Leicestershire County Council

LOCAL AGGREGATE ASSESSMENT

January 2015

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1. Introduction

1.1 The National Planning Policy Framework (NPPF) requires an annual Local Aggregate Assessment (LAA) to be produced by Mineral Planning Authorities in order to plan for a steady and adequate supply of aggregates. Aggregates are materials used in the construction industry for building purposes, including asphalt and concrete.

1.2 This document is the second Local Aggregate Assessment for the County of Leicestershire. (The first LAA was prepared in May 2013 jointly with Rutland County Council.) The LAA sets out current supply of and demand for aggregates in the County and indicates the provision that will be needed in order to ensure that Leicestershire continues to make an appropriate contribution to the steady and adequate supply of aggregates. Revised Local Aggregate Assessments will be produced annually as part of the Local Plan monitoring procedures.

National Planning Policy Framework

1.3 The National Planning Policy Framework (NPPF) states that mineral planning authorities should plan for a steady and adequate supply of aggregates by:

- preparing an annual Local Aggregate Assessment, either individually or jointly by agreement with another or other mineral planning authorities, based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources);
- participating in the operation of an Aggregate Working Party and taking the advice of that Party into account when preparing their Local Aggregate Assessment;
- making provision for the land-won and other elements of their Local Aggregate Assessment in their mineral plans taking account of the advice of the Aggregate Working Parties and the National Aggregate Co-ordinating Group as appropriate. Such provision should take the form of specific sites, preferred areas and/or areas of search and locational criteria as appropriate;
- taking account of published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates;
- using landbanks of aggregate minerals reserves principally as an indicator of the security of aggregate minerals supply, and to indicate the additional provision that needs to be made for new aggregate extraction and alternative supplies in mineral plans;

- making provision for the maintenance of landbanks of at least 7 years for sand and gravel and at least 10 years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised. Longer periods may be appropriate to take account of the need to supply a range of types of aggregates, locations of permitted reserves relative to markets, and productive capacity of permitted sites;
- ensuring that large landbanks bound up in very few sites do not stifle competition; and
- calculating and maintaining separate landbanks for any aggregate materials of a specific type or quality which have a distinct and separate market.

National and Regional Guidelines

1.4 Prior to the introduction of the National Planning Policy Framework (NPPF), the supply aggregates in England was based on national and regional guidelines for aggregates provision published by the Government. These set out guidelines for land won aggregates and assumptions for supplies of marine, alternative aggregates and those supplied from outside England. The latest guidelines were published in 2009 for the period 2005 to 2020.

1.5 The East Midlands Aggregates Working Party (EMAWP) used these figures to provide Mineral Planning Authorities within the Region with their aggregate apportionments for this period. These sub regional (i.e. county level) figures were considered and endorsed by the East Midlands Regional Assembly in 2010. They would then have been incorporated into the Regional Plan through the partial review process. However, due to the subsequent abolition of Regional Spatial Strategies, the figures were never formally adopted.

1.6 At the meeting of the EMAWP in February 2013, doubts were expressed about the validity of the 2010 apportionments. It was considered that the figures were out of date, as they were only based on aggregate output from a period of economic growth, and that they should consequently not be taken into account in identifying future levels of provision. It was agreed that future levels of provision be based on a rolling average of 10 years sales data and other relevant local information, in accordance with the NPPF.

Leicestershire Minerals Development Framework

1.7 The primary document in the Leicestershire Minerals Development Framework is currently the Core Strategy and Development Control Policies Development Plan Document (DPD). This document was adopted by Leicestershire County Council on 8th October 2009.

1.8 Policy MCS2 (strategy for aggregate minerals) of the Core Strategy indicates the level of provision to be made for aggregate minerals within Leicestershire over the period 2001 to 2021, namely 26.25 million tonnes of sand and gravel and 337.75 million tonnes of crushed rock, an annual requirement of 1.25 million tonnes for sand and gravel and 16.1 million tonnes for crushed rock.

1.9 The above figures are based on meeting the approved sub-regional apportionment between 2001 and 2016, as set out in the Regional Spatial Strategy for the East Midlands (2009), together with an additional 5 years based on the average annual apportionment figure. The County's requirement for crushed rock was adjusted to exclude the expected contribution from sites within Rutland.

1.10 The Core Strategy calculated that there would be a shortfall of sand and gravel amounting to 6 million tonnes over the period to 2021 and a surplus of 147 million tonnes of crushed rock. These calculations took account of the level of permitted reserves as at 1st January 2001 (adjusted for subsequent reassessments of reserves at certain quarries) together with reserves subsequently permitted up to 31st December 2007.

1.11 At its meeting on 12th June 2013, the County Council's Cabinet resolved to commence the roll forward of the adopted Minerals and Waste Core Strategy DPDs as a single Minerals and Waste Local Plan. An Issues Report has been published as the first stage in reviewing the adopted Minerals and Waste Core Strategies. Consultation on the Issues Document took place between November 2013 and January 2014.

2. Types of aggregate produced in Leicestershire

Sand and Gravel

2.1 Sand and gravel are formed by the past erosion of existing rock and the subsequent transportation and deposition of the resultant sediment either by the sea, or by water, or ice in old or existing riverbeds and floodplains. In Leicestershire, sand and gravel for aggregate use has usually been obtained from two distinct types of deposit, namely sub-alluvial and river terrace; and glaciofluvial.

2.2 The main sources of sub-alluvial and river terrace deposits in Leicestershire are Quaternary and Recent age deposits in the valleys of the Rivers Trent, Soar and Wreake. Generally clean, well bedded sands and gravels rest on weathered bedrock, although deposit quality can vary along the river valley. Resources occur in both raised river terrace sequences flanking the modern floodplains and in flood plain terrace deposits associated with, and underlying, present day alluvium. Similar, but smaller areas, of sand and gravel are also associated with the River Sence and the Rivers Avon and Welland along the southern borders of Leicestershire.

2.3 Glaciofluvial deposits are the products of glacial melt waters that escaped from the ice margins. The sequence of these deposits is complex. Bodies of sand and gravel may occur as sheet or delta-like layers above till (boulder clay) deposits, or as elongate, irregular lenses within the till sequence. A series of isolated deposits in areas occurs to the south and west of Leicester. The full extent of this resource is unknown, however, as areas of wholly concealed bodies of sand and gravel may occur under spreads of till and other drift deposits. The extensive boulder clay and other drift deposits which cover central and eastern parts of Leicestershire may conceal potential deposits.

