <p>A similar argument could be put for the extension of the lifespan of offsite supporting infrastructure outside of the plan area, which would continue to be supplied with potash for export / further processing. An extended operational phase here is not seen as significant however, as both Doves Nest Farm and Boulby send potash to a modern industrial area, the historic character of which would not be significantly affected<sup>47</sup>.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
11.	- ?	- ?	- ?	✓	✓	✓	✓	<p>The effects on this objective are uncertain but potentially negative for the National Park as if proposals for mining are approved following consideration against the major development requirements there are likely to be effects on landscape and townscape depending on its location, though effects would need to be shown to be moderated (minor / uncertain effect).</p> <p>In the wider potash resource area the impacts are likely to be negative at a locally significant scale rather than at a nationally significant scale. The exception to this would be if potash mines were developed in proximity to coastal resorts which rely on their seascape setting, or areas of high landscape sensitivity such as the Yorkshire Wolds (as landscape impacts here could be more severe). However, consistency with development management policies should help minimise or mitigate for unacceptable effects. We have therefore rated the impact outside the National Park as being minor negative to uncertain.</p> <p>Additionally the policy supports sub-surface lateral extensions to both Boulby Potash Mine and Doves Nest Farm. In relation to lateral extensions impacts on the landscape would be limited to indirect effects through subsidence (which could for example cause damage at buildings) as well as the time extension of existing</p>

<sup>46</sup> Royal Haskoning DHV, 2015. York Potash Mine, MTS and MHF Environmental Statement – Replacement Non-Technical Statement.

<sup>47</sup> See Royal Haskoning, 2015

							<p>residual impacts at surface sites, including extended impacts on landscape character. However, according to the York Potash proposals <i>'following the establishment of site restoration proposals, the mine would operate without significant adverse effect on local visual and landscape receptors or the wider National Park and would provide a minor landscape benefit'</i><sup>48</sup>. While the Boulby mine facility is acknowledged as having a high level of visual impact, the Environmental Statement for the most recent extension of underground workings suggests that, as an established feature, the surface development would not have an impact on landscape character. However, the assumption in this assessment is that, through extending the time period of the mine's presence still further, visual receptors would endure the visual impact for a longer period of time than would otherwise have been envisaged, which is a minor negative continuation effect. However, the preferred policy seeks to monitor and control the effects of land instability on environmental designations (including landscape designations). This would further reduce most effects, though could leave some minor residual effects on the historic environment depending on location. We have considered this effect most likely to be minor negative to uncertain in the long term for lateral extensions.</p> <p>A similar argument could be put for the extension of the lifespan of offsite infrastructure outside of the plan area, which would continue to be supplied with potash for export / further processing. The prolonged on-going impact during an extended operational phase here is not seen as significant however, as both Doves Nest Farm and Boulby sites send potash to a modern industrial area, the townscape character of which would not be significantly affected<sup>49</sup>.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
12.	?	?	?		✓	✓	<p>If new proposals for mining are approved in the National Park following consideration against the major development requirements for designated landscapes there will be a positive effect on the creation of new jobs at the mine itself and the generation of indirect jobs. However there could be negative effects on tourism resulting from visitor experiences of the Park following the construction and operation of a new mine.</p> <p>Elsewhere in the resource area the development of new potash mines would lead to large levels of job creation, with associated knock-on effects, and would therefore have strong positive effects on this objective. However it should be noted that there may be negative effects on the tourism sector in the locality of any new mine.</p>

<sup>48</sup> Royal Haskoning 2015

<sup>49</sup> See also Royal Haskoning 2015

							<p>Similarly, lateral extensions may extend the duration of extant jobs at Boulby and Doves Nest Farm.</p> <p>A large degree of uncertainty is noted if the major development requirements in nationally designated landscapes restrict the area from which the resource can be extracted. This is because possible locations in the area outside of the National Park may in practice not be technically or economically viable.</p>
13.	?	?	?		✓	✓	<p>The effects on this objective are highly uncertain as if proposals for mining are approved following consideration against the major development test there may be a positive effect on the vitality and viability of communities from the creation of new jobs at the mine itself and the generation of indirect jobs; however there could be negative effects on tourism.</p> <p>Elsewhere in the resource area the development of new potash mines would lead to large levels of job creation, with associated knock-on effects. However, there may be negative effects on the tourism sector in the locality of any new mine. As noted elsewhere in the assessment, transport effects may also come closer to communities with minor negative effects.</p> <p>Lateral extensions may extend the life of the Boulby / Dove Nest Farm sites, with a corresponding impact on communities from issues such as traffic.</p> <p>Both new sites and lateral extensions to extant sites would need to be consistent with the development management policies which would moderate negative effects.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
	++	+	+				
	-	-	-				
14.	?	?	?		✓	✓	<p>The effects on this objective are uncertain for the National Park as if proposals for mining go ahead following consideration against the major development requirements there could still be negative effects on recreation and visitor experiences depending on their location. There may, however, be positive effects through improvements to recreation facilities to mitigate any adverse effects.</p> <p>Elsewhere in the resource area there may be negative effects as potash facilities would, as an indirect consequence of the major development requirements, be more likely to be located outside the National Park. Such effects could include re-routing of rights of way, erosion of tranquillity etc. and would be most likely to be minor negative.</p> <p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Dove Nest Farm in locations accessible to the existing sites within or outside of the National Park. In relation to lateral extensions impacts would be limited to subsidence (which would have a negligible effect on recreation) as well as the</p>
	-	-	-				
	+	+	+				

							<p>extension of the timescale of existing residual recreation impacts at surface sites (though at Doves Nest Farm operational impacts to recreational receptors at the mine site were rated as negligible to minor beneficial, while the Environmental Statement for Boulby did not note any adverse impact<sup>50</sup> .</p> <p>Both new sites and lateral extensions to extant sites would need to be consistent with the development management policies which would moderate negative effects.</p>
15.	?	?	?		✓	✓	<p>The effects on this objective are rated uncertain to minor negative for the National Park as if proposals for mining go ahead following consideration against the major development test there could be negative effects on the health and wellbeing of local communities depending on their location, although these would have to be significantly moderated due to the requirements of the NPPF.</p> <p>In the wider resource area, which is more populated, there may be more negative effects as potash facilities would, as a possible indirect consequence of the major development requirements, be more likely to be located outside the National Park (subject to the resource being suitable). These effects could arise from factors such as increased traffic, noise, reduced air quality or significant visual intrusion changing the character of an area. Although potentially major negative, the requirement for consistency with the development management policies and policy IO1 ensures that unacceptable impacts will be avoided (though minor residual effects could remain).</p> <p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Dove Nest Farm. In relation to lateral extensions impacts would be limited to subsidence (which may affect dwellings – affecting the wellbeing of individuals) as well as the extension of the timescale of existing residual health / wellbeing impacts at surface sites (at Dove Nest Farm noise and vibration from offsite road traffic was noted as having a negligible to minor adverse impact during the operational phase<sup>51</sup> which would be extended under this preferred policy while at Boulby on-going noise has previously been assessed as being non-significant<sup>52</sup>).</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
16.	?	?	?		✓	✓	<p>The effects on this objective are uncertain in the National Park as if proposals for mining go ahead following consideration against the major development requirements there could be effects on surface water and flooding depending on any mine's location, though a high standard of mitigation would be expected as a</p>

<sup>50</sup> The Environmental Statement did, however, note the visibility of occasional froth from effluent discharged to sea, which might be visible from the Cleveland Way.

<sup>51</sup> York Potash, 2014

<sup>52</sup> See Cleveland potash Limited, 1996



							<p>result of the major development requirements.</p> <p>In the rest of the resource area this option could have effects in relation to flooding as it could lead to more development and therefore to increased hard surfaced areas thus exacerbating issues of run-off and increasing flood risk. Flooding would be mitigated to a large degree by the development management policies.</p> <p>Additionally the policy supports lateral extensions to both Boulby Potash Mine and Dove Nest Farm. In relation to lateral extensions impacts would be limited to subsidence (which can change the pattern of surface water flooding or result in lowered or damaged flood defences) as well as the extension of the timescale of existing impacts at surface sites (at Dove Farm flood related impacts are predicted to be negligible<sup>53</sup> at Boulby, the Environment Agency Flood Map shows the mine site to be unaffected by fluvial flooding with only very minor / negligible surface water flood risk). As with new sites, the development management policies, as well as the criteria set out in this policy relating to subsidence, would help limit impacts.</p> <p>Uncertainty is also noted as this assessment relies on other as yet unadopted policies in the plan.</p>
17.	+	+	+		✓	✓	<p>There could be positive effects on this objective as it supports potash extraction (which is an important resource for a changing population as it supports food production) from new sites and supports lateral extensions to existing sites subject to certain criteria. However, if the major development test is not passed the amount of potash extraction which would be supported would be limited to that which is found outside of the National Park, potentially limiting that which would be made available for use. Minor positive.</p>

**Summary of assessment**

Most SA objectives have negative effects resulting from application of the major development requirements, which significantly moderate effects, but may still allow some development in the National Parks and AONBs. Support for new development outside of designated landscapes (albeit subject to specific criteria and the development management policies) could lead to negative effects (with significant uncertainty) for most SA objectives. In addition, lateral extensions could lead to subsidence or could extend the time period in which Boulby and Dove Farm operate, with corresponding minor negative / uncertain sustainability effects.

The economic and community vitality SA objectives report a mixture of uncertain, strongly positive and minor negative effects. This is because significant jobs could be provided, but tourism may suffer, depending on location.

<sup>53</sup> ibid

The climate change and resource use objectives show up to major negative effects, the former due to the factors such as possible transport of materials, loss of soils and habitat and the embodied carbon in infrastructure such as road connections, pipelines (if used) and buildings (with uncertainty noted about the configuration of future sites, and effects moderated to a degree by the sustainable design policy), the latter objective recognising a large scale extraction of a non-renewable resource (albeit a resource which has limited potential for substitution).

Minor to major negative effects are reported for the water quality SA objective, as the potash resource outside of the National Park includes a concentration of Source Protection Zones.

**Recommendations** No further mitigation is proposed.

## Policy M24: Supply of gypsum

<b>Preferred Option</b>									
The extraction of natural gypsum and the supply of desulphogypsum will be supported where the proposal complies with the development management policies in the Plan.									
<i>SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs</i>									
SA objective	Impact / timescale			Type of effect				Analysis	
	S	M	L	P	T	D	I		
1.	0 + ?	0 + ?	0 + ?	✓	✓	✓		<p>The effects from the extraction of gypsum on biodiversity / geodiversity would be location specific and commensurate to the scale of the building works / processing above ground as predominantly this mineral is mined underground. However, such works would need to be consistent with development control policies including the 'Biodiversity and Geodiversity' policy. While uncertainty is noted as effects are very much dependent on location, in many instances this policy is likely to result in effects that range from neutral to positive. No effects on biodiversity / geodiversity are predicted from the supply of DSG.</p> <p>Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.</p>	
2.	0 + ?	0 + ?	0 + ?		✓	✓		<p>The effects from the extraction of gypsum on water would be location specific, but it would be likely to have more significant effects where it coincides with Source Protection Zones. However, such works would need to be consistent with development control policies including the 'Water Environment' policy. While uncertainty is noted as effects are very much dependent on location, they are also likely to be subject to licensing / environmental permit. Neutral effects (i.e. a continuation of the baseline) on water are predicted from the supply of DSG due to the synthetic gypsum being generated at established power stations and the unlikely delivery of new power stations over the planning period.</p> <p>Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.</p>	
3.	+ ?	+ ?		✓	✓	✓		<p>Mining is limited to where the mineral is found so it may not be possible to link to sustainable transport. However, consideration of Policy DO3 'Transport of Minerals and Waste and Associated Traffic Impacts' should help maximise opportunities to reduce transport / traffic effects.</p>	

							<p>Processing plants such as plasterboard manufacturers are acknowledged to usually be located close to mines with the baseline showing a plaster works in Sherburn, which has positive implications for low transportation miles if mining were to be resumed at Sherburn in Elmet (though the permission remains extant so that site would not necessarily fall under this policy in the near term). Supporting local extraction could therefore have positive benefits on transport, but it is considered that this is likely to become more uncertain in the long-term as future impacts from an as yet unidentified site would be location and transportation mode specific.</p> <p>Currently, transportation of DSG<sup>54</sup> from Drax power station (the largest producer of synthetic gypsum) is undertaken by rail but elsewhere there is a reliance on road transportation. This is likely to continue in the long-term. In the future, the production of DSG is uncertain as national support for coal fired power stations reduces, which could mean more importation of the mineral with associated cumulative effects on road mileage. This import (from other plan areas) is unlikely to be affected by the development control policies.</p> <p>Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.</p>
4.	+	+	?	✓	✓	✓	<p>Gypsum extraction can lead to dust impacts mainly from construction and air pollution from transport. However, as with objective 3 air quality effects are location specific and while the current situation is arguably favourable in terms of transport, and thus emissions, effects become more uncertain over time. Transport of DSG also becomes more uncertain in the future, though it should be noted that DSG removes sulphur dioxide from flue gasses at coal fired power stations (which is positive for air pollution, though fuel gas desulphurisation would take place in any case without a market for DSG). In any event, consideration of Policy DO3 'Transport of Minerals and Waste and Associated Traffic Impacts' should help maximise opportunities to reduce transport / traffic effects.</p> <p>Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.</p>
5.	0 +	0 +	0 +		✓	✓	<p>Land take from current workings is already part of the baseline, and it is expected that any future workings of gypsum elsewhere would involve underground extraction. Any impacts are likely to be location specific and commensurate with the scale of building / associated functions above ground (most likely small scale) where proposals for mining are considered. This would need to comply with the development control policies,</p>

<sup>54</sup> Desulphogypsum (DSG) is a by-product from flue gas desulphurisation processes at Drax and Eggborough power stations.

	?	?	?					including for the policy for the Protection of Agricultural Land and Soils, which would ensure any effects are minimised and soils re-instated. The supply of DSG is expected to have a negligible impact on land due to the synthetic gypsum being generated at established power stations.
								Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.
6.	0	0		✓			✓	The policy is likely to reduce traffic impacts so will reduce greenhouse gas emissions. For the same reason as SA objective 3, the situation in the longer term becomes more uncertain.
	+	+	?					Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.
	?	?						
7.	0	0	0					There are likely to be no links between this policy and the objective to adapt to climate change.
8.	-	-	-	✓			✓	This preferred policy would support the extraction of mineral resources (gypsum) in general and would therefore conflict with minimising the use of resources.
	+	+	+					By the same token it would support supply of DSG, which is a by-product of generating energy at coal-fired power stations that would otherwise be wasted.
9.	-	-	-	✓			✓	This preferred policy supports the extraction of gypsum, which in theory might work against the principles of the waste hierarchy if it competed with the supply of DSG.
	+	+	+					However, the preferred policy also supports supply of DSG. DSG is a by-product of generating energy at coal-fired power stations that would otherwise be wasted. It is therefore a waste product that is being put to use and is considered potentially positive for the waste hierarchy.
10.	0	0	0	✓	✓		✓	The effects from the extraction of gypsum on the historic environment would be location specific and commensurate to the scale of the building works / processing above ground as predominantly this mineral is mined underground. However, such works would need to be consistent with development control policies including the 'Historic Environment' policy. While uncertainty is noted as effects are very much dependent on location, in many instances this policy is likely to result in effects that range from neutral to positive. No effects on the historic environment are predicted from the supply of DSG.
	+	+	+					Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.
	?	?	?					
11.	0	0	0	✓	✓		✓	The effects from the extraction of gypsum on the landscape would be location specific and commensurate to the scale of the building works / processing above ground as predominantly this mineral is mined

	+	+	+					underground. However, such works would need to be consistent with development control policies including the 'landscape' policy. While uncertainty is noted as effects are very much dependent on location, in many instances this policy is likely to result in effects that range from neutral to positive. No effects on landscape are predicted from the supply of DSG.  Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.
12.	+	+	+		✓	✓		This option would support the supply of both gypsum and DSG with direct benefits to businesses that rely on gypsum as a construction material. It would also, through supporting both gypsum extraction and the supply of DSG, help to ensure continued supply in the face of uncertainty over future DSG supply.
13.	+	+	+		✓	✓		This option could support a small number of future jobs, and while issues such as traffic may affect community vitality, the consideration of development control policies (which include 'Transport of Minerals and Waste and Associated Traffic Impacts' and 'Local Amenity and Cumulative Effects' policies) would reduce impacts.  Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.
14.	0	0	0					Any effects are considered to be negligible.
15.	0	0	0	✓	✓	✓	✓	The effects from the extraction of gypsum on health and wellbeing would be location specific and commensurate to the scale of the building works/processing above ground as predominantly this mineral is mined underground. However, such works would need to be consistent with development control policies including the "Transport of Minerals and Waste and Associated Traffic Impacts" and 'Local Amenity and Cumulative Effects' policies. While uncertainty is noted as effects are very much dependent on location, in many instances this policy is likely to result in effects that range from neutral to positive. No effects on community vitality are predicted from the supply of DSG.  Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted.
16.	0	0	0		✓	✓		The current gypsum site in Sherburn in Elmet is currently flooded though the Water Environment development control policy should help ensure that future extraction elsewhere either avoids flooding or is flood resilient. As synthetic gypsum is generated at established power stations effects from that on flooding are not thought to be significant  Uncertainty is also noted due to the policy's reliance on development control policies that are not yet adopted
17.	+	+	+					The rise in house building and popularity of gypsum based building materials (plasterboard, plaster and cement) may give rise to new demand within the plan area for this material and this option would support

								continued production. This would be positive in enabling the wider development needs of the population to be met from whatever source is most economical.
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**Summary of assessment** The consideration of future gypsum and DSG proposals against the development control policies should have broadly neutral to minor positive effects as future development will need to take account of a range of environment and amenity criteria. It will also have more major positive effects on the economic growth and changing population needs objectives as gypsum supply will be more secure going forward as both gypsum and DSG are supported. This will underpin future development due to gypsum's importance as a construction material.

Two objectives reported mixed positive and negative effects. The 'minimising resource use' objective identified that support for gypsum would consume a primary natural resource on the one hand, but support for DSG would do the opposite in that it would save / offset consumption of primary gypsum. A similar effect was observed for the 'minimising waste objective' in that the policy might, though supporting gypsum, allow gypsum to be extracted at the expense of utilising waste DSG as a resource. However, the policy also supported DSG, so the market may play a role in optimising the balance between these two materials.

**Recommendations** None.

## Policy M25: Supply of vein minerals

<b>Preferred Option</b>								
Proposals for the extraction of vein minerals, including proposals for the reactivation of dormant permissions, will be determined in accordance with the development control policies in the Plan, having particular regard where relevant to any impacts on:								
<ul style="list-style-type: none"> <li>i) important habitats and species</li> <li>ii) protected landscapes</li> <li>iii) heritage assets</li> <li>iv) tourism assets</li> </ul>								
SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs								
SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	0	✓		✓	✓	<p>There is significant biodiversity and geo-diversity interest in areas with potential for vein minerals, including geological SSSIs which have come about through previous minerals working, but also European SPA / SAC sites, SSSIs and local SINC sites around Greenhow Hill (fluorspar) with less designated sites close to Cononley (fluorspar). Elsewhere, in areas such as the North Pennines and wider Nidderdale AONB there is a high concentration of designations along with areas of priority habitat. However, criteria to protect habitats and wildlife should help protect biodiversity from more severe effects and this policy states that particular regard should be given to important habitats and species.</p> <p>There may also be an opportunity to establish new geological sites in the future as a result of extraction.</p> <p>As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development with particular regard given to habitats and species). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised.</p>
	-	-	-					
	?	?	?					



<b>2.</b>	0	0	0	✓	✓	✓	✓	There are no Source Protection Zones in Greenhow Hill or Cononley and there are few in the wider resource area. However, vein mineral extraction itself may affect local hydrology, consume water and lead to water quality impacts. As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised.
	-	-	-					
	?	?	?					
<b>3.</b>	0	0	0		✓	✓		Vein minerals would generally be extracted in remote locations. While there may be some potential for transportation by rail or canal in the Cononley area, in other parts of the plan area additional road transport miles would be likely to be required. As this option does not specifically promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised.
	-	-	-					
	?	?	?					
<b>4.</b>	0	0	0	✓	✓	✓		Dust may be an issue associated with the extraction and processing of vein minerals. As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised.
	-	-	-					
	?	?	?					
<b>5.</b>	0	0	0	✓		✓		Due to the upland character of areas where vein minerals may be extracted they are unlikely to result in a loss of best and most versatile land. As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised.
	-	-	-					
	?	?	?					
<b>6.</b>	0	0	0	✓		✓	✓	Due to the upland character of areas where vein minerals will be extracted this option may result in carbon emissions from energy used during construction and operation, transport and as a result of soils that may have a high carbon content (such as peaty soils) being lost. As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised.
	-	-	-					
	?	?	?					
<b>7.</b>	0	0	0					This option has no clear relationship to climate change adaptation.

8.	0	0	0	✓		✓		As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development).
	-	-	-					
9.	0	0	0	✓		✓		As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects in relation to waste generation will range from no effect (with no development) to minor negative (limited development).
	-	-	-					
10.	0	0	0	✓		✓		As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised. The policy does however state that effects on heritage assets will be given particular regard.
	-	-	-					
	?	?	?					
11.	0	0	0	✓		✓		As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development). While policy criteria and other development control policies in the Plan should reduce the magnitude of effects it is likely that landscape impacts will remain at a significant level if extraction occurs, given the nature of the terrain in areas of vein mineral resource. There is an element of uncertainty in this assessment as the development management policies that will form part of the Plan and against which any potential vein minerals applications will be determined have not yet been finalised. The policy does however state that effects on heritage assets will be given particular regard.
	-	-	-					
	?	?	?					
12.	0	0	0	✓	✓	✓	✓	As this policy does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor positive (limited development).
	+	+	+					
13.	0	0	0					This policy does not provide support or otherwise for vein minerals extraction and is unlikely to have any significant impact upon the viability and vitality of local communities.
14.	0	0	0	✓	✓	✓	✓	This policy does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in the future. However, there may still be potential impacts on access routes in upland areas and on views out of the Yorkshire Dales where development occurs.
	-	-	-					
15.	0	0	0		✓	✓	✓	As this option does not promote vein mineral extraction, but plans in any case for the potential for sites to be submitted in future, effects will range from no effect (with no development) to minor negative (limited development) due to the possible amenity impacts of dust, noise and traffic,.
	-	-	-					
16.	0	0	0					There is no clear link between vein mineral extraction and flooding.

17.	0	0	0						There is no clear relationship between vein minerals extraction and this objective.

**Summary of assessment**

This policy does not provide support for the extraction of vein minerals in the plan area however should development come forward and gain consent, a number of negative impacts could result particularly in relation to the environmental SA objectives. This is largely because vein minerals occur close to sensitive receptors (such as wildlife sites and designated landscapes) and extraction techniques can utilise a significant area of land and can be energy intensive. There may be positive economic benefits associated with this policy should new vein minerals development come forward and gain consent. An element of uncertainty is noted throughout the assessment as any proposal would be considered in line with the development control policies in the Plan which are not yet finalised.

**Recommendations**

No mitigation proposed.

## Policy M26: Borrow pits

### Preferred Option

Proposals for borrow pits where permission is required will be supported where the required mineral cannot practicably be supplied by secondary or recycled material of appropriate specification and from a source in close proximity to the construction project, and; where all the following criteria can be met:

- The site lies on, or immediately adjoins, the proposed construction scheme so that mineral can be transported from the borrow pit to the point of use without significant use of the public highway system;
- The site can be landscaped and appropriately restored within an agreed timescale and to an agreed end-use without the use of imported material other than that generated on the adjoining construction scheme;
- The proposal meets all the relevant criteria set out in other relevant development control policies in the Plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objectiv	Impact / timescal			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0 - -	0 - -	0 - +	✓		✓	✓	This policy is likely to lead to the creation of some borrow pits and there could therefore be a degree of harm to habitats and wildlife although any proposals would need to be in accordance with the development management policies in the Plan. There may be opportunities for enhancements for biodiversity through site reclamation in the longer term.
2.	0 -	0 -	0 -	✓		✓	✓	This policy is likely to lead to the creation of some borrow pits and there could therefore be a degree of harm to water quality, due to disturbance of groundwater and run-off from the area around extraction which may contain dust and particles, although any proposals would need to be in accordance with the development management policies in the Plan.
3.	+ +	+ +	+ +		✓	✓	✓	This policy would reduce transport miles due to the requirement for borrow pits to lie in or adjoin the construction project if the material cannot be sourced from an alternative source in close proximity to the construction project.
4.	0	0	0		✓	✓	✓	Whilst there will be small scale and temporary negative effects in the area immediately around the borrow pit

	-	-	-					due to dust and fumes from machinery, there will be positive effects resulting from the reduced need to transport minerals. Any proposals would need to be in accordance with the development management policies in the Plan
	+	+	+					
<b>5.</b>	+	+	+	✓		✓		This policy would help to protect soil and agricultural land by only supporting extraction from borrow pits where there are no other nearby options for the supply of the mineral. Sourcing from existing quarries would require less land take than numerous small borrow pits across the Plan area.
<b>6.</b>	+	+	+		✓	✓	✓	This policy would reduce greenhouse gas emissions as it reduces the need to transport construction materials through adjacent / on site borrow pits or other alternative local sources.
<b>7.</b>	0	+	+	✓			✓	Depending on the location of the borrow pits, this policy could provide a number of opportunities for rainwater storage in the medium to longer term, once mineral extraction has ceased.
<b>8.</b>	-	-	-	✓		✓		This policy would allow the use of borrow pits, which is extraction of a primary resource.
<b>9.</b>	-	-	-	✓		✓		This policy would allow the use of borrow pits, which is extraction of a primary resource, which may disincentivise the use of secondary materials.
<b>10.</b>	?	?	?	✓		✓	✓	There may be effects on the historic environment resulting from the creation of borrow pits depending on location, although any proposals would need to be in accordance with the development management policies in the Plan.
	-	-	-					
	0	0	0					
<b>11.</b>	?	?	?	✓		✓		This policy may have some effects on the landscape should borrow pits come forward, depending on location, although any proposals would need to be in accordance with the development management policies in the Plan.
	-	-	-					
	0	0	0					
<b>12.</b>	+	+	+		✓		✓	This policy would help to support jobs in construction projects.
<b>13.</b>	?	?	?		✓		✓	Depending on the location of borrow pits there could be short term effects on local tourism economies during the time extraction is taking place due to visual and noise effects although any proposals would need to be in accordance with the development management policies in the Plan.
<b>14.</b>	?	?	?	✓		✓	✓	Depending on the location of borrow pits, there could be effects through either the loss of recreation assets such as rights of way or through harm to the visitor experience at nearby locations.
	-	-	-					
<b>15.</b>	+	+	+		✓	✓	✓	Whilst there may be positive effects on communities nearby due to removing the need to transport minerals, there may also be negative effects for any immediately adjacent communities through noise and dust from the extraction process, although any proposals would need to be in accordance with the development
	-	-	-					

	0	0	0					management policies in the Plan.
<b>16.</b>	0	+	+	✓			✓	Depending on the location of the borrow pits, this policy could provide a number of opportunities for rainwater storage in the medium to longer term, once minerals extraction has ceased.
<b>17.</b>	+	+	+	✓		✓		This policy provides an opportunity to ensure sufficient supply of minerals for projects that benefit a changing population whilst creating shortened supply chains in some instances.

**Summary of assessment** This policy would have some positive impacts in terms of reducing transport miles, reducing climate change impacts and shortening supply chains resulting in positive economic effects and a positive contribution towards meeting the needs of a changing population. However, borrow pits would also have some negative effects, such as possible local effects on water quality, temporary generation of dust, loss of primary resources, and impacts on the historic environment, landscape or recreation. However, these effects are generally very short term and uncertain due to being dependent on location.

**Recommendations** The existing development management criteria are considered sufficient to mitigate negative effects to acceptable levels.

## Policy W01 - Moving waste up the waste hierarchy

### Preferred Option

Proposals which help move management of waste up the waste hierarchy will be supported, with priority given to the delivery of development which would contribute to the minimisation of waste, the increased re-use and/or recycling of waste and to the delivery of waste treatment capacity which would contribute to the diversion of waste from landfill.

Further capacity for the large scale recovery of energy from waste will only be supported in line with Policy W04 and where any heat generated can be utilised as a source of low carbon energy or, where use of heat is not practicable, the efficient use of electrical energy can be achieved.

The provision of new capacity for the landfill of biodegradable residual waste will only be supported where it can be demonstrated that it is the only practicable option and sufficient permitted capacity within or in close proximity to the Plan area is not available. Proposals for the extension of time, where necessary at existing permitted biodegradable landfill sites with remaining void space, will be supported in principle in order to facilitate provision of adequate capacity for disposal of residual waste in line with identified needs, or in order to achieve the satisfactory restoration of the site.

Landfill of inert waste will only be supported where it would facilitate a high standard of quarry reclamation in accordance with agreed reclamation objectives, or the substantial improvement of derelict or degraded land where it can be demonstrated that the import of the waste is essential to bring the land back into beneficial use and the scale of the importation would not undermine the potential to manage waste further up the hierarchy.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	?	?	?	✓	✓		✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective. However, there may be impacts on biodiversity as a result of waste processing in relation to the proximity of processing facilities to biodiversity / geo-diversity assets and the type of processing taking place. There may be adverse effects caused by noise and disturbance to wildlife or loss of habitat. The scale of these impacts is location and waste management type dependent. The effects from this strategic policy are therefore identified as neutral / uncertain.
	0	0	0					

2.	?	?	?	✓	✓	✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective. However, there may be effects on water as a result of waste development commensurate to its scale and type of processing. Some waste management operations require use of water which may increase the demand for water and affect supply. Other considerations could be impacts from run-off and leachate, which may be more significant should they be located in a nitrate vulnerable zone or source protection zone. The scale of these impacts is location and waste management type dependent. The effects are therefore identified as both negative and uncertain.
	-	-	-				
3.	?	?	?	✓	✓	✓	The transportation of waste is usually undertaken by road. The effects of this strategic policy would be dependent upon the locations for generation and processing of waste across the plan area which would determine the length of journeys. The effects are therefore considered uncertain.
4.	?	?	?	✓	✓	✓	There may be impacts on air quality through emissions from the transportation of waste or as a by-product from waste processing, such as impacts from bio-aerosols from composting, or methane from landfill. However, processing waste higher up the hierarchy may also have positive effects (from reduced landfill through to processing in alternative ways which may reduce impacts on air quality). The scale of these impacts is specific to the location and waste management type, which would also be subject to external regulation where emissions are emitted. The effects are therefore considered uncertain and minor positive.
	+	+	+				
5.	-	-	-	✓		✓	Several effects may be experienced on soils/land due to waste management. The intention to manage waste as high up the hierarchy as possible may have positive implications on the sub-objective for recovering nutrient value from biodegradable waste, through composting for example, and recovering energy from waste (where the energy can be used a form of low carbon energy) would help to maximise the use the land efficiently (as it would offset the need for deriving energy from other sources which require land). Moreover, moving waste up the waste hierarchy prevents the need for the landfilling of waste (with its associated land take), replacing it with facilities that in many cases have a much smaller land footprint.  Conversely, other forms of waste management higher up the waste hierarchy may result in some contamination of soils depending upon the type of processing due to leachate and/or spillage. On balance, there are both positive and negative effects associated with this policy, though the positive effects outweigh the negative effects.
	+	+	+				
	+	+	+				
6.	+	+	+	✓		✓	Treatment of waste high up the waste hierarchy is likely to strongly encourage re-use and recycling within the plan area which would be positive for climate change through the reduction in materials consumed (as materials are cycled back into the economy). This would lead to a reduction in the overall carbon footprint of the local economy.



