

CHAPTER 4: MINERALS PROVISION POLICIES

As explained in Chapter 3, minerals resources are very important to the county and we are required to plan for a steady and adequate supply of minerals to meet future needs. Strategic policy SP4 sets the overall context for future mineral provision whilst the minerals provision policies set out within this chapter identify how and where these needs will be met for the different types of aggregate, industrial and energy minerals.

In most cases existing sites which have not yet been worked out will meet some of this demand but the policies show where additional provision will be needed to make up any expected shortfall. Where a shortfall is identified, this will be met from a combination of new and/or extended sites although the priority is to extend existing sites wherever possible in line with our strategic objective (SO1) to improve the sustainability of minerals development.

In order to identify the range of sites that could be available for mineral extraction over the plan period the council has worked with the minerals industry and local landowners to understand the location of workable mineral resources across the county. In response to a 'call for sites' exercise, which was most recently updated in 2012, mineral operators and landowners submitted a range of sites for which there were proven minerals resources. This included both new sites and extensions to existing sites.

These sites have been assessed carefully to decide which are the most suitable and realistic options to allocate in the Plan. The sites which are being put forward are shown in Policies MP2-12. The justification text following each policy includes more detail about each proposed site and how they relate to any existing permitted site. Full details of this site assessment process can be found in background paper – site selection on the Council's website¹.

All of the sites will be subject to site allocation development briefs which will deal with site specific issues, including how the sites should be restored. These individual site development briefs are included in Appendix 3.

¹ www.nottinghamshire.gov.uk/minerals

MP1: Aggregate provision

What you told us at the Issues and Options Stage...

- The impacts of the current recession should be taken into account when considering future minerals requirements;
- The roles of secondary and primary aggregates should be considered.

Issues and Options Sustainability Appraisal findings:

- As the options for establishing a local apportionment set out in the issues and options document became obsolete (see below for details), the SA was completed on a new set of alternatives. These were:
 - Option A – Develop a Local Aggregate Assessment in line with NPPF guidance (10 year average sales plus other relevant local factors);
 - Option B – Adopt existing draft apportionment figure;
 - Option C – Develop a different approach based on local assessment;
 - Option D – Do not identify an apportionment; leave it to the market to decide.
- Due to the lack of specific information on each option, the SA found that the likely impact of all four options was uncertain in terms of many of the more specific SA objectives on things such as biodiversity and landscape. However, there were significant differences between the options in relation to certain other SA objectives.
- Overall this meant that Options C and D scored less favourably than A and B. Option B scored highly in terms of ensuring the adequate provision of minerals, however it was noted that this option would actually result in oversupply of aggregates, which was reflected in very negative scores in terms of the potential loss of high quality agricultural land and negative impact on promoting efficient use of land and resources.
- Option A was therefore considered to be most favourable.

Introduction

Aggregates make a significant contribution to the construction industry, accounting for around 90% of the materials used. In England alone nearly a quarter of a billion tonnes are consumed every year. Sustaining this level of demand is of national concern and raises major planning and environmental issues. All mineral planning authorities are required to plan for a certain proportion of the national demand for all aggregate minerals, known as the local apportionment, and to maintain a certain level of permitted reserves, known as the landbank.

Nottinghamshire has historically produced around 30% of the regional sand and gravel production, most of which comes from the Trent and Idle Valleys. This river or 'alluvial' mineral is mainly used in the production of concrete. Building and asphaltting sand is produced from the Sherwood Sandstone resource but in much smaller quantities. Nottinghamshire's limestone production is relatively small, accounting for just 0.1% of the regional output, reflecting the County's limited resource of this mineral.

POLICY MP1: AGGREGATE PROVISION

1. To meet identified levels of demand for aggregate mineral over the plan period (2012-2030) the following provision will be made:
 - 49.02 million tonnes of Sand and Gravel
 - 8.74 million tonnes of Sherwood Sandstone
 - 1.52 million tonnes of Limestone
2. The County Council will make provision for the maintenance of landbanks of at least 7 years for sand and gravel and Sherwood Sandstone and at least 10 years for limestone, whilst endeavouring to maintain a steady and adequate supply over the plan period.
3. Proposals for aggregate extraction outside those areas identified in policies MP2, MP3 and MP4 will be supported where it can be demonstrated there is an identified shortfall in the landbank.

Justification

Since the publication of the issues and options document, new national policy has altered the way in which local authorities are required to establish the need for aggregate in their area. The NPPF requires MPAs to produce a Local Aggregates Assessment (LAA) on an annual basis. This assesses both the demand for and supply of aggregates based on the average of the last 10 years production/sales data. This should take into account all possible supply options including the availability or otherwise of secondary or recycled aggregates as well as land-won sources. It also takes account of any significant local infrastructure projects that are taking place, or planned, and any opportunities or constraints that might influence future aggregate production.

MPAs are also required to work with other local Mineral Planning Authorities through an Aggregate Working Party to ensure that the approaches taken remain consistent and adequate supply is maintained. Nottinghamshire is part of the East Midlands Aggregate Working Party.

The first LAA was adopted by the County Council in July 2013 and sets out the 10 year production averages for each aggregate (shown in table 1 below). The average, annual, production figure provides the baseline from which to estimate the total amount of aggregate that will be required over the life of the

Plan. This has been calculated over the 19 year period from 2012 - 2030 (starting from the most recent published figures as of December 2011).

Table 1 LAA Average Production Figure and Estimated Total Aggregate Demand

| | LAA derived annual production figure | Estimated demand 2012-2030 inclusive (19 years) |
|--------------------|--------------------------------------|---|
| Sand and gravel | 2.58 | 49.02 |
| Sherwood Sandstone | 0.46 | 8.74 |
| Limestone | 0.08 | 1.52 |

Some of the estimated demand shown in Table 1 above, can be met from our remaining permitted reserves (i.e. the mineral that is left in existing quarries that can still be worked). However, for most minerals, this will not be sufficient to cover the whole of the plan period and we will need to permit additional reserves in order to make up the shortfall.

For each of the minerals (sand and gravel, Sherwood Sandstone and limestone) this has been calculated by deducting the estimated level of permitted reserves from the total amount of aggregate required over the life of the Plan. However it is important to remember that the level of permitted reserves can change over time as minerals operators re-assess the available reserves at each site. The level of remaining reserves will also be affected by any change in the annual output from each site. This highlights the importance of annual monitoring as set out in Chapter 6.

One of the most important indicators for aggregates is to assess how long the current stock of permitted reserves is likely to last. This is known as the 'landbank'. All MPAs are required to maintain a landbank of at least seven years' worth of sand and gravel and ten years' worth of limestone. The average production figures set out in the LAA will be compared against the permitted reserves of aggregates to monitor the level of the landbanks. If permitted reserves fall significantly below the required amount this could trigger a review of this section of the plan. Further information is available in the monitoring chapter.

The specific provision policies MP2 – MP4, below, show how the Plan will meet the anticipated shortfalls for each aggregate mineral and how the proposed sites have been selected.

MP2: Sand and Gravel provision

What you told us at the Issues and Options Stage...

- The future sites should be located to serve the markets, minimising the need for transportation;
- Support, in principle, for the use of barge transportation;
- The use of water transport should not be a requirement of planning permission due to changes in the economic climate and unknown viability;
- A number of existing limitations of the River Trent were highlighted;
- Consideration must be given to the need for (and current lack of availability of) ancillary facilities;
- Extensions to existing sites should be prioritised rather than allocating new sites;
- Flood risk should be minimised;
- Agricultural land and biodiversity should be protected;
- Concerns raised regarding specific sites (although no Sand and Gravel sites were identified in the Issues and Options document).

Issues and Options Sustainability Appraisal findings:

- Making provision for sand and gravel extraction utilising allocations due to a greater level of certainty was found to be the most sustainable option, particularly in relation to the sustainability objective for ensuring adequate provision of minerals and supporting economic development;
- Specific Sustainability appraisals for the site listed in Policy MP3 below can be found in the Sustainability Appraisal document.

Introduction

In geological terms the sand and gravel resource is extensive, located in the Trent and Idle river valleys. Within the Trent Valley, production has historically been concentrated around Nottingham and Newark. This pattern has developed at least in part in response to a need to be close to the main markets for the mineral (due to sand and gravel being a low cost bulk material, meaning that haulage is a significant element of its cost). Currently between a third to a half of the County's production supplies markets in Yorkshire and Humberside, which the Idle Valley is well placed to serve.