2.4 Deposits of solid sand and gravel sources in the form of the Triassic Bunter Pebble Beds occur in two areas in the north-west of Leicestershire, around Measham and Castle Donington. Historic low key working of these resources has taken place when economic conditions allowed. Blown sand deposits resulting from aeolian reworking of river and glacial deposits and bare Triassic bedrock occur in the Vale of Belvoir, where small-scale working has also taken place in the past.

Igneous Rock

2.5 A number of small outcrops of Precambrian/Cambrian igneous rocks occur in Charnwood Forest and in south Leicestershire. The igneous

rocks occur mainly as small intrusions of slightly metamorphosed diorite and granodiorite intruded into volcaniclastic and sedimentary rocks. Within Charnwood Forest, the intrusions form two main groups: a southern group around Markfield, Bradgate and Groby; and a northern group, which extends towards Shepshed. Volcanic lavas of Precambrian origin occur in exposed masses around Bardon Hill, High Sharpley and Pedlar Tor. Igneous rock intrusions also occur around Mountsorrel, and at a number of locations to the south-west of Leicester, including Enderby, Earl Shilton, Huncote, Stoney Stanton and Sapcote.

2.6 Some quarries are limited in areal extent by rapidly thickening overburden of Mercia Mudstone. This has led to the development of deep quarries.

Limestone

2.7 In north-west Leicestershire, Carboniferous limestones crop out in several small isolated inliers which locally form prominent hills above the surrounding Triassic rocks near to the Leicestershire/Derbyshire border. The inliers between Breedon and Thringstone consist mainly of pinkish-yellow, bedded and massive dolomite (dolostone).

2.8 Lincolnshire Limestone of Jurassic age occurs in North East Leicestershire. The various limestone units making up the Lincolnshire Limestone form a relatively thick and persistent formation which is capable of lower quality aggregates, such as fill and sub-base roadstone.

3. Current Situation regarding Land won Aggregates in Leicestershire

Introduction

3.1 Production and Sales data for aggregate minerals is collected on an annual basis, through an aggregate survey undertaken on behalf of the East Midlands Aggregates Working Party (EMAWP). Annually published EMAWP reports present data on production and reserves for the County back to the early 1990s. The most recent Aggregates Monitoring (AM) survey provides data for 2013.

3.2 Every fourth year Aggregate Working Parties are committed to conducting a major in-depth survey. This includes the collection of data on the distribution of sales. The last such survey was for 2009.

Land-won sand and gravel

Production sites

3.3 There are 5 sites currently active in Leicestershire, at Brooksby, Cadeby, Husbands Bosworth, Lockington, and Shawell (see Table 1 below). Two of these sites involve the working of alluvial and river terrace deposits, while the remainder work glacial deposits. There is one further permitted site, at Slip Inn Quarry, Ashby Parva which is currently inactive.

Table 1: List of Current Sand & Gravel Sites, 2013

Site	District
Husbands Bosworth Quarry	Harborough
Shawell Quarry	Harborough
Cadeby Quarry	Hinckley
Brooksby Quarry	Melton
Lockington Quarry	North West Leicestershire

Sales

3.4 Sales of aggregate from sand and gravel operations within Leicestershire over the last 10 years are shown in Table 2 below. Sales of aggregate within the County have remained fairly constant over the period 2004 to 2007, a period generally accepted as one of sustained economic growth, with levels sand and gravel generally averaging around 1.35 million tonnes per annum. Sales for the

period 2008 to 2012 show the effects of the economic recession as production slowed. During this period, sales of sand and gravel fell to an average of 0.9 million tonnes per annum. Sales for 2013 show signs of improvement, being some 21% higher than that experienced between 2010 and 2012, although they still remain below levels for the period 2004-07.

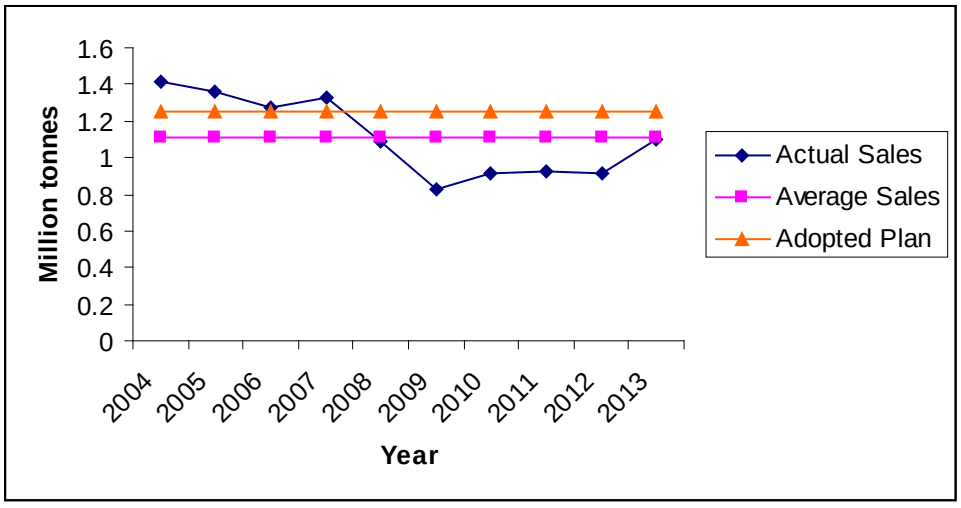
Table 2: Sales of Sand and Gravel from Leicestershire 2004-2013

Year	Sales (Million tonnes)
2004	1.42
2005	1.36
2006	1.27
2007	1.33
2008	1.09
2009	0.83
2010	0.91
2011	0.92
2012	0.91
2013	1.1
Average	1.11

Source: EMRAWP Surveys

3.5 Average sand and gravel sales over the last 10 years were 1.11 million tonnes per annum. Average sand and gravel sales over the last 3 years were around 0.98 million tonnes per annum. The level of sales for sand and gravel have been below the annual requirement set out in adopted Minerals Core Strategy (1.25Mtpa) since 2007 (see Figure 1 below).

Figure 1: Sales of Sand and Gravel from Leicestershire 2004-2013



Landbank

3.6 Estimated permitted reserves of sand and gravel in Leicestershire as at the end of 2013 were around 9.03 million tonnes. This is sufficient permitted material to last just over 7 years based on the annual provision identified in the adopted Minerals Core Strategy, and 8 years based on the average rate of production over the last 10 years.

Production Capacity

3.7 The existing active sites have a total potential production capacity of around 1.7 million tonnes, which means that they would be capable of producing sufficient material to satisfy the level of provision identified in the adopted Minerals Core Strategy. The sites would not however be able to meet the County's future requirements without the benefit of extensions to their currently permitted operations. Table 3 below provides information on the productive capacity, potential reserves and permission end dates for sand and gravel sites with Leicestershire.