								In addition, as this policy would only support provision of new capacity for the landfill of biodegradable waste where it can be demonstrated that that it is the only practicable management option and there is insufficient capacity available within or outside the Plan area (there is, however, the possibility that the time periods for existing landfill could be extended), and would only support energy from waste where it can be utilised for heat or electrical energy, it is considered that this approach is likely to minimise adverse effects and predominantly have net benefit for climate change.
7.	0	0	0					There is no clear link between the policy and the objective to adapt to climate change.
8.	+	+	+	✓		✓		This policy would encourage waste to be processed in line with the waste hierarchy resulting in the need for fewer primary resources.
9.	+	+	+	✓		✓		This policy would directly encourage the effective management of waste and prioritise management as far up the waste hierarchy as possible. This is likely to have significant positive effects for this objective. Options for waste management further down the hierarchy would only be considered should it be proven that waste cannot be processed further up the hierarchy or exceptional circumstances can be demonstrated. In addition, the fact that incineration of waste would only be supported if there are plans to use the heat generated onsite would also ensure that residual wastes would be managed in a way that is higher up the waste hierarchy than incineration on its own.
10.	?	?	?	✓			✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective. Impacts on the historic environment and heritage assets would be in connection to the location of waste treatment works and processing. This is not set out in this policy but is dependent upon the locations and type of waste management facility (uncertain indirect impact).
	0	0	0					
11.	?	?	?	✓	✓	✓	✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective. Impacts on the landscape would be in connection to the location of waste treatment works and processing. This is not set out in this policy but is dependent upon the locations and type of waste management facility (uncertain indirect effect).  The policy refers to possible extensions of time at landfill sites. While this may negatively affect the landscape in the longer term, by the same token if the extension is to facilitate restoration there may be some minor long term benefits. Overall, however, this is a minor element of the overall effect, which is location dependent and uncertain.
	0	0	0					
12.	+	+	+	✓		✓		This policy is likely to have economic benefits associated with different waste management techniques and facilities. The re-use, recycling and composting of materials creates a product that can be sold for alternative uses as well as reduce the costs now associated with landfill through taxation. This policy would support energy from waste, and put that energy to good use, which would have value. In addition, there is also likely to be a positive benefit for the local economy through employment.

13.	+	+	+	✓	✓	✓	✓	Effects on local communities would be dependent on whether new facilities are provided and where they are located. There is the possibility for improved local access to recycling facilities, which would be positive. In addition, some communities may benefit from the heat provided from incineration / energy from waste. Conversely, there may be negative impacts should the sites be located in places which have an effect on the local economy e.g. through affecting tourism.
	-	-	-					
14.	?	?	?	✓	✓		✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective. Recreation can be impacted by waste management depending on its location and interference with Rights of Way or open access land given that during its operational stages there would be no access. This would be location specific however and therefore any impacts are deemed uncertain.
	0	0	0					
15.	+	+	+	✓	✓		✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective. However, some benefits would be observed as the policy would limit landfill and incineration (which may have a number of amenity impacts).  There may be negative impacts on health and well-being as a result of waste processing in relation to the proximity of processing facilities and the type of processing taking place. These effects are location specific. Particular effects to consider would be odour, noise and associated traffic movements.
	-	-	-					
	?	?	?					
16.	?	?	?	✓	✓		✓	The principle of managing waste high up the waste hierarchy would not directly affect this objective but any locations considered for the management of waste in this way would have to consider flood risk and surface water management to avoid adverse effects.
	0	0	0					
17.	+	+	+	✓	✓		✓	The principle of managing waste further up the waste hierarchy may positively contribute towards a number of sub-objectives in relation to meeting the needs of the population including 'improving public access to facilities enabling sustainable waste management' (e.g. household waste recycling centres) and 'support community led waste management schemes'.
	+	+	+					

**Summary of assessment** This policy would encourage sustainable resource management by prioritising the management of waste as high up the waste hierarchy as possible. This results in particularly positive effects in relation to resource consumption, soils, climate change, minimising waste generation and managing waste as high up the waste hierarchy as practicable, the economy and meeting the needs of a changing population. Uncertain effects or effects which have both positive and negative aspects have been recorded against several of the other environmental and social objectives as the scale of impacts would be determined by the nature and location of the particular waste management facility. One area where minor negative effects could occur on balance is in relation to water demand, as some recycling operations can be water intensive.

**Recommendations** No mitigation is proposed as locational/development management issues will be dealt with under other policies in the Plan.

## Policy W02 - Strategic role of the Plan area in the management of waste

Assumptions: Adopting the principle of net self-sufficiency would require additional facilities to ensure that total capacity is equivalent to total arisings.

### Preferred Option

Support will be given to proposals for additional waste management capacity needed to achieve an increase in net self-sufficiency in the management of waste to a level equivalent to expected arisings in the Plan area by the end of the plan period.

Where it is not practicable to provide specific capacity in the Plan area, including capacity for the landfilling of hazardous waste and the management of low level (non-nuclear) radioactive waste, as well as for other specialist provision which can only be met on a wider geographical basis, including reprocessing capacity for LACW and C&I waste, capacity requirements will be met principally through exports from the Plan area.

Provision of capacity within the Plan area shall include provision for waste arising in the Yorkshire Dales National Park, with the exception of mining and quarrying waste and small scale waste arisings which can be appropriately managed at facilities within the National Park.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	-	-	--	✓	✓	✓	✓	Although it is uncertain precisely where any facilities would be provided it is logical to conclude that under this policy there would be effects on biodiversity, and potentially on geodiversity depending on location, and that over time these may become more significant due to the need for increased numbers of facilities. The types of sites, habitats or species to be affected are uncertain. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. It would however secure a longer term continuation of the status quo, which already benefits biodiversity by limiting land loss in an area rich in biodiversity assets.
	?	?	?					

2.	-	-	--	✓		✓	✓	Although it is uncertain precisely where any facilities would be provided it is possible that under this policy there would be effects on water quality. Assuming the environmental permitting regime works satisfactorily this should not be significant. Waste management operations also require use of water and under this policy, increasing the amount of waste managed in the Plan area would increase the demand for water and therefore affect supply, thus resulting in a more significant negative effect over time. Whether or not there would be any effects on Nitrate Vulnerable Zones or Groundwater Source Protection Zones is not known. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary.
	?	?	?					
3.	+	+	+	✓		✓		Becoming progressively more self-sufficient in the management of waste could lead to less distance in transportation of waste, compared to it being transported to locations outside of the Plan area. This effect would, cumulatively improve over time. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary.
4.	-	-	-	✓		✓		Although it is uncertain precisely where any facilities would be provided it is possible that under this policy there would be effects on air quality due to the potential for increased numbers of facilities. Assuming the environmental permitting regime works satisfactorily this should not be at significant levels for health and the environment, though we have noted minor negative impacts in this assessment to record that there would be some deterioration of the baseline (albeit at safe levels). Emissions from transport would improve cumulatively. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary.
	+	+	+					
5.	-	-	--	✓		✓		Within the Plan area this policy would result in additional loss of soil and potentially loss of the best and most versatile agricultural land, depending on the location of any new facilities. This impact would be cumulative as the drive towards self-sufficiency consumes more land. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. It would however secure a longer term continuation of the status quo, which arguably increases demand for waste management administered by the Plan, and may drive a portion of the demand for either larger or more facilities which demand land. This effect would be small scale due to the low population and spread of Dales communities, and in practice may not 'tip the balance' at any one particular facility.

6.	+	+	+	✓		✓		Becoming progressively more self-sufficient in the management of waste would be likely to lead to less distance in transportation of waste and thus lower emission from vehicles, compared to it being transported to locations outside of the Plan area. However, this policy may also result in a greater number of waste management facilities which may contribute to climate change, for instance through greater use of construction materials and land (though as waste output does not change the net effect of emissions is expected to be broadly neutral) <sup>55</sup> . There is considerable uncertainty in this assessment. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. It would however secure a longer term continuation of the status quo, which already benefits climate change by limiting land loss in an area with large tracts of carbon rich soil.
	-	-	-					
	?	?	?					
7.	-	-	-	✓			✓	Additional waste developments may have implications for adapting to climate change should these result in increased areas of hard-surfacing (thus exacerbating run-off).
8.	--	--	--	✓		✓		As this policy would be likely to mean the building of new waste facilities (and less taking advantage of larger facilities outside of the plan area, thus avoiding economies of scale) this policy is likely to consume more resources.
9.	0	0	0					This policy would not directly lead to waste being managed further up the waste hierarchy. It may lead to increased awareness of waste management issues (through a greater presence of facilities) which may encourage greater rates of recycling amongst the public, though this effect is expected to be at a low level.
10.	-	-	--	✓	✓	✓	✓	Although it is uncertain precisely where any facilities would be provided it is possible that under this policy there would be effects on cultural heritage depending on location, and that over time these may become more significant due to the need for increased numbers of facilities. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. It would however secure a longer term continuation of the status quo, which already benefits the historic environment by limiting land loss or other damage in an area rich in historic assets.
11.	-	-	--	✓	✓	✓	✓	Although it is uncertain precisely where any facilities would be provided it is logical to conclude that under this policy there would be effects on the landscape and that over time these may become more significant due to the need for increased numbers of facilities. Whether or not protected landscapes would be affected would be uncertain and any proposals would need to accord with other policies in the plan. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the

<sup>55</sup> See footnote 28 for a discussion of where carbon emissions may fall when economies of scale are considered.

								National Park and disposed of outside the National Park boundary. It would however secure a longer term continuation of the status quo, which already benefits the landscape by limiting land loss or other damage in an area of high landscape value.
12.	+	+	+	✓		✓	✓	Under this policy there is the potential for job creation in the waste management sector along with knock-on effects to the local economy in terms of spend and for businesses supporting the waste management sector. Lower transport costs may also benefit the wider business sector. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. This policy would, however, secure a long term continuation of the status quo which would support the economy by continuing to direct waste management jobs into the Plan area and also by allowing more sustainable options for waste management in relative proximity to the National Park (which will help keep costs down).
13.	?	?	?	✓	✓	✓	✓	Whilst this policy may provide positive effects in terms of job creation (as detailed under objective 12) it may have negative effects on the vitality of a community depending on the location and scale of any development. The overall effect is uncertain and would depend on the circumstances of each case. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. This policy would, however, secure a long term continuation of the status quo which would support waste management jobs in the Plan area.
14.	-	-	--	✓	✓	✓	✓	Although it is uncertain precisely where any facilities would be provided it is possible that under this policy there would be effects on recreational assets depending on location, and that over time these may become more significant due to the need for increased numbers of facilities. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. This policy would, however, secure a long term continuation of the status quo which would continue to avoid detrimental recreational impacts on this important recreational asset.
15.	--	--	--	✓	✓	✓	✓	The development of a greater number of waste management facilities is likely to have negative effects on the safety and wellbeing of communities in terms of both construction (traffic, noise, dust etc.) and operation (traffic, activity etc.). It is assumed that noise and emissions would be controlled to standards required under permitting regimes but there may still be residual effects and effects from traffic. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park, this would represent little change from the present situation as most waste is already collected by District Councils in the National Park and disposed of outside the National Park boundary. This policy would, however, secure a long term continuation of the status quo which may have small scale negative effects on communities in the Plan area

								as it may require larger (or busier) facilities generating more impacts such as noise or odour, thus having potential effects on the health, safety and well-being of local communities.
16.	-	-	-	✓			✓	Additional waste developments may have implications for flooding should these result in increased areas of hard-surfacing (thus exacerbating run-off).
17.	+	+	+	✓		✓		The needs of the population in terms of waste management would be met through this policy.
	+	+	+					

**Summary of assessment** This policy would have positive effects in the Plan Area in terms of reducing transport miles and associated emissions and in supporting the economy and jobs, however it is likely to have negative effects on most of the environment and community SA objectives. This is because it may require additional facilities to ensure that waste capacity is equivalent to total arisings with the additional impacts that these would bring. In terms of providing capacity within the plan area to deal with waste arising in the Yorkshire Dales National Park this would largely maintain the status quo in terms of how waste is managed from the National Park, and this would have mainly neutral effects on the Plan Area and modest benefits for the Yorkshire Dales as it will allow the special qualities of the National Park to be maintained.

**Recommendations** No further mitigation is proposed.

## Policy W03 - Meeting waste management capacity requirements - Local Authority Collected Waste

### Preferred Option

Net self-sufficiency in capacity for management of Local Authority Collected Waste will be maximised through:

- 1) Identification of the Allerton Park (WJP08) and Harewood Whin (WJP11) sites as strategic allocations over the plan period for the management of LACW. Where necessary, proposals to extend the time period for continued waste management operations at these sites over the plan period and the development of other appropriate waste management infrastructure will be supported in principle subject, in the case of the Harewood Whin site, to consistency with relevant national and local Green Belt policy.
- 2) Delivery of additional transfer station capacity for LACW to serve the needs of Selby District through the allocation of a site at Common Lane, Burn (WJP16). Proposals for development of transfer capacity for LACW at this site or at an alternative location consistent with Policies W10 and W11 will be supported in principle.
- 3) Subject to compliance with Policies W10 and W11 and the development management policies in the Plan, supporting in principle proposals for:
  - a. increased capacity for the recycling, reprocessing and composting of LACW where this would reduce reliance on export of waste from the Plan area for recycling or reprocessing;
  - b. Improvements to the Household Waste Recycling Centre network.

LACW will be exported for management where sufficient capacity cannot be provided within the area.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	-	-	-	✓	✓	✓	✓	Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.  Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities



								with potential biodiversity / geodiversity effects (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11's favouring of previously developed land as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to involve at least some minor and temporary biodiversity / geodiversity effects, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.
2.	-	-	-		✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential water effects (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11's emphasis on considering environmental constraints). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to possibly involve minor and temporary water effects without mitigation, but magnitude will be reduced (in most cases to insignificant) by development management policies. The overall effect is considered minor negative.</p>
3.	-	-	-		✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential traffic effects (though these effects will be reduced by W10's emphasis on minimising the transport effects of strategic sites and W11 favouring of co-located development as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to have a traffic impact, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.</p>
4.	-	-	-		✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential air pollution effects (though these effects will be reduced by W10's emphasis on minimising the</p>

								transport effects of strategic sites and W11's emphasis on considering environmental constraints as well as the development management policies (particularly the Local Amenity and Cumulative Effects policy)). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to have an air quality impact, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.
5.	-	-	-	✓	✓	✓		Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.  Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential soil / land effects (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11 favouring of previously developed land as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to potentially involve minor effects on land, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.
6.	-	-	-	✓	✓	✓		Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.  Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential traffic or plant emissions of greenhouse gases (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and emphasis on minimising the transport effects of strategic sites and W11 favouring of co-located development as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to have a traffic impact and an impact from the carbon footprint of built infrastructure, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.
7.	0 -	0 -	0 -	✓	✓	✓	✓	Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.  Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential impacts on key elements of the response to climate change, such as flood risk mitigation or

								ecological networks (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and emphasis on minimising the transport effects of strategic sites and W11's emphasis on considering environmental constraints as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to have a climate adaptation impact, but the magnitude of impacts will be reduced by development management policies. The overall effect is considered negligible to minor negative.
<b>8.</b>	+	+	+	✓			✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting and supporting improvements to the Household Waste Recycling network may result in is likely to result in new development. These will be considered alongside the Sustainable Design development management policy, which will potentially reduce their material footprint. Moreover, these facilities will themselves process materials so that they will continue to be used, thereby saving resources.</p>
<b>9.</b>	+	+	+	✓			✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>However, all of the facilities covered by this policy will play an important role in moving waste up the waste hierarchy.</p>
<b>10.</b>	-	-	-	✓			✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential historic environment effects (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11 favouring of previously developed land as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to involve possible minor historic environment effects, depending on location, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.</p>
<b>11.</b>	-	-	-	✓	✓	✓	✓	Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed

								<p>separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new landscape effects (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11 favouring of previously developed land as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to involve possible landscape effects, depending on location, but magnitude will be reduced by development management policies. The overall effect is considered minor negative.</p>
<b>12.</b>	+	+	+	✓		✓		<p>This policy is likely to have strong benefits on the economy SA objective. It will generate jobs and promote low carbon resources from what previously would have been considered waste. It will also reduce the costs in comparison to alternative disposal in landfill.</p>
<b>13.</b>	+	+	+		✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>As stated for objective 12 there will be strong employment benefits which may benefit communities.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new community vitality effects such as effects on tourism (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11's emphasis on considering amenity constraints as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. These sites are unlikely to have negative effects on community vitality and may even positively affect it (as people may make trips to an HWRC combined with a trip to a local town).</p>
<b>14.</b>	-	-	-	✓	✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate recreation effects (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and steer away from national parks and AONBs and W11's favouring of previously developed land as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to involve possible effects on recreation, but these are likely to be insignificant.</p>

15.	-	-	-		✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new health and wellbeing effects (though these effects will be reduced by W10's minimisation of transport impacts and W11's emphasis on considering amenity constraints as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development which could generate amenity effects such as noise and odour. These effects will be reduced by the development management policies (particularly Local Amenity and Cumulative Impacts).</p>
16.	0	0	0	✓	✓	✓	✓	<p>Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process.</p> <p>Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential impacts on flood risk (though these effects will be reduced by W10's maximisation of capacity within the existing facility network and W11's emphasis on considering environmental constraints as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to have a potential effect on flooding though this will be mitigated to insignificant levels by the Water Environment development management policy. The overall effect is considered negligible to minor negative.</p>
17.	0	0	0					No clear link

**Summary of assessment** For this policy Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) have been assessed separately as part of the site assessment process as they each have quite different sustainability impacts.

Supporting additional proposals for recycling, reprocessing and composting may also generate new facilities with potential environmental and community effects (though these effects will be reduced by policies W10 and W11 as well as the development management policies). Similarly, supporting improvements to the Household Waste Recycling network may result in new development. Again, the effects of this development are considered to potentially involve minor effects on the environment and community objectives that will be reduced by development management policies. The effects on the environmental and community objectives are considered to range from insignificant to minor negative.

This policy is likely to have strong benefits on the economy SA objective. It will generate jobs and promote low carbon resources from what previously would have been considered waste. It will also reduce the costs associated with alternative disposal in landfill. There are also strong benefits for the minimising resources and waste hierarchy SA objectives as this development is essential for reducing waste.

**Recommendations** Mitigation has been proposed in relation to Allerton Park (WJP08), Harewood Whin (WJP11) and Common Lane Burn (WJP16) in the Site Assessment Report.

## Policy W04 - Meeting waste management capacity requirements - Commercial and Industrial waste (including hazardous C&I waste)

1) Capacity requirements for management of C&I waste will be provided through:

- i) Supporting proposals which would deliver increased capacity for the recycling and/or reprocessing and the treatment of C&I waste, particularly where this would reduce reliance on export of waste from the Plan area;
- ii) Supporting the delivery of additional transfer station capacity for C&I waste where it can be demonstrated that additional provision would contribute to the objective of dealing with waste in proximity to where it arises;
- iii) Providing strategic scale capacity for recovery of energy from C&I waste through a combination of spare capacity within the Allerton Waste Recovery Park facility and, if developed, the Southmoor Energy Centre and former Arbre Power Station site and supporting in principle the delivery of additional energy recovery capacity for suitable C&I waste, where the planning authority can be satisfied that the facility would be appropriately scaled to meet unmet needs for management of residual C&I waste arising in the area. Subject to construction of the permitted large scale treatment capacity at Southmoor Energy Recovery Centre and/or the former Arbre Power Station site, support will not be given to proposals for large scale energy recovery for C&I waste where the waste to be recovered would arise mainly outside the Plan area, unless it can be demonstrated that the facility would represent the nearest appropriate installation for the waste to be recovered.

2) Additional provision to help increase self-sufficiency in capacity for management of C&I waste is made through site allocations for:

Allocations for recycling, transfer and treatment of C&I waste:

Land at Hillcrest, Harmby (WJP01)  
Land at Halton East, near Skipton (WJP13)  
Land at Skibeden, near Skipton (WJP17)  
Land at Allerton Park, near Knaresborough (WJP08)  
Land at Seamer Carr, near Scarborough (WJP15)  
Land at Common Lane, Burn (WJP16)  
Land at Pollington (WJP22)  
Land at Fairfield Road, Whitby (WJP19)  
Land at Harewood Whin, Rufforth (WJP11)

Proposals for development of these sites will be supported subject to compliance with the development management policies in the Plan.

3) No site specific provision for additional landfill capacity for non-hazardous C&I waste is identified although provision of additional capacity for landfill of non-hazardous non-inert C&I waste, as well as for an extension of the time period for the utilisation of remaining void space at existing landfill sites subject of time limited permissions, will be supported in principle where it can be demonstrated that the waste to be landfilled cannot practicably be dealt with further up the waste hierarchy and that there is insufficient permitted capacity within the Plan area. Any further unmet requirements for landfill capacity which cannot be met within the Plan area will be met through export.

Capacity for hazardous C&I waste requiring landfill will be met through provision outside the Plan area.

SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
	See Site Sustainability Appraisal Report for scoring for each individual site							Part 2 of this policy refers to specific allocations for C and I waste sites. Management of waste at the sites specified in this policy may result in a range of impacts in relation to the Sustainability Appraisal objectives. Each site has been individually assessed as part of the site assessment methodology and the results are presented in the Site Sustainability Appraisal Report.
1.	+	+	+	✓	✓	✓	✓	<p>Support for new facilities may result in a level of harm to biodiversity and geodiversity although the degree of harm would depend on the location and type of any new facilities and is also likely to be moderated by the development management policies in the plan (specifically the 'Biodiversity and Geodiversity' and 'Sustainable Design' policies). As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission impacts are considered to have been dealt with through their respective applications.</p> <p>Part 3 of the policy does not provide for new landfill, which is positive for biodiversity and geodiversity, but does allow for additional capacity / time extensions for landfill of non-hazardous C and I waste, which could have small scale impacts on biodiversity (if adjacent habitats are affected or restoration is delayed).</p> <p>Overall, effects on this objective are mixed minor positive and negative.</p>
2.	0	0	0					While most impacts from this policy will be moderated by the environmental permitting / licensing regimes there may still be risks such as fuel spills, or changes to drainage due to compaction of soils during construction / creation of areas of hard standing. These are likely to be controlled by the development management policies (including policy D: 09 'Water Environment'). As for the strategic sites, Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission so impacts are considered to have been dealt with through their respective applications.
3.	+	+	+	✓	✓	✓	✓	On the one hand this policy supports recycling and/or reprocessing and the treatment of C&I waste to reduce reliance on the export of waste (positive), while on the other hand the policy would allow export of landfill and relies on export of hazardous C and I waste (negative). The distance hazardous waste in particular would need to travel would be dependent on the delivery of site allocations in other plans which add a degree of



	?	?	?					<p>uncertainty as to the magnitude of the negative impact.</p> <p>While development management policy D:03 'Transport of Minerals and Waste and Associated Traffic Impacts' would help reduce traffic impacts from sites for waste management, this policy is likely to result in hazardous waste from diffuse sources being exported to locations outside of the Plan's control. Fuel costs should ensure that waste generators seek out the nearest available options for disposal. In addition, the potential for mitigation is limited as the supporting text to the policy states that the arisings are very small scale.</p> <p>As for the strategic scale sites, Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission so impacts are considered to have been dealt with through their respective applications.</p> <p>To some extent the policy's positive effects may offset negative effects, so while mixed effects are recorded, there may in actual fact be a neutral effect depending on the location of facilities.</p>
4.	+	+	+	✓	✓	✓	✓	<p>Assuming that emissions permitting regimes operate effectively it is still possible that there would be some residual effects on air quality including bio-aerosols from landfill depending on location in relation to sensitive receptors. These effects are likely to be moderated to a large degree by the 'Local Amenity and Cumulative Impacts' development management policy (D: 02). Effects on traffic emissions are likely to result in mixed effects for the reasons outlined in objective 3.</p> <p>As for the strategic scale sites, Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission so impacts are considered to have been dealt with through their respective applications.</p>
	-	-	-					
	?	?	?					
5.	+	+	+	✓	✓	✓	✓	<p>Support for new facilities may result in a level of harm to soils and land although the degree of harm would depend on the location and type of any new facilities and is also likely to be moderated by the development management policies in the plan (specifically the 'Protection of Agricultural Land and Soils' and 'Reclamation and Afteruse' policies. As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission, impacts are considered to have been dealt with through their respective applications.</p> <p>Part 3 of the policy does not provide for new landfill, which is positive for land and soils, but does allow for additional capacity / time extensions for landfill of non-hazardous C and I waste, which could have small scale impacts on soils and land (if adjacent land resources are affected or restoration is delayed).</p> <p>Overall, effects on this objective are mixed minor positive and negative.</p>
	-	-	-					
6.	+	+	+	✓	✓	✓	✓	<p>This policy is likely to generate new facilities for C and I waste which will have a carbon footprint. However,</p>

	- ?	- ?					<p>these same facilities are also likely to move waste up the waste hierarchy, which is positive for climate change, and will also provide for more local waste management options for commercial C and I waste. On the other hand, while new landfill is not supported, other extant sites may have their time period or capacity extended, while hazardous waste must be exported. This is likely to result in mixed effects for climate change, becoming more positive in the longer term as landfill sites reach capacity.</p> <p>As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission, impacts are considered to have been dealt with through their respective applications.</p>
7.	0	0	0				There are no clear links between this policy and the objective for adapting to climate change.
8.	+	+	+	✓		✓	<p>This preferred policy is, through its support for increased capacity for the recycling and/or reprocessing and the treatment of C&amp;I waste, likely to have very positive effects as this will save future resource use. While it still provides an outlet for landfilling of waste, which detracts from the positive assessment, no new landfill capacity is supported.</p> <p>As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission, impacts are considered to have been dealt with through their respective applications.</p>
9.	+	+	+	✓		✓	<p>This preferred policy is, through its support for increased capacity for the recycling and/or reprocessing and the treatment of C&amp;I waste likely to have very positive effects on moving waste up the waste hierarchy. While it still provides an outlet for landfilling of waste which detracts from the positive assessment, no new landfill capacity is supported.</p> <p>As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission impacts are considered to have been dealt with through their respective applications.</p>
10.	+	+	+	✓	✓	✓	<p>Support for new facilities may result in a level of harm to the historic environment although the degree of harm would depend on the location and type of any new facilities and is also likely to be moderated by the development management policies in the plan (specifically the 'Historic Environment' policy). As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission, impacts are considered to have been dealt with through their respective applications.</p> <p>Part 3 of the policy does not provide for new landfill, which is positive for the historic environment, but does allow for additional capacity / time extensions for landfill of non-hazardous C and I waste, which could have small scale impacts on the historic environment (e.g. if the character of adjacent historic features is affected</p>

								or restoration is delayed).
								Overall, effects on this objective are mixed minor positive and negative.
<b>11.</b>	+	+	+	✓	✓	✓	✓	<p>Support for new facilities may result in a level of harm to the landscape although the degree of harm would depend on the location and type of any new facilities and is also likely to be moderated by the development management policies in the plan. As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission impacts are considered to have been dealt with through their respective applications.</p> <p>Part 3 of the policy does not provide for new landfill, which is positive for the landscape, but does allow for additional capacity / time extensions for landfill of non-hazardous C and I waste, which could have small scale impacts on the landscape (e.g. if the character of an area is affected or restoration is delayed).</p> <p>Overall, effects on this objective are mixed minor positive and negative.</p>
	-	-	-					
<b>12.</b>	+	+	+		✓	✓		<p>This policy is likely to provide cost effective outlets for the management of C and I waste by largely planning for greater self-sufficiency. It will also support local jobs. The exception to this is the lack of provision for hazardous C and I waste, which may impose additional costs on some businesses. However, these businesses are likely to be small in number given the low volumes of hazardous waste dealt with. Utilisation of spare capacity at extant strategic sites is likely to be positive for their viability. Broadly positive.</p>
<b>13.</b>	0	0	0	✓	✓	✓	✓	<p>Whilst the option may provide positive effects in terms of job creation (as detailed under objective 12) it may have negative effects on the vitality of a community depending on the location and scale of any development. This is, however, expected to be mitigated to a degree by the development management policies, particularly D: 02 'Local Amenity and Cumulative Impacts'. The overall effect is neutral to uncertain and would depend on the circumstances of each case.</p> <p>An additional negative effect arises through the export of hazardous waste. Here problems may arise as sites outside the Plan Area experience continued demand for their services which may on the one hand sustain some jobs, though on the other hand may also sustain negative perceptions in the area immediately adjacent to such a site. However, in most cases such sites will be remote to all but a few properties and are not considered significant.</p>
	?	?	?					
<b>14.</b>	0	0	0	✓	✓	✓	✓	<p>While it is possible that recreational assets could be affected by the policy, most development covered by the policy is relatively small scale and mitigated by the development management policies, particularly D: 02 'Local Amenity and Cumulative Impacts. Some delays in restoration (which may be restoration to a recreational use) may occur through extending extant landfill sites.</p>
	?	?	?					

15.	- ?	- ?	- ?	✓	✓	✓	✓	<p>Any negative perceptions associated with living in proximity to hazardous waste sites would be avoided through this policy. However, there may still be negative effects on wellbeing from living close to a range of waste management facilities associated with recycling and reprocessing (such as noise, dust, odour etc.) To a large degree these will be mitigated by the development management policies, though some smaller scale residual effects may remain depending on location.</p> <p>As the strategic scale sites of Allerton Waste Recovery Park, Southmoor and Arbre already have planning permission impacts are considered to have been dealt with through their respective applications.</p> <p>An additional negative effect may arise through the export of hazardous waste. Here problems may arise as sites outside the Plan Area experience continued demand for their services. Effects on community health and wellbeing (such as increased noise / traffic) may be generated as a result. However, in most cases such sites will be remote to all but a few properties so effects are not considered significant.</p>
16.	0	0	0					Flood risk is likely to be largely mitigated for by the development management policies in the plan.
17.	+	+	+	✓			✓	This policy will help ensure that waste is more likely to become a future resource. In some cases, particularly energy from waste, this is likely to benefit a changing population by helping with energy security.

**Summary of assessment.** This policy has both positive and negative effects in relation to many of the objectives. This is because it supports the management of waste higher up the waste hierarchy and away from landfill, which has benefits in terms of reducing the land take and amenity impacts of simply landfilling waste, though the facilities for waste management higher up the waste hierarchy will themselves have a land footprint or amenity impacts.

Some effects are outright positive, for instance strong positive effects were noted for the minimising resource use and minimising waste objectives. Other impacts were related to the transport of waste, for which there are benefits through reducing reliance on exporting waste for recycling and/or reprocessing (resulting in shorter journeys), while there are lesser negative effects associated with exporting hazardous waste. This results in mixed effects for the transport, air quality and climate change objectives.

Positive effects were noted for the economy objective (due to the greater local focus being more cost effective for industry and supporting local jobs) and the changing population objective (as there may be benefits such as increased energy security). Elsewhere in the assessment uncertainty was noted as effects were seen as highly dependent on location.

A potential effect was noted in relation to community vitality and health and wellbeing. This is because hazardous waste will be managed outside of the Plan Area, which will in effect mean that some small scale noise and traffic effects may be exported and also negative perceptions of any properties close to hazardous waste sites may endure. However, such disposal sites are often remote from community receptors so the effect is considered insignificant.

**Recommendations** Most negative effects are moderated by the development management policies. No further mitigation is proposed.

## Policy W05 - Meeting waste management capacity requirements - Construction, Demolition and Excavation waste (including hazardous CD&E waste)

1) Capacity requirements for management of CD&E waste will be provided through:

- Supporting proposals which would deliver increased capacity for the recycling of CD&E waste;
- Supporting the delivery of additional transfer station capacity for CD&E waste where it can be demonstrated that additional provision would contribute to the objective of dealing with waste in proximity to where it arises;
- Supporting provision of additional landfill capacity for non-hazardous non-inert CD&E waste where it can be demonstrated that the waste to be landfilled cannot practicably be dealt with further up the waste hierarchy and that there is insufficient capacity in permitted or allocated sites in the Plan area. Landfill of inert CD&E waste, including such waste arising outside the Plan area, will be supported where it would facilitate a high standard of quarry reclamation in accordance with agreed reclamation objectives, or the substantial improvement of derelict or degraded land to a condition where it can be returned to a beneficial use;
- Supporting the principle of an extension of the time period for the utilisation of remaining void space at existing CD&E landfill sites subject of time limited permissions;
- Capacity for hazardous CD&E waste requiring landfill will be met through provision outside the Plan area.

2) Additional provision to help meet requirements and increase self-sufficiency in capacity for management of CD&E waste is made through site allocations for:

Allocations for recycling of CD&E waste:

- Land at Potgate Quarry, North Stainley (WJP23)
- Land at Allerton Park, near Knaresborough (WJP08)
- Land at Darrington Quarry, Darrington (MJP27)
- Land at Barnsdale Bar, Kirk Smeaton (MJP26)
- Land at Went Edge Quarry, Kirk Smeaton (WJP10)
- Land at Whitewall Quarry, Norton (MJP13)
- Land at Duttons Farm, Upper Poppleton (WJP05)

Proposals for development of these sites will be supported subject to compliance with the development management policies in the Plan.