POLICY MP2: SAND AND GRAVEL PROVISION

1. An adequate supply of sand and gravel will be identified to meet expected demand over the plan period from:

a) The extraction of remaining reserves at the following permitted sites:

| | |
|-----|--------------------|
| SGa | Misson west |
| SGb | Newington South |
| SGc | Finningley |
| SGd | Sturton Le Steeple |
| SGe | Bawtry Road |
| SGf | Scrooby |
| SGg | Cromwell |
| SGh | Besthorpe |
| SGi | Girton |
| SGj | Langford Lowfields |
| SGk | East Leake |

b) The following extensions to existing sites and new greenfield sites.

- Extensions to existing sites:

| | | |
|------|--------------------------|--------|
| MP2a | Finningley Extension | 32.0Ha |
| MP2b | Bawtry Road North | 16.0Ha |
| MP2c | Scrooby North | 12.1Ha |
| MP2d | Scrooby South | 8.8Ha |
| MP2e | Besthorpe East | 33.0Ha |
| MP2f | Besthorpe South | 63.5Ha |
| MP2g | Girton West | 13.2Ha |
| MP2h | Langford Lowfields South | 70.5Ha |
| MP2i | Langford Lowfields North | 29.0Ha |
| MP2j | East Leake North | 15.0Ha |
| MP2k | East Leake East | 52.0Ha |
| MP2l | Cromwell South | 52.0Ha |

- New sand and gravel sites:

| | | |
|------|-------------|---------|
| MP2m | Barnby Moor | 45.1Ha |
| MP2n | Botany Bay | 114.3Ha |
| MP2o | Coddington | 126.0Ha |

Note: The above sites are shown on the Policies Map

Justification

Based on the average production figures set out in the aggregate provision policy MP1, the plan needs to provide an estimated 49 million tonnes of sand and gravel over the plan period (see Table 1).

There are currently 11 permitted sand and gravel sites (SGa-k) located around the county containing estimated reserves of 19 million tonnes. Whilst these sites will initially help to maintain a seven year landbank and ensure continuity of supplies, there is a need to secure additional reserves over the Plan period.

Using the annual production figure included in Table 1 and the estimated Sand and Gravel reserves from 2011 it is estimated that we need to provide an additional 30 million tonnes of sand and gravel up until 2030. However more recent estimates put forward by the minerals industry put this shortfall figure slightly lower at 25 million tonnes.

It is nevertheless clear that the plan therefore has to allocate further reserves to make up this shortfall in provision. Policy MP2 above identifies 12 extensions to existing sites (MP2a-l) and 3 new sites (MP2m-o) which will aim to provide adequate reserves of sand and gravel to meet the demand over the plan period. Together these sites are estimated to provide 24 million tonnes of reserves. A delivery schedule, which looks at how each of the extensions and new sites will contribute to the shortfall, can be found in Appendix 2.

Site Information

Misson West (SGa)

The existing permitted site is located 1.5km south west of Misson village and 4km north east of Bawtry. The quarry has permitted reserves which are expected to last until the end of 2018. There are no further extensions possible to this site. (See appendix 4 – inset 2)

Newington South (SGb)

This existing permitted site is located 2km south west of Misson Village and 3.5km north east of Bawtry. The quarry has permitted reserves which are expected to last until the middle of 2017. There are no further extensions possible to the quarry and it will be restored to low lying wetland. (See appendix 4 – inset 2) The worked out quarry will be replaced by Barnby Moor (MP2l).

Finningley (SGc)

The existing permitted quarry is located to the south east of Finningley village and crosses the boarder between Nottinghamshire and Doncaster Metropolitan Borough Council (MBC). The quarry has sufficient permitted

reserves until the end of 2014 at a planned output of 400,000 tonnes per annum. The quarry serves the South Yorkshire and North Nottinghamshire markets. The quarry will be restored to agricultural land and woodland.

An extension was put forward and is being allocated (Policy MP2a). The extension is part of a bigger proposal that includes an area within Doncaster MBC (which falls outside of the Nottinghamshire Minerals Local Plan). The eastern end of the extension will be worked from 2015 for a year and covers an area of 25.5ha before production moves to the Doncaster side of the site. Production will return to Nottinghamshire in 2018 when the western extension, approx 6.4ha will be worked for a year. Output for both sites is expected to be 400,000 tonnes per annum. (See appendix 4 - inset 1)

Sturton Le Steeple (SGd)

The existing permitted area is located to the east of Sturton Le Steeple village, approximately 9km south of Gainsborough. The quarry was granted planning permission in 2008 but extraction has yet to commence. Planning permission is due to expire in 2017 but it is likely that the operator will seek a further extension of time. The planned output for the site is 500,000 tonnes per annum and has an expected life of 20 years. The quarry will be restored to agriculture and nature conservation. (See appendix 4 – inset 7)

Bawtry Road (SGe)

The existing permitted quarry is located between Misson to the east and Newington to the south. The quarry was permitted in 2001 and has sufficient permitted reserves until the end of 2014 at a planned output of 60,000 tonnes per annum. The quarry will be restored to agricultural land.

A northern extension to the quarry was put forward and is being allocated (Policy MP2b). The extension covers 15 Ha and will be commenced once existing permitted reserves have been worked in approximately 2015. Output is planned at 40,000 tonnes per annum and will continue to use the existing plant site and access. Reserves are expected to last 20 years. (See appendix 4 – inset 2)

Scrooby (SGf)

Extraction has taken place at Scrooby since the 1930s working both sand and gravel and Sherwood Sandstone (see policy MP3 for Sherwood Sandstone). The current permitted sand and gravel quarry site is expected to be worked out by the end of 2017. Restoration will be to agriculture and wetland.

Two extensions to this area were put forward during the 'call for sites' and have been allocated.

The Northern extension (Policy MP2c) is expected to start in 2018 once the permitted site has been worked out. The allocation covers 12ha and is

expected to last 8 years until 2026. Output is planned at 80,000 tonnes per annum and would utilise the existing processing plant.

The Southern extension (Policy MP2d) will replace Scrooby north in 2026. The allocation covers 8.7ha and is expected to last 8 years. Output is planned at 80,000 tonnes per annum. (see appendix 4 – inset 4)

Cromwell Quarry (SGg)

The existing quarry is located to the north-west of Cromwell village alongside the A1, 9km north of Newark. The quarry was granted planning permission in 1998 but has yet to be worked. The permission is due to expire in mid 2014, although the mineral operator is likely to submit an application for an extension of time. The site has reserves sufficient for 12 years production. Due to the quarry location close to the A1 mineral could be transported to northern or southern markets.

A southern extension (Policy MP2l) was put forward and is being allocated. The extension covers 52ha and will be commenced once the existing sites is worked out in 2027. Output is planned at 200,000 tonnes per annum and has an expected life of 14 years. (See appendix 4 – inset 13)

Besthorpe Quarry (SGh)

The existing quarry is located to the north west of Besthorpe village near Newark. The quarry has sufficient permitted reserves until the end of 2017. Output at the quarry is 300,000 tonnes per annum. Historically a proportion of the sand and gravel produced at the quarry was barged up the river to the Europort at Wakefield. However it is uncertain if this will continue in the future. The previous workings have been restored to agriculture and wetland areas.

Two extensions were put forward and have been allocated. The eastern allocation (Policy MP2e) covers an area of 33ha and has an expected life of 8 years. It would follow on from the permitted quarry maintaining output at its current level until the end of 2026.

The southern allocation (Policy MP2f) covers an area of 63ha and has an expected life of 16 years. It would follow on from the eastern extension maintaining output at its current level until the end of 2036. However, as the southern extension is located close to Langford Lowfields quarry and both sites are under the same ownership it is possible the southern allocation could be processed through Langford. If this is the case it would mean the life of Besthorpe quarry is reduced but increased for Langford. The capacity of the processing plant and details such as lorry movements may limit any increased output from Langford Lowfields quarry. (See appendix 4 – inset 13)

Girton Quarry (SGi)

The existing quarry is located 8km north of North Collingham and 16km from Newark. The quarry is currently 'mothballed' and has permission until 2016. The operator has stated they are likely to submit an extension of time until 2026. Output at the quarry is planned at 450,000 tonnes per annum. The quarry will be restored back to agriculture and wetland conservation.

A western extension (Policy MP2g) was put forward and is being allocated. The allocation area covers 13.2ha and has an expected life of 1 year. The extension would have an output of 330,000 tonnes per annum and would work the last remaining reserves at the quarry. (See appendix 4 – inset 11)

Langford Lowfields Quarry (SGj)

The existing quarry is located between Langford and Collingham, north of Newark. The quarry has sufficient permitted reserves until the end of 2016. Planned output at the quarry is 500,000 tonnes per annum. The quarry is being reclaimed to a major wildfowl/wetland reserve which is being managed by the RSPB. A number of extensions were put forward but after assessing the sites, the southern and northern extensions are being allocated.