Table 3: Production Capacity of Sand and Gravel Sites

Site	Operator	Status	Production Capacity (tonnes p.a.)	Reserves*#	Permission End Date
Husbands Bosworth	Lafarge Tarmac	Active	180,000**	300,000 (2010) Additional reserves: 925,000 (2010)	31-07-2020
Shawell	Lafarge Tarmac	Active	600,000**	900,000 (2006) Additional reserves: 2.4 Mt (2007) & 63,750 (2013)	31-12-2044
Cadeby	Lafarge Tarmac	Active	200,000*	Additional reserves: 605,000 (2011)	04-05-2018
Brooksby	Lafarge Tarmac	Active	300,000*	3.14 Mt (2006)	24-04-2021
Lockington	Lafarge Tarmac	Active	400,000**	1.29 Mt (2007). Additional reserves: 3.9 Mt (2008).	02-12-2025
Slip Inn	Cemex	Inactive	120,000*	756,000 (2004)	30-09-2019

* information from most recent planning applications
** Information provided by operator
# date of reserves information given in brackets.

Exports and imports

3.8 Sand and gravel operations within Leicestershire tend to serve local markets. The distribution of sand and gravel from the County in 2009 is set out in Table 4 below. In 2009, 36.3% of sales were within Leicestershire/Rutland. The remaining material (532,051 tonnes) generally travelled to neighbouring counties and regions from sites located close to the County boundary. The main destinations for material exported beyond the County were the West Midlands (17.6%), Nottinghamshire (11.8%), Derbyshire (10.3%) and Northamptonshire (9%), see Figure 2 below. All the material was transported by road.

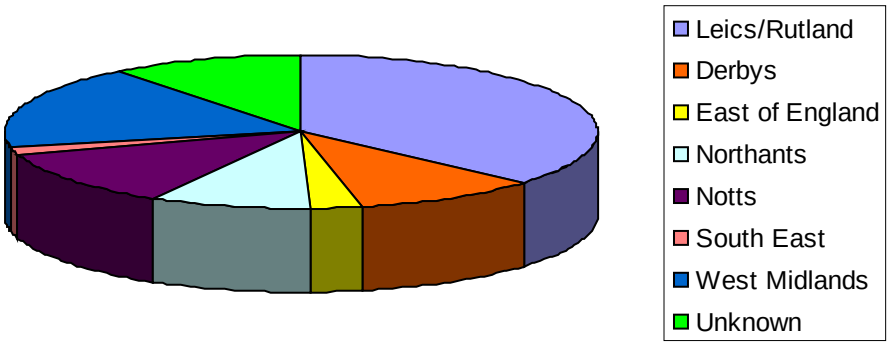
3.9 Imports of land won sand and gravel into Leicestershire and Rutland totalled 228,000 tonnes in 2009 according to the ''Collation of the results of the 2009 Aggregate Minerals Survey for England and Wales' (DCLG October 2011). Leicestershire/Rutland was therefore a net exporter of sand and gravel, some 304,051 tonnes in 2009.

Table 4: Distribution of Sand and Gravel from Leicestershire 2009

Destination	tonnes	%
Derbyshire & PDNP	86084	10.31
Notts. and Lincs.	100753	12.07
Leics. and Rutland	302905	36.28
Northants	75451	9.04
Total East Midlands	565193	67.69
Yorkshire & Humberside	82	0.01
West Midlands	146684	17.57
East of England	22618	2.71
South East	12245	1.47
Total outside E. Midlands	269763	32.3
Total sand and gravel	**834956**	

Source: East Midlands Regional Aggregates Working Party – Survey and Annual Report for Calendar Year 2009

Figure 2: Distribution of Sand and Gravel from Leicestershire 2009



Crushed Rock

Production sites

3.10 Igneous rock extraction within Leicestershire is currently taking place at 4 sites, namely Bardon; Cliffe Hill; Croft; and Mountsorrel (see Table 5 below). Whitwick and Groby quarries are currently inactive although coating and concrete plants are maintained. Two carboniferous limestone quarries are operational within Leicestershire at Breedon on the Hill and Cloud Hill.

Table 5: List of Current Crushed Rock Sites, 2013

Site	District	Mineral
Croft Quarry	Blaby	Igneous Rock
Mountsorrel Quarry	Charnwood	Igneous Rock
Cliffe Hill Quarry	Hinckley	Igneous Rock
Bardon Quarry	North West Leicestershire	Igneous Rock
Breedon Quarry	North West Leicestershire	Limestone
Cloud Hill Quarry	North West Leicestershire	Limestone

Sales

3.11 Sales of aggregate from crushed rock quarries within Leicestershire over the last 10 years are shown in Table 6 below. Sales of rock aggregate within the County have remained fairly constant over the period 2004 to 2008, a period generally accepted as one of sustained economic growth, with crushed rock sales averaging 15.5

million tonnes per annum. Sales since 2009 show the effects of the economic recession as production slowed. During this period, sales of crushed rock have fallen to an average of 12.15 million tonnes per annum. Sales for 2013 show signs of improvement, being some 19% higher than that experienced in 2012, although they still remain below levels for the period 2004-08.

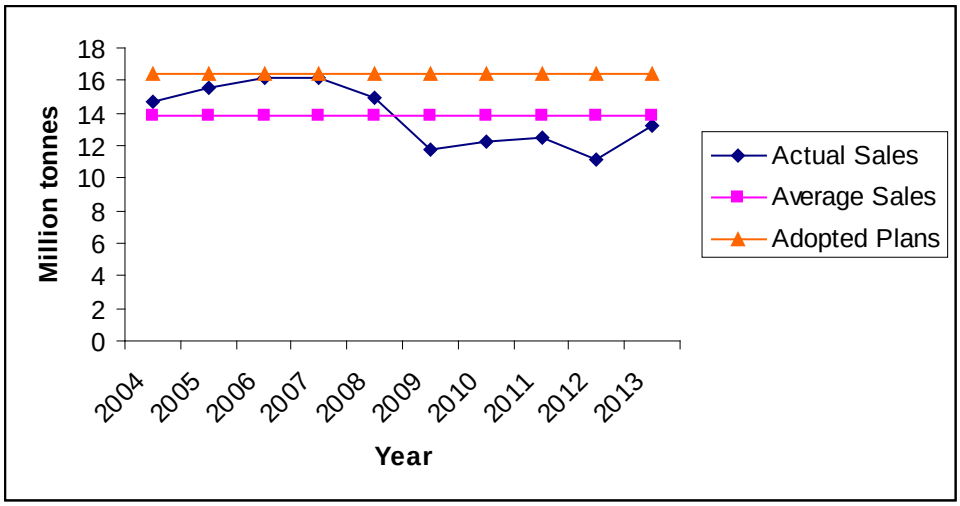
Table 6: Sales of Crushed Rock from Leicestershire 2004-2013 (million tonnes)