Allocations for landfill of inert CD&E waste:

- Land at Brotherton Quarry, Burton Salmon (WJP21)
- Land at Tancred Quarry, Scorton (WJP18)

Proposals for development of these sites will be supported subject to compliance with the development management policies in the Plan.

Allocations for landfill of inert CD&E waste:

- Land at Duttons Farm, Upper Poppleton (WJP05)
- Land adjacent to former Escrick brickworks, Escrick (WJP06)

Proposals for landfill at these sites will only be supported as a means of enabling reclamation of any mineral workings developed in connection with allocations MJP52 and MJP55 and subject to compliance with development management policies in the Plan.

SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
	See Site Sustainability Appraisal Report for scoring for each individual site							<p>Part 2 of this policy refers to specific allocations for CD and E waste sites. Management of waste at the sites specified in this policy may result in a range of impacts in relation to the Sustainability Appraisal objectives. Each site has been individually assessed as part of the site assessment methodology and the results are presented in the Site Sustainability Appraisal Report.</p> <p>This group of sites includes the group around the Whitewall Quarry (WJP09, MJP13 and MJP12), which have been highlighted as having a possible impact on groundwater if routine mitigation measures are not put in place. As the relationship between groundwater below the site and the River Derwent SAC is not known any impact is highlighted as being uncertain in the Habitat Regulations Assessment of Likely Significant Effects.</p>
1.	-	-	- +	✓	✓	✓	✓	<p>Support for new facilities is likely to result in a level of harm to biodiversity and geo-diversity although the degree of harm would depend on the location of any new facilities. Potential effects are also likely to be controlled through the development management policies (particularly 'Biodiversity and Geo-diversity').</p> <p>Enabling a high standard of quarry reclamation through landfilling could have positive effects in terms of biodiversity in the longer term, though in the shorter term quarry floor habitats may be lost. Similarly, where landfill of CD&amp;E waste can improve derelict or degraded land a shorter term negative effect may be observed on the biodiversity associated with brownfield land, while longer term benefits may also occur.</p>
2.	0	0	0					<p>The development supported under this policy could have effects on water quality from run-off from construction sites or built infrastructure, though leachate from landfill is likely to be dealt with through the environmental permitting regime. More generally, effects are likely to be dependent on location and controlled through the development management policies.</p> <p>There would also be effects in terms of use of water and generation of waste water through the recycling process, however this would be controlled through the water abstraction licensing system and through environmental permits. Effects are likely to be insignificant.</p>
3.	+	+	+	✓		✓	✓	Effects in terms of transport would depend on the location of any new facilities (notwithstanding the allocations

	?	?	?					listed which are assessed individually). However, by ensuring sufficient provision within the Plan Area this will reduce the need for transportation over further distances. Transfer facilities supported by the policy will also reduce the number of vehicles on roads. The exception to this is in relation to hazardous CD&E waste where provision would be outside of the plan area. Overall the effect is minor positive with some minor uncertainty.
4.	+	+	+		✓	✓	✓	Locally there is the possibility of minor air quality issues around sites from dust and traffic, and also from the construction of new sites (controlled to low levels by the policy D02 'Local Amenity and Cumulative Effects'). However, by ensuring sufficient provision within the Plan area this will reduce the need for transportation over further distances with consequent benefits on air quality more generally. Dealing with hazardous CD&E waste is highly regulated so although this may be moved further, air quality effects from this are not likely.
	-	-	-					
5.	+	+	+	✓		✓		As policy W11 'Waste Site Identification Principles' favours previously developed, industrial and employment land as well as quarry voids, effects on land and soils are likely to be limited. However, the use of CD&E waste for quarry reclamation and to improve derelict or degraded land is highly positive. Overall the effect on land is very positive.
	+	+	+					
6.	+	+	+	✓		✓	✓	Increasing the capacity for recycling of CD&E waste as well as supporting the delivery of additional transfer station capacity will have positive effects on climate change. This is because recycled CDE waste will reduce the need for new building materials which may require significant carbon to extract and process, and also because net traffic will be reduced.
	-	-	-					On the other hand the policy does allow the use of landfill (where waste cannot be dealt with higher up the waste hierarchy). Although biodegradable CD&E materials (e.g. wood) may well be managed higher up the waste hierarchy, the policy would still allow the possibility that they be landfilled, so a negative is recorded here (as in landfill such materials may degrade releasing greenhouse gases).
7.	0	0	0					It is possible that new CDE developments will contribute towards flooding through the creation of additional developed areas, thus exacerbating run-off and increasing flood risk. However, when considered together with policy D09 'Water Environment', effects are likely to be minimal.
8.	+	+	+	✓			✓	This policy would have strong positive effects against this objective because it deals with CD&E waste by recycling it and only landfilling where it is not practical to recycle it. This will help to reduce the demand for resources.
	+	+	+					
9.	+	+	+	✓		✓		This policy would have strong positive effects against this objective because it deals with CD&E waste by recycling it and only landfilling where it is not practical to recycle it. This will help to move waste up the waste hierarchy.
	+	+	+					
10.	0	0	0	✓		✓		Support for new facilities may result in a level of harm to the historic environment although the degree of harm would depend on the location of any new facilities. However, as this policy works in combination with policy W11 'Waste Site Identification Principles', which favours previously developed, industrial and employment
	+	+	+					



							land as well as quarry voids, the impact is likely to be at a very low level as such areas may have lost their archaeology already, or may be either screened from historic assets or surrounded by other industrial facilities (so these waste sites may be less out of character in such locations). This is also likely to be controlled through the development management policies (particularly 'Historic Environment').  Enabling a high standard of quarry reclamation could have positive effects in terms of the historic environment as it may help restore historic landscape character.	
11.	0 +	0 +	0 +	✓		✓	Support for new facilities may result in a level of harm to the landscape / townscape although the degree of harm would depend on the location of any new facilities. However, as this policy works in combination with policy W11 'Waste Site Identification Principles', which favours previously developed, industrial and employment land as well as quarry voids, the impact is likely to be at a very low level as CD&E waste facilities may be either screened (as in a quarry void) or may fit relatively well with their surroundings (e.g. in an industrial setting). Any effects are also likely to be controlled through the development management policies (particularly 'Landscape').  Enabling a high standard of quarry reclamation could have positive effects in terms of the landscape as it may help restore landscape character.	
12.	+	+	+		✓	✓	This policy is likely to add value to materials that were previously seen as wastes, and, through supporting new proposals (and allocating sites) to deliver increased capacity, new jobs are likely to be generated.	
13.	+	+	+		✓	✓	✓	This policy is likely to deliver some new jobs which may benefit communities. Due to this policy working in combination with policy W11 'Waste Site Identification Principles', which favours previously developed, industrial and employment land as well as quarry voids, as well as the development management policies, other longer term effects on community vitality are seen as less likely. However, the support for CD&E waste being managed at point of arising (for temporary facilities linked to the life of the associated construction project) in W11 suggests that short term effects, such as noise, might have some temporary and low level effect on community vitality.  An additional negative effect arises through the export of hazardous CD&E waste. Here problems may arise as sites outside the Plan Area experience continued demand for their services which may on the one hand sustain some jobs, though on the other hand may also sustain negative perceptions in the area immediately adjacent to such a site. However, in most cases such sites will be remote to all but a few properties.
14.	+	+	+	✓		✓	Using CD&E waste to enabling a high standard of quarry reclamation could have positive effects in terms of recreation opportunities. Otherwise effects are likely to be limited due to this policy working in combination	

								with policy W11 and the development management policies.
15.	0	0	0		✓	✓	✓	<p>While there may be negative impacts on communities close to CD&amp;E facilities in terms of noise, dust, traffic etc., mostly significant effects will be avoided due to this policy working in combination with policy W11 'Waste Site Identification Principles', which favours previously developed, industrial and employment land as well as quarry voids (which will in many cases mean that CD&amp;E development takes place away from residential areas). In addition, development management policies such as D02: 'Local Amenity and Cumulative Effects' should significantly reduce any effects. The SA has scored the effect of this as being neutral / insignificant.</p> <p>An additional negative effect may arise through the export of hazardous CD&amp;E waste. Here problems may arise as sites outside the Plan Area experience continued demand for their services. Effects on community health and wellbeing (such as increased noise / traffic) may be generated as a result. However, in most cases such sites will be remote to all but a few properties.</p>
16.	0	0	0					It is possible that new CD&E developments will contribute towards flooding through the creation of additional developed areas, thus exacerbating run-off and increasing flood risk. However, when considered together with policy D09 'Water Environment', effects are likely to be minimal.
17.	+	+	+	✓			✓	Supporting the recycling of CD&E waste is likely to have positive effects on the environment as it will cycle materials back into the construction sector, which will ultimately facilitate the development that populations need to prosper.

**Summary of assessment.** This policy has a range of mixed effects. Many SA objectives report both minor positive and negative effects because while new facilities may be built to support the policy (impacting on biodiversity and generating dust, noise, local traffic and carbon), utilising CD&E waste to regenerate land or for quarry restoration will often restore degraded land, which, depending on the restoration proposed, could bring a range of sustainability benefits. The 'restoration' aspect of this policy is the key reason why a strong positive effect is noted for the soils and land SA objective.

In a similar way some objectives noted both a neutral effect and a positive effect, largely because policies elsewhere in the Plan would mitigate for any negative effects, but the positive effects of quarry restoration would still occur. This occurs with the historic environment and landscape objectives.

Other strong positives are noted for the minimising resources and minimising waste SA objectives, which identified that more recycling of CD&E waste would reduce demand for new materials to be extracted and also reduce demand for disposal of materials. This can add value to what was once a waste, bringing economic benefits.

A potential effect was noted in relation to community vitality and health and wellbeing. This is because hazardous CD&E waste will be managed outside of the Plan Area, which will in effect mean that some small scale noise and traffic effects may be exported and also negative perceptions of

any properties close to hazardous waste sites may endure. However, such disposal sites are often remote from community receptors so the effect is considered insignificant.

One area of uncertainty is highlighted as a result of the policy's support for the group of sites around Whitewall Quarry, which have an uncertain hydrological relationship with the River Derwent SAC.

**Recommendations** A recommendation made through the Habitat Regulations Assessment process is that the policy should include an explicit link to the development management policies for water and biodiversity (D:07 and D:09) in the key links to other relevant policies section.

## Policy W06 - Managing agricultural waste

### Preferred Option

Proposals for the on-farm management of agricultural waste at the point of arising, including proposals for individual farm-scale anaerobic digestion, will be supported where the proposed development would help move waste up the waste hierarchy, is appropriately scaled in relation to the arisings requiring management and compliance with relevant development management policies in the Plan can be demonstrated.

Proposals scaled to provide capacity for the management of agricultural waste from more than one agricultural holding, including facilities for the anaerobic digestion of agricultural waste, will be supported where they would be consistent with the overall locational principles and site identification principles for waste development in Policies W10 and W11; would help move waste up the waste hierarchy, and; compliance with relevant development management policies in the Plan can be demonstrated.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	- ?	- ?	- ?	✓	✓	✓	✓	It is uncertain what the impact of this option would be on biodiversity and geodiversity as effects are dependent on the location of on-farm management or off-farm facilities, including proposals dealing with more than one agricultural holding including AD facilities. Land take, leachate from off and on-farm management, as well as localised nutrient loading of soils may, in the wrong place lead to some negative impacts on biodiversity, however this would be likely to be of minor to negligible significance in most cases, particularly given wider development management policies.  Clear links in the supporting text to policy D11 on sustainable design would further lessen effects.
2.	+ ?	+ ?	+ ?	✓	✓	✓	✓	On-farm management of waste has the potential to generate leachate to water bodies. Assuming the environmental permitting and exemption <sup>56</sup> regime works satisfactorily (as well as the proposed water environment (DO9) development management policy) this should not be significant. Similarly, proposals dealing with more than one agricultural holding, including AD facilities, may have the potential to contribute to pollution if mismanaged or in storm events, though both permitting and D09 should moderate this significantly.

<sup>56</sup> See Environment Agency, 2010. Agricultural Waste Exemptions – a look up guide [URL: [http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT\\_7533\\_9650f6.pdf](http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT_7533_9650f6.pdf)]

							<p>There are positive effects associated with on-farm composting and the biodigestate fertiliser that may result from Anaerobic Digestion. Using biodigestate can represent an effective way of applying the nutrients from on-farm wastes (such as slurries and manures) to land, or can offset the use of inorganic alternative fertilisers. This reduces potential for over application and pollution (as over application of slurries and manures is a cause of nutrient pollution of watercourses<sup>57</sup>). Similarly, when composted materials are used on farm, this reduces the need for alternative fertilisers (which are an important source of water pollution).</p> <p>The net effect is positive, though some uncertainty is added due to the reliance on as yet unadopted development management policies.</p>
3.	+	+	+	✓	✓	✓	<p>Managing waste on farm where practicable will support a general reduction in traffic levels (though given that much waste is already managed on farm this will likely be minor). In addition, where facilities serving more than one farm are required (as those facilities must accord with the plan's locational principals at W10) the positive effect would be enhanced. This adds an element of uncertainty (as other policies are not yet adopted) though the net effect is felt to be at least minor positive.</p>
4.	0 ?	0 ?	0 ?		✓	✓	<p>Supporting on-farm management of waste at the point of arising may create some localised issues associated with bio-aerosols and odours which may cause a nuisance. Similar effects may occur with facilities for multiple farm holdings. These issues can be readily avoided / mitigated for by policies elsewhere in the plan (e.g. D02 Local Amenity and Cumulative Impacts) and by the pollution control / exemptions regime.</p> <p>The net effect is insignificant, though some uncertainty is added due to the moderation of this policy by as yet unadopted plan policies.</p>
5.	+	+	+		✓	✓	<p>Some on-farm wastes, such as composted wastes, can play an important role in increasing the nutrient status of farm soils. In addition, supporting anaerobic digestion creates a renewable source of biodigestate, which will directly replace synthetic fertilizers and inefficient spreading of slurries and manures. So, in a farm context, this may mean that the fertility of organic wastes is efficiently returned to the soil<sup>58</sup>. If other off-farm wastes, such as food waste from rural food manufacturing businesses, are taken by the facility there is an even greater benefit, as this can make a significant contribution to reducing landfill. This may make it advantageous to slightly alter the policy to add wording akin to 'additional organic waste streams may be</p>

<sup>57</sup> See DECC / DEFRA, 2011. Anaerobic Digestion Strategy and Action Plan [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69400/anaerobic-digestion-strat-action-plan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69400/anaerobic-digestion-strat-action-plan.pdf) ]

<sup>58</sup> See DECC / DEFRA, 2011. Anaerobic Digestion Strategy and Action Plan [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69400/anaerobic-digestion-strat-action-plan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69400/anaerobic-digestion-strat-action-plan.pdf) ]

							<p>acceptable at agricultural anaerobic digestion facilities provided that they serve a local need and comply with the overall policy’.</p> <p>One possible area for concern is where crops are specifically grown for biodigestate production, which could have a significant negative impact on this objective as land that potentially could be used for food production may instead be used as a source of feedstock for AD. This adds uncertainty to the assessment.</p>
6.	+	+	+	✓		✓	<p>Maximising the amount of waste managed on farm would reduce transport emissions and thus contribute positively to reducing greenhouse gas emissions. In addition, this policy supports on and off farm anaerobic digestion. As well as digestate, AD’s other product is biogas. This can be used as a source of electricity or fuel to offset the utilisation of fossil fuels. Heat can also be derived from the energy transformation to electricity in a combined heat and power system. This will help significantly reduce carbon emissions. This would be further enhanced by this policy’s link to preferred policy W11 (Waste Site Identification Principles).</p> <p>Digestate also displaces the embodied energy of fertiliser and saves about 5 tonnes of CO2 for every one tonne of nitrogen fertiliser<sup>59</sup>.</p>
7.	0	0	0		✓	✓	<p>Supporting on farm waste management would support on farm composting, which can play a role in enhancing water retention in soils. For other on farm wastes there is no clear link to climate adaptation.</p>
8.	+	+	+	✓		✓	<p>Supporting on-farm waste management and facilities for off-farm management supporting a number of farms would often minimise resource use as many wastes will be composted or may be utilised in on-farm anaerobic digestion facilities. While some on-farm wastes may have traditionally been landfilled either on or off farm (though less since regulatory changes have discouraged this<sup>60</sup>), this policy supports moving farm waste up the waste hierarchy.</p> <p>As this policy offers strong support for AD it is worth noting that as AD potentially captures biogas, heat and digestate from a range of farm wastes such as crop residues, slurries and manures, It effectively minimises the requirement for buying in resources such as fertilisers. All in all this policy will lead to very positive effects.</p>
9.	+	+	+	✓		✓	<p>Generally the objective, when considered alongside the permitting and exemption regime for farm waste, would encourage on farm composting and recycling, and support facilities for more specialist waste</p>

<sup>59</sup> See DECC / DEFRA, 2011. Anaerobic Digestion Strategy and Action Plan [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69400/anaerobic-digestion-strat-action-plan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69400/anaerobic-digestion-strat-action-plan.pdf) ]

<sup>60</sup> In practice, regulations (principally the Waste Management Regulations 2006 (Agricultural Waste Regulations) and Environmental Permitting Regulations, 2010) should discourage on farm landfill to a degree (as a permit is required to continue to landfill)

							management. So waste would tend to be managed higher up the waste hierarchy. This is likely to be highly positive, however, it should be recognised that a significant proportion of farm waste is already dealt with on farm. The strong emphasis on AD also allows for value and usable products (biogas, heat and digestate) to be obtained from waste streams which adds to the positive effects recorded.
<b>10.</b>	0 ?	0 ?	0 ?	✓		✓	It is uncertain what the impact of this option would be on the historic environment as effects are dependent on the location of on-farm management or off-farm facilities, including proposals dealing with more than one agricultural holding including AD facilities. Mostly effects would be insignificant. However, any significant effects are likely to be managed to insignificant levels given the wider development management policies.  Some uncertainty is noted due to the moderation of this policy by as yet unadopted development management policies.
<b>11.</b>	0 ?	0 ?	0 ?	✓		✓	While on-farm waste management may be a visible feature in the landscape, it is generally considered to be of very low significance and often an accepted part of the landscape. Off-farm specialist waste management facilities have an uncertain impact, though given they will be considered alongside locational and site identification principles (which although still only preferred options at this stage, emphasise making use of the existing facility network and co-location / re-use of redundant buildings) impacts are expected to be low.
<b>12.</b>	+	+	+			✓	Managing farm waste on site where possible, and supporting this with more specialised sites should help support some jobs, but these are expected to be at a low level. In terms of the support for AD through this policy, where digestate or energy can be sold this could represent a significant income stream for a farm, which may support a low number of jobs.
<b>13.</b>	0	0	0				Though limited jobs may be supported this would be an insignificant level in relation to this objective.
<b>14.</b>	0	0	0				This preferred policy, particularly when considered in combination with other referenced policies, is unlikely to have a significant effect.
<b>15.</b>	0 ?	0 ?	0 ?				Supporting on-farm management of waste / AD or off farm management may create some localised issues associated with bio-aerosols and odours which may cause a nuisance. This may impact upon the wellbeing of local people living close to on-farm waste facilities or off-farm specialised waste facilities. These issues can be readily avoided / mitigated for by policies elsewhere in the plan (e.g. D02 Local Amenity and Cumulative Impacts).  The net effect is insignificant, though some uncertainty is added due to the moderation of this policy by as yet unadopted plan policies.
<b>16.</b>	0	0	0				This preferred policy, particularly when considered in combination with other referenced policies, is unlikely to have a significant effect.
<b>17.</b>	0	0	0				This preferred policy, is unlikely to have a significant effect.

**Summary of assessment** For most objectives this option displays either positive effects or neutral effects. In particular the preferred policy performs very positively against the resource use and waste minimisation objectives, in part because it encourages lower resource use and moves waste up the waste hierarchy by supporting anaerobic digestion. It also performs well for the soils and land objective because of the benefits of utilising organic farm wastes in composts (which are routinely made on farms) or as biodigestate for improving the productivity of land. However, this same objective records some uncertainty that crops may be grown as a feedstock for an AD facility, which if this were to happen could negatively impact on land as it may displace food crops.

Other areas of uncertainty were recorded for several objectives as the policy relies on other policies in the plan being adopted in their current form. A negligible to minor negative effect was noted in relation to biodiversity due to the possible combined effect of land take and leachate from off and on-farm facilities as well as localised nutrient loading of soils from on-farm facilities still being significant even after other policies mitigating policies are applied.

**Recommendations** It may be advantageous to slightly alter the policy to add wording akin to 'additional organic waste streams may be acceptable at agricultural anaerobic digestion facilities provided that they serve a local need and comply with the overall policy'. This would further enhance benefits, particularly to the land / soils objective.

Clear links in the supporting text to policy D11 on sustainable design would further lessen effects on biodiversity.



## Policy W07 – Managing low level (non-nuclear) radioactive waste

<b>Preferred Option</b>								
Capacity requirements for management of Low Level Radioactive Waste arising in the Plan area will be met through a combination of export to facilities outside the area and, where practicable, the provision of capacity within the Plan area to meet needs for LLRW arising within it. Particular support will be given to proposals which would assist in moving management of LLRW up the waste hierarchy, with preference being given to the onsite management of waste at the point of arising where practicable. Proposals for management of LLRW within the Plan area will need to demonstrate compliance with relevant Development Management policies in the Plan.								
SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs								
SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	- ?	- ?	- ?	✓	✓	✓		<p>Effects from the development of low level radioactive waste management facilities in the plan area could range from insignificant to minor negative depending on the scale, type and location of the facility. Although it would be reasonable to assume that there could be some level of harm on biodiversity/geo-diversity potentially through habitat loss or disturbance, in practice volumes of LLRW are likely to be low as disposal options are likely to come through either an existing facility for waste management being modified to receive low level waste or a new facility jointly managing this waste stream with other waste streams (so impacts are unlikely to be wholly attributable to individual plants and are more likely to come through small facilities for the reception / transfer of such wastes allied to other plant). Similarly, for energy minerals, on-site management might have some low level impacts, though re-injection of NORM (the naturally occurring radioactive waste material associated with extraction of energy minerals) to depleted strata, is likely to require only a minimal land take. There is significant uncertainty over the type of facility that may ultimately be used.</p> <p>The Habitat Regulations Assessment of Likely Significant Effects highlights that as this policy is not location specific effects on Natura 2000 sites depend on where and how this policy is implemented, particularly where there is a hydrological link between any landfill site handling radioactive waste and a Natura 2000 site. While effects are, on their own unlikely to be significant. It is theoretically possible (though still not very likely) that the insignificant effect noted could become significant if it made a larger site more viable in a location that could impact on a hydrological linked or otherwise sensitive Natura 2000 site (though it is likely that the permitting regime would address this).</p>
2.	-	-	-	✓	✓	✓		At the low volumes considered by this preferred policy effects are likely to be small scale, especially since

	?	?	?				disposal to water would be tightly regulated. The greatest concern would be from contamination of Source Protection Zones, though it would be unlikely that this would be allowed by an environmental permit. Leaks or spills (e.g. from NORM associated with hydrocarbon extraction) would seem to be the key way that a significant effect could occur, though with such tight regulation this is thought to be unlikely. Nonetheless a minor negative to uncertain effect is noted.
3.	+	+	+		✓	✓	A more local waste management option would thus reduce journey lengths, but at quite low (and possibly insignificant levels). It is likely that the main waste contributors would be from the main urban areas within the plan area (e.g. science facilities at York or health facilities without their own specialist incinerator), or possibly from the hydrocarbons industry, but that any future volumes would be very small scale. On the other hand, the continued emphasis on exporting such waste is likely to lead to relatively long journeys. Mixed effects are thus recorded for this objective.
4.	+	+	+		✓	✓	Any impacts to air from this waste stream would be strictly regulated by an environmental permit. However, some impacts to air may come from traffic , which on the one hand would be reduced through possible local management or on site disposal options, or on the other hand would continue to stay high or even rise due to continued export. Given new sources of waste from science activity or possible NORM waste could come on stream volumes could grow at a low level and effects would be mixed depending on whether export or local management is favoured.
5.	-	-	-	✓	✓	✓	Effects from the development of low level radioactive waste management facilities in the plan area could range from insignificant to minor negative depending on the scale, type and location of the facility. Although it would be reasonable to assume that there could be some level of harm to land/soils through land take, in practice volumes of LLRW managed are likely to be low as disposal options are likely to come through either an existing facility for waste management being modified to receive low level waste or a new facility jointly managing this waste stream with other waste streams (so impacts are unlikely to be wholly attributable to individual plants and are more likely to come through small facilities for the reception / transfer of such wastes allied to other plant). Similarly on site management might have some low level impacts, though re-injection of NORM to depleted strata is likely to require only a small land take though contamination of land is a possible risk if accidents occur. There is significant uncertainty over the type of facility that may ultimately be used.
6.	+	+	+	✓		✓	Any carbon input to air from this waste stream may come from traffic , which on the one hand would be reduced through possible local management or on site disposal options, or on the other hand would continue to stay high or even rise due to continued export. Given new sources of waste from science activity or possible NORM waste could come on stream volumes could grow at a low level and effects would be mixed depending on whether export or local management is favoured.
7.	0	0	0				There is no direct link between the policy and the objective to adapt to climate change.

8.	?	?	?	✓	✓	✓	Enabling LLRW to be treated up the waste hierarchy may have positive effects on this objective subject to its treatment enabling re-use or recycling. This is currently uncertain as recycling LLRW waste may not be practical for some materials.
9.	+	+	+	✓	✓	✓	Enabling LLRW treatment further up the waste hierarchy would have a positive effect on this objective to effectively manage waste. The development of specialist facilities within the plan area could bring waste management closer to self-sufficiency within the plan area as well. Given the limited scope for some materials to move significantly up the waste hierarchy coupled with the low volumes that may be dealt with positive effects are limited.
10.	-	-	-	✓	✓	✓	Effects from the development of low level radioactive waste management facilities in the plan area could range from insignificant to minor negative depending on the scale, type and location of the facility. Although it would be reasonable to assume that there could be some level of harm on the historic environment potentially through land take or changes to character, in practice volumes of LLRW are likely to be low as disposal options are likely to come through either an existing facility for waste management being modified to receive low level waste or a new facility jointly managing this waste stream with other waste streams (so impacts are unlikely to be wholly attributable to individual plants and are more likely to come through small facilities for the reception / transfer of such wastes allied to other plant). Similarly on site management might have some low level impacts, though re-injection of NORM to depleted strata is likely to require only a small land take. There is significant uncertainty over the type of facility that may ultimately be used.
11.	-	-	-	✓	✓	✓	Effects from the development of low level radioactive waste management facilities in the plan area could range from insignificant to minor negative depending on the scale, type and location of the facility. Although it would be reasonable to assume that there could be some level of harm on the landscape potentially through visible structures or changes to character, in practice volumes of LLRW are likely to be low as disposal options are likely to come through either an existing facility for waste management being modified to receive low level waste or a new facility jointly managing this waste stream with other waste streams (so impacts are unlikely to be wholly attributable to individual plants and are more likely to come through small facilities for the reception / transfer of such wastes allied to other plant). Similarly on site management might have some low level impacts, though re-injection of NORM to depleted strata is likely to require only relatively small scale and temporary facilities. There is significant uncertainty over the type of facility that may ultimately be used.
12.	0	0	0		✓	✓	The baseline states that the plan area produces small amounts of LLRW to be processed in comparison to other waste streams which may mean that new facilities may not be viable. While this may grow in future it may still be at a low level, though a small income stream might result from this preferred policy. As there could be effects, albeit small scale effects on landscape, biodiversity and the historic environment, and as the policy would allow for facilities anywhere in the plan area (including designated landscapes) there may be small effects on tourism, though this is likely to be relatively insignificant.
13.	0	0	0		✓	✓	As there could be effects, albeit small scale effects on landscape, biodiversity and the historic environment,

								and as the policy would allow for facilities anywhere in the plan area (including designated landscapes) there may be small effects on tourism. Therefore communities that depend on tourism could be negatively affected, though this effect is likely to be relatively insignificant.
14.	?	?	?					Effects from the development of low level radioactive waste management facilities in the plan area could range from insignificant to minor negative depending on the scale, type and location of the facility. In relation to recreation and leisure the effects are uncertain.
15.	0	0	0					Any impacts to humans would be strictly regulated by external bodies. This would minimise risks arising from the treatment of LLRW.
16.	?	?	?					As the location of local facilities is unknown any flood risk is also unknown. However any facilities would be considered highly vulnerable from a flood risk perspective.
17.	0	0	0					No clear link

**Summary of assessment** Mostly the effects of this preferred policy are small scale as the volume of LLRW is expected to be low and most significant impacts would be regulated through the environmental permitting regime. There could however be small impacts associated with land take, the possibility of accidental spills, changes to character resulting from small built structures or low level changes in traffic levels as a result of this preferred policy. This leads to low level negative effects (with considerable uncertainty) on the biodiversity, water quality, soil, climate change, historic environment, and landscape objectives with mixed positive and negative effects on the transport objective. There are low level positive effects on the waste management and economy (longer term only) objectives. Elsewhere effects are either uncertain or no effects are observed.

Some uncertainty has been noted by the Habitat Regulations Assessment process as the policy is not location specific, and it may be possible that handling low level radioactive waste could make a future larger waste disposal site more economically viable. If such a site were hydrologically linked to a European Protected Site, without mitigation there might be a small risk of a significant effect.

**Recommendations** To address the uncertainty noted through the Habitat Regulations Assessment process it is recommended that policy wording stating that any development would need to be compliant with development management policies in the Plan.

## Policy W08 - Managing waste water (sewage sludge)

### Preferred Option

Proposals for the development of new infrastructure and increased capacity for the management of waste water and sewage sludge will be supported in line with requirements identified in asset management plans produced by waste water infrastructure providers active in the Plan area. Preference will be given to the expansion of existing infrastructure in appropriate locations rather than the development of new facilities. Where it is not practicable to provide required additional capacity at existing sites, support will be provided for the development of new sites for the management of waste water and sewage sludge in line with the Waste Site Identification Principles in Policy W11. In all cases compliance with relevant Development Management policies in the Plan will need to be demonstrated.

Co-location of Anaerobic Digestion capacity with waste water treatment infrastructure will be supported in principle where the Anaerobic Digestion capacity to be provided would utilise output from the associated treatment works, where it would be of a scale appropriate to the location of the host waste water treatment site and where compliance with the development management policies in the Plan can be demonstrated.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	-	-	-	✓	✓	✓	✓	<p>There may be effects on biodiversity and geo-diversity through loss of land or disturbance caused by new infrastructure / increased capacity at sites. Where new sites are required W11 requires a preference for previously developed land or lower quality agricultural land. In many cases this will avoid biodiversity, though these land resources can themselves be associated with biodiversity. It is assumed that effects on biodiversity in watercourses (through waste entering watercourses) would be avoided through the treatment process working effectively as this is regulated. Overall, by giving preference to the expansion of existing sites it is likely that any effects on biodiversity would be limited.</p> <p>Co-location of AD facilities with treatment works may also have a land take, though disturbance effects from any facility from noise, traffic etc. would be minimised.</p> <p>Uncertainty is noted in the Habitat Regulations Assessment of Likely Significant Effects as the policy is not location specific (it is not clear where new infrastructure would be located). Effects such as accidental water pollution (e.g. during a flood event) could affect adjacent watercourses which in turn could affect riparian Natura 2000 sites.</p>
	+	+	+					
	?	?	?					