The southern allocation (Policy MP2h) covers an area of approx 70ha and has an expected life of 11 years. It would follow on from the permitted quarry and would maintain output at its current level utilising the current plant site and access until the end of 2027. Within the allocation boundary there is a Scheduled Ancient Monument (SAM) which the operator has stated would fund preservation by record. If this is deemed unsuitable the size of the allocation is likely to be reduced.

The Northern allocation (Policy MP2j) covers an area of approx 30ha and has an expected life of 3 years. This area would be worked after the southern extension and will maintain output at its current level utilising the current plant site and access until 2030. (See appendix 4 – inset 13)

East Leake Quarry (SGk)

The existing permitted quarry is located 1km to the south of East Leake. The quarry has sufficient permitted reserves until the end of 2016 at an output of 180,000 tonnes per annum. The quarry is being restored to agriculture and nature conservation. As part of the call for sites two extensions have been put forward and are being allocated.

The eastern extension (Policy MP2k) covers 52ha and has an expected life of 13 years. It would follow on from the permitted site maintaining output at its current level utilising the existing processing plant and access until 2029.

The northern extension (Policy MP2j) covers 15ha and has an expected life of 4 years. It is expected this site would follow on from the previous extension maintaining output at its current level utilising the existing processing plant and access. (See appendix 4 – inset 23)

Barnby Moor (MP2m)

This is an allocation for a new green field site located approximately 1km north of Barnby Moor village and around 2.5km to the south of the village of Ranskill. The allocation covers an area of 45ha and is expected to be operational in 2018 as a replacement to the existing Newington Quarry. The site has an estimated life of 5 years and an output of 150,000 tonnes per annum. The quarry would serve the South Yorkshire and North Nottinghamshire markets. (See appendix 4 – inset 6)

Botany Bay (MP2n)

This is an allocation for a new green field allocation located 3km northwest of Retford. The allocation will cover 114ha. The quarry will be a replacement to the Mission - Finningley quarry (SGc) once this has been worked out in 2018. The site has a planned output of 200,000 tonnes per annum and is expected to last 12 years until 2030. (See appendix 4 – inset 6)

Coddington (MP2n)

This is an allocation for a new greenfield site located to the north east of Coddington, 6km east of Newark. The allocation covers 126ha and is expected to be operational in 2023 as a replacement to the Barnby Moor quarry (Policy MP2m). The site has an estimated life of 20 years and an output of 500,000 tonnes per annum. The quarry would serve the South Yorkshire and Nottinghamshire markets. (see appendix 4 – inset 15)

MP3: Sherwood Sandstone provision

What you told us at the Issues and Options Stage...

- There was support for a more geographically driven consideration taking into account such things as market demand, limiting concentrations of quarries and impacts on greenfield sites, communities and habitats/species;
- The two potential approaches should not be considered mutually exclusive and that there was value in the consideration of demand for different grades of sand, but that specific landbanks for each would probably be unworkable, partly due to lack of knowledge on resource.

Issues and Options Sustainability Appraisal findings:

- The allocation of specific sites was considered to be the most sustainable option for making provision for Sherwood Sandstone.
- Specific Sustainability appraisals for the site listed in Policy MP5 below can be found in the Sustainability Appraisal document.

Introduction

Sherwood Sandstone is a specialist form of sand and gravel that is used primarily as asphalt and mortar sand. It accounts for around a sixth of the County's sand and gravel production. The Sherwood Sandstone resource covers nearly a quarter of the County, occurring as a broad belt between Nottingham and South Yorkshire. This is also a major aquifer and serves as an important water source for a wide area. Different grades and colours of sands (which have varying end uses) are found in the resource, however there is no comprehensive geological information about how these are distributed.

POLICY MP3: SHERWOOD SANDSTONE PROVISION

1. An adequate supply of Sherwood Sandstone will be identified to meet expected demand over the plan period from:
 - a) The extraction of remaining reserves at the following permitted sites:

| | |
|-----|----------------|
| SSa | Rufford |
| SSb | Burntstump |
| SSc | Bestwood 2 |
| SSd | Carlton Forest |
| SSe | Scrooby Top |
| SSf | Serlby |

b) The following extensions to existing sites.

| | |
|---------------------------|--------|
| MP3a Bestwood 2 East | 5.7Ha |
| MP3b Carlton Forest North | 12.2Ha |
| MP3c Scrooby Top North | 20.7Ha |

Note: The above sites are shown on the Policies Map

Justification

Based on the Sherwood Sandstone requirement set out in the aggregate provision policy (MP1), the plan needs to provide almost 9 million tonnes of Sherwood Sandstone over the plan period.

There are currently 6 permitted Sherwood Sandstone sites (SSa-f) which contain estimated reserves of just under 7 million tonnes. Whilst these sites will help to maintain a seven year landbank and ensure continuity of supplies, there is a need to secure additional reserves over the plan period.

Using the annual production figure included in Table 1 and the estimated Sherwood Sandstone reserves from 2011, it is estimated that we need to provide an additional 2 million tonnes of Sherwood Sandstone up to 2030. However more recent estimates put forward by the minerals industry have increased the shortfall to approximately 4.5 million tonnes as it is probable that some of the current permitted reserves may not be worked

The plan will therefore have to allocate further reserves to make up the expected shortfall in provision. Policy MP3 therefore identifies proposed extensions at three existing sites as discussed below. The delivery schedule, in Appendix 2 shows how these extensions are expected to contribute towards the shortfall.

Site information

Rufford (SSa)

The existing quarry is located 1 km to the north of Rainworth. The quarry is largely worked out and will close at the end of 2013 upon the expiry of its current planning permission. (See appendix 4 – inset 12)

Burntstump (SSb)

This existing quarry is located 3.5km west of Calverton. The quarry has sufficient permitted reserves until the end of 2021 at 75,000 tonnes per annum. Subject to a time extension the remaining reserves would be worked until 2038. Restoration will be to agriculture and woodland. (See appendix 4 – inset 12)

Bestwood 2 (SSc)

This existing permitted quarry is located 1 mile south of Ravenshead and 6 miles south of Mansfield. The quarry has sufficient permitted reserves until 2021 but subject to a time extension will be worked to 2031 at its planned output of 200,000 tonnes per annum. The site restoration will include heathland, marshland and sandstone cliff habitats.

An eastern extension was put forward and is being allocated (Policy MP3b). The allocation covers 5.7 Ha and will be commenced once the existing permitted reserves have been worked. Output is planned at 250,000 tonnes per annum for 10 years and will utilise the existing processing plant and access. (See appendix 4 – inset 18)

Carlton Forest (SSd)

This existing quarry is located 2 miles to the north east of Worksop. The quarry has sufficient permitted reserves until the end of 2016 at its planned output of 25,000 tonnes per annum. The quarry will be restored to agriculture.

A northern extension to the quarry has been put forward and is being allocated (MP3c) The allocation covers 12.2 ha and will be commenced once the existing permitted reserves are worked out. Output is planned at 50,000 tonnes per annum for 11 years and will utilise the existing processing plant and access. (See appendix 4 – inset 5)

Scrooby Top (SSe)

This existing quarry is located 1 mile north of Ranskill and 3 miles south of Bawtry. The quarry has sufficient permitted reserves until the end of 2017 at its planned output of 120,000 tonnes per annum. The quarry will be restored to agricultural land and wetland.

A northern extension was put forward and has been allocated (Policy MP3d) The allocation covers 20.69 ha and will be commenced once the existing permitted reserves are worked out. Output is planned at 120,000 tonnes per annum for 35 years and will utilise the existing processing plant and access. (See appendix 4 – inset 4)

Serlby (SSf)

This existing quarry is located 3km miles south of Harworth. Planned output at the quarry is 25,000 tonnes per annum although the quarry has not been worked since 2000. The quarry has planning permission until late 2014 but it is unlikely that any further extraction will take place. (See appendix 4 – inset 3)

MP4: Limestone provision

What you told us at the Issues and Options Stage...