Year	Igneous Rock	Limestone*	All Crushed Rock
2004	13.02	1.62	14.64
2005	13.91	1.58	15.49
2006	14.52	1.7	16.22
2007	14.62	1.56	16.18
2008	13.45	1.43	14.88
2009	10.68	1.09	11.77
2010	11.1	1.13	12.23
2011	11.3	1.12	12.42
2012	10.1	1.01	11.11
2013	11.82	1.4	13.22
Average	12.45	1.36	13.82

* with Rutland for confidentiality reasons
Source: EMRAWP Surveys

3.12 Average crushed rock sales were 12.25 million tonnes over the last 3 years and 13.82 million tonnes over the last 10 years. Crushed rock sales from Leicestershire have been lower than the annual requirement set out in the adopted Plan (16.1 million tonnes) throughout this period (see Figure 3 below).

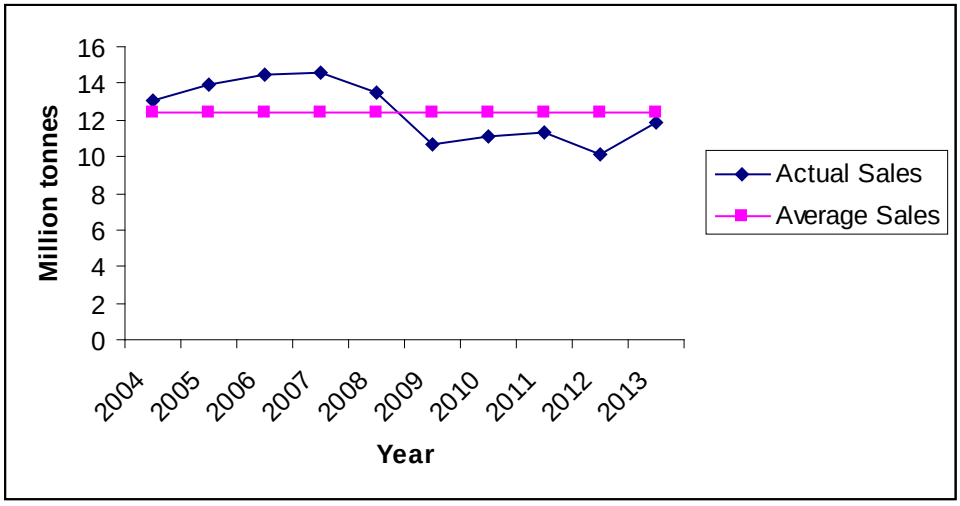
Figure 3: Sales of Crushed Rock from Leicestershire 2004-2013



3.13 In recent years, the four active igneous rock quarries together produced around 11 million tonnes per annum, accounting for around 60% of the igneous rock output in England. These quarries supply crushed rock aggregate of varying types, ranging from general purpose aggregate suitable for a wide range of end-uses including concrete production, to higher specification end-uses such as rail ballast and high PSV (Polished Stone Value) aggregate that is capable of being used in skid-resistant road surfacing applications. There are relatively few alternative sources of such High Specification Aggregate in England.

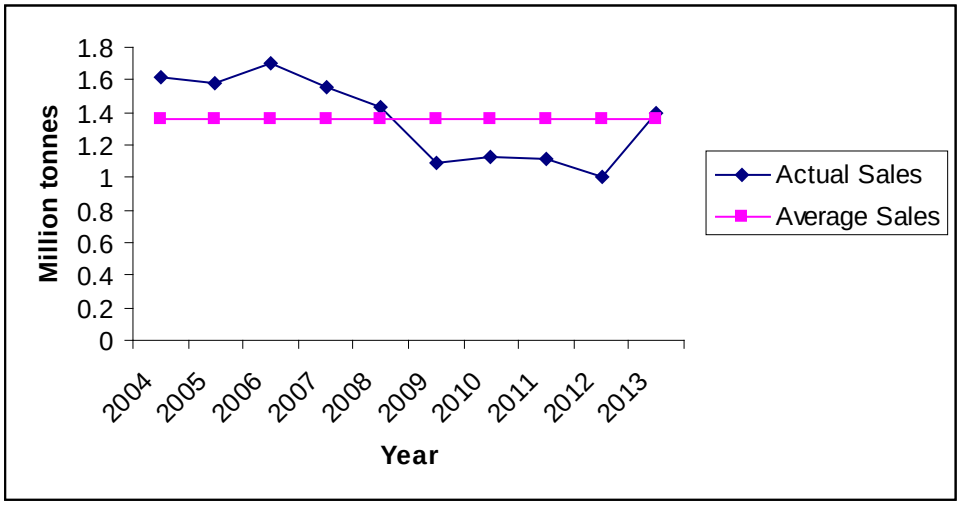
3.14 Average igneous rock sales from Leicestershire over the last 10 years were 12.45 million tonnes per annum. Average igneous rock sales from Leicestershire over the last 3 years were 11.1 million tonnes per annum. Sales in 2013 showed a significant improvement following the very low level of sales in 2012, being some 17.45% higher, but this is still below levels achieved during the period 2004-08 (see Figure 4 below).

Figure 4: Sales of Igneous Rock from Leicestershire 2004-2013



3.15 In order to protect commercial confidentiality, information in respect of limestone is combined for Leicestershire and Rutland, although most of the output is from Leicestershire. Average limestone sales within Leicestershire and Rutland over the last 10 years were 1.36 million tonnes per annum. Sales of limestone aggregate within Leicestershire and Rutland over the period 2004 to 2007 were between 1.5 and 1.7 million tonnes per annum. Average limestone sales over the last 3 years were lower than this at 1.2 million tonnes per annum. Sales in 2013 however showed a significant improvement following the very low level of sales in 2012, being some 38.6% higher, but this is still levels achieved during the period 2004-07 (see Figure 5 below).

Figure 5: Sales of Limestone from Leicestershire / Rutland 2004-2013



Landbank

3.16 Estimated permitted reserves of crushed rock in Leicestershire and Rutland as at the end of 2013 were around 425 million tonnes. This is sufficient permitted material to last about 26 years based on the annual provision identified in the adopted Plans (16.4Mtpa), and about 30 years based the average rate of production over the last 10 years.