								However the policy wording could be altered to remove this uncertainty by stating that <u>any development would need to be compliant with development management policies in the Plan</u> and by including policy DO7 (biodiversity) in the key links
2.	+	+	+	✓		✓		It is assumed that the treatment process will operate effectively as it is regulated and therefore supporting such developments (as they clean up waste water) will have positive effects on the water environment.
3.	+	+	+	✓		✓		By giving preference to expansion of existing sites this may reduce or negate the need for additional traffic related to plant maintenance. Co-location of AD facilities with treatment works is likely to reduce the need to transport AD feedstock which will reduce traffic.
4.	-	-	-	✓		✓		There may be localised effects on air quality resulting from release of bio aerosols or odours. However, by seeking to expand existing facilities over the creation of new ones this is likely to reduce any potential effects overall (though could increase local effects).  Bio-aerosols are not a serious concern from AD facilities unless they have attached composting facilities. <sup>61</sup>
5.	-	-	-	✓		✓		Whilst there is likely to be a loss of soil through this option, the preference for expanding existing facilities is considered to be a positive approach because it reduces need for overall land take considering such requirements as access tracks etc. Similarly the co-location of AD facilities with treatment works would benefit from shared access.  The hierarchy of preference for brownfield and then lower quality agricultural land for new water treatment developments promoted by W11 is likely to further reduce any negative effects on this objective.
6.	-	-	-	✓		✓	✓	Waste water treatment stations are not insignificant users of energy <sup>62</sup> and the option will therefore lead to increased energy use and therefore negative effects against this objective. However, by preferring expansion of existing facilities it is likely that more efficient use can be made of energy. Co-location with AD facilities may allow for some energy use to be offset.
7.	-	-	-	✓		✓	✓	Development / expansion of facilities in floodplains may increase flood risk through the creation of additional hard surfacing and the physical loss of land on which water would naturally flow onto during times of flood. Many existing facilities are located in river corridors. Sewage treatment (if adequate measures to control pollution and manage sewage during flooding events are in place) and water treatment facilities (which do not need to remain operational during times of flood) are considered 'less vulnerable' to flooding, as are waste treatment facilities (including AD facilities), so sequential testing will be required prior to allocation or planning

<sup>61</sup> Environment Agency, 2012. Guidance for developments requiring planning permission and environmental permits [URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/297009/LIT\\_7260\\_bba627.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297009/LIT_7260_bba627.pdf) ]

<sup>62</sup> US Environmental Protection Agency, 2013. Energy efficiency in water and wastewater facilities [URL: <http://www.epa.gov/statelocalclimate/documents/pdf/wastewater-guide.pdf> ]

							approval. Flood plain compensatory storage may also be required.
8.	+	+	+	✓		✓	Co locating AD facilities with waste water / sewage treatment facilities could potentially maximise the value recovered from liquid wastes prior to return to water bodies which would save resource use elsewhere.
9.	+	+	+	✓		✓	Whilst this is a form of waste management it is not traditionally classed as recycling although does enable water to be re-used and will therefore have positive effects against this objective. Similarly, co locating AD facilities with waste water / sewage treatment facilities could potentially recover sludges etc. from liquid wastes and convert them to usable products (such as bio-digestate or biogas).
10.	-	-	-	✓		✓	There may be effects on historic assets through new development or expansion at sites, although these are generally located away from the main clusters of historic assets. By giving preference to the expansion of existing sites it is likely that any effects on the historic environment would be limited. Similarly, links with W11, which gives a second preference to previously developed land, is also likely to minimise effects.
11.	-	-	-	✓		✓	There may be effects on the landscape through new development or expansion of sites, although the majority are located away from the nationally protected landscapes. By giving preference to the expansion of existing sites it is likely that any effects on the landscape would be limited. Similarly, links with W11, which gives a second preference to previously developed land, is also likely to minimise effects.
12.	+	+	+	✓		✓	There may be minor positive effects through the creation of jobs at new sites or in relation to upgrades to sites, along with temporary jobs created through the construction process. Moreover, where water /sewage treatment facilities are co-located with AD facilities usable and higher quality products (biogas, bio-digestate) will be derived from what may otherwise have been either a waste or applied to agricultural land as a 'bio-solid'.
13.	+	+	+	✓		✓	The provision of waste water treatment works will help to maintain communities and enable them to grow, thus having a positive effect against this objective.
14.	-	-	-	✓		✓	There may be effects on recreation opportunities through new development, co-located AD development or extensions to sites, either through loss of assets or through negative effects on the recreation experience. By giving preference to the expansion of existing sites, or through W11 requiring a second preference for previously developed land, it is likely that any effects on recreational resources would be limited.
15.	+	+	+	✓	✓	✓	The development of such facilities will contribute towards the overall health and wellbeing of communities however there may be negative effects related to construction (traffic, dust etc.), or the dispersal of bio-aerosols or odours depending on proximity to communities.
16.	-	-	-	✓		✓	Development / expansion of facilities in floodplains may increase flood risk through the creation of additional hard surfacing and the physical loss of land on which water would naturally flow onto during times of flood. Many existing facilities are located in river corridors. Sewage treatment (if adequate measures to control pollution and manage sewage during flooding events are in place) and water treatment facilities (which do not need to remain operational during times of flood) are considered 'less vulnerable' to flooding, as are waste

								treatment facilities (including AD facilities), so sequential testing will be required prior to allocation or planning approval. Flood plain compensatory storage may also be required.
17.	+	+	+	✓		✓		This option will have a strong positive effect by providing facilities to support the population in line with identified requirements. Indeed water treatment underpins the further development of local settlements.

**Summary of assessment** Mostly the sustainability effects of this preferred option are small scale and minor and may be positive or negative. For instance, minor negative effects are associated with the objectives for air, adaptation to climate change, historic environment, landscape and flooding in part because the facilities supported by the policy have a physical land take, would be likely to be located close to water and through traffic, construction activities and bio-aerosols, would impact upon air. Some objectives (such as the biodiversity, land use, climate change and health and wellbeing objectives) displayed mixed positive and negative effects because while the processes that take place may intrinsically have negative effects associated with them, co-location with AD and expanding sites allows for new positive effects such as reduced additional land take or the offsetting of energy use to take place. For the health and wellbeing objective, waste water treatment is on the one hand seen as essential for health and wellbeing while on the other hand could have local amenity effects.

The preferred policy performs particularly strongly against the resource use and waste hierarchy objectives as co-locating AD facilities with waste water / sewage treatment facilities will help turn waste materials into economically valuable resources. Sewage / water treatment also underpins the further development of settlements so performs well against the changing population needs objective.

Some uncertainty is noted in the Habitat Regulations Assessment as the policy is not location specific. Effects such as accidental water pollution could affect adjacent watercourses which in turn could affect riparian Natura 2000 sites.

**Recommendations** Negative effects associated with this preferred policy have already largely been reduced by this policy. However, sequential testing for flooding will be required prior to allocation or planning approval. Flood plain compensatory storage may also be required. To address uncertainty highlighted in the Habitat Regulations Assessment policy wording could be altered to state that any development would need to be compliant with development management policies in the Plan and by including policy DO7 (biodiversity) in the key links.



## Policy W09 - Managing power station ash

### Preferred Option

Support will be given to proposals to increase the utilisation of power station ash as secondary aggregate or for other beneficial use, in line with the preferred policy M11 for the Supply of Alternatives to Land Won Primary Aggregate.

Where ash cannot be utilised for beneficial purposes, support will be given for the continued disposal of power station ash at the existing Gale Common, Barlow and Brotherton Ings ash disposal sites, which are identified and safeguarded in the Plan as strategic sites for the disposal of waste.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	-	-	-	✓	✓	✓		Continued disposal and utilisation of the resource at these sites may have minor negative effects on biodiversity, provided that ash disposal and utilisation stays within the current boundaries of the Gale Common, Barlow and Brotherton Ings sites. This is because at these sites continued disposal and recycling may cause problems with dust, which could blow onto adjacent habitat in windy conditions, or may cause leachate ingress from lagoons or vehicle wash-down facilities. For instance, pulverised fuel ash is initially likely to be alkaline <sup>63</sup> which may change the PH of soils, and thus their ecology. Without controls dust may be a local issue, generally close to the site and roads. Similarly dust, run off or leachate may find its way into nearby watercourses. This may be an issue where there are local woodland, grassland or water receptors near to these sites (all these sites have at least some receptors). Environmental permits and other planning controls would, however, be expected to significantly reduce the significance of this.  These local negative effects contrast with the positive benefits of offsetting at least some primary aggregate extraction, which is likely to have benefits for biodiversity / geo-diversity.
	+	+	+					

<sup>63</sup> See Korcak, R. Coal Combustion Residues as Soil Amendments: Surface coal mining. US Department of Agriculture Agricultural Research Service [URL: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.198.611&rep=rep1&type=pdf> ], Wikipedia. Pulverised Fuel Ash

2.	-	-	-	✓	✓	✓	Continued disposal and utilisation of the resource at these sites may have impacts on nearby watercourses through run off. In addition, Barlow borders a NVZ while Gale Common lies within a NVZ, which indicates that water resources are already coming under pressure. Effects of power station ash on water can include increased alkalinity and sodicity (i.e. high in salts). Environmental permits and other planning controls would be expected to significantly reduce the significance of this.  These local negative effects contrast with the positive benefits of offsetting at least some primary aggregate extraction, which is likely to have benefits for the water environment.	
	+	+	+					
3.	0	0	0	✓		✓	As ash is usually transported to disposal sites by pipeline, traffic associated with this element of the policy is not likely to be significant. The utilisation of power station ash as a secondary aggregate is, however, likely to result in an increase in road transportation in order to transport material to markets/site of intended use.	
	-	-	-					
4.	-	-	-	✓		✓	Without mitigation, ash might blow around and effect nearby settlements, thus lowering air quality. Assuming that this option would support extraction of secondary aggregate from the listed disposal sites, if unmitigated, this might cause some additional problems where settlements are nearby. However, in practice, the NPPF ensures ash dust is controlled. Providing support for the use of ash as a secondary aggregate may reduce the requirement for primary extraction. This may result in a positive impact in relation to air quality.	
	+	+	+					
5.	0	+	+	✓		✓	The sites referred to in the option are all extant sites so the direct effect on the baseline for soils / land would be insignificant. However, indirectly there may be a reduced land take from primary aggregate extraction elsewhere, which is offset to a degree by this option. It is assumed that utilisation of ash would be from within these sites.	
6.	+	+	+	✓		✓	✓	This objective will reduce the land take of primary extraction sites, it will reduce pressure to seek new ash disposal sites and it will reduce the energy required to extract and transport aggregates which will increasingly benefit greenhouse gas reduction over time.
7.	0	0	0					No clear link.
8.	+	+	+	✓		✓		This option offsets the use of primary aggregates and replaces them with a secondary aggregate source.
9.	+	+	+	✓		✓		This option utilises a significant waste (power station ash) and utilises it as a resource.
10.	-	-	-	✓		✓	✓	Although the sites for disposal will remain the same as prior to plan production some additional activity may result from greater utilisation of sites as a source of secondary aggregate. This may create some low level visual disturbance and generate road journeys causing vibration and dust. This may have a minor effect on the nearby listed buildings near Brotherton, and at Womersley near Gale Common, as well as on the

	+	+	+					scheduled monuments near to sites (1 near Gale Common and 2 near Barlow).  The use of power station ash as a secondary aggregate may reduce the need for extraction of primary resources. This may result in a positive impact in relation to this objective (dependent on the location/sensitivity of the potential primary aggregate extraction sites that would no longer be required).
11.	0	0	0	✓		✓	✓	There may be some low level visual disturbance to receptors such as houses near these sites. These are extant sites where visual disturbance is already high. Supporting use of power station ash as a secondary aggregate may reduce the need for primary extraction which would have a positive impact in terms of landscape and townscapes.
	-	-	-					
	+	+	+					
12.	0	0	0	✓		✓		This objective captures value from a waste stream by creating a saleable product and may support a low number of local job opportunities. However, this is likely to be minor/ insignificant.
	+	+	+					
13.	-	-	-	✓		✓		As noted above, a low number of jobs may be created as a result of this objective, which may benefit community vitality. Traffic associated with the utilisation of power station ash may affect communities, but it is not anticipated that this will affect trade (e.g. from tourism) at a high rate. Effects are mixed minor positive and minor negative effects.
	+	+	+					
14.	0	0	0					The sites referred to in the option are all extant sites so the effect on the baseline for recreation and leisure would be insignificant. It is assumed that utilisation of ash would be from within these sites.
15.	-	-	-	✓		✓		Increased activity at these sites may create some local problems of dust and increased lorry movements. Mitigation measures (such as wheel washing) and perhaps traffic management measures should be applicable which should help reduce impacts. These are likely to happen because of NPPF policy, even without mitigation measures in the plan. The use of power station ash as a secondary aggregate may reduce the need for extraction of primary resources. This may result in a positive impact in relation to this objective (dependent on the location of the potential primary aggregate extraction sites that would no longer be required).
	+	+	+					
16.	0	0	0					As it is assumed ash for use as secondary aggregate would come from extant sites this would have no effect on the baseline.
17.	+	+	+	✓		✓		As the three sites currently used for disposal are assumed to be the source of ash as a secondary aggregate, and each of these sites is close to key potential markets in the south of the plan area, the effects on the sub objective 'to shorten supply chains for building materials' are positive.

### Summary of assessment

There are some minor negative effects on biodiversity, water, local air quality and the historic environment, as well as less certain minor negative effects on landscape, community vitality (for which there are also some positive effects associated with employment) and health and wellbeing

associated with this preferred policy, arising out of localised problems such as dust generation, possible runoff / leachate and traffic. These may however be offset to a degree by positive environmental and social effects, particularly in relation to reduced land take, resulting from lower levels of primary minerals extraction should support for use of power station ash result in less demand / need for this.

There are some major positive effects associated with climate change, minimising the use of resources and minimising waste generation resulting from the potential for power station ash to reduce demand for primary aggregates, and minor positive effects associated with the economy and meeting the needs of the population.

**Recommendations**

It is considered that other development management policies in the Plan, combined with environmental permitting would deal with the issues relating to dust, water pollution and air quality that have been identified in this assessment. No further mitigation is proposed.

## Policy W10 - Overall locational principles for provision of new waste capacity

### Preferred Option

The main focus for provision of new waste management capacity required to meet identified needs will be within those parts of the Plan area outside the North York Moors National Park and the Areas of Outstanding Natural Beauty, unless the facility to be provided is appropriately scaled to meet waste management needs arising in the designated area and can be provided without causing unacceptable harm to the designated area.

Capacity requirements will be met through a combination of:

Maximisation of capacity within the existing facility network through granting permission for the continuation of activity at existing time limited sites with permission, the grant of permission for additional capacity within the footprint of existing sites and, the extension to the footprint of existing sites, subject to compliance with other relevant policies in the Plan;

Supporting proposals for development of waste management capacity at new sites where the site is compatible with other waste site identification criteria in the Plan (see Policy W11); and the site is located as close as practicable to the source/s of waste to be dealt with. This means:

- a) For new smaller scale facilities serving District scale markets for waste, particularly LACW, C&I and CD&E waste, giving priority to locations which are within or near to main settlements in the area (identified on the key diagram) or, for facilities which are intended mainly to serve needs for small scale waste management capacity in more rural parts of the Plan area, including agricultural waste, where they are well located with regard to the geographical area the facility is expected to serve;
- b) For larger scale or specialised facilities expected to play a wider strategic role (i.e. serving multi-district scale catchments), these will be located where overall transportation impacts would be minimised taking into account the market area expected to be served by the facility.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	

1.	+ ?	+ ?	+ ?	✓	✓	✓	✓	<p>This preferred policy would, through making best use of the existing facility network, reduce impacts on biodiversity / geodiversity as less land would be used (so less biodiversity would be lost).</p> <p>Supporting capacity at new sites may have some biodiversity / geodiversity impacts depending on the footprint of the site and constraints on and around it. However, the preference in policy W11 for land such as previously developed land, industrial sites, former quarries etc. should reduce the likelihood of major impacts (as in most cases such areas are of relatively low biodiversity value (though there are a number of exceptions to this, such as biodiverse brownfield sites)).</p> <p>Similarly, In relation to the National Park and AONBs, because inappropriately scaled / unacceptable development will be discouraged, and because many of the most significant biodiversity resources are in those areas, effects are expected to be positive. While an indirect effect may be that some sites are directed out of these areas, overall the effect on the objective is still envisaged to be positive.</p> <p>The emphasis on locating sites as close as possible to sources of waste and which minimise transport impacts would have some minor benefits on species as traffic, and thus wildlife road casualties or disturbance, would be lessened.</p> <p>Some uncertainty is noted as other policies in the plan, including W11 and development management policies are not yet finalised.</p>
2.	+ ?	+ ?	+ ?	✓	✓	✓	✓	<p>This is a positive preferred policy, because making use of the existing facility network is likely to prevent significant water pollution as existing sites are already likely to have avoided or mitigated for impacts to water.</p> <p>Supporting capacity at new sites may have some water impacts. However, the waste site identification principles consider environmental and cumulative impacts, and other policies in the plan including for water should moderate any impacts to low levels and most likely insignificant levels, particularly considering that decisions made through the planning process will also work in parallel with the regulatory / environmental permitting process.</p> <p>In relation to the National Park and AONBs, because inappropriately scaled / unacceptable development will be discouraged, and some of the significant groundwater Source Protection Zones and Nitrate Vulnerable Zones are in those areas (though equally many are distributed outside these areas) effects are expected to be positive. However, elsewhere in the plan area some development that would otherwise occur in the National Park and AONBs may occur. On balance this particular effect is expected to be neutral</p>

								<p>The emphasis on locating sites as close as possible to sources of waste, and on sites which minimise transport impacts, would have some minor benefits on water as traffic, and thus water impacts from traffic on roads, will be reduced.</p> <p>Some uncertainty is noted as other policies in the plan, including W11 development management policies are not yet finalised.</p>
3.	+	+	+	✓	✓	✓		<p>The emphasis on locating sites as close as possible to sources of waste and, for those sites which play a wider strategic role, seeking to minimise transport impacts, would have major positive effects on transport.</p> <p>Making best use of the existing facility network may mean that more journeys will be made to the same sites which, depending on their location, may increase the local impacts of transport. Additionally, this policy equates to less likelihood of major development in remote protected landscapes, which may mean that longer journeys are required between those areas and waste management facilities. These additional effects reduce the overall benefits to minor negative.</p>
4.	+	+	+	✓	✓	✓	✓	<p>As the transport impacts of this preferred policy are positive, air pollution impacts from traffic will also be positive. However, as making best use of the existing facility network may mean that more journeys will be made to the same sites, depending on their location this may increase the negative local air quality impacts of transport.</p> <p>For other air pollution from waste management the waste site identification principles consider environmental, amenity and cumulative impacts and, along with other policies in the plan including for local amenity and cumulative impacts (D02), should moderate any impacts to low and most likely insignificant levels, particularly considering that decisions made through the planning process will also work in parallel with the regulatory / environmental permitting process.</p> <p>Overall the effect is thought to be minor positive. Some uncertainty is noted as other policies in the plan, including W11 development management policies are not yet finalised.</p>

<b>5.</b>	+	+	+	✓		✓	✓	<p>The emphasis on making the best use of existing sites should significantly reduce land take as the need for new infrastructure on areas of land will be lessened (though will continue to occur at a lessened rate where new sites are needed).</p> <p>However, the policy also equates to less development in remote protected landscapes, which may mean that more large development is directed to non-protected areas which may be more likely to be on best and most versatile land. However, policy W11's preference for previously developed land etc. and the development control policy D12 for protection of agricultural land and soils should moderate most effects.</p> <p>Some uncertainty is noted as other policies in the plan, including W11 and development management policies are not yet finalised.</p>
	?	?	?					
<b>6.</b>	+	+	+	✓		✓	✓	<p>This preferred policy, through emphasis on the existing facility network, could also reduce the requirements for new supporting infrastructure such as access roads and buildings, all of which would have had a carbon footprint (though carbon impacts will continue to occur at a lessened rate where new sites are needed).</p> <p>Moreover, the emphasis on locating sites as close as possible to sources of waste and, for those which play a wider strategic role, seeking to minimise transport impacts, would have particularly positive effects on transport emissions and thus the climate change objective.</p> <p>However, the policy also promotes less development in remote protected landscapes, which may mean that longer journeys are required between those areas and waste management facilities. This will generate greenhouse gases at a low level. Overall effects are positive.</p>
<b>7.</b>	0	0	0					No clear link
<b>8.</b>	+	+	+	✓		✓		This preferred policy will reduce material requirements as it makes the best use of the existing waste management network, so the materials footprint of new buildings, access roads etc. will be avoided (though will continue to occur at a lessened rate where new sites are needed).
	+	+	+					
<b>9.</b>	+	+	+	✓			✓	As this preferred policy seeks to deliver waste management capacity, and as it works in combination with other policies in the plan (e.g. 'W01: Moving Waste up the Waste Hierarchy'), it is a critical part of moving waste up the waste hierarchy.
	?	?	?					Some uncertainty is noted as other policies in the plan are not yet finalised.
<b>10.</b>	+	+	+	✓	✓	✓	✓	This preferred policy would, through making best use of the existing facility network, reduce impacts on the historic environment as less land would be used (so less historic environment would be lost).
	?	?	?					



								<p>Supporting capacity at new sites may have some heritage impacts depending on the footprint of the site and constraints on and around it, however, the preference in policy W11 for land such as previously developed land, industrial sites, former quarries etc. should reduce the likelihood of major impacts (as in most cases archaeology will already have been lost, and effects on historic character will be less significant).</p> <p>Similarly, in relation to the National Park and AONBs, because inappropriately scaled / unacceptable development will be discouraged, and because many of the most significant heritage resources are in those areas, effects are expected to be positive. While an indirect effect may be that some sites are directed out of these areas to other parts of the plan area, overall the effect on the objective is still envisaged to be positive.</p> <p>The emphasis on locating sites as close as possible to sources of waste and which minimise transport impacts would have some minor benefits on historic buildings as traffic can, through air pollution and noise, impact upon both the integrity and experience of a historic property.</p> <p>Some uncertainty is noted as other policies in the plan, including W11 and development management policies are not yet finalised.</p>
11.	+ ?	+ ?	+ ?	✓	✓	✓	✓	<p>This preferred policy would, through making best use of the existing facility network, reduce impacts on the landscape and townscape as less land would be used and less standalone infrastructure (with associated landscape impact) would result.</p> <p>Supporting capacity at new sites may have some landscape impacts depending on the size and form of the site and constraints on and around it, however, the preference in policy W11 for land such as previously developed land, industrial sites, former quarries etc. should reduce the likelihood of major impacts (as in most cases landscape designations will be avoided through using this land, and local effects on landscape character or key viewpoints will be less significant).</p> <p>Similarly, In relation to the National Park and AONBs, because inappropriately scaled / unacceptable development will be discouraged, and because these areas are the most significant landscape designations, effects are expected to be positive. While an indirect effect may be that some sites are directed out of these areas, overall the effect on the objective is still envisaged to be positive.</p> <p>The emphasis on locating sites as close as possible to sources of waste and which minimise transport impacts would have some minor benefits on landscape character as traffic can, through noise in particular, affect character and reduce tranquillity.</p>

							Some uncertainty is noted as other policies in the plan, including W11 and development management policies are not yet finalised.
<b>12.</b>	+	+	+	✓		✓	<p>Positive benefits will occur as jobs and income will be retained at existing locations and some new jobs locations associated with new sites will arise. Waste business costs may also be reduced by maximising the capacity of exiting sites. The preferred policy also provides support for a range of ways of providing waste management facilities which provides flexibility to the waste sector.</p> <p>While some waste management in the National Park and AONBs may not be realised, the policy would prevent degradation of the special qualities of designated landscapes which indirectly will help support jobs in tourism.</p>
<b>13.</b>	+	+	+	✓		✓	<p>This preferred policy would maximise use of existing sites and so would help to retain jobs in communities. It would also make waste development less likely in designated landscapes, which would indirectly protect tourism jobs in local communities.</p> <p>When considered alongside the site identification criteria in preferred policy W11 as well as the development control policies (particularly policy DO2 for 'Local Amenity and Cumulative Impacts' which would ensure community amenity impacts would be kept within acceptable levels) it would seem the potential for local negative community effects is low. Traffic impacts on community vitality would also be lessened as the policy emphasizes reduced journey length.</p> <p>Overall the situation is positive. However, some uncertainty is noted as other policies in the plan, including W11 and development management policies are not yet finalised.</p>
<b>14.</b>	+	+	+		✓	✓	<p>This preferred policy would, through making best use of the existing facility network, reduce impacts on the recreational access network as less land would be used (so less footpaths and green infrastructure would be impacted upon).</p> <p>Supporting capacity at new sites may have some recreational impacts depending on the size, form and footprint of the site and constraints on and around it, however, the preference in policy W11 for land such as previously developed land, industrial sites, former quarries etc. should reduce the likelihood of major impacts (as in most cases recreational routes or facilities will be avoided and therefore effects will be less significant).</p> <p>Similarly, in relation to the National Park and AONBs, because inappropriately scaled / unacceptable development will be discouraged, and because these areas are key recreational resources, effects are expected to be positive. While an indirect effect may be that some sites are directed out of these areas to</p>

							<p>other parts of the plan area, overall the effect on the objective is still envisaged to be positive.</p> <p>The emphasis on locating sites as close as possible to sources of waste and which minimise transport impacts would have some minor benefits on recreation as traffic can, through noise and increased danger in particular, affect a number of types of recreational enjoyment of a place.</p> <p>Some uncertainty is noted as other policies in the plan, including W11 and development management policies are not yet finalised.</p>
15.	0 + ?	0 + ?	0 + ?	✓		✓	<p>While emphasising existing sites will help to prevent new communities from experiencing health and wellbeing impacts, where new sites are needed it cannot be known what the extent of impacts will be. It may also be the case that maximising or extending sites extends or even increases existing amenity impacts on local people. The policy also supports providing waste management facilities close to sources of arisings which may in some cases have negative effects on communities in terms of effects on amenity and effects from traffic. However, W11 emphasises that <i>'in all cases sites will need to be suitable when considered against.... amenity constraints....including existing and proposed neighbouring land uses'</i>. The policy also cites a need to comply with other policies in the plan, which will include a policy DO2 for 'Local Amenity and Cumulative Impacts' which would ensure community amenity impacts would be kept within acceptable levels.</p> <p>There may be some minor negative effects on health and wellbeing in National Parks and AONBs as waste related traffic here may need to travel further to waste management facilities. However, this may also mean less waste management foci for traffic within the National Parks (which may have some positive local effects on wellbeing).</p> <p>In summary the policy is thought to be neutral to slightly positive but with considerable uncertainty as to the nature and magnitude of effects. There is also uncertainty noted as other policies in the plan, including W11 and development management policies are not yet finalised.</p>
16.	0	0	0				No clear link
17.	+ -	+ -	+ -				<p>This preferred policy may lead to a reduction of waste facilities in protected landscapes, which could to a degree undermine this objective (though smaller scale facilities with an identified need may still be allowed). More generally however, it sets out a pragmatic approach to ensuring a sufficient supply of waste management facilities, and encourages sites close to sources of waste. This would help underpin a changing population's needs as the plan area continues to develop.</p>

**Summary of assessment.** This preferred policy has mostly positive effects when compared to the SA objectives. This is largely because it maximises and builds on the use of facilities that are already there (which is generally a good thing to do in sustainability terms), and also seeks to

reduce the transport footprint of new facilities while linking the policy strongly to the waste site identification principals and other policies in the plan.

Amongst the most notable sustainability effects were strong positive contributions to the 'reduce resource use' and 'minimise waste' objectives (as less building will be needed to deliver the policy, and the policy underpins a wider strategy in this Plan to move waste up the waste hierarchy). In addition, the policy has strong economic effects as it retains jobs and potentially reduces business costs. The policy would also protect the special qualities of protected landscapes as well as the tourist jobs that depend on them.

Mixed positive and negative effects were recorded for the changing population objective as there is a minor concern that waste management in designated landscapes will become more difficult in the future.

**Recommendations** None

## Policy W11 - Waste site identification principles

Proposals and site allocations for new waste management capacity should reflect the following principles:

- 1) Siting facilities for the recycling, transfer and recovery of waste (excluding energy recovery) on previously developed land, industrial and employment land, or at existing waste management sites, giving preference to sites where it can be demonstrated that co-locational benefits would arise taking into account existing or proposed uses and economic activities nearby. Where the site or facility is proposed to deal mainly with waste arising in rural areas then use of redundant agricultural buildings or their curtilages will also be acceptable in principle and, for agricultural waste, appropriate on-farm locations;
- 2) Siting facilities involving the recovery of energy from waste on previously developed land, industrial and employment land, or at existing waste management sites, giving preference to sites where it can be demonstrated that co-locational benefits would arise taking into account existing or proposed uses and economic activities nearby, including where the energy produced can be utilised efficiently. For facilities which can produce combined heat and power, this includes giving preference to sites with the potential for heat utilisation. Where the site or facility is proposed to deal mainly with agricultural waste through anaerobic digestion including energy recovery, then use of redundant agricultural buildings or their curtilages and appropriate on-farm locations will also be acceptable in principle;
- 3) Siting facilities to support the re-use and recycling of CD&E waste at the point of arising (for temporary facilities linked to the life of the associated construction project) and at active mineral workings where the main outputs of the process are to be sold alongside or blended with mineral produced at the site; as well as at the types of sites identified in bullet point 1 above, where these are well related to the sources of arisings and/or markets for the end product;
- 4) Siting facilities to provide additional waste water treatment capacity at existing waste water treatment works sites as a first priority. Where this is not practicable preference will be given to use of previously developed land or industrial and employment land. Where development of new capacity on greenfield land is necessary then preference will be given to sites located on lower quality agricultural land.
- 5) Providing any additional capacity required for landfill of waste through preferring the infill of quarry voids for mineral site reclamation purposes, giving preference to proposals where a need for infill has been identified as part of an agreed quarry reclamation scheme and where pollution control concerns can be mitigated to an acceptable level.

In all cases sites will need to be suitable when considered in relation to physical, environmental, amenity and infrastructure constraints including existing and proposed neighbouring land uses, the capacity of transport infrastructure and any cumulative impact from previous waste disposal facilities, in line with national policy.

SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	- 0 + ?	- 0 + ?	?   	✓	✓	✓	✓	<p>This preferred policy shows a preference for previously developed land for most waste development. This is thought to be better than developing greenfield land, though in some cases previously developed land can be of high biodiversity value.</p> <p>Similarly, infilling quarry voids with landfill may have mixed implications for biodiversity and geo-diversity, being a necessary precursor to biodiversity friendly restoration in some instances, while in other instances it may cover geological faces or habitats that have developed on the quarry floor (for instance, a number of uncommon wildflower species can develop on thin substrates).</p> <p>However, this option also requires consideration to be given to environmental constraints (which would include biodiversity and geo-diversity) and this would be in line with national waste planning policy. Appendix B of the National Planning Policy for Waste includes a requirement to consider international and nationally designated nature conservation sites and the NPPF states that the planning system should minimise impacts on biodiversity and provide net gains where possible.</p> <p>In the shorter term effects are therefore likely to range from minor negative to minor positive and in the longer term effects may be uncertain should national policy be amended or replaced.</p> <p>There is also uncertainty noted as other policies in the plan, including W10 and development management policies are not yet finalised.</p>
2.	+	+	?	✓		✓		<p>This preferred option requires consideration to be given to environmental constraints (which would include effects on water) in line with national waste policy. Appendix B of the National Planning Policy for Waste requires consideration to be given to effects on vulnerable surface and groundwater or aquifers. The suitability of locations that are vulnerable to flooding and the impacts that this may have on water quality from waste contamination also requires consideration. In the longer term effects may be uncertain should national policy be amended or replaced.</p>
3.	+	+	+	✓		✓		<p>This preferred option gives preference to co-locating and siting facilities close to the point of arising, which</p>

							would have positive effects in terms of minimising transport associated with new waste developments.
4.	+	+	?	✓		✓	<p>This preferred option requires consideration to be given to environmental constraints (which would include effects on air) in line with national waste policy. Appendix B of the National Planning Policy for Waste contains requirements to consider effects on air quality and would therefore have positive effects against this objective, acknowledging that some effects on air quality may remain. In the longer term effects may be uncertain should national policy be amended or replaced.</p> <p>This preferred policy also gives preference to co-locating and siting facilities close to the point of arising, which would have positive effects in terms of minimising transport associated with new waste developments and the resulting emissions (though may have localised air quality effects).</p>
5.	+	+	+	✓		✓	<p>This preferred option would have positive effects in relation to protecting soils and agricultural land by preferring use of previously developed land and land at industrial estates. Criteria 4 of this policy also requires that where new capacity is required at greenfield sites, preference would be given to sites located on lower quality agricultural land.</p>
6.	+	+	+	✓		✓	<p>This preferred option would have positive effects in relation to reducing the causes of climate change by requiring energy produced from EfW plants to be used efficiently and giving preference to locations where the heat can be used also. This would reduce the need for generating power from fossil fuels and the associated carbon emissions, acknowledging that some carbon emissions take place with EfW processes.</p> <p>In addition, as the option has positive effects in terms of minimising transport, lower greenhouse gas emissions from transport are expected.</p>
7.	+	+	?	✓		✓	<p>This preferred option requires consideration to be given to environmental constraints (which would include climate change and flooding) in line with national waste policy. Appendix B of the National Planning Policy for Waste states that the suitability of locations subject to flooding will need particular care whilst the NPPF directs development away from the areas at highest risk from flooding where possible and aims to ensure that new developments do not increase flood risk elsewhere. The NPPF states that <i>'new development should be planned to avoid increased vulnerability to the range of impacts arising from climate change' and where new development is proposed in vulnerable areas, suitable adaptation measures should be put in place'</i>. Impacts in relation to this objective are therefore considered to be positive. In the longer term effects may be uncertain should national policy be amended or replaced.</p>
8.	+	+	+	✓		✓	<p>The preferred policy supports the use of redundant agricultural buildings which would reduce the need for new construction materials, although consideration could be given to supporting the re-use of other buildings (such as industrial buildings). The policy also encourages co-locating of facilities which may minimise the resources needed as existing infrastructure/access tracks etc. can be utilised.</p>
9.	+	+	+	✓		✓	<p>The preferred option supports the use of redundant agricultural buildings which would potentially reduce the</p>

								amount of future building materials and waste from construction entering the waste streams, although consideration could be given to supporting the re-use of other buildings (such as industrial buildings). Co-locational opportunities may also arise through this policy e.g. by locating particular types of waste facilities alongside certain other forms of development, such as those which can use the output of the waste processes. This would put an otherwise waste product to beneficial use and minimise waste to be processed at other facilities.
10.	+	+	?	✓		✓	✓	This preferred option requires consideration to be given to environmental constraints (which would include the historic environment) in line with national waste policy. Appendix B of the National Planning Policy for Waste states that potential effects on the significance of designated and undesignated heritage assets and their settings should be considered. In the longer term effects may be uncertain should national policy be amended or replaced.
11.	- + ?	- + ?	?	✓		✓		This preferred option requires consideration to be given to environmental constraints (which would include landscape) in line with national waste policy. The National Planning Policy for Waste and the NPPF both outline a number of factors relating to landscape and visual and townscape impacts that must be taken in to consideration. Emphasis is given to protected/valued landscapes, which means that areas outside of these designations may experience negative landscape effects. In the longer term effects may be uncertain should national policy be amended or replaced.  There is also uncertainty noted as other policies in the plan, including W10 and development management policies are not yet finalised.
12.	+	+	+	✓			✓	would support siting waste management facilities on industrial and employment land and co-locating and would therefore have positive effects against this objective by supporting businesses through, for example, provision of materials to be reused as new products.
13.	+	+	+	✓			✓	This policy would support siting waste management facilities on industrial and employment land and co-locating and would therefore have positive effects against this objective by supporting other businesses which in turn would help to maintain the vitality of communities/ sustain local jobs. The preference for locations where heat can be utilised from recovery of energy from waste may also help to maintain the vitality of communities through provision of sustainable energy.
14.	+	+	?	✓		✓	✓	This preferred policy option requires consideration to be given to amenity constraints (which could include recreation although isn't specific) in line with national waste policy. The NPPF recognises the importance of recreation and leisure facilities particularly in designated landscapes and also recognises the role they can play in site reclamation. This policy is therefore considered to be positive in relation to this objective. In the longer term effects may be uncertain should national policy be amended or replaced.
15.	+	+	+	✓		✓	✓	The preference for locations where heat can be utilised from recovery of energy from waste would have



			?					positive effects on the wellbeing of communities through provision of a local sustainable energy source. In terms of mitigating any effects on communities, this policy would require consideration of amenity issues to be undertaken in line with national waste planning policy. Appendix B of the National Planning Policy for Waste requires that noise, light pollution, vibration, vermin, odour, air quality and traffic are all taken in to consideration. Amenity issues are also given much weight in the NPPF and therefore impacts in relation to this objective are considered to be positive. In the longer term effects may be uncertain should national policy be amended or replaced.
16.	+	+	?	✓		✓	✓	This preferred option requires consideration to be given to environmental constraints (flooding) in line with national waste policy. Appendix B of the National Planning Policy for Waste states that the suitability of locations subject to flooding will need particular care whilst the NPPF directs development away from the areas at highest risk from flooding where possible and aims to ensure that new developments do not increase flood risk elsewhere. Overall impacts in relation to this objective are considered to be positive. In the longer term effects may be uncertain should national policy be amended or replaced.
17.	+	+	+	+	✓	✓	✓	This preferred option would have positive effects against this objective through the preference for locations which would enable heat to be used, which could provide energy for communities. These effects may become more positive over time as more schemes are put in place.

### Summary of assessment

Effects in relation to this policy are largely positive. The preference for locations close to where heat generated through Combined Heat and Power schemes can be utilised, would support climate change objectives as well as having a positive outcome for local communities and businesses. The principle of co-location could also have some positive impacts in terms of the economy, reducing transport miles, soils and land, and minimising resource use. Reference to national waste planning policy in relation to consideration of specific environmental and community issues, may lead to a number of positive impacts in the short to medium term as the NPPF and National Planning Policy for Waste cover issues relating to most of the SA objectives, however uncertain effects are recorded in the longer term as the implications of any future changes to national waste policy are unknown.

Some minor negative effects are recorded in relation to biodiversity (as habitats on previously developed land may be lost) and landscape (where less valued landscapes may endure negative effects).

### Recommendations

Consideration could be given to supporting the re-use of other buildings (such as industrial buildings) for waste development.

## Policy I01 - Minerals and waste transport infrastructure

### Preferred Option

The development of rail, water, pipeline or conveyor transport infrastructure or use of existing such infrastructure, will be encouraged and supported for the transport of minerals and waste produced or arising in the Plan area, as well as for the reception of any large scale imports of minerals or waste into the area.

Where minerals or waste development involving the movement of an average of more than 250,000tpa of minerals or waste is involved, proposals should demonstrate that consideration has been given to the potential to move the materials by non-road means and where such potential is considered to exist should include a relative assessment of the benefits of the various modes considered in terms of carbon emissions.

Proposals involving the development of, or use of existing, non-road transport infrastructure (other than pipelines and conveyor systems) should also be well located in relation to the main road network in order to facilitate multi-modal movements of minerals and waste and will be required to demonstrate compliance with other relevant development management policies in the Plan. Where new minerals or waste transport infrastructure is proposed in the Green Belt the development should preserve openness and be consistent with the purposes of Green Belt designation.

Availability of sustainable minerals supply infrastructure is supported through a site allocation for the rail reception, handling and onward distribution of aggregate at:

Land at Barlby Road, Selby (MJP09)

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	-	-	✓	✓	✓		The continued use of existing infrastructure in the short term is not likely to have significant effects on biodiversity (as it continues current trends). In the longer term, the effects are uncertain as the impacts may become more negative depending on the location and requirements for additional/new infrastructure. The severity of these impacts would be determined by location and type of infrastructure development. In

		?	?					particular, the construction phases of development may incur habitat loss, and the on-going use of development may cause disturbance to biodiversity. Any new transport infrastructure proposed would be required to comply with relevant development management policies in the Plan including the policy regarding biodiversity/geo-diversity.
2.	?	?	?	✓	✓	✓		In the short term there is likely to be a continuation of existing trends in transportation through the retention of existing infrastructure. Where it is identified that waste and minerals could be exported using waterways in the future, there is the potential for water quality to be negatively impacted in the longer term such as through waterside development and its associated run-off. These effects however are uncertain and predominantly localised to the Selby area which has infrastructure that is potentially suitable for this method of transportation.
3.	+	+	+					<p>This option encourages the use of existing (non-road) transport infrastructure as well as the development of new (non-road) infrastructure for the transportation of minerals and waste. This should have a positive impact on helping reduce road transportation and mileage, including its associated emissions. There is potential for this policy to positively impact over time as the drive to reduce road transportation in favour of more sustainable modes is encouraged (including the requirement for carbon emission assessments for development involving the movement of an average of more than 250,000tpa of minerals or waste). This policy also promotes proximity between minerals and waste sites and 'inter-modal' transport infrastructure (such as wharves, railheads) and markets thereby reducing transport miles and associated emissions.</p> <p>However, the magnitude of impact that this policy will have will largely be dependent upon whether there is the potential to implement alternatives to road transport in particular locations (so some uncertainty is noted). However, overall the net effect is considered to be positive in relation to this objective.</p>
4.	+	+	+	✓	✓	✓		<p>It is likely that this policy would have a positive impact on air quality through the retention of existing, and support for new (non-road) infrastructure, which would reduce transportation by road. The significance of this may increase over time should there be a positive shift towards using these more sustainable modes of transportation. The requirement to consider and assess the carbon emissions of non-road transport methods for development involving the movement of an average of more than 250,000tpa of minerals or waste, may in some cases promote an intermodal shift and in some other cases promote the use of low carbon fuels, efficient fleet or logistical rationalisation rather than utilisation of intermodal infrastructure.</p> <p>However, the development of new non-road infrastructure may have temporary and localised air quality impacts, for example through dust generated during construction. The overall effect in relation to this objective, however, is broadly positive.</p>

5.	0	0	0	✓		✓		There are likely to be neutral effects from retaining existing infrastructure. However, the development of any new infrastructure is likely to involve some additional land footprint and the level of impact would be dependent upon location and the characteristics of the land chosen for that new infrastructure. It is likely that any effects on land lost to development would be cumulative (i.e. more additional land would be lost over time).
		-	-					
6.	+	+	+	✓			✓	Retaining and supporting the development of additional non-road infrastructure should help to reduce road transportation which would have a positive impact on reducing greenhouse gas emissions, particularly in the long term. This policy promotes the consideration of non-road transportation for minerals or waste development involving the movement of an average of more than 250,000tpa and where other transport methods are feasible requires the relative assessment of carbon emissions. The magnitude of effect that this policy will have however, will be dependent upon the location of future mineral and waste sites and whether they have the potential to connect to suitable transport infrastructure in order to reduce road transportation and associated carbon emissions. The effect, however, is broadly positive.
7.	0	0	0					No clear link.
8.	+	+	+	✓		✓		This option would have a positive impact in retaining and supporting infrastructure that would allow for sustainable minerals and waste development and materials movement. It would also reduce the use of fuel. There are however implications on the use of resources to construct new infrastructure to support rail, water, pipeline or conveyor transport.
		-	-					
9.	0	0	0					No clear link
10.	?	?	?					The effects on heritage assets and their setting is likely to be a consideration for the development of new infrastructure. The severity of any impacts will be dependent upon the type of infrastructure and its location however proposals that involve the development of new, or use of existing, non-road infrastructure will be required to demonstrate compliance with other relevant development management policies in the Plan, including the Historic Environment policy. Impacts in relation to this objective are uncertain at present.
11.	?	?	?					The effect on landscape/townscape is likely to be a consideration for the development of new infrastructure. The severity of any impacts will be dependent upon the type of infrastructure and its location however proposals that involve the development of new, or use of existing, non-road infrastructure will be required to demonstrate compliance with other relevant development management policies in the Plan, including the Landscape policy. The policy also includes wording to protect the purposes of Green Belt. Impacts in relation to this objective are uncertain at present.
12.	+	+	+	✓			✓	Retaining existing infrastructure whilst also encouraging new non-road infrastructure will help to support the mineral and waste industries to access markets and the sustainable movement of goods. It will also contribute towards the development of a low carbon economy. The requirement for development involving the movement

	-	-	-					of an average of more than 250,000tpa of minerals or waste to consider the use of non-road means of transportation may increase costs associated with minerals and waste developments should a more expensive, non-road form of transport be required to be used. Overall minor positive and minor negative impacts may result in relation to this objective.
13.	?	?	?	✓	✓	✓		The development of new infrastructure may have a potential impact on the viability and vitality of local communities however effects will be dependent upon the location and type of infrastructure proposed. Impacts are therefore uncertain at present.
14.	- +	- +	- +	✓	✓		✓	The development of new non-road infrastructure may have a mixture of positive (for instance there may be less conflict between road users and negative (possible visual intrusion and noise) impacts on recreation and leisure, depending upon the location of the development. The development of water transport infrastructure may have an impact upon recreational users of waterways (e.g. through disturbance to tranquillity) but this is not expected to be at a significant level.
15.	+ ?	+ ?	+	✓			✓	<p>The retention of existing infrastructure is not likely to cause further impacts unless the frequency of use increases, which is a possibility, though new infrastructure could have local effects. Direct impacts could relate to noise, odour and dust through waste and mineral transportation. Furthermore, where new infrastructure is required, the impacts on human health and well-being would need to be understood to minimise any localised effects, however, impacts are likely to be controlled by the development management policies to a degree (e.g. 'Local Amenity and Cumulative Impacts').</p> <p>By helping to reduce road transportation, however, positive effects could result in relation to this objective by removing HGVs from roads thereby impacting on safety, noise and vibration as well as reducing the potential for odour and dust from transportation. On balance the localised effects of supporting existing and new infrastructure are considered less significant than the benefits of reducing road transportation of minerals and waste.</p>
16.	0 ?	0 ?	?					The development of new infrastructure would need to take account of flood risk to ensure that it would not directly or indirectly affect this. However, it is expected that development to enable transportation by water is likely to fall within the Government's definition of water compatible, though will still be required to not increase the chances of flooding elsewhere. In summary while effects are expected to be minimal, there remains some uncertainty with this option that can only be resolved at a site specific level of detail'.
17.	0	0	0					No clear link.

### Summary of assessment

This policy is likely to have some positive impacts through the retention of the existing rail, pipeline and water transportation infrastructure and support for the development of new infrastructure. These positive effects relate to reducing the need to transport minerals and waste by road with knock on benefits in relation to air quality, climate change, amenity and the economy. Impacts are uncertain in relation to a number of the

environmental objectives such as biodiversity, water quality, landscape and cultural heritage as impacts will be dependent upon the location, type and scale of additional infrastructure as well as the frequency of its use. Negative impacts may occur as a result of construction on new transport links such as loss of habitats, impacts upon the setting of historic assets or loss of archaeology and landscape impacts.

**Recommendations**

It is considered that positive effects could be further enhanced by adding a requirement for the consideration of non-road forms of transport wherever possible (rather than just for larger scale sites) and requiring a justification for not utilising them.

## Policy I02 - Locations for ancillary minerals infrastructure

### Preferred Option

Development of ancillary minerals infrastructure at active minerals extraction sites and sites producing secondary aggregate will be supported provided the following criteria are met:

- The ancillary development produces a ‘value added’ product based mainly on the mineral extracted or secondary aggregate produced on the host site, and
- The development does not create significant additional adverse impact on local communities, businesses or the environment, and
- The development does not unacceptably increase the overall amount of road transport to or from the host site, and
- Where the host site is located in the Green Belt the ancillary development would preserve openness and the purposes of Green Belt designation, and
- The development is linked to the overall life of minerals extraction or supply of secondary aggregate at the host site, unless the location is appropriate to its retention in the longer term.

Within the City of York area development of ancillary minerals infrastructure will also be supported provided the following criteria are met:

- The site is located on industrial or employment land, previously developed land, or would be co-located with other compatible industrial or commercial development, and
- The site has good access to the transport network, and
- The development would not create significant adverse impact on local communities, businesses or the environment including heritage assets.

Siting of minerals ancillary infrastructure within the North York Moors National Park will only be supported where it would be located within the Whitby Business Park identified on the Policies map.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓	✓	✓	✓	Ancillary infrastructure will be located on extant sites which will still be operational – so a combined effect may occur if any sensitive habitat / geology receptors are nearby. However, the policy provides protection through not creating significant additional adverse impacts on the environment. In addition, siting on previously

								<p>developed land in York or in the Whitby Business Park will further minimise effects.</p> <p>Overall, the effect very much depends on location, but is expected to be further mitigated by development management policies.</p>
2.	+	+	+		✓	✓	✓	<p>Ancillary infrastructure will be located on extant sites which will still be operational – so a combined effect may occur if any sensitive water receptors are nearby. However, the policy provides protection through not creating significant additional adverse impacts on the environment.</p> <p>Overall, the effect very much depends on location, but is expected to be further mitigated by development management policies. Given that secondary aggregate processing may have significant water impacts policy DO9 should be referred to in the key links to other relevant policies and objectives.</p>
3.	+	+	+	✓	✓	✓	✓	<p>The policy does not unacceptably increase the amount of road traffic so effects would be reduced, particularly when considered with development management policies. However, it is possible that some sites may already experience significant traffic so any additional impact could be significant. If the policy is fully implemented the effect should be positive, though some uncertainty is recorded as significance thresholds may vary depending on the scope of assessments.</p>
4.	+	+	+	✓	✓	✓	✓	<p>As the policy supports development that ‘does not create significant additional adverse impact on local communities, businesses or the environment’, and does not unacceptably increase traffic impacts the effect of the policy on the objective is positive. In addition the amenity and cumulative effects development management policy is a linked policy, which should further strengthen the protection offered by this policy.</p>
5.	?	?	?					<p>Generally development encouraged by this policy will be on existing sites or adjacent to them, or on previously developed land in York. Some minor or positive effects may occur, dependent on location.</p>
6.	0	0	0					<p>Not allowing a significant increase in traffic is unlikely to significantly increase greenhouse gas emissions.</p>
7.	0	0	0					<p>No clear link</p>
8.	0	0	0		✓		✓	<p>Ancillary infrastructure to support secondary aggregates is likely to indirectly support this sector (with indirect benefits for minimising resource use). For other minerals the effect is neutral.</p>
9.	0	0	0					<p>No clear link</p>
10.	+	+	+	✓		✓		<p>The impact of locating ancillary mineral infrastructure on extraction sites may have an impact on the character and setting of historic or heritage assets. However, the policy protects against significant environmental effects, specifically references heritage assets in York and confines development to the Whitby Business Park in the North York Moors.</p>
11.	+	+	+		✓	✓		<p>The impact on the landscape would be different in each location and would need to be assessed on an individual basis. However, the policy protects against significant additional environmental effects, so landscape should also be protected. In addition, siting on previously developed land in York or in the Whitby Business Park will further minimise effects on landscape or townscape. The openness of the Green Belt would</p>
	-	-	-					



								also be preserved. However, some effects will be inevitable as this policy would introduce built infrastructure which may have a disturbance / urbanising effect.
12.	+	+	+	✓	✓	✓		This policy would add value to minerals with economic benefits, though it may be difficult to avoid significant effects in some locations, which may make some development more difficult to deliver.
13.	+	+	+	✓	✓	✓	✓	The policy requires that development does not create significant additional adverse impact on local communities. This is broadly positive, though in some places low level impacts acting together (e.g. traffic, noise, visual impacts) might alter local perceptions of an area.
14.	+	+	+	✓	✓	✓	✓	The requirement that ancillary infrastructure be confined to the Whitby Business Park is positive for this objective. Elsewhere minor impacts might be expected, mitigated by the policy's avoidance of significant environmental effects and the link to development management policy D: 02.
15.	+	+	+	✓	✓	✓	✓	The policy requires that development does not create significant additional adverse impact on local communities. This is broadly positive for the health and wellbeing of communities, though in some places low level impacts acting together (e.g. traffic, noise, visual impacts) might alter local perceptions of an area with effects on wellbeing. The link to development management policy D: 02 will help to mitigate impacts (e.g. from air and noise).
16.	0	0	0					The impact of the policy on flooding is dependent on location, but expected to be mitigated by links to the development management policies and the reference to avoiding significant environmental effects.
17.	0	0	0					No clear link.

**Summary of assessment** In the main the protections in this policy will avoid significant effects on the environmental objectives, though uncertainty is often noted due to uncertainty over locations where minerals ancillary infrastructure would take place and how 'additional significant environmental effects' may be interpreted by different developers, particularly if the host site already has significant impacts.

Elsewhere, mixed effects are often reported. For instance, the economic objective notes how this policy helps to add value to minerals products, but also the potentially restrictive nature of the policy which may make some development more difficult to achieve. The community vitality and health and wellbeing objectives note that synergies between different impacts, such as traffic, noise and visual impacts may together result in minor significant effects on perceptions of an area or on wellbeing.

**Recommendations** Given that secondary aggregate processing may have significant water impacts policy DO9 should be referred to in the key links to other relevant policies and objectives. In addition, to address synergies between effects, policy D:02's reference to cumulative effects could be clarified in that policy's supporting text so that it includes synergies between different types of effect.

## Policy S01 - Safeguarding mineral resources

### Preferred Option

Part one- Surface mineral resources:

The following surface minerals resources and associated buffer zones identified on the policies map will be safeguarded from other forms of surface development to protect the resource for the future :

- i) All crushed rock and silica sand resources with an additional 500m buffer
- ii) All sand and gravel, clay and shallow coal resources with an additional 250m buffer
- iii) Building stone resources and active and former building stone quarries with an additional 250m buffer

Part two – Deep mineral resources:

The following deep mineral resources and associated buffer zones identified on the policies map will be safeguarded from surface development to protect the resource for the future:

- i) Underground coal resources within the Kellingley Colliery licensed area with an additional 700m buffer;
- ii) Underground potash and polyhalite resources within the Boulby Mine licensed area and York Potash indicated and inferred resource area;
- iii) Underground gypsum deposits within the former Sherburn in Elmet Mine planning permission area;
- iv) Vein mineral reserves within extant planning permissions with an additional 250m buffer

Part three – protecting deep mineral resources from other underground minerals development:

Reserves and resources of potash and polyhalite identified on the Policies Map, including a 2km buffer zone, will be protected from sterilisation by other forms of underground minerals extraction and the underground storage of gas or carbon in order to protect the resource for the future.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	

1.	+	+	+	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the Plan. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. However, there could be some positive benefits from not developing the area which is safeguarded.
	?	?	?				
2.	+	+	+	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.  Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
	?	?	?				
3.	0	0	0	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.  Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?				
4.	+	+	+	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted direct effect. Were development to take place it would need to accord with other policies in the plan. However, the inclusion of safeguarded buffer zones within this policy will indirectly help to ensure that air quality impacts on users of new development are minimised, should mineral development take place in the future.  Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
	?	?	?				
5.	+	+	+	✓		✓	Safeguarding keeps open the option of developing the optimum locations for mineral extraction. This may help minimise land take when compared to extraction from a sub optimal location (which may require more land take).  In the case of building stone, safeguarding active and former building stone quarries may steer further building stone quarrying away from new sites and towards the extant sites safeguarded by the policy. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
	?	?	?				

6.	0	0	0	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.
	?	?	?				Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
7.	0	0	0	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.
	?	?	?				Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
8.	+	+	+	✓		✓	Safeguarding mineral resources would enable the option of future extraction and thus strongly contribute to the safeguarding and efficient use of minerals sub objective.
9.	0	0	0				As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.
10.	+	+	+	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted direct effect. Were development to take place it would need to accord with other policies in the plan. In relation to the safeguarding of building stone, this policy would ensure that a sufficient range and quantity of building stone for the repair of historic buildings is safeguarded for future use. This would have a major positive impact in relation to the historic environment.
	?	?	?				Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
11.	+	+	+	✓		✓	As safeguarding does not infer that any mineral development will take place there is no predicted direct effect. Were development to take place it would need to accord with other policies in the plan. In relation to the safeguarding of building stone, this policy would ensure that a sufficient range and quantity of building stone for the repair/construction of buildings in a manner that is sensitive to the surrounding landscape/townscape is safeguarded for future use. This would have a minor positive impact in relation to landscape (as vernacular buildings are an important component of landscape character).
	?	?	?				Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.

<b>12.</b>	+	+	+	✓		✓	✓	Safeguarding mineral resources will keep open the future option of extraction as this policy will prevent sterilisation of the resource. This potentially retains a future economic opportunity. With regard to protecting deep mineral resources, safeguarding polyhalite/potash over other forms of potentially conflicting underground minerals extraction is considered to have an overall minor positive economic impact as this is likely to be the scarcest and most economically significant resource.
	+	+	+					
	?	?	?					Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known (e.g. potential for displacement of non-minerals economic activity within the safeguarded area).
<b>13.</b>	0	0	0	✓			✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.
	?	?	?					
	?	?	?					Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
<b>14.</b>	0	0	0	✓			✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.
	?	?	?					
	?	?	?					Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
<b>15.</b>	+	+	+	✓			✓	Under this policy, users of new developments would be well protected from potential future minerals extraction through the inclusion of buffer zones of varying distance. The overall benefits across the Plan area would increase over time.
	+	+	+					
	?	?	?					Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
<b>16.</b>	0	0	0	✓			✓	As safeguarding does not infer that any mineral development will take place there is no predicted effect. Were development to take place it would need to accord with other policies in the plan.
	?	?	?					
	?	?	?					Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
<b>17.</b>	+	+	+	✓			✓	This policy would have a positive effect in terms of ensuring that minerals are available to support the needs of the population. Safeguarding the potash/polyhalite resource is particularly significant as this is the only area of the country that the potash resource exists and the resource is of national significance.
	+	+	+					

								Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
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**Summary of assessment** As safeguarding does not infer that minerals extraction will take place there are generally no predicted direct effects. Were development to take place it would need to accord with other policies in the Plan.

This policy is likely to result in minor to major positive impacts in relation to encouraging the safeguarding of resources, economic growth and meeting the needs of a changing population as future mineral resource sterilisation is avoided, thus conserving resources for future economic benefit. The safeguarding of buffer zones around mineral reserves may also have minor positive impacts in relation to minimising air quality and amenity impacts experienced by users of new proximal development.

Some uncertainty is noted in the assessment as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known. However, some objectives noted that there could be some positive benefits from not developing the area which is safeguarded.

**Recommendations** None

## Policy S02 - Developments proposed within Minerals Safeguarding Areas

### Preferred Option

Part one - Surface mineral resources:

Within Surface Minerals Safeguarding Areas shown on the Policies Map permission for development other than minerals extraction will be granted where:

- It would not sterilise the mineral or prejudice future extraction, or
- The mineral will be extracted prior to the development (without unacceptable adverse impact on the environment or the amenity of local communities), or
- The need for the non-mineral development can be demonstrated to outweigh the need to safeguard the mineral, or
- It can be demonstrated that the mineral in the location concerned is no longer of any potential value as it does not represent an economically viable and therefore exploitable resource, or
- The non-mineral development is of a temporary nature that does not inhibit extraction within the timescale that the mineral is likely to be needed , or
- It constitutes 'exempt' development (as defined in the safeguarding areas exemption list)

Part two - Deep minerals resources:

In areas identified as Underground Mineral Safeguarding Areas on the Policies Map, proposals for the following types of development should be accompanied by information on the effect of the proposed development on the potential future extraction of the safeguarded underground resource, as well as on the potential for the proposed surface development to be impacted by subsidence arising from working of the underlying minerals resource:

- Large institutional and public buildings
- Major industrial buildings including those with sensitive processes and precision equipment vulnerable to ground movement
- Major retail complexes
- Non-residential high rise buildings (3 storeys plus)
- Strategic gas, oil, naphtha and petrol pipelines
- Vulnerable parts of main highways and motorway networks (e.g. viaducts, large bridges, service stations and interchanges)
- Security sensitive structures
- Strategic water pumping stations, waterworks, reservoirs, sewage works and pumping stations
- Ecclesiastical property
- Power stations, and
- Wind turbines.

Permission will be granted where the assessment demonstrates that a significant risk of adverse impact on the development from mining subsidence will not arise or that the criteria in Part one of the policy (other than the final criterion) are met.

Part three – protecting deep mineral resources from other underground minerals development:

Where proposals for appraisal or development of underground gas resources or the underground storage of gas or carbon are located within the area safeguarded for potash, salt and polyhalite shown on the Policies Map, permission for development will only be granted where it can be demonstrated that the development will not adversely affect the potential future extraction of the protected mineral.

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SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓		✓	✓	There could be benefits for biodiversity / geodiversity where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else which may be better or worse for this objective (uncertain effect).
	?	?	?					
2.	+	+	+	✓		✓	✓	There could be benefits for water quality where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else.
	?	?	?					
3.	0	0	0					No clear link
4.	+	+	+	✓		✓	✓	There could be benefits for air quality where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else.
	?	?	?					
5.	+	+	+	✓		✓	✓	There could be benefits for agricultural land where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else (which may be better or worse for this objective). In addition, for deep minerals resources the potential for development to be subject to subsidence is considered.
	?	?	?					
6.	0	0	0					No clear link
7.	+	+	+	✓			✓	Safeguarding potash areas will help preserve a key resource for fertiliser production. This will indirectly contribute to food security, which is a key vulnerability in a changing climate.
8.	+	+	+	✓		✓		The policy contains criteria to ensure that consideration is given to safeguarding surface, deep and potash, salt and polyhalite mineral resources (so resources will be protected) although it does not prioritise safeguarding above all other considerations and there may be some instances where the mineral is sterilised.
	+	+	+					
9.	0	0	0					No clear link
10.	+	+	+	✓		✓	✓	There could be benefits for the historic environment where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would



	?	?	?					simply go somewhere else.
11.	+	+	+	✓		✓	✓	There could be benefits for landscape where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else.
	?	?	?					
12.	-	-	-		✓		✓	The option may prevent some developments from going ahead which may have a negative effect on the economy, though to some extent this is mitigated by the policy's criteria that 'the need for the non-mineral development can be demonstrated to outweigh the need to safeguard the mineral'. In the longer term, the safeguarded minerals themselves may be extracted with economic benefits.
			+					
13.	-	-	-		✓		✓	The option may prevent some developments from going ahead which may have a negative effect on the economy and therefore job creation. It may also have negative effects in terms of precluding developments which help to support the vitality and viability of a community such as housing (though the policy exemptions do allow infill development in town and villages).
14.	+	+	+	✓		✓	✓	There could be benefits for recreation assets where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else.
	?	?	?					
15.	+	+	+	✓		✓	✓	There could be benefits for community health where there are circumstances in which the safeguarding policy precludes development from going ahead. Though to some extent some of this development would simply go somewhere else.
	?	?	?					
16.	0	0	0					No clear link
17.	-	-	-	✓		✓	✓	The option may have negative effects by precluding development to help support the population, such as some housing projects (though the exceptions list does allow a number of residential development types such as infilling in towns and villages). However it may have positive effects by ensuring that there is an available supply of minerals for development.
	+	+	+					

**Summary of assessment** In terms of the environmental sustainability objectives there are minor benefits from this policy, as arguably it would potentially reduce the amount of development in safeguarding areas, though to some extent some of this development would simply go somewhere else (with uncertain impacts). The assessment also picked strong benefits for the minimising resource use objective as safeguarding a broad range of minerals resources would help protect resources for possible future use. Similarly, an additional benefit was noted for climate adaptation as safeguarding potash and polyhalite will help save a key resource for manufacturing fertiliser, which ultimately will help tackle the issue of food security (which is a recognised climate change vulnerability).

There were however some minor negative effects noted in relation to the economy, community vitality and changing population objectives. This is because some economically valuable development may be deterred from taking place (though the policy does contain a criteria which considers the need for the development and whether this outweighs the need to safeguard the mineral), while some housing projects may also be less viable

(though there are exemptions which help moderate this). The economy objective also records a long term benefit arising from having greater access to minerals for extraction.

**Recommendations** No mitigation is suggested.

## Policy S03 - Waste management facility safeguarding

### Preferred Option

Waste management sites shown on the Policies map, including a 250m buffer zone, will be safeguarded from incompatible development.