Holbeck

- There was general support for aggregate extraction at this site in terms of the sustainability (and lack of sterilisation) benefits to be gained from utilising the whole of the mineral resource when industrial dolomite extraction takes place;
- Concerns were expressed about impacts of the development, particularly with regard to Creswell Crags as well as landscape, biodiversity and heritage;
- Specific concerns about water availability were raised by the Environment Agency as the area is closed to any new consumptive abstraction licences;

Steetley

- Comments were received regarding changes in vehicle movements, both in terms of those supporting the potential reduction resulting from the development and those suggesting that this reduction will not in fact occur, partly due to possible industrial dolomite extraction;
- Concerns were expressed about a variety of local impacts, including those to residential amenity, archaeological and historical assets, habitats, public rights of way and the water table;

Nether Langwith (extension)

- General support for this site favouring extensions rather than the allocation of new sites;
- Suggestions that this site should be closed if either Steetley or Holbeck were allocated or its future extension should be considered in the next minerals plan, when it is likely to have become a relevant issue.

Sustainability Appraisal findings:

- Sole use of a criteria-based policy was found to be the least favourable option.
- The Sustainability Appraisal found that a mixed approach would be marginally better than a purely allocations based policy (on the basis of a mixed approach having a slightly more positive impact in terms of supporting economic development and promoting local job opportunities).

Introduction

Around 60 million tonnes of limestone are extracted in Great Britain every year making it the largest mineral extractive industry in the Country². The majority of this is used as an aggregate, the remainder being used in the cement, chemical, glass, iron and steel industries and agriculture. Limestone is also an important source of building and ornamental stone.

Although the East Midlands is one of the most important limestone producing areas, Nottinghamshire's resources are relatively limited and the only permitted reserves are at Nether Langwith Quarry (currently dormant). Limestone is the only 'hard rock' of any economic interest to be found in the County and by regional standards output is very low.

POLICY MP4: LIMESTONE PROVISION

1. An adequate supply of limestone will be identified to meet expected demand over the plan period from:

a) The extraction of remaining reserves at the following permitted site:

LSa Nether Langwith

Note: The above site is shown on the Policies Map

Justification

Justification

Based on the limestone requirements set out in the aggregate provision policy (MP1), the plan does not need to provide any further limestone as current permitted reserves at Nether Langwith quarry are adequate to cover the plan period. The quarry was expected to have sufficient reserves until 2017 at a planned output of 250,000, however actual output has been much lower and it hasn't been worked for around 5 years. The operator is likely to submit an application for an extension of time which would mean current reserves would last at least until the end of the plan period. The quarry has the potential to be extended and if acceptable could meet any shortfall, however due to the uncertainty surrounding the life of the existing site the extension is not being allocated.

As part of the call for sites two other potential sites were put forward which have been considered. Holbeck quarry and Steetley quarry

Holbeck Quarry

² UK Minerals Statistics Yearbook 2011 British Geological Survey 2012, page 12

The proposed quarry near Holbeck is predominately for the extraction of industrial dolomite and is discussed in further detail in section 9 – Industrial Dolomite. However aggregate limestone lies beneath the industrial dolomite and could be worked at the same time. Whilst the aggregate is not required to maintain our landbank it would in principle be more sustainable and would prevent sterilisation of the mineral. At present it is not proposed to allocate the aggregate limestone reserves as the extraction will depend on the industrial dolomite being worked. Further work will therefore be required at the time of any planning application to consider need for the limestone.

Steetley Quarry

A proposed quarry was put forward at Steetley predominantly for limestone extraction and some small scale industrial dolomite extraction. The scheme put forward proposed to supply limestone directly to the pre-cast concrete works adjacent, thus avoiding any lorry movements via the Public Highway. This scores well in terms of sustainability and reduced carbon emissions however this has to be assessed against the lack of need for the mineral and other adverse environmental impacts caused by the extraction. Any industrial dolomite extracted on the site would also need to be transported off site by road. Because of the lack of identified need for the limestone it has not been allocated.

MP5: Secondary and recycled aggregates

What you told us at the Issues and Options Stage...

- The issues and options consultation did not set out options relating to secondary and recycled materials.

Issues and Options Sustainability Appraisal findings:

- Options for secondary and recycled materials were not specifically assessed in the Sustainability Appraisal.

Introduction

The terms 'recycled' and 'secondary' aggregate are often used interchangeably. The term 'recycled aggregates' refers to aggregates that have been used previously in construction. Recycled aggregates can comprise construction and demolition wastes, asphalt road planings and used railway ballast.

'Secondary aggregates' are by-products of other processes, and will not have been used previously as aggregates. They include colliery spoil, china clay waste, slate waste, power station ashes, blast furnace and steel slags, incinerator ashes and foundry sands.

POLICY MP5: SECONDARY AND RECYCLED AGGREGATES

1. Development proposals which will increase the supply of secondary and/or recycled materials will be supported where it can be demonstrated that there are no significant environmental, transport or other unacceptable impacts.

Justification

Government policy continues to encourage the use of secondary and recycled materials in construction in order to reduce the need for material from traditional sources. There are substantial amounts of these materials that could contribute further to aggregate supply. In order to conserve natural resources, aggregates (and products manufactured from aggregates) should be recycled wherever possible.

Although, there is considerable potential for using certain waste materials as secondary aggregates, large quantities either remain on site or end up in landfill. Making greater use of by-products and other waste materials will therefore also help to meet the Government's aim of reducing waste disposal to landfill. The Nottinghamshire and Nottingham Waste Core Strategy sets

out strategic policies to promote both temporary and permanent facilities for recycling aggregates centres.

Where recycled materials are technically, economically and environmentally acceptable as substitutes for primary materials, then they should be used. It is accepted, however, that there may be problems associated with the ability of these materials to meet required British Standard specifications, and that their availability or location might make their use disadvantageous in economic terms.

It is recognised that many of the adverse environmental effects resulting from the extraction of primary aggregates apply to the use of secondary materials. This is because the processes are similar involving the generation of noise, dust and visual intrusion, and road transport using heavy goods vehicles. Incorporating recycling and secondary aggregate operations into an existing mineral development could also increase the overall harmful effect that the site has on the amenity of the surrounding area, or could increase the life of the development beyond that which is considered acceptable.

The Mineral Planning Authority, therefore, has a role to play in assessing the net cost and benefits of establishing recycling and secondary aggregate operations within mineral development in order to ensure that they are sited in appropriate locations and that the adverse impact on the local environment does not outweigh the benefits of producing alternatives to primary aggregates.

MP6: Brick Clay provision

What you told us at the Issues and Options Stage...

- Reference was made to the strategic importance of clay and the reaffirmation in the National Planning Policy Framework of the requirement for a 25 year landbank;
- The majority of responses on the provision of resources preferred the use of allocations of specific sites, supported by criteria-based policy for decisions on new or satellite sites;
- Concerns were expressed regarding the damage of clay extraction on the environment, some specifically with regard to current amenity issues at Kirton and potential impacts at Bilsthorpe and the possible eastern extension to Dorket Head;
- There was support for a new or updated criteria-based policy that includes a broad scope of criteria to include environmental, economic and social impacts;
- Concerns were raised lack over the lack of certainty for the public regarding broad areas of search and the rigorous assessment the use of broad areas of search would need. However, there was support from the industry on this option.

Issues and Options Sustainability Appraisal findings:

- Two options were found to be equally favourable for this issue; the allocation of sites/extensions and the use of a combination of allocations and criteria-based policy based on need.
- Both of these options were found to have a very positive impact in terms of ensuring an adequate supply of minerals to meet demand and of supporting wider economic development and promoting local job opportunities.
- Both options had the potential for either positive or negative impacts in relation to the promotion of more efficient use of land and resources (extensions would be positive, greenfield sites, negative) and the promotion of sustainable patterns of movement and modes of transport (extensions would be close and possibly enable use of conveyors whereas new sites could require longer haulage routes).

Introduction

Brick clay refers to the clay and shale used in the manufacture of building and construction materials. In Nottinghamshire the clay extracted is used for facing bricks, pavers, roofing tiles and clay pipes, although nationally other important uses include cement production.

Extraction currently only takes place from the Mercia Mudstone resource to the east and south of the county. Resources do exist within the smaller Edlington Formation and Coal measures to the west of the county, however these have not been worked since the 1970s. No detailed assessment has been completed regarding the areas of the Mercia Mudstone which are best suited to brick manufacture, however the 'Gunthorpe Formation' location close to both of Nottinghamshire's existing brickworks has been identified by the current operators as particularly suitable.

POLICY MP6: BRICK CLAY PROVISION

1. An adequate supply of brick clay will be identified to meet expected demand over the plan period and enable a 25 year landbank to be maintained from:
 - a) The extraction of remaining reserves at the following permitted sites:

| | |
|-----|-------------|
| BCa | Kirton |
| BCb | Dorket Head |
 - b) The following extensions to existing sites:

| | | |
|------|------------------|--------|
| MP6a | Kirton West | 20.5Ha |
| MP6b | Dorket Head East | 11.7Ha |
2. Proposals for clay extraction outside the sites identified above will be supported where it can be demonstrated that the above sites are not deliverable and where a need can be demonstrated.