3.17 Arithmetically, the level of permitted reserves for crushed rock in Leicestershire/Rutland is therefore well in excess of the 10 year minimum landbank advocated for rock in the NPPF. A significant proportion of the permitted reserves, however, are at inactive sites (24% for igneous rock and 12% for limestone).

3.18 Estimated permitted reserves of igneous rock in Leicestershire as at the end of 2013 were around 370 million tonnes. This is sufficient permitted material to last about 30 years based the average rate of production over the last 10 years.

3.19 As at the end of 2013, the four active igneous rock quarries (which are all rail connected) had total reserves of some 281 million tonnes, a collective life of some 22 years based on the average rate of production over the last 10 years.

3.20 Estimated permitted reserves of limestone in Leicestershire and Rutland as at the end of 2013 were around 55 million tonnes, most of which is in Leicestershire. This is sufficient permitted material to last about 40 years based the average rate of production over the last 10 years.

Production Capacity

3.21 The existing active sites have the potential to produce around 15.5 million tonnes per annum, based on information contained in recent planning applications. Existing rail-linked quarries have a capacity of around 13.5 million tonnes per annum. This suggests that existing sites would be capable of producing sufficient material to satisfy the average rate of production over the last 10 years, but this would be just below the level of provision identified in the adopted Minerals Core Strategy. Not all of the sites would however be able to continue contributing to future requirements without the benefit of extensions to their currently permitted operations. Table 7 below provides information on the productive capacity, potential reserves and permission end dates for crushed rock sites within Leicestershire.

Table 7: Production Capacity of Crushed Rock Sites

Site	Mineral	Operator	Status	Production* (tonnes p.a.)	Reserves*#	Permission End Date
Croft	Igneous Rock	Aggregate Industries	Active	2 million	33 Mt (2008)	31-12-2029
Mountsorrel	Igneous Rock	Lafarge Tarmac	Active	4.5 million	87 Mt (2014)	31-12-2033
Cliffe Hill	Igneous Rock	Midland Quarry Products	Active	4 million	60 Mt (2007)	31-12-2032
Bardon	Igneous Rock	Aggregate Industries	Active	3 million	45 Mt (2009). Additional reserves: 132 Mt (2011).	31-12-2051
Groby	Igneous Rock	Midland Quarry Products	Inactive	up to 3 million	90 Mt (1995)	31-12-2038
Whitwick	Igneous Rock	Midland Quarry Products	Inactive	up to 1 million	8 Mt (2010)	21-02-2042
Breedon	Limestone	Breedon Aggregates	Active	up to 0.5 million	3.1 Mt (2003). Additional reserves: 17Mt (2006)	31-12-2042
Cloud Hill	Limestone	Breedon Aggregates	Active	1.5 million	12 Mt (2009). Additional reserves: 4.3 Mt (2010)	31-12-2025

* information from most recent planning applications
# date of reserves information given in brackets

Exports and imports

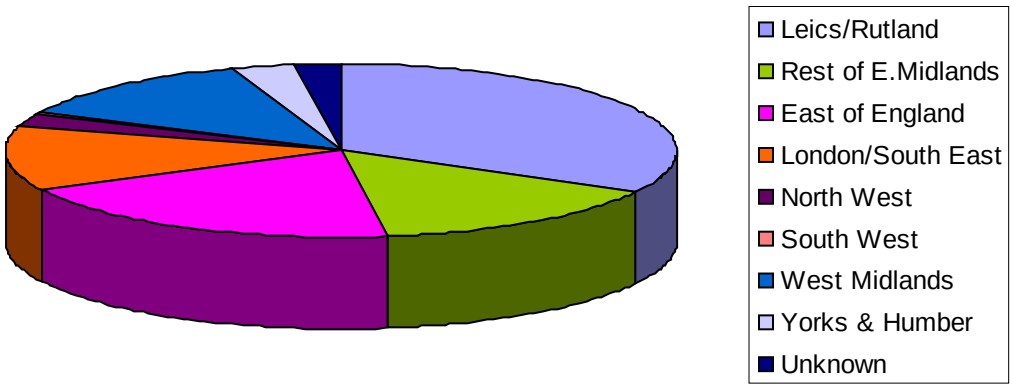
3.22 The distribution of crushed rock from Leicestershire and Rutland in 2009 is set out in Table 8 below. A significant quantity (67%) of crushed rock was exported from the counties. Fifteen per cent of material was distributed to other authorities within the East Midlands. The main destinations for material exported beyond the East Midlands were the East of England (19.5% of total sales); West Midlands (12.5%); and London and the South East (12.2%) – see Figure 6.

Table 8: Distribution of Crushed Rock from Leicestershire and Rutland 2009

Destination	All		By Rail	
	tonnes	%	tonnes	%
Derbyshire & PDNP	448894	3.81		
Nottinghamshire	365309		120647	2.86
Lincolnshire	114425			
Leics. and Rutland	3854078	32.75	537171	12.7
Northants	356010	3.02	7225	0.17
Unknown in E. Midlands	486061	4.13		
Total East Midlands	5624777	47.79	665043	15.78
North West	276094	2.35	274998	6.52
Yorks & Humber	351928	2.99	260027	6.17
West Midlands	1469102	12.48	49307	1.17
East of England	2299513	19.54	1349262	32.01
London	1210582	10.29	1198024	28.43
South East	225263	1.91	132321	3.14
South West	45031	0.38	44853	1.06
North East	1290	0.01		
Unknown in UK	265732	2.26	240843	5.71
Total outside E Midlands	6144535	52.2	3549635	84.22
Total Rock	11769312		4214678	36.16

Source: East Midlands Regional Aggregates Working Party – Survey and Annual Report for Calendar Year 2009

Figure 6: Distribution of Crushed Rock from Leicestershire and Rutland 2009



3.23 In 2009, the amount of crushed rock transported by rail was 36%, around 4.2Mt. The main destinations for material exported by rail were the East of England (32 % of rail-borne sales) and London (28%). In 2013, the amount of crushed rock transported by rail was 39.6%, around 4.7Mt. The main destinations for material exported by rail were the East of England (34 % of rail-borne sales) and London (20%). All the material exported by rail came from the four active igneous rock quarries.

3.24 Imports of crushed rock into Leicestershire and Rutland totalled 200,000 tonnes in 2009 according to the 'Collation of the results of the 2009 Aggregate Minerals Survey for England and Wales' (DCLG October 2011). Leicestershire/Rutland was therefore a significant net exporter of crushed rock, some 7.7 million tonnes in 2009.