Other forms of non-exempt development which would replace the safeguarded waste site will be permitted where there is overriding justification, or a suitable alternative location for the waste development can be provided. Where other forms of non-exempt development are proposed in the safeguarded buffer zone, development will only be permitted where adequate mitigation can, if necessary, be provided within the encroaching development proposals in order to reduce any impacts from existing or proposed adjacent waste uses to an acceptable level.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	? +	? +	? +	✓	✓	✓	✓	It is considered this option would have uncertain effects on biodiversity and geodiversity as where sites are safeguarded alternative development (i.e. non minerals and waste development) may need to be located. Whilst this may lead to an indirect effect (positive or negative) on biodiversity and geodiversity it is not possible to identify this without knowledge of the nature and location of the developments involved. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
2.	? +	? +	? +	✓		✓	✓	It is considered this option would have uncertain effects on water quality and supply as where sites are safeguarded alternative development may need to be located elsewhere. Whilst this may lead to an indirect effect (positive or negative) on water quality and supply it is not possible to identify this without knowledge of the nature and location of the developments involved. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
3.	+	+	+	✓			✓	Safeguarding strategically important waste management sites may have positive effects in relation to transport as alternative minerals and waste sites may be less well served by transport routes.
4.	? +	? +	? +	✓		✓	✓	It is considered this option would have uncertain effects on air quality as where sites are safeguarded alternative development may need to be located elsewhere. Whilst this may lead to an effect (positive or negative) on air quality it is not possible to identify this without knowledge of the nature and location of the developments involved. On the other hand, there could be some positive benefits from not developing the

							area which is safeguarded.
5.	?	?	?	✓		✓	It is considered this option would have uncertain effects on loss of soils and agricultural land as where sites are safeguarded alternative development may need to be located elsewhere. . Whilst this may lead to an effect (positive or negative) on soils and agricultural land it is not possible to identify this without knowledge of the nature and location of the developments involved. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
	+	+	+				
6.	+	+	+	✓		✓	Safeguarding strategically important waste management sites may have positive effects in relation to greenhouse gas emissions related to transport as alternative minerals and waste sites may be less well served by transport routes.
7.	0	0	0				There is not a clear link between this policy and climate change adaptation.
8.	+	+	+	✓		✓	Safeguarding these facilities represents a sustainable use of resources as, assuming they are required throughout the Plan period, should they be lost to other development alternative waste management facilities would be required elsewhere which would require the use of resources. This policy would effectively safeguard existing facilities therefore resulting in a positive impact in relation to this objective.
9.	+	+	+	✓		✓	This policy would lead to some positive impacts in relation to this objective where sites that manage waste high up the waste hierarchy are safeguarded. This policy would also safeguard sites that manage waste lower down the waste hierarchy including landfill and incineration facilities. Impacts would therefore range from major positive to minor negative depending on the type of waste site that is being safeguarded.
	-	-	-				
10.	?	?	?	✓		✓	It is considered this option would have uncertain effects on the historic environment as where sites are safeguarded alternative development may need to be located elsewhere. Whilst this may lead to an effect (positive or negative) for the historic environment it is not possible to identify this without knowledge of the nature and location of the developments involved. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
	+	+	+				
11.	?	?	?	✓		✓	It is considered this option would have uncertain effects on landscape as where sites are safeguarded alternative development may need to be located elsewhere. Whilst this may lead to an effect (positive or negative) for landscape it is not possible to identify this without knowledge of the nature and location of the developments involved.
	+	+	+				
12.	?	?	?	✓		✓	Whilst this option may have positive effects in terms of supporting employment at existing waste management sites (where they are active), it may have negative effects for employment in other sectors which would wish to make use of these sites. The area surrounding these sites. However, it is not possible to ascertain these effects without knowledge of potential other uses.
13.	?	?	?	✓		✓	Safeguarding strategic sites may have a positive effect on the vitality of communities which would otherwise be negatively affected by new development (which could displace extant development). Conversely the effect may just as likely be positive. However, it is not possible to score this as this would depend on the location
	+	+	+				

								and type of any resulting new development.
14.	?	?	?	✓		✓	✓	It is considered this option would have uncertain effects on recreation and leisure as where sites are safeguarded alternative development may need to be located elsewhere. Whilst this may lead to an effect (positive or negative) on recreation and leisure it is not possible to identify this without knowledge of the nature and location of the developments involved. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.
	+	+	+					
15.	?	?	?	✓		✓	✓	Safeguarding strategic sites may have a positive effect on the health, safety and wellbeing of communities which would be negatively affected by new waste development replacing displaced extant development, but it is not possible to score this as this would depend on the location of any resulting new development. Equally the effect may be positive as better new development may replace worse extant development.
	+	+	+					This policy also requires that should new development be required within the 250m buffer zone of a waste facility, adequate mitigation can, if necessary, be provided within the encroaching development proposals in order to reduce any impacts from existing or proposed adjacent waste uses to an acceptable level. This should serve to protect the amenity of residents/users of new development in close proximity to safeguarded waste facilities.
16.	0	0	0					No clear link.
17.	+	+	+	✓		✓	✓	This policy enables strategic waste management facilities to be maintained, thus supporting the waste management needs of the population.

**Summary of assessment** It is not possible to identify effects against a number of environmental sustainability objectives as often the main sustainability effect arises as a result of a safeguards site and its buffer displacing another type of development to an alternative location. It is unknown as to whether through locating somewhere else, this displaced development would have greater or lesser sustainability effects than if it were to be allowed in the safeguarded area. On the other hand, there could be some positive benefits from not developing the area which is safeguarded.

This policy may also however provide positive effects in relation to a number of objectives including minimising the use of resources, managing waste as high up the waste hierarchy as practicable and meeting the needs of a changing population. Minor negative impacts may arise should the policy result in facilities that manage waste lower down the waste hierarchy (e.g. landfill and incineration facilities) being safeguarded.

**Recommendations** None

## Policy S04 - Transport infrastructure safeguarding

### Preferred Option

Railheads, rail links and wharves identified on the Policies Map will be safeguarded against replacement development which would prevent the use of the land for minerals or waste transport purposes, unless;

- i) The need for the alternative development outweighs the benefits of retaining the facility; or
- ii) A suitable alternative location can be provided for the displaced use; or
- iii) The facility is not in use and there is no reasonable prospect of it being used for minerals or waste transport in the foreseeable future.

An additional 100m buffer zone around each facility, as shown on the Policies Map, is also safeguarded against encroaching development which would not be compatible with the use of the facility for minerals or waste transport. Where development in the safeguarded buffer zone would substantially restrict the continued use or potential future use of the facility for the transport of minerals or waste then permission will be refused unless adequate mitigation can be provided.

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SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	0					The retention of existing rail head/links and wharves are not likely to have a significant impact over and above the current baseline. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
2.	?	?	?					There is unlikely to be a change from the current baseline situation through the retention of existing railheads and rail links. However, water quality may be impacted by the continued use of wharves although this may be location specific to where they are in use. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.

3.	+	+	+	✓		✓		The principle of safeguarding is positive in encouraging more sustainable forms of transportation of minerals. This policy allows for all existing routes/railheads with the potential for minerals and waste transport to be retained, reserving the widest possibilities for movement of minerals. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	+	+	+					
4.	?	?	?	✓	✓	✓		Positive impacts on air quality would be experienced where the transportation of minerals or waste by rail/water would replace road transportation. This policy would reserve the widest network for this to be implemented but is reliant upon the location of extraction. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	+	+	+					
5.	+	+	+	✓	✓	✓		The retention of existing wharves and rail heads/links would mean that any future extraction in these locations may not require additional land for transportation. Additionally, where transport infrastructure sites are not in use and are unlikely to have potential now or in the future, or a better alternative use is identified, this policy allows consideration of those alternative uses. This would allow land to be used efficiently and may reduce the amount of derelict land in the plan area thus positively contributing towards the achievement of this objective. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
6.	+	+	+	✓		✓		The principle of retention is positive in encouraging more sustainable forms of transportation of minerals or waste by safeguarding existing facilities. This policy allows for all existing routes/railheads to be retained reserving a wide range of possibilities for movement of minerals / waste and providing alternatives to road transportation. However, it is likely that some of these facilities have more potential than others in contributing to minerals / waste transport, so a limited positive impact on climate change which may become more positive over time is predicted. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
7.	0	0	0					There is not a clear link between this policy and this objective.
8.	+	+	+	✓		✓	✓	This policy would be positive in retaining and supporting infrastructure that would allow for sustainable minerals and waste development and their movement. Where existing transport infrastructure can be utilised this will reduce the use of resources for the construction of new infrastructure.
9.	0	0	0					There is not a clear link between this policy and this objective.
10.	0	0	0					The retention of existing rail head/links and wharves are not likely to have a significant impact over and above the current baseline in the short-term. This policy would not safeguard sites that are not in use and have no reasonable prospect of being in use in the future so would prevent derelict sites from being safeguarded and potentially impacting upon the setting of historic assets. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this
	?	?	?					

								displacement, is not known.
11.	0	0	0					Similarly to objective 10, existing rail head/links and wharves are an existing feature in the landscape and their retention is not likely to have significant effects in the short term. This policy would not safeguard sites that are not in use and have no reasonable prospect of being in use in the future and this would prevent derelict sites from being safeguarded (which would result in negative landscape impacts). Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
12.	+	+	+	✓		✓	✓	Retaining rail heads/links and wharves would be positive in ensuring that the sites connected to these have potential to remain connected in terms of access and movement of minerals and waste in the future. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
13.	0	0	0					The retention of existing rail heads/links and wharves is unlikely to change the current baseline. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
14.	0	0	0					The retention of existing rail heads/links and wharves is unlikely to change the current baseline. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
15.	0	0	0					The retention of existing rail heads/links and wharves is unlikely to change the current baseline. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
16.	0	0	0					The retention of existing rail heads/links and wharves is unlikely to change the current baseline. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					
17.	0	0	0					Safeguarding of existing railheads/links and wharves is unlikely to have any significant impact on the current baseline. The policy allows some flexibility for alternative development to go ahead where the need for the alternative development outweighs the need to retain the facility and it is therefore not considered that this policy would significantly hinder development that would meet the needs of the population. Some uncertainty is noted as the nature and location of any future development that may be displaced as a result of this policy, and the consequences of this displacement, is not known.
	?	?	?					

**Summary of assessment** This policy would ensure that wharves and railheads/rail links are safeguarded for the transportation of minerals and



waste but retains an element of flexibility to ensure that unused sites with little potential for future use or sites that would have greater benefit being used for an alternative purpose are not safeguarded. Positive impacts have been identified in relation to encouraging the use of more sustainable modes of transport, air quality, land use, climate change, resource use and the economy. There is an element of uncertainty throughout the assessment as safeguarding may displace other forms of development that may otherwise have taken place in an area and the consequences of this displacement is not known.

**Recommendations** No mitigation is proposed.

## Policy S05 - Minerals ancillary infrastructure safeguarding

### Preferred Option

Minerals ancillary infrastructure sites identified on the Policies map are safeguarded against replacement development which would prevent the use of the land for minerals ancillary infrastructure purposes, unless;

- The need for the alternative development outweighs the benefits of retaining the site, or
- A suitable alternative location can be provided for the displaced use, or
- The site is not in use and there is no reasonable prospect of it being used for minerals ancillary infrastructure in the foreseeable future

An additional 100m buffer zone around each site, as shown on the Policies map, is also safeguarded against encroaching development which would not be compatible with the use of the site for ancillary minerals infrastructure. Where development in the safeguarded buffer zone would substantially restrict the continued use or potential future use of the site for minerals ancillary infrastructure then permission will be refused unless adequate mitigation can be provided.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓		✓	✓	Safeguarding does not infer any ancillary infrastructure development will take place. Were development to take place it would need to accord with other policies in the plan.  Non minerals development could, however, either not occur (positive) or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective. This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.
	?	?	?					
2.	+	+	+		✓	✓	✓	Safeguarding does not infer any ancillary infrastructure development will take place. Were development to take place it would need to accord with other policies in the plan.  Non minerals development could, however, either not occur (positive) or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective. This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.
	?	?	?					

3.	0	0	0				No clear link.
4.	+	+	+	✓		✓	<p>Safeguarding does not infer any ancillary infrastructure development will take place. Were development to take place it would need to accord with other policies in the plan.</p> <p>Non minerals development could, however, either not occur (positive), or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective. This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.</p>
	?	?	?				
5.	+	+	+	✓		✓	<p>This preferred policy option would increase the likelihood that infrastructure, and thus the land that it stands on, would be re-used, offsetting the need to create new sites on new land.</p> <p>Non minerals development could, however, either not occur (positive), or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective (e.g. on better or worse quality land or land with better potential). This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.</p>
	?	?	?				
6.	0	0	0				No clear link
7.	0	0	0				No clear link
8.	+	+	+	✓		✓	<p>Safeguarding land for ancillary infrastructure would cover safeguarding land for facilities for processing and distribution of substitute, recycled and secondary aggregate material. Where this is the case an indirect positive effect on minimising resources is expected.</p>
	+	+	+				
9.	+	+	+	✓		✓	<p>Safeguarding land for ancillary infrastructure would cover safeguarding land for facilities for processing and distribution of recycled and aggregate material. Where this is the case an indirect positive effect on reducing waste is predicted.</p>
10.	+	+	+	✓		✓	<p>Safeguarding does not infer any ancillary infrastructure development will take place. Were development to take place it would need to accord with other policies in the plan.</p> <p>Non minerals development could however, either not occur (positive), or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective. This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.</p>
	?	?	?				
11.	+	+	+	✓		✓	<p>Safeguarding does not infer any ancillary infrastructure development will take place. Were development to take place it would need to accord with other policies in the plan.</p>
	?	?	?				

								Non minerals development could however, either not occur (positive), or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective. This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.
12.	0	+	+	✓		✓	✓	Although this policy might prevent some non-minerals development from going ahead it would also ensure that opportunities for minerals processing in the future are available (which would add value to minerals and help promote economic viability). On balance this is positive.
13.	0 ?	+	+	✓		✓	✓	Although this policy might prevent some non-minerals development from going ahead it would also ensure that opportunities for minerals processing in the future would be available (which would add value to minerals and help promote economic viability). This could help preserve jobs, though it may also bring local problems that could affect community vitality (like additional noise / traffic). However, the buffer will help protect receptors from impacts. Broadly positive with some uncertainty.
14.	0 ?	+	+	✓		✓	✓	Safeguarding does not infer any ancillary infrastructure development will take place. Were development to take place it would need to accord with other policies in the plan.  Non minerals development could however, either not occur (positive), or be displaced to alternative locations. Such areas may be less or more favourable in terms of this objective. This is an unknown impact, though such development would still need to accord with policies in other plans as well as national policy.
15.	0 ?	+	+	✓		✓	✓	Although this policy might prevent some non-minerals development from going ahead it would also ensure that opportunities for minerals processing in the future would be available. This could bring local problems that could affect community vitality (like additional noise / traffic). However, the buffer will help protect receptors from impacts. Positive with some uncertainty.
16.	0	0	0					No clear link.
17.	- +	- +	- +	✓		✓	✓	The option may have negative effects by precluding development, such as some housing projects. However it may have positive effects by ensuring that there is an available supply of processed minerals for development.

**Summary of assessment** There are some very minor benefits that occur because this policy essentially reduces the likelihood of development within 100m of safeguarded sites. Alternatively it may displace some development, leading to uncertain effects (which depend on the location that development is displaced to).

Elsewhere in the assessment a strong benefit was noted relating to minimising resource use, as safeguarding land for ancillary infrastructure would cover land for facilities for processing and distribution of substitute, recycled and secondary aggregate material. Where this is the case an indirect positive effect on minimising resources is expected. The policy also allows an option for future minerals ancillary infrastructure development to

happen which would add value to minerals and help promote economic viability.

Effects on communities and health are minimised by the application of the 100m buffer, whereas mixed positive and negative effects were predicted for the changing population objective (as some limited housing development might be displaced, but minerals supply would be facilitated).

**Recommendations** No recommendations are made.

## Policy S06 - Consideration of applications in Consultation Areas

<b>Preferred Option</b>									
Where non-exempt development is proposed in an area safeguarded on the Policies Map for minerals resources, minerals transport infrastructure, minerals ancillary infrastructure and waste infrastructure, and the proposed development site is located outside the City of York and North York Moors National Park areas, consultation with North Yorkshire County Council will be required before permission is granted.									
<i>SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs</i>									
SA objective	Impact / timescale			Type of effect				Analysis	
	S	M	L	P	T	D	I		
1.	0	0	0					No clear link	
2.	0	0	0					No clear link	
3.	0	0	0					No clear link	
4.	0	0	0					No clear link	
5.	0	0	0					No clear link	
6.	0	0	0					No clear link	
7.	0	0	0					No clear link	
8.	+	+	+	✓		✓		This preferred option would ensure that consideration is given to safeguarding minerals from any development taking place in the boroughs and districts of the NYCC area (preventing needless sterilisation). It would also ensure that consultation would take place in relation to development which may affect minerals transport infrastructure and ancillary infrastructure, contributing to the safeguarding of infrastructure that supports sustainable minerals development.	
9.	0	0	0					No clear link	
10.	+	+	+	✓		✓		This preferred option would ensure that consideration is given to safeguarding building stone, which may be needed for the repair of historic assets or for ensuring new developments are appropriate in their setting, from any development taking place in the boroughs and districts of the NYCC area.	
11.	0	0	0					No clear link	

12.	0	0	0					No clear link
13.	0	0	0					No clear link
14.	0	0	0					No clear link
15.	0	0	0					No clear link
16.	0	0	0					No clear link
17.	+	+	+	✓		✓		This preferred option would ensure that consideration is given to safeguarding minerals, which may be needed to support the population and any new developments, from any development taking place in the boroughs and districts of the NYCC area. Ensuring consultation takes place in relation to development which may affect minerals transport infrastructure and ancillary infrastructure will also contribute to ensuring a supply of minerals to support the population and new developments.

**Summary of assessment.** In most cases this preferred option has no link with the SA objectives. However, there are positive effects in relation to three objectives. In terms of minimising resource use, this would prevent needless sterilisation of minerals resources. In terms of the historic environment, building stone may be protected from sterilisation, and these benefits would also support the changing population objective. Similarly requiring consultation with the County Council over development affecting safeguarded infrastructure (minerals transport infrastructure, minerals ancillary infrastructure and waste infrastructure) performs positively as it reduces the need for resource use and supports future supply and distribution of minerals for the population.

**Recommendations.** No further mitigation is proposed.

## Policy D01 - Presumption in favour of sustainable minerals and waste development

### Preferred Option

When considering development proposals the Authorities will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF. The authorities will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Planning applications that accord with the policies in this Local Plan (and where relevant with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

Where there are no policies relevant to the applications or relevant policies are out of date then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or
- Specific policies in the NPPF indicate that development should be restricted such as in National Parks and AONBs. Where proposals constitute major development in the National Park and AONBs they will be assessed against the requirements for major development in designated areas set out in national policy and Policy D04 of this Plan.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	?	✓	✓	✓	✓	In the short and medium term there would be no effects by having this policy in place as it is essentially saying that proposals which accord the NPPF and the Plan would be approved, which is what would generally happen either with or without this policy. In the long term effects may arise through the application of the final strand of the preferred policy relating to out of date plans, should the plan become out of date and not be replaced, although by considering the NPPF as a whole (at least in its present form) and having regard to the requirements for Major development in designated areas it is considered more likely that any issues pertinent to this objective could be resolved (though some locally distinctive issues may get a lesser degree of emphasis).
2.	0	0	?	✓	✓	✓	✓	As objective 1



3.	0	0	?	✓	✓	✓	✓	As objective 1
4.	0	0	?	✓	✓	✓	✓	As objective 1
5.	0	0	?	✓	✓	✓	✓	As objective 1
6.	0	0	?	✓	✓	✓	✓	As objective 1
7.	0	0	?	✓	✓	✓	✓	As objective 1
8.	0	0	?	✓	✓	✓	✓	As objective 1
9.	0	0	?	✓	✓	✓	✓	As objective 1
10.	0	0	?	✓	✓	✓	✓	As objective 1
11.	0	0	+	✓	✓	✓	✓	As objective 1. However, in the longer term the major development requirements are still applied, which is more positive for designated landscapes.
12.	+	+	+	✓	✓	✓	✓	The emphasis on a pro-active approach to finding solutions is likely to benefit business throughout the plan period. When the plan becomes out of date development world need to accord with the NPPF alone, unless the conditions for the major development test apply. This would be likely to be less restrictive than considering the Plan and the NPPF, subject to future changes in planning policy.
13.	+	+	+	✓	✓	✓	✓	This preferred policy approach takes into account Neighbourhood Plans alongside the Plan and NPPF which is likely to enable decisions to be taken that are less likely to compromise community vitality.
14.	0	0	?	✓	✓	✓	✓	As objective 1
15.	+	+	+	✓	✓	✓	✓	This preferred policy approach takes into account Neighbourhood Plans alongside the Plan and NPPF which is likely to enable decisions to be taken that are less likely to compromise community wellbeing.
16.	0	0	?	✓	✓	✓	✓	As objective 1
17.	+	+	- ?	✓			✓	In the short and medium term the Plan and Neighbourhood Plans are taken into account in this preferred policy, which will in effect ensure that community views are taken into account as both sets of documents are expressions of consultees' views alongside national policy. However, when the Plan becomes out of date, decisions will be dependent on what the NPPF says – which is a statement of government policy (albeit one that has been nationally consulted on), rather than locally produced documents

**Summary of assessment** Most environmental SA objectives report neutral effects in the short and medium term as a result of this policy as this is largely an affirmation that the policies in the Plan, and national policy and Neighbourhood Plans, will be taken into account. However, uncertainty

creeps into the assessment in the longer term as some locally distinctive issues may get a lesser degree of emphasis if the NPPF becomes the sole decision making document when the plan becomes out of date. In terms of National Parks and AONBs however, the continued application of the major development test positively supports the long term outlook for achieving the landscape objective.

The preferred policy supports the economic objective due to its 'pro-active approach' to finding solutions. It also supports the community vitality, wellbeing and population needs objectives in the short and medium term as it takes into account community defined Neighbourhood Plans. In the longer term the policy makes decision making more reliant on national policy than local views.

**Recommendations** No specific recommendation is made. However, when policies in the Plan become out of date they should be updated to ensure that a locally relevant approach to sustainable development is still applied.

## Policy D02: Local amenity and cumulative impacts

### Preferred Option

Proposals for minerals and waste development, including ancillary development and minerals and waste transport infrastructure, will be permitted where it can be demonstrated that there will be no unacceptable effects on local amenity and local businesses, including as a result of impacts from: noise, dust, subsidence, vibration, odour and other emissions to air, vermin and litter, public safety, visual impact arising from the design, scale and location of the development, site lighting, cumulative effects, or as a result of adverse impacts on the public rights of way network and access to open space including, in the National Park, on opportunities for enjoyment and understanding of the special qualities of the National Park.

Proposals will be expected as a first priority to prevent adverse impacts through avoidance, with the use of robust mitigation measures where avoidance is not practicable.

Applicants are encouraged to conduct early and meaningful engagement with local communities in line with Statements of Community Involvement prior to submission of an application and to reflect the outcome of those discussions in the design of proposals as far as practicable.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓			✓	This policy would work alongside the biodiversity and geo-diversity policy in the plan, so although it does not mention biodiversity and geo-diversity it would result in a number of restrictions to development that may have indirect benefits to biodiversity, such as avoiding unacceptable dust, litter and noise as well as impacts on opportunities for enjoyment of the National Park (of which the natural environment is an important part).
2.	0	0	0					This policy would work alongside the water environment policy in the plan, so although it does not mention water it would, through preventing adverse impacts on access to open space, support some aspects of the water environment, such as recreational open space. This is a negligible contribution to this objective however.
3.	+	+	+	✓		✓	✓	This policy would help prevent significant impacts on public rights of way. It may also help drive improvements to traffic routes (i.e. to areas with lower amenity impact) or indirectly support quieter, cleaner vehicles. Minor positive.

4.	+	+	+		✓	✓		This policy would reduce dust, odour and other emissions to air after consulting with communities (who are the key receptor for impacts from air) and considering cumulative effects. The policy does not allow unacceptable impacts, which would bring it into line with regulatory guidance, though the community could help to define this.
5.	+	+	+					This policy would reduce the effects of subsidence which contributes positively to this objective.
6.	+	+	+	✓		✓		Ensuring that emissions to the air are identified and mitigated where necessary should have a positive impact on climate change.
7.	0	0	0					There is no clear link between this policy and this objective
8.	0	0	0					There is no clear link between this policy and this objective
9.	+	+	+	✓			✓	Arguably minimising litter could drive a minor amount of waste minimisation.
10.	+	+	+	✓	✓	✓		As the policy seeks to prevent adverse impacts on visual amenity and the enjoyment of special qualities of the National Park, this will prevent adverse impacts on the historic environment (particularly when considered alongside the Historic Environment policy).
11.	+	+	+	✓		✓	✓	As the policy seeks to prevent adverse impacts on visual amenity and the enjoyment of special qualities of the National Park, this will prevent adverse impacts on the landscape. Indirectly other impacts (e.g. air quality, litter) will be avoided and help preserve the quality of the landscape.
12.	+	+	+	✓	✓	✓		Avoiding or mitigating any effects from proposals for minerals and waste may have impacts on the viability of some proposals. The significance of this will depend upon the scale and type of impacts to be addressed. On the other hand, the policy recognises the importance of amenity to local businesses.
	?	?	?					
13.	+	+	+	✓	✓	✓		This option would have direct positive effects on ensuring that the conditions to maintain the vitality and functionality of the local community including local businesses would not be adversely affected through the amenity effects of new development. This will include issues such as air quality and dust alongside public safety. The community would be a core part of defining the issues important to them.
14.	+	+	+	✓		✓		This would be positive by ensuring that PROW, open space and the National Park's qualities are not adversely affected or where they are they are appropriately mitigated.
15.	+	+	+	✓	✓	✓		The policy would directly consider the impacts of noise, dust, vibration, subsidence, odour and other emissions to air, vermin and litter, visual impact, public safety and access to open space. All of these aspects would have positive impacts on protecting health and wellbeing over the lifetime of the plan. The significance of the effects depends on the interpretation of 'unacceptable', though the community will have the chance to influence this.
	+	+	+					
16.	0	0	0					There is no clear link between this policy and this objective.

17.	+	+	+					The community would be involved in decision making through this objective
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**Summary of assessment** Broadly this policy performs well against the sustainability appraisal objectives. In particular it strongly contributes to the wellbeing, health and safety objective. Although broadly positive for the economy as amenity is important to local businesses, there is an uncertain effect on the viability of some proposals.

**Recommendations** Although no mitigation is proposed for this policy it will be important to address the uncertain effect on the viability of local businesses through monitoring this aspect of the Plan.

## Policy D03 - Transport of minerals and waste and associated traffic impacts

### Preferred Option

Where practicable minerals and waste movements should utilise alternatives to road transport.

Where road transport is necessary, proposals will be permitted where;

- There is capacity within the existing network for the level of traffic proposed, and
- Access arrangements are appropriate to the volume and nature of any road traffic generated and safe and suitable access can be achieved for all users of the site, and
- There are suitable arrangements in place for on-site manoeuvring, parking and loading/unloading, and
- Any adverse impacts can be appropriately mitigated for example by traffic controls, highway improvements and traffic routing agreements

For all proposals generating significant levels of road traffic, a transport assessment and green travel plan will also be required to demonstrate that opportunities for sustainable transport and travel have been considered and will be implemented where practicable.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	0					While it could be argued that to some degree this will lessen the incidence of wildlife road kill, given that the policy allows road transport where necessary the effect is likely to be insignificant.
2.	0	0	0					Road transport can, through run off of pollutants and dust, affect water quality. However, alternatives may also have water quality impacts. It is unlikely that there will be significant change from the baseline at a plan level through this policy however.
3.	+	+	+	✓		✓		This policy would ensure that alternative transport modes to road have been utilised where available and that mitigation is implemented where applicable. This would also have positive implications for congestion in some places through an understanding of the impact of the site on the existing road network and any improvements which may be necessary. The policy would also consider sustainable travel options for workers through green travel plans.
4.	+	+	+	✓	✓		✓	Sustainable transport is supported by the policy, which will improve air quality, though the policy will also allow for road transport – which is less positive. Traffic routing agreements and green travel plans are likely to

								ensure that the most significant local air quality impacts from traffic are avoided.
5.	0	0	0					There is no clear link between the policy and the objective.
6.	+	+	+	✓			✓	Green travel plans, sustainable transport and use of alternatives to road transport are likely to reduce CO2. However, traffic routing agreements may result in some longer journeys, and as the policy contains no priority for proposals that are sustainably located in terms of transport the effect on reducing emissions is only likely to be minor at best. To some degree this last effect may be moderated by the policy approach to the overall distribution of sand and gravel which gives consideration to proximity to market for that resource.
7.	0	0	0					There is no clear link between the policy and the objective.
8.	0	0	0					There is no clear link between the policy and the objective.
9.	0	0	0					There is no clear link between the policy and the objective.
10.	0	0	0					There is no clear link between the policy and the objective.
11.	?	?	?					The determination of routes, traffic volumes and any road network improvements could positively or negatively affect localised areas in relation to minerals or waste sites, particularly in sensitive landscapes within the plan area. The results of this are currently uncertain, but could be mitigated by better linkages to the landscape policy in the supporting text.
12.	+	+	+	✓		✓	✓	This policy will allow a fairly flexible approach to minerals development in particular, which is often well away from non-road transport networks. It will also take steps to minimise disruption for other road users.
13.	+	+	+	✓	✓		✓	The consideration of the local road network / traffic routing as well as suitable arrangements for on-site vehicle manoeuvring, parking and loading/unloading etc. should help to minimise effects on local communities as it will ensure effects on congestion around communities are minimised.
14.	0	0	0					There is no clear link between the preferred policy and the objective.
15.	+	+	+	✓	✓	✓		The consideration of the local road network / traffic routing as well as suitable arrangements for on-site vehicle manoeuvring, parking and loading/unloading should help to minimise effects on peoples' health and well-being as it will consider safety in relation to road access. Consideration of sustainable travel would also reduce the vehicles on roads to a limited degree. However, road transportation of mineral and waste overall may still have negative effects on noise, vibration and odour on communities along preferable routes and this policy does little to promote the overall reduction in road transport by location close to market. However, other policies in the plan may moderate this to a degree (e.g. the policy approach to the overall distribution of sand and gravel / amenity and cumulative impacts). Clear linkage between this policy and the amenity and cumulative impacts policy in particular should be included in the supporting text.
	?	?	?					
16.	0	0	0					There are no clear links between this preferred policy and the objective.
17.	+	+	+	✓	✓	✓		Having this preferred policy would require an understanding of how people get to and from the site as well as a green travel plan to ensure this can be done in the most sustainable way. Overall, this is considered to have

								a positive effect on ensuring the needs of the workers are considered in relation in terms of accessing employment in minerals and waste.
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**Summary of assessment** Mostly this preferred policy option either supports or has no effect on the SA objectives. Key positives (all minor) relate to the transport, air quality, climate change, economic growth, community vitality and population needs objectives. Some uncertainty was noted in relation to the effect of road improvements etc. on sensitive landscapes as well as a mixed positive / uncertain outcome for the health and wellbeing objective as the policy supporting text currently does not link well to other policies relating to amenity and cumulative impacts.

**Recommendations** Better linkages between this policy and the landscape and amenity / cumulative effects policies in the supporting text would help reduce the uncertainties identified in this assessment.



## Policy D04 - North York Moors National Park and the AONBs

### Preferred Option

#### Part One – Major Development

Proposals for major development in the National Park, Howardian Hills, Nidderdale, North Pennines and Forest of Bowland Areas of Outstanding Natural Beauty will be refused except in exceptional circumstances and where it can be demonstrated it is in the public interest. The demonstration of exceptional circumstances and public interest will require justification based on the following:

- The need for the development, which will include a national need for the mineral and the impact of the development on the national economy; and
- The impact of permitting it, or refusing it upon the local economy of the National Park or AONB; and
- Whether the development can technically and viably be located elsewhere outside the designated area, or the need for it can be met in some other way; and
- Whether any detrimental effect on the environment, the landscape and recreational opportunities, can be moderated to a level which does not significantly compromise the reason for the designation

#### Part Two – All developments

Planning permission will be supported where proposals contribute to the achievement of, or are consistent with, the aims, policies and aspirations of the relevant Management Plan and are consistent with other relevant development management policies in the Plan.