Note: The above sites are shown on the Policies Map

Justification

There is no national demand forecast or local apportionment for brick clay although the NPPF does require a 25 year landbank of permitted brick clay reserves to be identified. In Nottinghamshire there are two brick works with associated clay pits operated by two national producers - Dorket Head near Arnold and Kirton near Ollerton. Permitted reserves at the two sites are not sufficient to cover the plan period and further reserves will need to be identified. The landbank at both brick pits is estimated at 12 years (as of December 2011). Each is discussed below.

Kirton (BCa)

The existing brick pit is located to the east of Kirton village, 3km from New Ollerton. Clay from the pit is supplied directly to the brick works adjacent with permitted reserves expected to be sufficient until 2023. The existing pit is being restored to agricultural land at a lower ground level.

The operator put forward a western extension (MP6a) which is being allocated. The extension covers an area of 20 Ha and will be commenced once the existing site is worked out. The reserves identified in the extension are expected to be worked over a 33 period and will continue to supply the existing brick works. The restoration will be to a lower ground level and incorporate agricultural land wetland areas, grassland. (See appendix 4 – inset 10)

Dorket Head (BCb)

The existing brick pit is located to the north of Arnold, 10km from Nottingham. Clay from the pit is supplied directly to the bricks works adjacent with permitted reserves expected to be sufficient until 2023. The existing pit is being progressively restored to agricultural land.

The operator put forward an eastern extension and this is being allocated (MP6b). The allocation covers an area of 11.7 ha and will be commenced once the existing permitted reserves are worked out. The reserves identified in the extension are expected to be worked over a 10 year period and will continue to supply the existing brick works. The site will be restored to agriculture and woodland at a lower ground level rather than being landfilled as is the case with the existing pit.

At the time of writing a planning application for the extension has been submitted and will be assessed against the existing adopted Minerals Local Plan. If this site is granted planning permission there will be no need to identify further reserves at Dorket Head in this plan period. If the application is refused the operator will need to identify a further reserve which would be considered under point 2 of policy MP6. (See appendix 4 – inset 20)

New brickworks and clay pits

Due to the nationally important, strategic nature of brick clay and the situation regarding provision at our existing sites, there is a possibility of new brick pits and associated brick works coming forward. Such applications will need to have regard to the Strategic and Development Management policies of the plan, but more particularly be considered in light of the need for the development and any potential environment, social or economic impact (including consideration of the transport implications of any development and the associated benefits that can be gained from locating pits in close proximity to brick works).

MP7: Gypsum provision

What you told us at the Issues and Options Stage...

- Support for the allocation of Bantymock Quarry, Newark;
- Some concern was expressed at the use of broad areas of search, but the industry highlighted the possible need for this to support the Bantymock allocation, particularly for the much more widely available construction grade gypsum.

Issues and Options Sustainability Appraisal findings:

- The re-allocation of Bantymock Quarry was found to be the most sustainable option (compared to the use of broad locations or a demand based approach utilising the criteria in the development management policies);
- The option to re-allocate Bantymock Quarry scored particularly well in comparison in terms of ensuring an adequate supply of minerals, promoting sustainable patterns of movement and promoting more efficient use of land and resources (both through utilising existing infrastructure) and supporting wider economic development (due to the high grade of the mineral that would be produced).

Introduction

In Nottinghamshire two distinct gypsum resources are worked. The Marlaegis Mine at East Leake exploits the 'Tutbury Gypsum' and supplies an associated plasterboard plant and plaster works. Bantymock Quarry near Balderton, Newark exploits the 'Newark Gypsum'. The lowest seams at this site are very high quality and are the only mineral of this grade to be found in the UK. It is used in specialist plasters and a wide range of other products ranging from dentistry to food additives.

Since the mid-1990s national and local gypsum production has declined due to increased supplies of desulphogypsum (DSG), a by-product of flue gas desulphurisation plants that have been retrofitted at most coal fired power stations, including all three in Nottinghamshire. The long term future of desulphogypsum is uncertain as new emission controls due in the 2020s could see more coal fired power stations close or switch to other fuels. This will impact on the demand for natural gypsum.

POLICY MP7: GYPSUM PROVISION

1. The extraction of remaining reserves at the following permitted sites will be utilised to contribute towards the provision of an adequate and steady supply of gypsum:

GYa Marblaegis Mine
 GYb Bantycok Quarry

2. Proposals for gypsum extraction outside the permitted sites identified above will be supported where a need can be demonstrated.

Note: The above sites are shown on the Policies Map

Justification

There is no national demand forecast or requirement to identify a local apportionment figure for Gypsum production and it is up to the industry to identify adequate reserves to maintain production.

Permitted reserves at the Marblaegis Mine (GYa) are sufficient until at least 2026 and represent the full extent of the mine within Nottinghamshire. (see appendix 4 – inset 22) When these reserves are utilised, mining will move eastwards towards Wymeswold in Leicestershire. Future provision for the Marblaegis Mine in Nottinghamshire does not therefore need to be considered in the new Minerals Local Plan.

Permitted reserves at Bantycok Quarry are currently expected to be adequate until around 2035 at current rates of extraction, going beyond the end of the plan period. (see appendix 4 – inset 21) The current adopted plan includes an allocation for a southern extension to the existing quarry, as it was expected this would be required during the plan period. This has not been the case, probably because of the amount of DSG that has been available in recent years. If over the plan period, the amount of DSG available falls significantly demand for natural gypsum will increase and could shorten the expected life of Bantycok quarry. If this happens then policy MP7 allows further reserves to come forward.

MP8: Silica sand provision

What you told us at the Issues and Options Stage...

- All respondents were in agreement that the use of a criteria-based policy was appropriate;
- An additional suggestion was submitted which was that all minerals, including silica sand, should be treated in the same way, with use of an area of search supported by a wide ranging criteria-based policy.

Issues and Options Sustainability Appraisal findings:

- The issues and options considered a number of options for provision in the context of the Two Oaks Farm application not being approved. In this instance, a continuation of the existing policy approach to silica sand provision, a needs-based policy, emerged more favourably than the other options considered of the identification of broad locations or the reliance on development management policies;
- The Two Oaks Farm Quarry application has now been approved therefore the options appraised are no longer relevant and, as the SA stated, a demand based policy will be used. This will be assessed during further stages of the SA process.

Introduction

Silica sand is a non-aggregate form of Sherwood Sandstone that is also known as 'industrial sand'. Unlike aggregate sands, which are used for their physical properties alone, silica sands are valued for a combination of chemical and physical properties. It is used in the making of glass and creating molds and castings in industrial processing. This sand is also used in sand blasting, adding texture to slick roads and as a raw material in production of ceramics and equestrian surfaces. Compared to aggregate sand, silica sand resources are much less widespread. In Nottinghamshire silica sand is found within the 'Nottingham Castle Formation'.

The specialist nature of silica sand products means that the market area is very large and serves local, regional and national requirements. Due to the relatively small volumes of material and the varied destinations all silica sand extracted in Nottinghamshire is currently transported by road.

POLICY MP8: SILICA SAND PROVISION

1. The extraction of remaining reserves at the following permitted sites will be utilised to contribute towards the provision of an adequate and steady supply of silica sand sufficient for at least ten years:

SLa Ratcher Hill

SLb Two Oaks Farm

2. Proposals for silica sand extraction outside the sites identified above could take place where it can be demonstrated that there is an identified shortfall in the 10 year landbank.

Note: The above sites are shown on the Policies Map

Justification

There is no national demand forecast or local apportionment for silica sand although the NPPF does require a 10 year landbank of permitted reserves to be identified.

Since 1999 the only operational site in Nottinghamshire has been Ratcher Hill Quarry, east of Mansfield. The quarry produces around 200,000-250,000 tonnes per annum, but the quarry is largely worked out and is expected to close in 2014. A new silica sand quarry at Two Oaks Farm, south of Mansfield, was permitted in 2013. This has reserves of approximately 12 million tonnes and is expected to last for around 40 years. This satisfies the recommended 10 year landbank per quarry (or 15 years when significant new capital is needed) set out in national policy. Assuming production starts in 2014, a 24 year landbank will remain at the end of the plan period (2030), which exceeds the requirements for this mineral over the entire plan period.

Therefore no further reserves are required, however policy MP8 does allow for the assessment of any other proposals in the event of reserves falling below the landbank.