4. Recycled / Secondary Aggregate

4.1 Despite difficulties in obtaining reliable data (even for a single year, let alone an historic series), the National and Regional Guidelines for Aggregates Provision have set figures for "Alternative Aggregates" (aggregate materials other than land or marine won) which regions should aim to achieve. The latest Guidelines propose that the East Midlands provide some 110 million tonnes of alternative aggregates for the period 2005 –2020.

4.2 A number of national surveys have been conducted to measure and gain an understanding of the extent to which recycled and secondary materials have been used. The most recent study, undertaken by Capita Symonds for 2005 arisings, was published in February 2007. The survey methodology was very similar to that used in earlier surveys undertaken for 2001 and 2003.

4.3 Lessons learned during the earlier surveys mean that the findings of the 2005 survey were considerably more robust at regional level. However, at sub-regional level they remained unreliable. The estimate for production of recycled aggregate in Leicestershire and Rutland in 2005 was 697,252 tonnes. In addition, 60,194 tonnes of recycled soil (excluding topsoil) was produced and re-used.

4.4 There is currently no audited data available to the Council with regards to tonnages of construction demolition and excavation (CD&E) waste arising in the Leicestershire. A large proportion of construction and demolition waste is recycled on construction sites using mobile processing plant. Operational stand-alone permanent construction and demolition (C&D) recycling sites within Leicestershire are set out in Table 9 below. Existing recycling capacity for C&D waste in Leicestershire is estimated to be around 405,000 tonnes. There are currently no industrial processes in Leicestershire which are known to produce 'secondary' aggregates.

Table 9: List of Operational C&D Recycling Sites

Site	District
Granite Close, Enderby	Blaby
Enderby Road, Whetstone	Blaby
Huncote Quarry	Blaby
Granite Way, Mountsorrel	Charnwood
Moor Lane, Loughborough	Charnwood
Mountsorrel Quarry	Charnwood
Gilmorton Lodge Farm	Harborough
Shawell Quarry	Harborough
Glebe Farm, Sibson	Hinckley & Bosworth
Groby Quarry	Hinckley & Bosworth
Lynden Lea, Hinckley	Hinckley & Bosworth
Mill Top Farm	Melton
Orston Lane, Bottesford	Melton
Pate Road, Melton	Melton
Harrison Close, Wigston	Oadby & Wigston
Beveridge Lane, Ellistown	North West Leics.
Lockington Quarry	North West Leics.
Wood Road, Battram	North West Leics.

4.5 Whilst the data currently available is not considered to be suitably robust to enable a recycling target to be set for Leicestershire, the adopted development plan demonstrates a strong support by the Councils for aggregate recycling. Thus, the adopted Leicestershire Minerals Core Strategy and Development Control Policies DPD includes the following policies:

Policy MCS10: the strategy for resource management is to reduce the demand for primary minerals by encouraging the use of mineral waste, power station ash and construction and demolition wastes before primary minerals and supporting recycling initiatives.

Policy MDC22: Planning permission will be granted for aggregate recycling facilities and for development involving production of secondary and recycled aggregates at existing mineral sites provided that they are located close to the source of materials, have good infrastructure links and will not cause unacceptable harm to the environment or communities.

4.6 The general trend in respect of inert recovery is for decreasing disposals of CD&E waste to landfills, quarries and exempt facilities and an increasing diversion of waste, especially through recycling. This will lead to a greater provision of CD&E waste as recycled aggregate assisting the Councils in working towards future recycled aggregate production requirements, and achieving a reduction in the demand for primary aggregate.

5. Future Provision

Sand and Gravel

5.1 The Leicestershire Minerals Core Strategy (adopted in 2009) provided an indication of the likely provision to be made in the form of site allocations in the proposed Minerals Site Allocations DPD based on the following main factors:

- The sub-regional apportionment set out in the Regional Spatial Strategy;
- The landbank of permitted reserves at that time;
- The assumption that actual production would closely match the forecast sub-regional apportionment.

The Minerals Core Strategy presented, in supporting text, an indicative figure of approximately 6 million tonnes to be allocated in the Minerals Site Allocations DPD for the period 2001 – 2021.

5.2 A number of years have elapsed since the submission and subsequent adoption of the Minerals Core Strategy. It is therefore appropriate to look the most up to date information. In summary, the differences from the above assumptions are:

- The NPPF identifies a new approach to setting the level of future provision
- The land bank of permitted reserves is currently 9 million tonnes
- Actual production has been consistently lower in recent years than the annual requirement indicated in the Core Strategy.

5.3 Table 10 below provide revised calculations of potential future requirements for sand and gravel within Leicestershire. The calculations are based on making provision for the period up to 2021, the period currently covered by the Leicestershire Minerals Core Strategy. The calculations take account of the level of permitted reserves as at 31st December 2013. The tables provide a comparison of potential future requirements based on meeting the apportionment set out in the adopted Minerals Core Strategy (2009), and based on average sales over the last 10 years.

Table 10: Calculation of Sand and Gravel Provision 2014 – 2021

Calculation		Million Tonnes	
		Adopted Plan	10 year average
A	Annual Requirement	**1.25**	**1.11**
B	Total Requirement 2014-2021	**10**	**8.88**
Reserves			
C	Permitted Reserves at 31/12/2013	**9.03**	**9.03**
Shortfall			
D(B-C)	Shortfall 2014 – 2021	**0.97**	**-0.15**

Source: Leicestershire Minerals Core Strategy/Aggregates Monitoring Survey 2013

5.4 The table indicates that there will be a shortfall of sand and gravel reserves over the period to 2021 of between 1 million tonnes (based on adopted plan) and a slight surplus based on average sales over the last 10 years. In order to maintain a landbank of 7 years at the end of the period, additional reserves of around 8 million tonnes will also need to be provided. Looking beyond the current plan period to 2031, there would be a shortfall of around 11 million tonnes based on average sales over the last 10 years.

5.5 The Leicestershire Minerals Core Strategy proposed that provision for the release of sand and gravel reserves be made in the Site Allocations Document; and that priority be given for sand and gravel extraction to be worked as extensions to existing site operations. Work on the Site Allocations Document was put on hold pending a decision as to how the aggregate sub regional apportionments for Leicestershire will be updated.

5.6 The County Council is now proposing to roll forward the adopted Minerals and Waste Core Strategy DPDs as a single Minerals and Waste Local Plan for the County, incorporating site allocations if required. In the meantime, applications for sand and gravel will be considered against the policies contained in the adopted Minerals Core Strategy and Development Control Policies DPD.