#### Part Three – Proposals which impact the setting of Designated Areas

Proposals for development outside of the National Parks and AONBs will not be permitted where it would have a harmful effect on the setting of the designated area.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓	✓	✓	✓	This policy may result in positive biodiversity/geodiversity impacts as a number of designated ecological/geodiversity sites lie within the National Park and AONBs and this policy would only allow major

							development in these areas in exceptional circumstances and where any detrimental effects on the environment could be moderated to a level which does not significantly compromise the reason for the designation.  In terms of development outside of the National Parks and AONBs which may affect the setting of those resources, there may be minor positive effects should mitigation to protect the landscape results in landscaping which also provides biodiversity benefits. However, elsewhere the policy may encourage some development to seek locations outside of designated areas (an indirect effect). This is less likely to have a detrimental effect on biodiversity / geodiversity than inside designated areas, so the net effect is still considered positive.
2.	+	+	+	✓		✓	There may be indirect positive effects on water quality in the National Park and AONBs should development be more restricted in these areas as a result of this policy. Elsewhere, if development chooses to locate outside of designated areas due to this policy, there may be effects, but these effects are location specific, so uncertainty is noted.
	?	?	?				
3.	+	+	+	✓		✓	There could be indirect positive effects on transport miles should the option direct development away from the National Park and AONBs. This would also tend to push such development to parts of the plan area that are better served by high quality transport infrastructure or are closer (though not always) to large markets (having a positive effect on the plan area as a whole).
4.	+	+	+	✓		✓	Under this option there may be positive effects on air quality in the National Park and AONBs as the policy's requirements for major development include consideration of impacts on the environment. There may be negative effects on air quality elsewhere in the Plan area should this option direct development to other locations, however it is considered that due to air quality being part of the special qualities of these areas that on balance the effects would be positive.
5.	-	-	-	✓		✓	Agricultural land quality in the National Park and the AONBs is generally low so there are unlikely to be any particularly positive effects from restricting development in these areas. However, there may be negative effects should the policy direct development to areas outside of the National Park and AONBs which generally have higher quality agricultural land.
6.	0	0	0				No clear link
7.	0	0	0				No clear link
8.	0	0	0				No clear link
9.	0	0	0				No clear link

10.	+	+	+	✓		✓	✓	This policy may result in positive cultural heritage impacts as a number of designated historic assets/areas of high archaeological potential lie within the National Parks and AONBs and this policy would only allow major development in these areas in exceptional circumstances and where any detrimental effects on the environment could be moderated. However, this policy may also restrict the supply of local building stone from within the National Parks and AONBs which may have a negative effect if it impacts upon maintenance of the distinctive character of the designated areas (i.e. shortage of local stone to repair buildings etc.).
11.	+	+	+	✓		✓		This policy is likely to result in major positive landscape impacts as major development would only be allowed in these high value landscapes in exceptional circumstances and where any detrimental effects on the environment and landscape could be moderated. For smaller developments, positive effects would occur should the landscape policy of the Plan contain reference to impact on the landscape of the National Park and AONBs (as it currently does). This policy would also help to protect the settings of the National Parks and AONBs, which is not covered within national policy, and would therefore have a strong positive effect on these areas. Minerals and waste developments by their nature are often large scale and industrial in appearance and could be particularly damaging to the setting of these areas. Although there may be localised negative effects on landscapes elsewhere in the Plan area (to which other development management policies apply), on balance affording a high level of protection to nationally protected areas is strongly positive.
12.	+	+	+	✓			✓	The policy contains consideration of impacts on the local and national economy but overall is likely to restrict development within the National Parks and AONBs and their settings. On one hand this could have a negative impact upon the economy and job creation by limiting local employment opportunities and the supply of minerals and waste facilities. Conversely, effects could be positive due to the importance of the tourism sector to the economies of these areas, which could be harmed by minerals and waste developments within the designated area or in close proximity.
13.	+	+	+	✓			✓	Under this policy consideration would be given to the impact on the local economy, which would include the tourism sector. In addition, should the option restrict major developments in the National Park and AONBs this would help to retain the tourism attraction element of these designations.
14.	+	+	+	✓			✓	Under this policy, the major development test includes consideration of any effects on recreational opportunities and would therefore have a positive effect in relation to major developments. By not allowing development outside of the National Parks and AONBs which would have a harmful impact upon the setting of the designated areas, this option will help to maintain the recreation experience of these protected areas by restricting developments that would detract from the quality of environment (including views from and to the areas, particularly upland areas). Although some development may choose to locate to other parts of the plan area as a result of this policy, the net effect of this policy (which protects possibly the most important recreational assets in the plan area) remains strongly positive.

15.	0	0	0					No clear link.
16.	0	0	0					No clear link.
17.	0	0	0					No clear link.

**Summary of assessment** Whilst the assessment identifies that there may be negative effects for the economy of these areas through restricting minerals and waste developments it also identifies potential positive effects on the tourism economy of maintaining these high quality environments. Particularly positive impacts have been identified in relation to recreation and leisure and landscape whilst some minor negative impacts have been identified in relation to land use, as development may be displaced to areas of higher agricultural land value, and cultural heritage, as this policy may restrict the supply of local building stone in the National Parks and AONBs.

**Recommendations** Overall the policy is considered to be largely positive and no mitigation is suggested.

## Policy D05 - Minerals and waste development in the Green Belt

### Preferred Option

#### Part one - minerals

Proposals for minerals development within the York and West Yorkshire Green Belts will be supported where they would preserve the openness of the Green Belt and are consistent with the purposes of Green Belt designation set out in national policy. Where minerals extraction in the Green Belt is permitted, reclamation and afteruse will be required to be compatible with Green Belt objectives.

#### Part two - waste

Proposals for most waste development in the Green Belt will be considered inappropriate and will only be permitted in very special circumstances. The following types of development may be appropriate in the Green Belt where it can be demonstrated that the openness of the Green Belt will be preserved and where significant conflict with the purposes of Green Belt designation would not arise:

- i) open windrow composting;
- ii) small scale on farm composting and anaerobic digestion;
- iii) recycling of construction and demolition waste in order to produce recycled aggregate where it would take place in an active quarry or minerals transport site and is linked to the life of the quarry or site;
- iv) short term waste sorting and recycling activity in association with, and on the same site as, other permitted demolition and construction activity;
- v) recycling, transfer and treatment activities at established industrial and employment sites in the Green Belt where the waste development would be consistent with the scale and nature of other activities already taking place at the site;
- vi) landfill of quarry voids including for the purposes of quarry reclamation and where the site would be restored to an after use compatible with the purposes of Green Belt designation;
- vii) small scale deposit of inert waste for agricultural improvement purposes or the improvement of derelict or degraded land; and
- viii) continued activities within the footprint of established waste sites in the Green Belt.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objectiv	Impact / timescal			Type of effect				Analysis
	S	M	L	P	T	D	I	

1.	0	0	0				Although there is biodiversity / geodiversity interest in the Green Belts, they are not significantly more bio-diverse / geo-diverse than the wider plan area. So the effect of the policy is considered to be broadly neutral (as there is no greater chance that development in the Green Belt would be any better or worse for the SA objective than development elsewhere).
2.	0	0	0				Although there is water quality / quantity interest in the Green Belts, they are not significantly more designation rich than the wider plan area. So the effect of the policy is considered to be broadly neutral (as there is no greater chance that development in the Green Belt would be any better or worse for the SA objective than development elsewhere).
3.	+	+	+	✓	✓	✓	As Green Belts lie close to urban areas, which are markets for minerals and sources of waste, this policy, which supports minerals development in the Green Belt provided openness is maintained, has a beneficial effect on the transport SA objective. In terms of waste, the clarity as to what would be acceptable is also mildly beneficial, though the significant weight afforded to locational needs when considering waste proposals in the Green Belt that was accepted under PPS10 has now gone, so arguably there could be an overall negative effect in relation to transport of waste (as waste facilities may need to be located further away from settlements).
4.	0	0	0				There is no clear link between the preferred policy and the objective.
5.	+	+	+	✓	✓	✓	This option will essentially direct suitable waste management (other than windrow composting and small scale farm composting and anaerobic digestion) to locations where high quality soils are unlikely to be lost (such as quarry voids, or within the footprint of established waste sites. This will benefit the objective. Minerals development will be required to preserve the openness, but may still have a significant impact on higher quality farmland (a reasonable proportion of which is contained within Green Belts). However, sites would be required to be restored in a way that is compatible with Green Belt objectives (which would likely involve re-instating soils).
6.	+	+	+	✓		✓	As minerals development will be acceptable where it will preserve openness of the Green Belt, and the categories of waste development that may be acceptable are made clear, this policy will allow suitable development (and deter inappropriate development). This clarity should at least allow suitable minerals development to come forward which will benefit from a proximal relationship to urban areas (which would be a continuation of existing policy drivers rather than a new effect). This will have mildly beneficial effects on transport and a corresponding mildly beneficial relationship with this climate change objective.  However, this should be considered alongside the situation as it was under previous Government guidance (PPS10) which gave significant weight to the locational needs of waste development in the Green Belt. This policy represents a significant departure from the approach in PPS10, and while suitable development may still be allowable, some other development that would have benefited from a position in the Green Belt due to proximity to waste sources / markets would presumably be sent somewhere else. This means that, in terms of

							the waste component of this policy, the situation is negative as some waste development may be located further away from urban areas, which would generate more carbon.
<b>7.</b>	0	0	0				There is no clear link between the preferred policy and the objective.
<b>8.</b>	0	0	0				This preferred policy would not have a material impact on resource use.
<b>9.</b>	-	-	-	✓		✓	As this preferred policy moves away from a situation where the locational requirements of waste facilities in the Green Belt were given weight it may drive some facilities to less optimal locations (which may affect costs or even viability for more some future facilities).
<b>10.</b>	+	+	+	✓		✓	<p>The preferred policy's approach would allow mineral extraction in the Green Belt, but only where it is consistent with the reasons for its designation. This would require an understanding of a site's impact in relation to the primary purposes of the Green Belt designation for that area. The majority of Green Belt in the plan area is primarily designated to preserve the character and settings of historic towns and cities such as York. So at least in terms of protecting the historic character of towns, the policy is positive.</p> <p>Under this preferred policy most waste development would, unless exceptional circumstances prevail, be unacceptable, though certain categories of development would be acceptable where they protect the openness of the Green Belt. This would restrict waste development, which would have beneficial effects on the settings of historic towns. Indirectly some development may ultimately be driven elsewhere to locations that may be better or worse in terms of historic character. Other effects such as impacts on historic designations or on archaeology are location dependent, but at this strategic level a neutral effect is recorded as there is no evidence to suggest the Green Belt is more or less valued in terms of the historic environment (other than for the settings of towns) than the wider plan area.</p>
<b>11.</b>	+	+	+	✓		✓	<p>The preferred policy's approach would allow mineral extraction in the Green Belt but only where it is consistent with the reasons for its designation. Waste development is likely to be more restricted. For the same reasons outlined in objective 10, this would protect townscape character. As the policy would also protect the openness of the Green Belt this is likely to ensure that extant landscape character is broadly maintained. Restoration and reclamation of minerals sites must also avoid conflict with the Green Belt designation. This is likely to be broadly positive for landscape, not just because it protects the setting of the historic town, but also because other Green Belt purposes will be respected (for instance, urban sprawl would be avoided, or derelict land affecting the townscape might be recycled as the Green Belt is maintained).</p>
<b>12.</b>	+	+	+		✓	✓	<p>This policy may have positive effects for enabling minerals extraction should it fall within the Green Belt area (this is broadly a continuation of the status quo for minerals sites). However, the policy will prove more restrictive for locating waste sites, given that in most cases they will be considered inappropriate. This may mean lost employment opportunities for key towns, or indirectly it may mean greater costs to local businesses when dealing with some wastes.</p>

13.	+	+	+		✓		✓	This policy may allow appropriate minerals development to continue to occur in the Green Belt, which may support a number of jobs. Most future waste development may be harder to achieve in the Green Belt. This may benefit communities as urban fringe locations are less likely to suffer further loss of rural character, so businesses that depend on this character (e.g. pubs, hotels) will benefit. Otherwise, however, the situation is likely to broadly neutral for communities.
14.	+	+	+	✓		✓		As Green Belt is accessible to a greater number of people than most other parts of the plan area, protecting its openness and restricting waste development is likely to have broadly positive effects on recreation.
15.	0	0	+	✓			✓	As Green Belt is accessible to a greater number of people than most other parts of the plan area, protecting its openness and restricting waste development is likely to benefit recreation, with indirect long term effects on the betterment of health due to continued access to less disturbed Green Belt land <sup>64</sup> .
16.	0	0	0					No clear link.
17.	0	0	0					No clear link.

**Summary of assessment** For some SA objectives the predicted effects for the waste and minerals parts of this preferred policy diverge, with a continuation of minor positive effects resulting from minerals development noted for the transport and climate change objectives, while at the same time negative effects are noted that arise from the lack of consideration of locational factors in relation to waste sites in the Green Belt. Similarly, for the economy SA objective, while minerals sites may continue to bring jobs to Green Belt communities, waste related jobs may become scarcer.

Elsewhere effects are broadly neutral or positive, with strong positive effects noted for landscape. The soils objective notes positive effects from the policy's approach to waste in relation to conserving soils (as in the Green Belt allowable waste development will mostly be located in places such as quarry voids or established industrial sites), while negative effects are noted for minerals development (as the Green Belts coincide with a large amount of higher quality grade 2 and 3 land). Similarly effects on the waste hierarchy may be negative, as the policy may drive some facilities to less optimal locations (which may affect the costs of operating waste sites or even viability for more some future facilities).

**Recommendations** This option largely complements national policy and affords a level of protection that, while having some minor effects, is balanced by a broad sweep of positive effects. Therefore no mitigation is recommended.

<sup>64</sup> According to CPRE "Green Belt land by its very nature is the 'countryside next door'. It offers major opportunities for ensuring that everyone has easy, car free access to the countryside, allowing people from the innermost parts of a city to be able to walk or cycle to a high quality, open countryside.....access to the countryside for quiet outdoor recreation is important for the nation's health and wellbeing – especially at a time of rising health concerns over obesity and how little exercise people take". CPRE, 2005. Green Belts 50 years On. CPRE, London.



## Policy D06 – Landscape

### Preferred Option

Proposals will be permitted where it can be demonstrated that there will be no unacceptable impact on the landscape, having taken into account any proposed mitigation measures.

For proposals which may impact on nationally designated areas including the National Park, AONBs, Heritage Coast and the adjacent Yorkshire Dales National Park, including their setting, a very high level of protection to landscape will be required. Development which would have an unacceptable adverse landscape impact on these designated areas will not be permitted.

Protection will also be afforded to the landscape setting of the historic City of York. Permission will only be granted for development which would harm the landscape setting of the City where the need for, or benefits of, the development outweigh the harm caused.

Where proposals may have an adverse impact on landscape, tranquillity or dark night skies, schemes should provide for a high standard of design and mitigation, having regard to landscape character, the wider landscape context and setting of the site and any visual impact, as well as for the delivery of landscape enhancement where practicable.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓		✓		This policy may have a positive impact on biodiversity/geo-diversity of the National Park, AONBs, coastal areas and the city of York as development may be encouraged away from these areas. A number of the Plan Areas' designated biodiversity/geo-diversity sites lie in these areas. There is an element of uncertainty in this assessment as development may be displaced to other parts of the Plan Area that do not lie within or close to a landscape designation but have a high biodiversity/geo-diversity value.
2.	?	?	?	✓		✓		There is some uncertainty as to this policy's effect on water quality and supply. For instance, the emphasis placed on regard for the setting of statutory and non-statutory landscapes may encourage some clustering of sites away from these designations (and towards other constraints such as Nitrate Vulnerable Zones or Source Protection Zones).
3.	+	+	+	✓		✓		Although effects are small scale, if this policy results in a shift away from protected landscapes and their settings (which tend to be the more remote areas of the Plan Area) it is likely to also result in sites that are

							situated closer to markets and are more accessible to employees. York is an exception to this as should the policy encourage minerals and waste development away from the city, transport miles may increase in order to process waste/deliver minerals to this market.
4.	+ -	+ -	+ -	✓		✓	This policy may direct development away from the City of York and the Air Quality Management Areas that exist within the city (emissions/transport to site would therefore not contribute to these areas of already high pollution). As recorded under objective 3, this policy may also move development closer to markets within the plan area (as protected landscapes tend to be the most sparsely populated areas). This may decrease transport miles and have a knock on effect on air quality. Conversely, longer journey times may result in order to process waste / deliver minerals to market in the City of York with a knock on negative impact on air quality.
5.	- ?	- ?	- ?	✓		✓	By steering developments away from the most sensitive landscapes (which are often on land of lower soil quality) this policy will increase the likelihood that negative effects may occur on the best and most versatile land in central parts of the Plan Area.
6.	+ -	+ -	+ -	✓		✓	This policy may support Objective 6's sub objective: 'promote carbon storage through appropriate land management'. This is because it may steer inappropriate development away from areas with the highest existing carbon storage such as the National Park (areas of peat in particular). This policy may also reduce distance to markets, and thus carbon emissions, by limiting the potential for development in the less accessible parts of the plan area (i.e. the protected landscapes). Conversely, steering development away from the City of York may increase carbon emissions associated with minerals and waste development in this area. Impacts are therefore a combination of minor positive and minor negative.
7.	0	0	0				No clear link.
8.	0	0	0				No clear link.
9.	0	0	0				No clear link.
10.	+ + -	+ + -	+ + -	✓		✓	This policy is likely to have a positive impact in terms of protecting the setting of heritage assets in the City of York and a high level of landscape protection for designated areas will also benefit the setting of historic assets in these areas. Some negative impacts may result from this policy as it is likely to restrict the number of minerals developments that take place in the National Park which may in turn reduce the supply of building stone from this area that may be required to repair historic buildings and maintain local distinctiveness.
11.	+ +	+ +	+ +	✓		✓	This policy is very compatible with most SA sub objectives and offers strong protection to designated landscapes. It is felt that this policy could be strengthened in relation to landscape enhancements that could be incorporated in to minerals and waste development where this would be compatible with landscape character.
12.	+ -	+ -	+ -	✓		✓	✓ This policy may have a positive impact as it may steer sites closer to markets therefore encouraging a low carbon economy and supporting jobs closer to existing businesses and the workforce. Should this policy prevent development from going ahead, this would reduce mineral supply/waste processing facilities and have a minor negative impact.

13.	+	+	+	✓		✓		This policy may have a positive impact on community vitality and viability by protecting landscapes of the National Park, AONBs, coast and City of York; areas where tourism assets tend to be concentrated within the Plan Area. The policy may however encourage clustering of development outside of designated landscapes and may negatively impact the vitality of communities there. Impacts could be minor positive or minor negative for different parts of the plan area.
14.	+	+	+	✓		✓		This policy would help protect the recreation value of the National Parks, AONBs, heritage coast and the City of York by steering inappropriate / unacceptable development away from them.
15.	+	+	+	✓		✓		This policy is likely to maintain a high quality environment, particularly in those areas of high landscape value, with some benefits to overall wellbeing <sup>65</sup> . Some negative amenity impacts may be experienced in areas of lower landscape value outside of the designated areas should development cluster in these locations.
16.	-	-	-	✓		✓		The protection afforded to designated landscapes is likely to steer development away from the higher parts of the plan area and towards areas of greater flood risk. Also less benefit from flood storage/alleviation is likely to occur lower down the catchment.
17.	0	0	0					No clear link.

**Summary of assessment** This policy is likely to result in a number of positive impacts particularly in relation to protection of the landscape. This is likely to also result in positive impacts in relation to cultural heritage, tourism and amenity in those areas of high landscape value. This policy may result in a clustering of development outside of the designated and high value landscapes in the plan area therefore resulting in cumulative negative impacts.

**Recommendations** Overall the policy is considered to be largely positive however it is considered that it could be strengthened by supporting the provision of landscape enhancements in association with minerals and waste development where this would be compatible with landscape character.

<sup>65</sup> See for example: Verlade et al, 2007. Health effects of viewing landscapes – landscape types in environmental psychology. Urban Forestry and Greening (6) 2007, pp199 – 212

## Policy D07 - Biodiversity and geodiversity

Assumptions – It is assumed that biodiversity offsetting would not be used as a means of making unacceptable development acceptable.

### Preferred Option

Proposals will be permitted where it can be demonstrated that there will be no unacceptable impacts on biodiversity or geodiversity, including on statutory and non-statutory designated sites, local priority habitats, habitat networks and species, having taken into account any proposed mitigation measures. A very high level of protection will be afforded to sites designated at an international or national level, including SPAs, SACs, RAMSAR sites and SSSIs. Development which would have an unacceptable impact on these sites will not be permitted.

Through the design of schemes, including any proposed mitigation measures, proposals should seek to contribute positively towards the delivery of agreed biodiversity and/or geodiversity objectives, including those set out in agreed local Biodiversity or Geodiversity Action Plans, or in line with agreed priorities of any relevant Local Nature Partnership, with the aim of achieving net gains for biodiversity or geodiversity.

In exceptional circumstances, and where the development site giving rise to the requirement for offsetting is not located within a SPA, SAC, RAMSAR or SSSI, the principle of biodiversity offsetting to fully compensate for any losses will be supported. These circumstances include where:

- It has been demonstrated that it is not possible to avoid or mitigate against adverse impacts; and
- The provision of compensatory habitat within the site would not be feasible; and
- The need for or benefits of the development override the need to protect the site; and
- Any compensatory gains would be delivered within the minerals or waste planning authority area in which the loss occurred.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓		✓		This option would have strong direct positive effects against this objective by ensuring development is only supported where there would be no unacceptable impact on biodiversity and geodiversity. The policy provides a very high level of protection to nationally and internationally designated sites. The policy also aims to achieve net gains for biodiversity and geodiversity by working towards objectives set out in the Biodiversity/Geodiversity Action Plans and the priorities of the Local Nature Partnership. Biodiversity offsetting

	?	?	?					may also result in some positive impacts by enabling biodiversity/geodiversity gains to be secured elsewhere where new development is permitted that would result in biodiversity/geodiversity losses. However, some uncertainty exists in relation to biodiversity offsetting particularly around irreplaceable habitats such as ancient woodland as the loss of such features could not be replaced through offsetting and this policy would not therefore provide benefits for such habitats.
2.	+	+	+	✓			✓	The option could have indirect positive effects on water quality as protecting and enhancing areas for biodiversity is likely to ensure that water quality is protected or in some cases improved (e.g. through the creation of reed beds). Providing a high level of protection to internationally and nationally designated sites, including SPA's, SAC's, Ramsar sites and SSSIs will ensure that a number of water bodies within the plan area are afforded a high level of protection including sections of the River Derwent (designated as an SAC) and the Humber Estuary (SPA, SAC, Ramsar).
3.	0	0	0					No clear link.
4.	+	+	+	✓			✓	The option could have indirect positive effects on air quality as protecting and enhancing areas for biodiversity is likely to ensure that air quality is protected or in some cases improved.
5.	+	+	+	✓			✓	This option is likely to have positive effects on soil quality as protecting and enhancing biodiversity/geodiversity is likely to involve protecting, and in some cases improving, soils.
6.	+	+	+	✓			✓	Maintaining habitats in situ would have positive effects relating to maintaining stores of carbon, particularly should this relate to grasslands, heathland and woodlands. While biodiversity offsetting may lead to net gains for the biomass contained in habitats, it is less clear if that portion of the carbon held in underlying substrates would be retained, or allowed time to mature. For instance, loss of deep peat substrate may lead to loss of a carbon store. This leads to an element of uncertainty.
	?	?	?					
7.	+	+	+	✓		✓	✓	This option would enable consideration to be given to the effects a development may have on local habitat networks, enabling these to specifically be protected or enhanced, thus providing a contribution towards climate change adaptation. Over the longer term effects may become more positive, either in respect of the creation of better networks or the significance of the networks as effects of climate change increase.  Retaining habitats also plays an important role in moderating the effects of climate change, such as through flood risk regulation and (in urban areas) temperature regulation.
8.	0	0	0					No clear link.
9.	0	0	0					No clear link.
10.	0	0	0					No clear link.
11.	+	+	+	✓			✓	The option could have indirect positive effects on landscape as protecting and enhancing areas for biodiversity is likely to also ensure that the landscape is protected, as habitats are an integral part of the landscape.

12.	-	-	-	✓	✓	✓	<p>The option may have a negative effect should it lead to the prevention of a particular development, however overall the protection and enhancement of biodiversity is integral the provision of an environment which is attractive for investors and may have positive effects in this respect. Linking with local biodiversity objectives may be particularly beneficial as these have been set in the context of the economy and characteristics of the local area.</p> <p>It is considered that biodiversity offsetting would also allow developers additional flexibility over the location of development with broadly positive effects on this objective. ).</p>
	+	+	+				
13.	-	-	-	✓	✓	✓	<p>The option may have a negative effect should it lead to the prevention of a particular development (or, through biodiversity offsetting, leads to the loss of a habitat that is important to the continued vitality of a community). However, overall the protection and enhancement of biodiversity is integral to the provision of an environment which is attractive for investors, and therefore leads to job creation, and may have positive effects in this respect. Also, maintaining biodiversity can help to maintain an attractive environment which supports tourism. Linking with local biodiversity objectives may be particularly beneficial as these have been set in the context of the economy and characteristics of the local area.</p>
	+	+	+				
14.	+	+	+	✓		✓	<p>The Special Qualities of the National Park include ‘<i>A special mix of upland, lowland and coastal habitats; a wide variety of wildlife dependent on these</i>’ and therefore protecting and enhancing biodiversity in the National Park will have positive effects on providing opportunities for understanding and enjoying the Park (the second statutory purpose). Elsewhere, there are likely to be similar benefits where the recreational experience is supported by the presence of habitats and wildlife. Elsewhere, the policy’s strong protection for biodiversity / geodiversity is likely to offer protection to valued wildlife areas and may even create new wildlife / geology areas. These may deliver services such as access to recreation.</p>
15.	+	+	+	✓		✓	<p>If the biodiversity offsetting provision is improving/increasing a biodiversity asset that also had value to the local community, this option would have positive effects as it would be replacing the asset with a new (larger/improved) one within the same area. However, there is uncertainty as to whether an offset would continue to be accessible. Elsewhere, the policy’s strong protection for biodiversity / geodiversity is likely to offer protection to valued wildlife areas and may even create new wildlife / geology areas. These may deliver ecosystem services such as access to recreation or pollution regulation services of benefit to communities.</p>
16.	+	+	+	✓		✓	<p>Retaining natural habitats and minimising areas of hard standing can help to minimise the risk of flooding. This policy may therefore indirectly have a minor positive impact in relation to this objective.</p>
17.	-	-	-	✓		✓	<p>Protecting biodiversity may have a negative effect on this objective should it result in minerals developments not coming forward, leading to a lack of materials for development and other uses.</p>

**Summary of assessment** This preferred policy will have a range of largely positive effects as through the protection and enhancement of biodiversity valuable ecosystem services, such as water or air quality improvements, carbon storage benefits, or increased access to outdoor space.

It may also benefit the local economy, helping to ensure that the plan area remains attractive to tourists and investors. Some uncertainty was however noted in relation to biodiversity offsetting which while seeking to provide a net gain, might fail to fully replicate lost habitats (albeit that these are likely to be of local rather than national value), or might locate them some distance away from the original beneficiaries of habitats. Nonetheless, offsetting would provide minerals and waste developers with greater flexibility to locate in the best locations. Some negative effects were noted due to the burden that this policy may put on new development.

**Recommendations** Broadly the policy is seen as positive in terms of most SA objectives. However, the uncertainties raised over biodiversity may benefit from additional clarification on the circumstances when it would be suitable (i.e. when exceptional circumstances; might apply, the offset metrics expected of developers and the geographical scope of its application)<sup>66</sup>.

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<sup>66</sup> National guidance on biodiversity offsetting has not yet been finalised. Information on the pilot work and consultation work run by Defra is available at <https://www.gov.uk/biodiversity-offsetting>.

## Policy D08 - Historic environment

### Preferred Option

Minerals or waste development proposals will be permitted where it can be demonstrated that they will conserve and, where appropriate, enhance those elements which contribute to the significance of the area's heritage assets including their setting.

Particular regard will be had to the benefits of conserving those elements which contribute most to the distinctive character and sense of place of the Plan area including;

- The World Heritage Site at Fountains Abbey/Studley Royal
- The special historic character and setting of York
- The archaeological resource of the Vale of Pickering, the Yorkshire Wolds, the North York Moors and Tabular Hills, and the Southern Magnesian Limestone Ridge

Proposals that would result in harm to a designated heritage asset (or an archaeological site of national importance) will be permitted only where this is outweighed by the public benefits of the proposal. Substantial harm or total loss to the significance of a designated heritage asset (or an archaeological site of national importance) will be permitted only in exceptional circumstances and where it can be demonstrated that substantial public benefits would outweigh that harm.

Proposals affecting an archaeological site of less than national importance will be permitted where they would conserve those elements which contribute to its significance in line with the importance of the remains. In those cases where development affecting such sites is acceptable in principle, mitigation of damage will be ensured through preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, adequate provision should be made for excavation and recording before or during development.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	0					No clear link.
2.	0	0	0					No clear link.



3.	0	0	0				No clear link.
4.	0	0	0				No clear link.
5.	0	0	0				No clear link.
6.	0	0	0				No clear link.
7.	0	0	0				No clear link.
8.	?	?	?				Considerations for the historic environment may restrict the locations available for minerals and waste development should the most suitable places also coincide with areas of importance (this may particularly be the case around the city of York). This may increase resource use in some cases (e.g. where a location for a waste site that would move waste up the waste hierarchy is ruled out). However, this is location specific and therefore the effects are currently uncertain.
9.	?	?	?				As with SA objective 8, considerations for the historic environment may restrict the locations available for waste management should the most suitable places also coincide with areas of importance, particularly around York. This is location specific and therefore the effects are currently uncertain.
10.	+	+	+	✓		✓	This policy would result in a major direct positive impact upon this objective as development will only be permitted where it will conserve and, where appropriate, enhance the historic environment. Developments that would result in harm to designated heritage assets would only be allowed where harm is outweighed by the public benefits of the proposal. Particular regard is given to the most significant resources and locations including the City of York, Fountains Abbey/Studley Royal World Heritage Site and significant archaeological resources. There is an element of uncertainty in relation to the magnitude of positive impact that would result from this policy as it states that enhancements will be made 'where appropriate' without any further guidance on what this may entail.
	+	+	+				
	?	?	?				
11.	+	+	+	✓		✓	The policy is likely to have a positive impact on landscapes and townscapes as conserving and enhancing heritage assets and their setting will also protect and enhance landscape and townscape character as heritage assets are an integral part of the landscape/townscape.
12.	-	-	-	✓		✓	The option may have a negative effect should it lead to the prevention of a particular development, however overall the conservation and enhancement of the historic environment is integral the provision of an environment which is attractive for investors and may have positive effects in this respect.
	+	+	+				
13.	+	+	+	✓		✓	Conserving heritage assets and where practicable delivering enhancements to their setting may result in positive effects on this objective as it may provide opportunities to boost tourism (i.e. in the City of York and at other heritage assets which are also tourist destinations such as Fountains Abbey). This may also support the creation of new jobs.
14.	+	+	+	✓		✓	The Special Qualities of the NYM National Park includes archaeology, locally distinctive buildings and building materials and therefore protecting and enhancing historic assets in the National Park will have positive effects on providing opportunities for understanding and enjoying the Park (the second statutory purpose).

								Elsewhere, there are likely to be similar benefits where the recreational/learning experience is supported by the presence of historic assets.
15.	0	0	0					No clear link.
16.	0	0	0					No clear link.
17.	-	-	-					Protecting historic assets may have a negative effect on this objective should it result in minerals developments not coming forward, leading to a lack of materials for development and other uses.

**Summary of assessment** This policy would have particularly strong positive impacts in relation to the historic environment and landscape objectives. The policy would conserve and where appropriate enhance the historic environment and affords particular protection for the most significant historic assets within the plan area. Positive impacts are also likely to result in relation to tourism, recreation, community viability and vitality and the economy as this policy may boost tourism and conserve and enhance the special qualities of the National Park. Some negative impacts may result particularly in relation to the economy and meeting the needs of a changing population should this policy result in prevention of minerals and waste development due to historic environment considerations.

**Recommendations** There is an element of uncertainty in relation to the magnitude of positive impact that would result from this policy as it states that enhancements will be made 'where appropriate'. This policy could be strengthened by requiring enhancements to be made 'wherever possible'.