MP9: Industrial Dolomite provision

What you told us at the Issues and Options Stage...

- Comments received reflect those submitted in terms of aggregate limestone extraction (set out in MP4 above);

Holbeck

- There was support for industrial dolomite and aggregate extraction at this site in terms of the sustainability (and lack of sterilisation) benefits to be gained from utilising the whole of the mineral resource;
- Concerns were expressed about impacts of the development, particularly with regard to Creswell Crags as well as landscape, biodiversity and heritage;
- There were specific concerns about water availability were raised by the Environment Agency as the area is closed to any new consumptive abstraction licences and about the need for a clear development brief for the site.

Steetley

- Comments discussed that the proximity principle and links to the adjacent factory (and thus lack of vehicle movements) as being the only case for allocating this site, meaning that the sale of some of the mineral as industrial dolomite (resulting in movements off site) would undermine this position;
- Others comments highlighted the importance of making the best possible economic use of mineral resources (as per the National Planning Policy Framework), which would mean that any industrial grade minerals should be sold and used for that purpose.

Issues and Options Sustainability Appraisal findings:

- The result of the Sustainability Appraisal were not clear cut as to which of the options scored more favourably;
- The option of allocating a site was seen as marginally more favourable given it had a very positive impact in terms of ensuring adequate provision of mineral and of supporting wider economic development.

Introduction

Industrial dolomite is an industrial grade limestone that is mainly used in the iron and steel industry. The resource in the UK is rare and locally is only found in parts of the Magnesian Limestone which is mainly worked for aggregate grade mineral. The end market for industrial dolomite products is international due to the scarcity of this high quality mineral.

No industrial dolomite is currently worked in Nottinghamshire, but just across the County boundary at Whitwell in Derbyshire it is quarried alongside

aggregate stone on a large scale. Typically around 1 million tonnes are extracted every year at this quarry with the tonnage being split evenly between the industrial grade and aggregate limestone. The industrial dolomite is processed into a range of refractory and other products in the on-site kilns and then exported to 28 countries spanning 4 continents.

POLICY MP9: INDUSTRIAL DOLOMITE PROVISION

1. A supply of Industrial Dolomite, contributing towards international markets will be identified at the following site:

| | | |
|------|---------|--------|
| MP9a | Holbeck | 35.6Ha |
|------|---------|--------|

Note: The above site is shown on the Policies Map

2. Proposals for industrial dolomite extraction outside the permitted site identified above will be supported where a need can be demonstrated.

Justification

There is no national demand forecast or local apportionment for industrial dolomite. However, the NPPF states that Minerals Planning Authorities should plan for a steady and adequate supply of industrial minerals. Given the scarcity of the resource and the international market it supplies it will be important to work with Derbyshire County Council in relation to the existing site at Whitwell Quarry, to ensure that this can be achieved.

Reserves at Whitwell quarry in Derbyshire are expected to be worked out by 2025, however due to operational requirements further reserves will be needed before this date to maintain future production. A series of extensions are being proposed mainly in Derbyshire but this includes a site near Holbeck in Nottinghamshire. (Derbyshire County Council are the Minerals Planning Authority responsible for planning decisions for Whitwell quarry and the extensions within Derbyshire).

Holbeck Quarry (MP9a)

This allocation is for a new green field quarry that would act as a satellite extension to Whitwell Quarry. The site covers 35 hectares and is planned to start in 2018. The reserves identified in the extension are expected to be worked over a 10 year period and will continue to supply the existing quarry at Whitwell. As discussed earlier in the limestone section (MP4), aggregate limestone at Holbeck lies below the industrial dolomite and could be worked at the same time. (See appendix 4 – inset 8)

Nottinghamshire and Derbyshire County Councils have been working together and as part of a joint approach Holbeck has been allocated to ensure that future reserves of industrial dolomite are secured.

Due to its proximity, being located close to Cresswell Crag, particular attention will be given to the potential for the Crag to be designated as a World Heritage Site and as such careful consideration will be needed to the potential impacts of this proposed site and the possibility of a designated internationally important site.

Steetley Quarry

As mentioned in MP4 - Limestone provision, Steetley quarry was put forward primarily for limestone extraction, however industrial dolomite could also be extracted alongside the limestone on a small scale. As the quarry is not being allocated for limestone extraction it would be uneconomical to only work the industrial dolomite and therefore it is not being allocated.

MP10: Building Stone provision

What you told us at the Issues and Options Stage...

- Comments received discussed that the role of secondary/recycled building stone should be considered before the use of primary materials;
- Attention was drawn to the frequent assumption that building stone quarries need to be small to be acceptable, with a call instead for flexibility in terms of not imposing limits on production levels or on the production of aggregates at building stone quarries;
- Comments regarding the uses and demand for building stone were raised, including conservation and historical purposes;
- Concerns were raised about the impact of Yellowstone Quarry (direct and indirect) on the nearby SSSI, as well as the existing known problems with access;
- Some responses suggested that alternative sites to Yellowstone (or consideration of the wider extent of the resource) should be considered.

Issues and Options Sustainability Appraisal findings:

- The combination of providing for building stone through both allocations and criteria based policies was found to be the most sustainable option in terms of ensuring an adequate supply of mineral through allocations, but then also allowing for additional provision if needed to support production of a range of local building stones through the criteria-based element.

Introduction

The continued quarrying of local building stones play an important role in helping to preserve the historic environment and enhancing the local distinctiveness of an area. Local stone is needed to allow existing historic buildings to be properly repaired and it also means new buildings in historic areas can blend in more effectively. The only building stone currently worked in Nottinghamshire is Bulwell Stone, a buff coloured limestone used as a building stone and more widely as a walling stone used to front many older properties in Nottingham and its suburbs.

POLICY MP10: BUILDING STONE PROVISION

1. The extraction of building stone at the following permitted site will be utilised to maintain future supply:

BSa Yellowstone Quarry
2. Proposals will need to demonstrate that that extraction will be primarily for non-aggregate use.

Note: The above site is shown on the Policies Map

Justification

National policy is reflected through Strategic Objective 7 (page 15), in that the identification of building stone quarries should be supported to ensure that adequate provision can be made to help conserve the historic built environment and local distinctiveness. Yellowstone quarry at Linby provides building stone to serve the local market and is the only in Nottinghamshire. Output from the quarry is low and future extraction is uncertain as planning permission is due to expire in 2015. The operator is still assessing future options for the site and therefore no further areas have been allocated.

To date no other sites have been put forward, however demand for a specific building stone could drive the need to develop a new quarry, so the use of a criteria-based policy for building stone is considered appropriate for assessing future applications at other sites. This will ensure any proposed developments will need to demonstrate both a need for the mineral and that, in line with Strategic and Development Management Policies, no unacceptable impacts will arise from the development. Particular provision has been put in place to ensure that this specialised material is not used for aggregate purposes in line with national requirements to make the best use of limited resources to secure long-term conservation.

In demonstrating a need regard should be had to the Strategic Stone Study for Nottinghamshire, which sets out the significant building stones used in historical buildings and the potential quarries which could supply it.

MP11: Coal

What you told us at the Issues and Options Stage...

- Comments received highlighted that the Plan should be clear about the strategic environmental issues that will influence where future surface coal mining will be acceptable in principle;
- There were a number of suggestions for specific elements that should be covered, a large number of the respondents also felt that this should be the approach for all minerals, and that there was no reason to single coal out as having different issues;
- In terms of any local benefits that could offset the environmental impact of extraction, there was some concern that this was an improper situation that was tantamount to 'paying' for permission;
- Comments also focused on the benefits derived through restoration and the economic benefits associated with increased employment;
- In terms of colliery tipping, respondents raised the importance of maintaining suitable tipping land to maintain the life of collieries;
- There was general support for the use of criteria (in some cases a broader range than is currently identified) either as a policy in itself, or to also be used to identify specific sites for colliery tipping;
- The importance of maintaining flexibility and not restricting tipping through the identification of too few sites (or through not including general criteria alongside allocations) was also raised;
- Support was expressed for a continuation of the broadly positive approach to coal recovery, as per the existing plan, although there were a number of suggestions that the range of issues to be considered should be widened.