Crushed Rock

5.7 The Leicestershire Minerals Core Strategy indicated there would be more than sufficient crushed rock reserves to meet requirements over the period to 2021 (a surplus of some 147 million tonnes). This was based on the sub-regional apportionment in the Regional Spatial Strategy for the East Midlands (2009) and the level of permitted reserves in 2001, adjusted for subsequent reassessments at certain quarries, together with reserves subsequently permitted

up to the end of 2007. It was not therefore considered necessary to make specific provision for future rock extraction.

5.8 Table 11 below provides updated calculations of potential future requirements for crushed rock from Leicestershire. The calculations are based on making provision for the period up to 2021, the period currently covered by the Leicestershire Minerals Core Strategy. The calculations take account of the level of permitted reserves as at 31st December 2013. The tables provide a comparison of potential future requirements based on meeting the apportionment set out in the adopted Plan for Leicestershire, and based on average sales over the last 10 years.

Table 11: Calculation of Crushed Rock (Aggregate) Provision 2014-2021

Calculation		Million Tonnes	
		Adopted Plans	10 year average
A	Annual Requirement	**16.1**	**13.82**
B	Total Requirement 2014-2021	**128.8**	**110.56**
Reserves			
C	Total permitted reserves, excluding reserves in dormant sites, at 31/12/2013	**425**	**425**
Surplus			
D(B-C)	Surplus 2014 – 2021	**296.2**	**314.4**

Source: Leicestershire Minerals Core Strategy/ Aggregates Monitoring Survey 2013

5.9 The table indicates that there will be more than sufficient crushed rock reserves to meet requirements up to 2021 (a surplus of between 296 and 315 million tonnes). The current level of permitted reserves is also sufficient to maintain a landbank of 10 years throughout the period to 2021. Looking beyond the current plan period to 2031, there would be a surplus of around 176 million tonnes based on average sales over the last 10 years.

5.10 Whilst the theoretical permitted reserves of igneous rock appear to be adequate (see paragraph 3.18 above), technical considerations led the East Midlands Aggregates Working Party (EMAWP) to express concern in 2010 regarding the medium to long term ability of Leicestershire to supply crushed rock, at existing levels, particularly to areas like the South East and London. The EMAWP advocated that action be taken to address concerns over medium to long term future supplies of igneous rock from Leicestershire, bearing in mind the nationally strategic and uncertain nature of the Leicestershire resources beyond the existing permissions.

5.11 This situation has also been recognised in a report from the British Geological Survey ('An evidence based approach to predicting the

future supply of aggregate resources in England' 2011) which concluded that "by far the most important foreseeable shortfall in the medium- to long-term is amongst the four rail-connected igneous quarries in Leicestershire."

5.12 The current strategy for aggregate minerals, as set out in Policy MCS2 of the existing Minerals Core Strategy, is to release reserves of crushed rock to be worked as extensions to existing extraction sites where they are required to ensure sustainable supply. Options for the potential extension of existing sites are limited by geology, depth of overburden, bio-conservation, local amenity and other factors.

5.13 In August 2011, Leicestershire County Council granted planning permission for the extraction of 132 million tonnes of mineral from an area adjacent to Bardon Hill Quarry. This has extended the life of this site by around 40 years. The stone quarried at the quarry has a high PSV (60), enabling the aggregates to be used more extensively in road surfacing applications, as well as in other asphalt products, concrete and other uses.

5.14 Planning permission at Mountsorrel Quarry currently expires at the end of 2033. A planning application was however submitted in January 2014 which, if permitted, would extend to life of the quarry to 2040.

5.15 Planning permission at the two other rail-linked sites at Croft and Cliffe Hill currently expire at the end of 2029 and 2032 respectively. Some 10 million tonnes of permitted reserves at Croft Quarry is constrained by structures/buildings, whilst not all of the permitted reserves at Old Cliffe Hill Quarry are under the control of the operator.

5.16 The nature of working is such that the costs of extraction rise considerably as these active quarries approach their planned maximum working depths. Other future constraints might include changing safe slope criteria or unforeseen geological factors which could reduce recovery of reserves.

5.17 If production at any of the existing active sites cannot be maintained, it may be possible to increase production capacity at other sites in order maintain the level of provision from quarries within Leicestershire. None of the inactive sites in the County however are rail-connected nor have they any realistic prospect of being linked by rail.

Local Factors

5.18 The NPPF states that the annual Local Aggregate Assessment should be based on a rolling average of 10 years sales data and

other relevant local information. In respect of this latter point, the following issues have been addressed: population forecasts; household projections; future house building; local economic objectives; and major infrastructure projects.

5.19 A slow and steady increase in population is expected to take place within Leicestershire and Leicester and Rutland rising to 1,044,000 in 2021 (a rise of 5.6% from 2011) and 1,103,000 in 2013 (a rise of 5.7% from 2021): see Table 12 below.

Table 12: Population Projections ('000s persons)

Year	Leicestershire	Leicester UA
2012	657	332
2013	661	334
2014	665	336
2015	669	338
2016	674	340
2017	678	342
2018	682	344
2019	686	346
2020	691	347
2021	695	349
2022	699	351
2023	703	352
2024	708	354
2025	712	356
2026	716	358
2027	720	360
2028	724	361
2029	728	364
2030	732	366
2031	735	368

Source: Office for National Statistics – '2012-based Subnational Population Projections. Local Authorities in England, mid-2012 to mid-2037' (May 2014)

5.20 The number of households in Leicestershire and Leicester has increased from 357,000 in 2001 to 391,000 in 2011, an increase of 9.5%. The Government's 2011-based household projections indicate an increase in the number of households to 426,000 in 2021, a further 8.9% increase. This is slightly below the average growth expected in the East Midlands (9.9%) and nationally (10.0%). The Government's 2008-based household projections indicate that the number of households would rise to 496,000 in 2033.

5.21 A new Leicestershire Strategic Housing Market Assessment (SHMA) was published in June 2014. The SHMA was prepared by G L Hearn

on behalf of all of the Leicestershire Housing Market Area (HMA) authorities, namely the seven local authority districts within the County together with Leicester City Council. The SHMA provides a 'policy-off' assessment of future housing need, with the intention that this will inform future development of planning policies across the sub-region and within its constituent local authority areas.

5.22 A comprehensive assessment of potential population and household growth was undertaken for the SHMA. The starting points for the projections developed were the latest (2011-based) CLG Household Projections. These were updated to take account of the latest population data and to ensure that household formation rates do not project forward recent trends in falling household formation affected by the recent economic recession. The projections indicate a need for an average of 3,626 dwellings per annum to 2036 (with a slightly higher average of 3,774 dwellings per annum to 2031) across the Leicester and Leicestershire HMA. This projection is considered to represent the most robust projection of future housing needs based on the demographic evidence.