## Policy D09 - Water environment

### Preferred Option

Proposals for minerals and waste development will be permitted where it can be demonstrated that no unacceptable adverse impacts will arise, taking into account any proposed mitigation, on:

Surface or groundwater quality

Surface or groundwater supplies and flows

In relation to surface and groundwater quality and flows a very high level of protection will be applied to principle aquifers and groundwater Source Protection Zones. Development which would have an adverse impact on principle aquifers and Source Protection Zones will only be permitted where the need for, or benefits, of the development clearly outweigh any harm caused.

Permission for minerals and waste development on sites not allocated in the Plan will, where relevant, be determined in accordance with the Sequential Test and Exception Test for flood risk set out in national policy. Development which would lead to an unacceptable risk of, or be at an unacceptable risk from, surface, ground or coastal water flooding will not be permitted.

Proposals for minerals and waste development should, where necessary or practicable taking into account the scale, nature and location of the development proposed, include measures to contribute to flood alleviation and other climate change mitigation and adaptation measures including use of sustainable urban drainage systems.

*SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓	✓		✓	<p>This option would protect water resources from unacceptable impacts on water quality. It also avoids unacceptable adverse effects of flooding. While 'unacceptable impacts' is not clearly defined this will significantly benefit aquatic / riparian biodiversity.</p> <p>The SA sub objectives would suggest that an increasingly important benchmark of acceptability would be that water quality status objectives (which include ecological water quality objectives) outlined in River Basin Management Plans should not be prevented from being achieved. However, in most cases this will be controlled by the environmental permitting regime</p>

								The encouragement of SuDs in this policy is also likely to benefit this objective, given that SUDS utilise natural features in drainage.
2.	+	+	+	✓	✓		✓	<p>This option would protect water resources from unacceptable impacts on water quality / supplies and flows. While 'unacceptable impacts' is not clearly defined this will significantly benefit water quality / supplies.</p> <p>The SA sub objectives would suggest that an increasingly important benchmark of acceptability would be that water quality status objectives outlined in River Basin Management Plans should not be prevented from being achieved. In most cases this will be controlled by the environmental permitting regime. Water supplies are also licensed.</p> <p>The encouragement of SuDs in this policy is also likely to benefit this objective.</p>
	+	+	+					
	+	+	+					
3.	0	0	0					No clear link
4.	0	0	0					No clear link
5.	0	0	0					No clear link
6.	+	+	+	✓			✓	The policy refers to climate change mitigation. While climate change mitigation usually refers to efforts to reduce the magnitude of climate change, either through directly reducing greenhouse gases or through the use of carbon sinks <sup>67</sup> it is considered that there may be minor benefits that could be achieved through this objective. For instance, through wetland habitats that act as carbon sinks but also store flood water (climate adaptation).
7.	+	+	+	✓	✓	✓	✓	This option protects surface and groundwater from unacceptable effects and includes impact on groundwater and surface water flooding. All of these things are vulnerable to climate change, and the option can be seen to make a significant contribution to the response to climate change.
	+	+	+					
8.	0	0	0					No clear link
9.	0	0	0					No clear link
10.	0	0	0					No clear link
11.	0	0	0					No clear link
12.	+	+	+	✓		✓		A clean and steady water supply is an essential requirement for many businesses that operate in the plan area, including many recreation businesses, farming and industries that extract water. Reduced flood risk is also important to continued business success. This approach would provide strong support for this.
	+	+	+					

<sup>67</sup> See UNEP, undated. Climate Change Mitigation [URL: <http://www.unep.org/climatechange/mitigation/>] or BBC, 2014. What is climate change mitigation? [URL: <http://www.bbc.co.uk/news/science-environment-26980837> ]

13.	+	+	+	✓		✓		Waterways are at the heart of many communities. This approach will protect them. This approach would also help protect communities from flooding. This will contribute significantly to sustained community vitality.
14.	+	+	+	✓		✓		A clean and steady water supply is an essential requirement for many recreational activities that take place in the plan area. This approach would support this.
15.	+	+	+	✓	✓	✓	✓	A clean and steady water supply is an essential prerequisite of several aspects of health and wellbeing. And reduced flood risk is of key importance to safety in many communities. This approach would strongly support this.
16.	+	+	+	✓		✓		This approach considers impacts on flooding and supports the sequential approach which strongly supports this objective. It also supports consideration of the potential for flood alleviation and SuDS.
17.	+	+	+	✓	✓	✓	✓	A clean and steady supply of water would help meet the needs of the population

**Summary of assessment** This is a generally positive development management policy, with benefits to biodiversity, water, climate change mitigation and adaptation, the economy, community vitality, recreation, health and wellbeing and a changing population. It will work well alongside the environmental permitting and water licensing regimes.

**Recommendations** A reference to the importance of not impeding the achievement of water status objectives outlined in River Basin Management Plans (which is important in meeting obligations under the Water Framework Directive) in the supporting text could add some additional clarity for future development proposals. This can generally be demonstrated by achieving a relevant environmental permit flood defence consent or land drainage / ordinary watercourse consent.<sup>68</sup>

<sup>68</sup> See Environment Agency, 2014. Living on the Edge URL: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/403435/LIT\\_7114.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/403435/LIT_7114.pdf)

## Policy D10 - Reclamation and afteruse

### Preferred Option

#### Part One

Proposals which require restoration and afteruse elements will be permitted where it can be demonstrated that they would be carried out to a high standard and which, where relevant, have demonstrably:

- i. Been brought forward in discussion with local communities and other relevant stakeholders and where practicable reflect the outcome of those discussions;
- ii. Taken into account the location and context of the site, including the implications of other significant permitted or proposed development in the area and the range of environmental and other assets and infrastructure that may be affected, including any important interactions between those assets and infrastructure;
- iii. Reflected the potential for the proposed restoration and/or afteruse to give rise to positive and adverse impacts, including cumulative impacts, and have sought where practicable to maximise potential overall benefits and minimise overall adverse impacts;
- iv. Taken into account potential impacts on and from climate change factors
- v. Made best use of onsite materials for reclamation purposes and only rely on the need for importation of waste where essential to deliver an appropriate standard of reclamation;
- vi. Provided for progressive, phased restoration where appropriate and which provide for the restoration of the site at the earliest opportunity in accordance with an agreed timescale;
- vii. Provided for the longer term implementation and management of the agreed form of restoration and afteruse (except in cases of agriculture or forestry after uses where a statutory 5 year maximum aftercare will apply).

#### Part two

In addition to the criteria in Part One above, proposals will be permitted which deliver a more targeted approach to minerals site restoration and afteruse by contributing towards objectives, appropriate to the location of the site, including where relevant:

- i. In areas of best and most versatile agricultural land, prioritising the protection and enhancement of soils and the long term potential to create areas of best and most versatile land during reclamation of the site;
- ii. Where opportunities allow, particularly for sand and gravel extraction in the flood plains of the rivers Swale and Ure, providing additional flood storage capacity to help minimise flooding in upstream and downstream locations;
- iii. Within the National Park and AONBs, enhancing the special qualities of the designated area and/or providing opportunities for the enjoyment and understanding of those special qualities;
- iv. Within airfield safeguarding zones, particularly where reclamation for biodiversity is involved, ensuring that reclamation and afteruse proposals respect safeguarding constraints whilst maximising the potential restoration and afteruse benefits delivered by the site;

<p>v. In proximity to important heritage assets, ensuring that the significance of assets and their settings is sustained and where practicable enhanced and, also where practicable, that opportunities to facilitate enjoyment of the asset are provided;</p> <p>vi. Where the development is located within or adjacent to identified green infrastructure corridors, reflecting any locally agreed priorities for delivery of additional or enhanced green infrastructure and ecosystems services;</p> <p>vii. In proximity to major settlements within and adjacent to the Plan area, and subject to local amenity considerations, providing enhanced opportunities for informal and formal public access and recreation;</p> <p>viii. Delivering enhancements for biodiversity, improvements to habitat networks and the connectivity between these, including the creation of Biodiversity Action Plan habitats, based on contributing towards established objectives, seeking to deliver benefits at a landscape scale where practicable;</p> <p>ix. Creating geodiversity benefits where appropriate including contributing towards the delivery of priorities identified in any relevant Geodiversity Action Plan.</p>								
<p><i>SA Objective Key: 1. Biodiversity/Geo-diversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs</i></p>								
SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓		✓		The policy requires consideration to be given to effects on environmental assets, which could include habitats, biodiversity and geo-diversity, and will therefore have a positive effect against this objective. Part two of the policy also encourages proposals to contribute to a number of objectives (dependent on the location of the site) via restoration schemes including, contributing towards the delivery of additional or enhanced green infrastructure and ecosystem services, delivering enhancements for biodiversity, improvements to habitat networks and the connectivity between these, including the creation of Biodiversity Action Plan habitats, and creating geo-diversity benefits including contributing towards the delivery of priorities identified in any relevant Geo-diversity Action Plan. This policy will therefore have a major positive impact against the biodiversity/geo-diversity objective.
2.	+	+	+	✓		✓		The policy requires consideration to be given to effects on environmental assets, which could include the water environment, and will therefore have a positive effect against this objective.
3.	+	+	+		✓	✓		The policy requires on-site materials to be used where possible and would therefore reduce the need for transportation as part of the reclamation process. Additionally, providing opportunities for recreation close to major settlements could help to reduce the need to travel to access leisure facilities.
4.	+	+	+	✓		✓		The policy requires consideration to be given to effects on environmental assets, which could include air

							quality, and would therefore have a positive effect against this objective.
5.	+	+	+	✓		✓	The policy will have strong positive effects on this objective by requiring reclamation schemes to protect and enhance soils and agricultural land in areas of best and most versatile agricultural land and consider the long term potential to create areas of best and most versatile land during reclamation of a site.
6.	+	+	++	✓		✓	The policy requires schemes for reclamation and after-use to take into account potential impacts on climate change. Effects may be greater over time as more sites are restored.
7.	++	++	++	✓		✓	The policy requires schemes for reclamation and after-use to take into account potential impacts from climate change. Part 2 of the policy identifies specific areas where increasing flood storage capacity may be particularly beneficial and will therefore have a positive effect on this objective, bearing in mind increased flooding is a predicted effect of climate change.
8.	-	-	-	✓		✓	Through encouraging the use of on-site materials above the importation of materials or waste, this policy would not help with reducing the use of materials and encouraging the re-use of materials.
9.	?	?	?	✓		✓	Through encouraging the use of on-site materials above the importation of waste, this policy effectively discourages the landfilling of waste (a method of waste management at the bottom of the waste hierarchy). It is not clear however whether this would then result in the waste that would otherwise have been landfilled being dealt with higher up the waste hierarchy and therefore impacts are uncertain.
10.	+	+	+	✓		✓	Part one of this policy requires consideration to be given to effects on environmental assets, which could include the historic environment. Part two of the policy requires sites in proximity to important heritage assets to ensure that the significance of assets and their settings are sustained and where practicable enhanced, and that opportunities to facilitate enjoyment of the asset are provided where practicable. This policy is therefore considered to have a major positive impact on the historic environment objective.
11.	+	+	+	✓		✓	Part one of this policy requires consideration to be given to effects on environmental assets, which could include the landscape/townscape. Part 2 of the policy requires that within the National Park and AONBs, reclamation and after-use should aim to enhance the special qualities of the designated area and/or provide opportunities for the enjoyment and understanding of those special qualities. It is considered that the policy could be strengthened by specifically referring to landscape enhancements outside of the designated areas also. Impacts are considered to be minor positive for those areas outside of the National Park and AONB's and major positive for areas within the landscape designations.
	+	+	+				
12.	+	+	+	✓		✓	This policy may result in some indirect positive impacts on the economy through improved recreation opportunities, improved enjoyment of historic assets, and improved opportunity for enjoyment of the National Park and AONBs which may all boost tourism in the plan area. An element of uncertainty has also been recorded in relation to this objective as it is considered that requirements for restoration and after-use may in some cases impact upon the viability of a project.
	?	?	?				
13.	+	+	+	✓		✓	As stated under objective 12, this policy may lead to a boost in tourism resulting in minor positive impacts in relation to this objective.



14.	+	++	++	✓		✓	✓	This policy is likely to lead to a range of benefits for recreation including those relating to enhancing the special qualities of National Parks and AONBs and providing opportunities for their enjoyment, enhanced green infrastructure corridors, and the provision of enhanced opportunities for informal and formal public access and recreation. The range of recreation opportunities provided is likely to increase in extent over time.
15.	+	+	+	✓		✓	✓	This policy will enable considerations related to the wellbeing of the community to be taken into account by requiring schemes to be developed through discussion with local communities. The provision of recreation opportunities will also provide health and wellbeing benefits for local communities. The extent of these will increase over time.
16.	++	++	++	✓		✓		Part 2 of this policy identifies specific areas where increasing flood storage capacity may be particularly beneficial and will therefore have a positive effect on this objective.
17.	+	++	+	✓		✓		This policy would contribute towards the sub-objectives 'to enable development and wider activity to meet the needs of the population' and 'to enable the community to contribute to and have influence in decision making' by requiring that reclamation and after-use plans have been brought forward in discussion with local communities and other relevant stakeholders and where practicable reflect the outcome of those discussions. Major positive impacts are therefore considered likely in relation to this objective.

**Summary of assessment** This policy is likely to result in largely positive impacts with particularly strong positive effects recorded in relation to biodiversity, land use, climate change adaptation, historic environment, flood risk and meeting the needs of a changing population due to the wide range of considerations promoted by the policy. A minor negative impact has been recorded in relation to resource use and encouraging re-use of materials as through encouraging the use of on-site materials above the importation of previously used ones/waste, this policy would not help with reducing the use of materials and encouraging their re-use. Uncertain effects are recorded in relation to sustainable waste management as the policy provides less scope for wastes other than those generated on site to be used in reclamation with uncertain implications for the management of other wastes.

**Recommendations** This policy is considered to be largely positive and no mitigation is proposed.

## Policy D11 - Sustainable design, construction and operation of development

### Preferred Option

#### Part one

Proposals for minerals and waste development will be permitted where it has been demonstrated that measures appropriate and proportionate to the scale and nature of development proposed have been incorporated in the design, construction and operation of the development in relation to:

- i. Reduction or minimisation of greenhouse gas emissions through incorporation of energy efficient siting, design and operational practices including those relating to bulk transport of materials;
- ii. Minimisation of waste generated by new minerals and waste development
- iii. Generation and utilisation of renewable or low carbon energy where practical and in a manner appropriate to the character and location of the development;
- iv. Minimisation of water consumption through incorporation of water efficiency measures, including where practicable the re-use of waste water originating from the development;
- v. Measures to minimise flood risk associated with the development including use of Sustainable Drainage Systems and permeable surfacing;
- vi. A requirement for the relevant built elements of significant new minerals and waste developments to meet a minimum 'Very Good' BREEAM standard;
- vii. For energy from waste development the efficient use of energy generated by the development including, for development with the potential for generation of combined heat and power, the beneficial use of heat either on site or to serve other existing or proposed development in the vicinity of the site;
- viii. Implementation of landscape planting comprising native species able to successfully adapt to climate change and where practicable incorporation of areas of new wildlife habitat that would help to improve habitat connectivity;
- ix. Mitigation of the impacts on the development arising from any predicted mining subsidence or land instability
- x. For minerals workings and mineral working deposits, consideration of tip and quarry slope stability and incorporation of appropriate mitigation in the design of tips and slopes in order to minimise any hazard to people and property

Proposals for substantial new minerals extraction and for the large scale treatment, recovery or disposal of waste should be accompanied by a climate change assessment showing how the proposals have taken into account impacts from climate change and include appropriate mitigation measures where necessary.

#### Part two

Proposals for new built development should demonstrate how the development would be designed, constructed and operated in order to:

- i. minimise waste generated during construction of the development, and incorporate measures to encourage or facilitate the re-use and recovery of any waste generated during construction of the development
- ii. Incorporate appropriate space to enable waste arising during use of the development to be sorted and stored prior to being collected for recycling or re-use
- iii. Use sustainable construction materials where practicable, including use of alternatives to primary land-won aggregate

SA Objective Key: 1. Biodiversity/Geo-diversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+	✓		✓		The demonstration through this policy of how a site has supported native planting and/or areas of new wildlife habitat throughout the lifecycle of the site should have positive effects for biodiversity. The significance of these effects would be a function of the scale at which these measures are implemented considered against any harm which may occur as a result of the development.
2.	+	+	+	✓		✓		This policy would seek demonstration that any development minimises water consumption through efficiency and re-use. Whilst this is positive, the criteria set out do not tackle impacts on water quality through good design and operation of the facility. This policy would therefore have a minor positive impact in relation to this objective.
3.	+	+	+	✓		✓		This policy, as it promotes BREEAM and minimising greenhouse gases through bulk transport of minerals, would have a minor benefit on this objective.
4.	+	+	+	✓		✓		This option is likely to have direct impacts on air quality through ensuring that design of the site minimises greenhouse gas emissions through the incorporation of energy efficient siting, design and operation and through the generation and utilisation of renewable or low carbon energy.
5.	+	+	+	✓		✓		Efficient siting and design of a site implemented through the criteria set out in this policy may help to reduce the amount of land taken up by minerals and waste development. This would result in a minor positive impact in relation to this objective.
6.	+	+	+	✓		✓	✓	All the criteria set out in this policy will have a positive effect on climate change directly or indirectly through requiring demonstration of minimising the causes of climate change such as greenhouse gas emissions, through efficient design and operation of new developments, and through the use of renewable energy technologies. In addition, new proposals would need to demonstrate through a climate change assessment how the proposals have taken this into account, including appropriate mitigation measures. This is likely to have a positive effect, particularly cumulatively across the plan area in the long-term. This has the potential to be significantly positive but this is dependent upon the balance of net harm resulting from the development itself against the measures put in place to mitigate any effects. The policy also requires a climate change assessment for substantial new minerals and waste sites
	+	+	+					
7.	+	+	+	✓		✓		The criteria set out in this policy relating to flood risk and drainage, renewable energy, water consumption and

	+	+	+					native planting, incorporation of new wildlife habitat to help to improve habitat connectivity as well as building to BREEAM standards would help contribute to climate change adaptation by minimising a site's effect on the environment throughout the lifecycle of the site and through building in resilience to some key climate change impacts.
8.	+	+	+	✓		✓		This policy would not influence the amount of minerals to be extracted but it does encourage any buildings or operations on the site to minimise the amount of energy and resources consumed through onsite energy generation or the use of renewable energy. This policy advocates a sustainable approach to resources by supporting their re-use and recycling as well the use of sustainable materials where practicable. Overall, it is considered that a minor positive impact would result in relation to this objective.
9.	+	+	+	✓		✓		This policy includes criteria that are directly relevant to reducing waste through advocating the implementation of measures to reduce waste generated and encouraging/facilitating its re-use and recovery during construction. In addition, it also supports waste being sorted and stored prior to it being re-used or recycled. Part one of the policy also promotes the re-use of waste water where practicable and the recovery and onsite use of energy generated by the development. It is considered that this would result in a major positive impact in relation to this objective.
10.	+	+	+	✓	✓	✓	✓	Part one of this policy promotes high quality design and landscaping which may have a positive impact or at least minimise/neutralise negative impacts in relation to the historic environment. The strong focus of this policy on reducing climate change/flooding may have some positive impacts on heritage assets in the plan area that are at risk from flooding or other climate change related impacts. Part two of the policy encourages 'incorporation of appropriate space to enable waste arising during the use of the development to be sorted and stored prior to being collected for recycling or re-used'. Impacts in relation to this element of the policy will depend upon the location and scale of additional development/space required.
	0	0	0					
	?	?	?					
11.	+	+	+	✓	✓	✓		Part one of this policy promotes high quality design and landscaping which may have a positive impact or at least minimise/neutralise negative impacts in relation to landscape/townscape. Part two of the policy encourages 'incorporation of appropriate space to enable waste arising during the use of the development to be sorted and stored prior to being collected for recycling or re-used'. Landscape/townscape impacts in relation to this element of the policy will depend upon the location and scale of additional development/space required.
	0	0	0					
	?	?	?					
12.	?	?	?		✓	✓	✓	Sustainable design and construction should prove to be cost effective in operational terms through implementing measures which help with long-term cost saving, although it is acknowledged that the implementation of a highly sustainable site/facility may prove costly. Re-using materials is likely to save money where it is practicable. However, supporting the sorting and storage of waste on site may have both costs and benefits through enabling waste to be recovered for other uses but also potentially negative effects in terms of the timescales for development and costs for additional land. The impact of this policy in relation to the economy is likely to be dependent upon the type of facility and its location. Impacts are therefore recorded

								as uncertain.
13.	0	0	0					There are no clear links between this policy and the objective for local communities.
14.	0	0	0					There are no clear links between this policy and the objective for recreation and leisure.
15.	+	+	+		✓	✓	✓	The design of the facility can influence the health of workers and surrounding communities through reduction of noise, odour and emissions. By minimising greenhouse gas emissions this is likely to have a positive localised effect by also minimising impacts on air quality. Part one of the policy also requires consideration of tip and quarry slope stability in order to minimise any hazard to people and property. The storage of waste encouraged in part 2 of this policy may conflict with minimising the effects of odour and visual impacts although this will be dependent upon location. Any construction noise should be temporary. Minor positive, minor negative and uncertain impacts are therefore recorded under this objective.
	-	-	-					
	?	?	?					
16.	+	+	+	✓	✓	✓		Part 1 of this policy requires the implementation of measures to minimise flood risk including use of Sustainable Drainage Systems and permeable surfacing. The policy also requires a climate change assessment for substantial new minerals and waste sites and flood risk is likely to form part of this assessment. Overall this policy is considered to have a positive impact in terms of minimising flood risk and reducing the impact of flooding.
	+	+	+					
	+	+	+					
17.	0	0	0					There is no clear link between this policy and the objective for meeting the community's needs.

**Summary of assessment** It is considered that this policy would have an overall positive effect on achieving sustainable design, construction and operation of developments. The policy performs positively against most SA objectives, particularly those relating to air quality, climate change and flooding. Some areas of uncertainty have been highlighted including in relation to objective 12 (economic growth) as the costs associated with developing a site are likely to increase given the requirement for high standards of sustainable design and construction and additional mitigation where required. Also, part 2 of the policy requires additional land for the sorting and storage of waste arising through construction. These additional costs would be balanced with the gains that are likely to accrue through low running costs due to the energy efficiency of any development and cost reduction through re-using resources. However, this will vary depending on the site. Uncertainty/minor negative impacts have also been recorded in relation to the historic environment and landscape objectives. These impacts relate to only one element of the policy: the provision of space for the sorting and storage of waste prior to collection. It is also considered that minor negative amenity impacts may result depending on the location and design of the sorting and storage site.

**Recommendations** This policy is largely very positive and no mitigation is proposed. This policy could however be further strengthened by adding a requirement to achieve certification via an engineering quality mark such as the CEEQUAL<sup>69</sup> environmental assessment scheme for engineered structures that fall outside of BREEAM (such as pipelines).

<sup>69</sup>See <http://www.ceequal.com/about.html>

## Policy D12 - Protection of agricultural land and soils

### Preferred Option

Best and Most Versatile agricultural land will be protected from unnecessary and irreversible loss. Where development of best and most versatile agricultural land is justified, taking into account the requirements of other strategic policies in the Plan, proposals should specify the measures to be taken to ensure that any soils requiring removal as part of the development are retained and conserved on site in order to maintain their longer term potential for agricultural production.

Reclamation proposals for minerals and waste development on best and most versatile land should, where practicable, include provision for the restoration of land to best and most versatile quality and will be subject to aftercare requirements to ensure that a high standard can be achieved.

Soils which have a benefit other than their value for agriculture should, where practical, be retained for incorporation into site restoration.

*SA Objective Key: 1. Biodiversity/Geo-diversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs*

SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	+	+	+ -	✓		✓	✓	Protecting best and most versatile land would have a mixture of effects on biodiversity. For instance, farmland birds and soil biodiversity would clearly benefit from the retention of such land and from restored agricultural land. On the other hand minerals sites where the soil has been removed are often of long term benefit to flora (for example, where limestone is left is exposed or close to the surface) or of benefit to birds (where new shallow wetlands are formed) and may be of benefit to geo-diversity through the exposing of new faces.  This policy only covers soils of most value to agriculture (i.e. Best and Most Versatile Land). The other grades of soil are also of value in delivering a range of ecosystem services, including benefits for biodiversity.
2.	+	+	+	✓	✓	✓	✓	Protecting soils helps filter water of many pollutants before it reaches the water table. However, sometimes the farming that takes place on BMV land may overload soils with nitrogen, so supporting soils may just prolong negative effects in Nitrate Vulnerable Zones. However quarrying removes the natural protection afforded to groundwater through soils – so in contrast to quarrying the effect is positive.
3.	0	0	0					No clear link

4.	0	0	0				Although retaining soils may lead to some dust effects this is thought to be insignificant at a plan level.
5.	+	+	+	✓		✓	Clearly protecting soils or requiring that they should be retained will have clear benefits for the soils objective. However, this policy only covers soils of most value to agriculture (i.e. Best and Most Versatile Land). The other grades of soil are also of value in delivering a range of ecosystem services.
	+	+	+				
	+	+	+				
6.	+	+	+	✓		✓	Soils play an important role in sequestering CO <sub>2</sub> . While BMV land encompasses soils that may be less rich in organic matter (which is a key store of carbon in soils), such as sandy soils, it also encompasses clay soils and even some peat soil, which tend to be carbon rich. All soils confer some benefit. However, this policy only covers soils of most value to agriculture (i.e. Best and Most Versatile Land). Some poorer quality soils are more likely to have high carbon content (e.g. upland peat soils).
7.	+	+	+				Climate change is expected to negatively affect global food production and security <sup>70</sup> , so the more that UK agricultural soils are conserved, the more resilient food supplies will be. Soils also help prevent flooding.
	+	+	+				
8.	+	+	+	✓		✓	Soil is an important resource in itself. This reduces the need to intensify food production elsewhere.
9.	+	+	+	✓		✓	This policy seeks to conserve soils so will reduce waste
10.	+	+	+	✓		✓	Indirectly this policy will help retain the setting to historic assets by either retaining farmland (which may or may not be in keeping with historic character, though will at least maintain the historic topography) or seeking to restore it rather than creating a whole new environment through a restoration to low levels.
11.	+	+	+	✓		✓	This policy will help maintain existing character by keeping farming in place, or will restore a core component of that character if soils are retained for restoration.
	+	+	+				
	+	+	+				
12.	+	+	+	✓		✓	Best and Most Versatile Land not only supports jobs in farming; it underpins the production of food – which is a major component of the British retail economy. It may also indirectly maintain character, which helps boost tourism. It may however prevent some quarrying and the jobs and value associated with that, though it may simply direct it to more suitable areas. Net positive.
13.	+	+	+	✓		✓	Farming is an important feature of many rural communities – providing jobs, boosting tourism and in some cases supporting local shops. This policy will help protect productive farming.
14.	+	+	+	✓		✓	Conserving soils is a key part of conserving rural character – which in turn supports a wide range of recreational pursuits such as walking and cycling and horse riding. However, in the long term quarry

<sup>70</sup> The Intergovernmental Panel on Climate Change has done extensive work in this area. The Intergovernmental Panel on Climate Change has concluded that risks are already ‘medium’ and will increase substantially in the near term (IPCC, 2014. Climate Change 2014: Impacts, Adaptation and Vulnerability: Summary for Policymakers [URL: [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5\\_wgII\\_spm\\_en.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf) ]

								restorations can also create recreational resources such as new green infrastructure.
15.	+	+	+	✓		✓	✓	Soils support wellbeing and health through providing a range of services such as flood protection, food provision and, through underpinning an attractive countryside, recreational enjoyment. However, in the long term quarry restorations can also create recreational resources such as new green infrastructure which may be an accessible resource for healthy recreation.
16.	+	+	+	✓		✓		Protecting soils is important for preventing flooding as water may settle and slowly percolate through it. This is particularly the case for best and most versatile land, which often coincides with floodplains. Quarries can also often provide flood storage in the long term (which may be of greater benefit than agricultural land); though during their operational lives they are unlikely to confer the same level of benefit as soils.
17.	+	+	+	✓		✓		An increasing population needs affordable food. Conserving or reinstating soils is a key step in creating affordable food.

**Summary of assessment** This policy will help towards the sustainable conservation of our most important soil resources. It performs positively against most SA objectives, particularly those relating to protecting soils and land, adapting to climate change, protecting landscapes and supporting a changing population's needs. While some mixed outcomes may be expected in the long term when the benefits of low level quarry restoration are considered (i.e. for the biodiversity, recreation and health objectives) these are minor exceptions to a broadly very positive assessment.

However, the policy applies only to best and most versatile land, which limits its potential in relation to some SA objectives (e.g. biodiversity, landscape).

**Recommendations** To strengthen the policy further additional wording could be added akin to 'Soils which have a benefit other than their value for agriculture should, where practical, be retained for incorporation into site restoration'.



## Policy D13- Consideration of applications in Development High Risk Areas

<b>Preferred Option</b>								
Proposals for non-exempt development in Development High Risk Areas identified by the Coal Authority should be accompanied by a Coal Mining Risk Assessment and where necessary incorporate suitable mitigation measures in relation to land stability. Permission will be granted where it can be demonstrated, through the Coal Mining Risk Assessment, that the development will not be at unacceptable risk.								
SA Objective Key: 1. Biodiversity/Geodiversity, 2. Water Quality/Quantity, 3. Transport, 4. Air Quality, 5. Soil/Land, 6. Reduce Climate Change, 7. Adapt to Climate Change, 8. Minimise Resource Use, 9. Minimise Waste, 10. Historic Environment, 11. Landscape, 12. Economic Growth, 13. Community Vitality, 14. Recreation, Leisure and Learning, 15. Wellbeing, Health and Safety, 16. Flooding, 17. Changing Population Needs								
SA objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1.	0	0	0					No clear link.
2.	0	0	0					No clear link.
3.	0	0	0					No clear link.
4.	0	0	0					No clear link.
5.	+	+	+	✓		✓		This option will help ensure that appropriate development will be undertaken on land where there may be uncertainty over land stability, which ultimately will prevent future impairment of land value.
6.	0	0	0					No clear link.
7.	+	+	+					Land instability may be affected by climate change, e.g. through weather related shrink-swell affecting clays <sup>71</sup> , so there may (or may not) be a synergistic risk between coal mining related subsidence and climate change related subsidence. This option would reduce this synergistic effect if it occurs by minimising risks from coal mining.
8.	0	0	0					No clear link.
9.	0	0	0					No clear link.
10.	0	0	0					No clear link.
11.	0	0	0					No clear link.
12.	0	0	0					No clear link.

<sup>71</sup> See British Geological Survey, 2013. Shrink-swell and climate change [URL: [bgs.ac.uk/science/landUseAndDevelopment/shallow\\_geohazards/shrinkSwellClimateChange.html](https://www.bgs.ac.uk/science/landUseAndDevelopment/shallow_geohazards/shrinkSwellClimateChange.html)] - URL is no longer available.

13.	0	0	0				No clear link.
14.	0	0	0				No clear link.
15.	+	+	+	✓		✓	This option is likely to have beneficial effects by ensuring that built development is less prone to land instability, which should reduce levels of stress, increase safety and ensure that properties maintain value.
16.	+	+	+	✓		✓	Subsidence can exacerbate the risk of flooding by forming hollows in the ground or lowering the level of a defence. Investigation of the risk of subsidence should allow more informed flood risk assessments.
17.	+	+	+	✓		✓	This option is likely to have small scale beneficial effects by ensuring that built development is less prone to land instability, thus ensuring that building / development life is maintained, and reducing the rate of turnover of development.

**Summary of assessment** There are unlikely to be widespread effects as a result of this policy, however, there are some small scale positive effects on soil / land, climate change adaptation, health and wellbeing, flood risk and meeting the needs of the population. This is because the policy is likely to ensure that development is less prone to land instability impacts.

**Recommendations** No further mitigation is proposed

We are consulting on these assessments from **Monday 16<sup>th</sup> November to Friday 15<sup>th</sup> January.**

A questionnaire is provided on the Sustainability Appraisal website

Please return your responses to:

Environmental Policy,  
Heritage Services, Waste and Countryside Services,  
North Yorkshire County Council,  
County Hall, Northallerton,  
North Yorkshire, DL7 8AH  
Tel: **01609 536493**

Email: [mwsustainability@northyorks.gov.uk](mailto:mwsustainability@northyorks.gov.uk)

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