Sustainability Appraisal findings:

- The only realistic option would be to develop a criteria based policy to incorporate a range of criteria and the Sustainability Appraisal of this option was unable to find certain impacts of the approach in the absence of specific policy wording;
- For colliery tipping, the only reasonable option to appraise was that of identifying broad locations where spoil disposal might be acceptable, in line with national guidance. However, due to lack of detail, the Sustainability Appraisal found that the impact on the majority of the SA objectives was either uncertain or there was no clear link. A positive impact was identified for this option in terms of ensuring that there is adequate provision of coal and in terms of supporting wider economic development and local job opportunities.
- Two options were considered in relation to the reworking of colliery spoil, that of using a criteria-based policy (in line with the current approach) or to rely on the development management policies. The

impact of the latter option was found to be largely uncertain or with no link or significant effect. It was however found to have a negative impact in terms of ensuring adequate minerals provision and in terms of supporting wider economic development as it would be less likely that proposals would come forward with this option. Conversely, there was considerably more certainty in terms of the impact of the first option (criteria-based policy) as it is the maintenance of an existing policy. For the majority of SA objectives the impact was found to be positive, resulting in this option scoring much more favourably than the other.

- It was considered that the reworking of colliery spoil tips is an issue which raises specific considerations due to the unique characteristics of these sites and it would be more positive in sustainability terms to have criteria based policy in the Plan addressing the specific environmental issues that such sites raise.

Introduction

Most of Nottinghamshire's coal resources are deeply buried and have to be exploited by deep coal mining. It is only in the far west of the County along the Erewash Valley where the coal measures are exposed, that surface (opencast) extraction is possible. Thoresby Colliery is currently the only active mine in Nottinghamshire, although Harworth Colliery could reopen in the future. A proposal to work surface mined coal at Shortwood Farm near Cossall has been submitted as a planning application and is currently being considered by the County Council. See Plan 4.

Colliery tipping

When coal is mined, a considerable amount of waste spoil is also removed. This has to be disposed of. Both Thoresby and Harworth Collieries have issues with the amount of land available for such disposal. At Thoresby, the spoil from the current permitted mining level will require some new capacity which could probably be found within the existing colliery footprint. However, if any further mining occurred (through exploiting the deeper reserves) the tipping space will need to expand considerably and will require land outside of the colliery footprint. At Harworth Colliery, surrounding land uses mean that a new, remote, green field tipping site will be needed if the colliery is to reopen and have a long term future.

Coal recovery

Historical coal processing was often inefficient and substantial quantities of coal were left in the spoil. At some sites it may now be economic to recover this coal, which can amount to several hundred thousand tonnes in a single large tip. Coal recovery involves the re-excavation of spoil for processing, the remainder of which is then re-deposited within the original tipping area. Langton Colliery tip near Kirkby in Ashfield is currently being reworked and an old tip at Mansfield has previously been worked on this basis. See Plan 4.

POLICY MP11: COAL

1. Permission for the extraction of coal will only be granted where:
 - a) the proposal is environmentally acceptable, or can be made so by mitigation; or
 - b) the proposal provides national, local or community benefits which clearly outweigh the likely adverse impacts.

Surface mined coal: Incidental mineral extraction

2. Where proposals for surface mined coal are acceptable, proposals for the recovery and stockpiling of fireclays and other incidental minerals will be supported where this does not result in any unacceptable environmental or amenity impact.

Colliery Tipping

3. Proposals for colliery tipping will be supported where:
 - a) a need can be demonstrated; and
 - b) the proposal is environmentally acceptable.

Reworking colliery spoil tips

4. Applications will be supported for the reworking of colliery spoil tips where the benefits of the development, including addressing the likelihood of spontaneous combustion and substantial environmental improvement of the site, outweigh the environmental or amenity impacts of the development or the loss of established landscape and wildlife features.

Justification

National guidance sets out a presumption against coal development unless it can be made environmentally acceptable through planning conditions or if not where local or national benefits outweigh the likely impacts. There are no production targets as the Government believes this is a matter for the markets reinforced by long term policy measures.

In principle recovering minerals as an incidental element of another development proposal promotes sustainable development by helping conserve mineral resources that might otherwise be lost. District Councils should advise the County Council on proposals, such as ornamental lakes and major built development, which involve the excavation and removal of significant quantities of soils, overburden and mineral. Incidental mineral extraction is not precisely defined in terms of quantity of mineral worked or duration. It does not, however, apply to minerals development simply because it is small scale and short term. If mineral extraction is a significant reason for justifying or promoting the development, the proposal will need to

be assessed against the relevant policies applicable to the mineral being worked.

Colliery tipping at the two existing coal mines may present issues that could determine the long term life of the mines. National policy requires that any areas where colliery spoil may be acceptable should be identified however, sufficient capacity exists at present.

The reworking of colliery spoil tips is in principle a sustainable activity as it recovers coal that has been discarded as waste and it can provide an opportunity to properly reclaim old tips that may have been left in a poor state. However, it can also have a significant impact on the environment in terms of visual intrusion, traffic movements, noise and dust and these impacts have to be weighed against the benefits. Future opportunities for the reworking of tips appear limited, however this could change if it becomes viable to work sites not previously considered, due to factors such as increases in coal prices.

MP12: Hydrocarbon Minerals

What you told us at the Issues and Options Stage...

- There was support for retaining the general approach from a range of respondents;
- Respondents highlighted the need for the policies to take account of a wider range of criteria. Particular criteria highlighted included:
 - biodiversity and Local Biodiversity Action Plan priority habitats (for oil)
 - disturbance to nightjar and woodlark and consideration of cumulative effects of emissions of nitrogen on habitats (for mine gas)
 - cumulative impacts (and particularly on biodiversity) and landscape and residential amenity (for coal bed methane);
- Representors suggested that there was no reason to adopt a different approach to coal bed methane (CBM) than any other hydrocarbon (i.e. not identify constraint areas);
- A range of possible criteria was suggested, including; local amenity, district level development aspirations, transport, reclamation potential, impact on heritage assets, biodiversity, landscape character, water resources and residential areas;
- Responses on shale gas were varied. A range of respondents considered that shale gas should be considered as another form of hydrocarbon development and that a broadly positive stance should be adopted;
- Respondents highlighted the wider and more specific constraints and issues associated with the extraction of shale gas;
- Comments were made that due to the potentially unknown and wide ranging impacts of the development, the identification of constraint areas would be difficult and may not be possible.

Issues and Options Sustainability Appraisal findings:

- The option of treating each mineral resource separately, or as part of a joint hydrocarbons policy was assessed, but no difference was found between the two due to uncertainties around likely impacts and inevitably a negative impact was identified for both in terms of the sustainability objectives on climate change and energy efficiency/renewable energy because this issue deals with the production of fossil fuels.

Introduction

Hydrocarbon minerals comprising oil and gas are the most important energy minerals produced and consumed in the UK. In 2010, 125 million tonnes were produced in the UK, whilst 165 million tonnes were consumed³.

Historically, two main forms of hydrocarbons have been worked in Nottinghamshire; oil and mine gas however other unconventional hydrocarbons such as coal bed methane and shale gas extraction are being developed and could be worked over the plan period. Plan 4 identifies the hydrocarbon resources and sites in Nottinghamshire.

Oil

Oil has been extracted on a small scale since the Second World War when oil reserves in deeply buried sandstones were identified at Eakring. Since then further oil fields have been identified mostly in north Nottinghamshire but ranging as far south as Rempstone near the boundary with Leicestershire. The oil recovered in Nottinghamshire is of high quality, and mainly used in the plastics and chemical industries, rather than as a fuel. The majority of oil is taken by rail from the central collecting station at Gainsborough to refineries at Immingham, Humberside.

Mine gas

Mine gas refers to the methane that is released from coal seams during deep mining. When mining ceases and ventilation shafts are closed this gas can fill the mineshafts, other voids and can escape to the surface where it can pose a threat to health and safety in the locality. The situation has become much more prevalent recently because of the number of collieries that have closed over the last 30 years in Nottinghamshire. Mine gas can be recovered and burnt to generate electricity.

Coal bed methane

Coal bed methane extraction involves removing methane directly from the seam without actually mining the coal. The industry is most developed in the USA, whilst in the UK and Europe it remains in its infancy. Interest is however developing and it could become a significant energy source for the future. In Nottinghamshire a number of proposals for the exploration and development of coal bed methane have been granted planning permission. Nearly all of Nottinghamshire overlies a potential coal bed methane resource but the most promising prospects are believed to exist in the eastern half of the County due to the geological formation.

Shale gas

Vast quantities of methane exist in many shale deposits worldwide and recent technological advances have now made it economically possible to exploit them. The technology and exploitation of shale gas is most advanced in the USA where it has gone through a period of very rapid development and is now exploited on a very large scale. The UK also has a significant, but as yet

³ UK Minerals Statistics Yearbook 2011 British Geological Survey 2012, page 68-69

largely untested potential shale gas resource. In Nottinghamshire, potential shale gas resources are thought to exist in deeply buried shale deposits found in the far south and far north of the county.