5.23 The SHMA also considered the potential implications for demographic trends of meeting the level of employment growth in "baseline" econometric forecasts from Experian, prepared in autumn 2013. The Experian forecasts provide an indication of the expected job growth at a local authority level. They take account of the economic (sectoral) structure of employment in each authority and how Experian expect different sectors to perform in the short, medium and long-term.

5.24 The percentage increase in the number of jobs expected between 2011 and 2036 for Leicestershire and Leicester is 13.2%, with particularly strong growth expected in Harborough and North West Leicestershire (25% and 21% respectively) with more moderate figures being seen in Oadby & Wigston, Leicester and Melton (6%, 8.5% and 9% respectively). The total housing need linked to the economic forecasts came out very slightly above the demographic one with a need for 3,687 dwellings per annum to 2036 (with an average of 3,853 dwellings per annum to 2031).

5.25 To support growth in labour supply across the HMA and local patterns of living and working, the SHMA recommends some localised adjustments to assessed housing need at a local authority level. Taking these factors into account, the SHMA identifies a need for between 3,630 – 4,060 homes per annum to 2036 across the HMA (3,775 – 4,215 homes per annum to 2031). The lower end of the range would support the demographic projections. The higher end of the range would support stronger delivery of both market and affordable housing taking account of the need for affordable housing and market signals, and support proportionate economic growth in different parts of the HMA.

5.26 Based on the findings of the SHMA, future housing requirements are forecast to be between 9-21% higher over the period to 2031 than housing completions achieved over the 5 year period between April 2006 and March 2010 (see Table 13 below).

Table 13: Housing Completions / Need per annum (No. of dwellings)

District	Average completions (April 2006-March 2010)	Housing Need to 2031	
		Lower	Upper
Blaby	226	360	420
Charnwood	762	810	820
Harborough	428	415	475
Hinckley & Bosworth	378	375	450
Leicester	1097	1250	1350
Melton	223	200	250
NW Leicestershire	269	285	350
Oadby & Wigston	91	80	100
Leicestershire & Leicester	3474	3775	4215

Source: Local Planning Annual Monitoring Reports/SHMA (June 2014)

5.27 Over the period 2006 to 2010, sand and gravel sales within Leicestershire averaged 1.086 million tonnes per annum. If future housing need were to be used as a proxy for future sand and requirements, provision would need to be made for between 1.18 million tonnes per annum (based a 8.7% increase) and 1.31 million tonnes per annum (based on a 21% increase). The achievement of the level of housing completions will, however, be largely dependent on future circumstances related to the national and local economy.

5.28 The Leicester & Leicestershire Enterprise Partnership's (LLEP) Economic Growth Plan sets out strategic objectives, priorities and actions for the period 2012 to 2020. The LLEP's ambition is that, by 2020, 25,000 additional private sector jobs will have been created, £2b of private sector investment will have been attracted to the area, and that the Gross Value Added (GVA) will have increased by £4b to £23b. The LLEP's Strategic Economic Plan identifies five growth areas within which there are four transformational priorities, namely Leicester Launchpad (6,000 jobs), East Midlands Gateway Strategic Rail Freight Interchange (7,000 jobs), Loughborough University Science & Enterprise Parks (4,000 jobs) and MIRA Technology Park (2,000 jobs).

5.29 The latest *National Infrastructure Plan* was published by the Government in December 2013. The plan sets out investment for

energy, transport, flood defence, waste, water and communications infrastructure up to 2030 and beyond. It indicates there are some 30 major projects and programmes within the East Midlands with a capital value of £2 billion.

5.30 In respect of major transport projects that lie partly within Leicestershire, the National Infrastructure Plan indicates that work is progressing on the A453 widening project between Nottingham, the M1 and Nottingham East Midlands Airport, with completion due in 2015; and that advanced works have started on the M1 / M6 Junction 19 project with construction due to start before April 2014

5.31 In January 2012, the Government announced its decision to proceed with a £32.7 billion national High Speed Rail network (High Speed Two) from London to Birmingham, continuing onto Manchester and Leeds. The preferred route for HS2 phase two published in January 2013 lies partly within Leicestershire. Construction on Phase 1 between London and the West Midlands is programmed to start in 2017. Construction of Phase 2 could start in the middle of the next decade.

5.32 The importance and current distribution of Leicestershire's igneous rock means that it is likely that the County's quarries will continue to supply major infrastructure both in the East Midlands and elsewhere in England.

5.33 The local factors referred to above will not necessarily lead to a significant change in the demand for aggregates from Leicestershire operations over and above the average experienced during the last 10 year period (2004 to 2013). The future level of demand is likely to be higher than that experienced recently, which has been heavily influenced by the economic recession, but the scale of any increase will depend on the rate of economic growth. Whilst the national economy is recovering, the progress of this recovery remains uncertain. It is not anticipated, however, that there will be any difficulties in meeting demand in the short term given the level of permitted reserves.

Review of Mineral Policies

5.34 The Government has introduced changes to the planning system since the adoption of the Leicestershire Minerals Core Strategy. The key vehicle for this has been through the Localism Act 2011. Amongst the changes to the planning system is the abolition of the regional level of planning. The Government has also streamlined national guidance and brought it together in one comprehensive document, the National Planning Policy Framework (NPPF), which was published on 27th March 2012.

5.35 The NPPF states that Local Plans should be drawn up over an appropriate time scale, preferably a 15 year time horizon, take account of longer term requirements, and be kept up to date. The adopted Leicestershire Minerals Core Strategy and Development Control Policies DPD states that a review of the DPD would be carried out if and when it is no longer in general conformity with the RSS.

5.36 The County Council has commenced a review of its Minerals Core Strategy, with consultation on an Issues Document being carried out between November 2013 and January 2014. The review seeks to ensure that the policies and proposals remain the best available in the light of changes in planning and environmental legislation and recent information on mineral production in the County. The review provides the opportunity to extend the plan period beyond 2021 and it is proposed that the new plan cover the period to 2031.

5.37 The NPPF indicates that future aggregate supply should be informed by the 'National and Regional Guidelines'. However, with the abolition of regional targets, the Mineral Planning Authorities are able to make a local decision on its provision of land won aggregates, provided the decision is based upon sound evidence. The review will establish whether the level of required provision of land won aggregates within the County should be changed. The new plan will indicate how any identified shortfall in the provision aggregates will be met.