Shale gas extraction is a very intensive activity that involves vertical and horizontal drilling to reach the shale rock layer. A mixture of water, sand and additives is then pumped under high pressure into the bore hole to fracture the rock (a process known as 'fracking'). The gas trapped in the rock is then released and can be collected. Huge quantities of water and massive energy requirements are involved. This activity has attracted a great deal of public and media interest and controversy surrounds the potential environmental risks.

POLICY MP12: HYDROCARBON MINERALS

Exploration

1. Proposals for hydrocarbon exploration will be supported provided they do not give rise to any unacceptable impacts on the environment or residential amenity.
2. Where proposals lie within an environmentally sensitive area, evidence must be provided to demonstrate that exploration could not be achieved in a more acceptable location and that within the area of search the proposed location would have least impact.

Appraisal

3. Where hydrocarbons are discovered, proposals to appraise, drill and test the resource will be permitted provided that they are consistent with an overall scheme for the appraisal and delineation of the resource and do not give rise to any unacceptable impacts on the environment or residential amenity.

Extraction

4. Proposals for the extraction of hydrocarbons will be supported provided they are consistent with an overall scheme enabling the full development of the resource and do not give rise to unacceptable impacts on the environment or residential amenity.

Restoration

5. All applications for hydrocarbon development will be accompanied with details of how the site would be restored back to its original use once the development is no longer required. The retention of haul roads and hard standing will be permitted only where there are clear agricultural or other benefits of doing so.
6. Where proposals for hydrocarbon development coincide with areas containing other underground mineral resources, evidence must be provided to demonstrate that their potential for future exploitation will not be unreasonably affected.

Justification

The majority of national production is offshore and one of the biggest energy issues facing the UK is the expected rapid decline in our domestic oil and gas production due to the depletion of these resources. By 2020, the UK could be importing around three quarters of its primary energy needs. This factor, combined with high energy prices and recent technological advances has created a very strong impetus to explore and develop new domestic sources of oil and gas. This includes previously untapped 'unconventional' resources such as coal bed methane and shale gas, both of which are known to exist below Nottinghamshire.

The NPPF states that for oil and gas including unconventional hydrocarbons, minerals planning authorities should develop criteria based policies that clearly distinguish between the three phases of development (exploration, appraisal and production) and to address constraints that apply within licensed areas. It also encourages the capture and use of mine gas from abandoned mines. Further guidance on onshore oil and gas was issued in July 2013. National energy policy suggests a broadly positive stance subject to the necessary environmental safeguards would be appropriate.

It is considered that there is no justifiable reason to separate shale gas from other hydrocarbon development. All hydrocarbon development has the potential to deliver national energy requirements, but should be subject to environmental safeguards. Applied to the local circumstances of the Minerals Local Plan, the assessment of environmental and amenity impact (i.e. the constraints on hydrocarbon development) is covered by and can be delivered through the application of the development management policies.

Petroleum Exploration and Development Licenses (PEDL) are issued by the Department for Energy and Climate Change (DECC) under powers granted by the Petroleum Act 1998. The current licenses are shown on the policies map and were issued during a licensing round in 2008.

PEDL licenses allow the holder to explore for and develop unconventional gas; to "search for, bore and get hydrocarbons" subject to access rights,

Planning permission is one of the main regulatory requirements that operators must meet before drilling a well for both conventional and unconventional hydrocarbons. The County Council is responsible for granting permission for the location of any wells and well pads, and impose conditions to ensure that the impact on the land is acceptable. However it is not the only regulatory body that permission for extraction is required. They include:

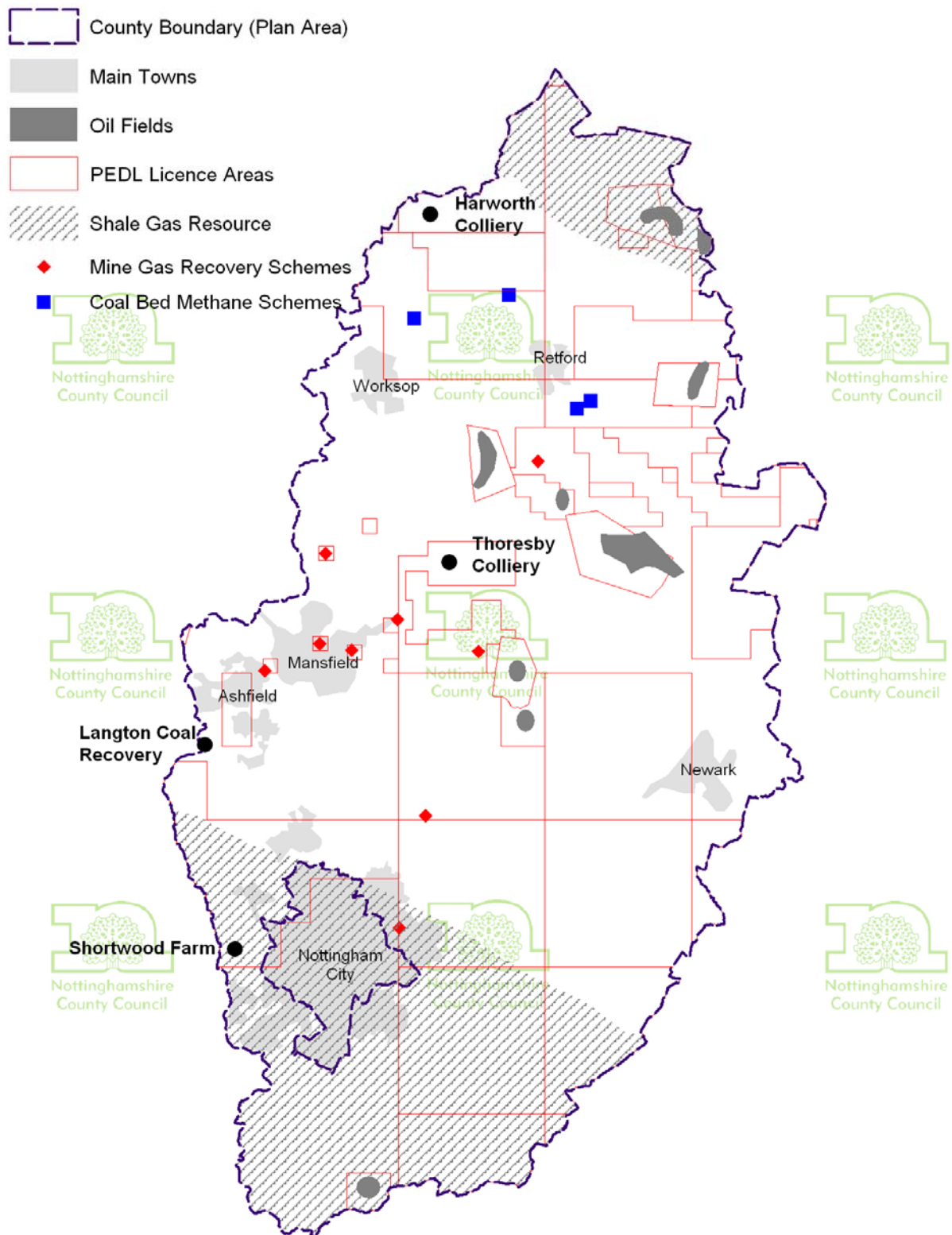
- a) DECC – Issues Petroleum Licences, gives consent to drill under the Licence once other permissions and approvals are in place, and have responsibility for assessing risk of and monitoring seismic activity, as well as granting consent to flaring or venting;
- b) Environment Agency (EA) – protect water resources (including groundwater aquifers), ensure appropriate treatment and disposal of

- mining waste, emissions to air, and suitable treatment and manage any naturally occurring radioactive materials;
- c) Health and Safety Executive (HSE) – regulates the safety aspects of all phases of extraction, in particular responsibility for ensuring the appropriate design and construction of a well casing for any borehole.

A hydrological assessment will be required in support of any planning application and water availability may be a limiting factor in any proposal.

A Frequently Asked Questions (FAQ) document on unconventional hydrocarbons has been produced by the County Council and can be found on the Council's website.

DRAFT

Plan 4: Coal and hydrocarbons

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British Geological Survey. 2003. Digital Geological Map of Great Britain 1:625 000 scale (DiGMapGB-625)
 Superficial Deposits data [CD-Rom] Version 1.10. Keyworth, Nottingham: British Geological Survey. Release date 30-04-2003