

Derbyshire and Derby Minerals Local Plan 2022 – 2038

Background Paper: Cumulative Impacts

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Derby City Council



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1. Introduction and Background

- 1.1 Derbyshire County Council and Derby City Council are the Mineral Planning Authorities for their respective areas. Mineral developments can often involve substantial areas of land. They can involve the construction of major new buildings and structures, large-scale disturbance to land and the features on it, and an extensive range of other operations. By their scale and nature, these developments have the scope for generating significant adverse impacts on the environment, local communities and the surrounding area in general. They could result in significant adverse impacts on individual aspects of the environment and in some case this could also result in cumulative adverse impacts, especially where the impacts combine with those from other developments in the area.
- 1.2 Amongst other things, the operation of a mineral site has the potential to generate adverse impacts from noise, dust and vibration. Developments could significantly increase the number of vehicle movements on the highway network to the detriment of those who live alongside the roads and the safety of other road users. Mineral developments can have a profound impact on the landscape and visual amenity of an area and cause disruption to existing land uses, including disruption to the rights of way network. Large scale surface mining can affect trees and hedgerows and the habitats of wildlife and foraging areas.
- 1.3 It is also recognised that mineral developments can create beneficial impacts which can be individual or cumulative in nature. This paper focuses on the issue of adverse cumulative impacts. It seeks to explore what cumulative impacts are, how they can be measured and how the assessments can be affected by the baseline; that is the existing conditions in the area where new developments are proposed. The policy and methodology to be included in the new Minerals Plan will also be used to assess beneficial cumulative impacts to be able to assess the overall balance of individual development proposals.

2. Originals and Legislation

- 2.1 The concept of cumulative impacts has been part of the process of assessing development proposals for a long time but it was only formalised by enacting legislation arising from EC Directive 85/337/EEC (as amended by 11/97/EC) which introduced the Environmental Impact Assessment (EIA) regulations. For certain types of major development proposals, this requires that consideration is given to direct, indirect and cumulative impacts which are of significance. Proposals which fall within the relevant thresholds included in the regulations are classed as being EIA developments and therefore the corresponding planning application has to be accompanied by an Environmental Statement. The purpose of the Environmental Statement is to identify and assess the potential and significance of the impacts of a proposal, with and without mitigation, leading to an overall assessment of the acceptability of the development. This is normally undertaken for a series of individual topics or issues (noise, dust, visual impact etc.) and then, where appropriate, for the overall cumulative impact of these aspects in combination.
- 2.2 The need to consider the environmental impacts of a proposal is established by Section 71A of the Town and Country Planning Act 1990. The need to consider cumulative impacts was established in Schedule 3 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, as amended by the 2011 and 2017 regulations. The importance of the consideration of the cumulative impacts of minerals developments is reiterated in paragraphs 210 and 211 of the National Planning Policy Framework (NPPF)¹.

¹ National Planning Policy Framework (NPPF) July 2021 [National Planning Policy Framework - Guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/92512/nppf-2021.pdf)

3. What are Cumulative Impacts

- 3.1 Cumulative impacts are those which are caused by the combined effects of one action, or of several actions or developments at the same time, or from a succession of actions or developments over time. The critical issue is that these actions or developments combine to result in a significant impact over and above the individual impacts. Whilst the main focus of assessment is normally on adverse cumulative impacts it is also possible that individual and multiple developments can give rise to positive cumulative impacts. An obvious example would be the aggregate or cumulative benefits to an area from a series of remediation projects restoring contaminated land to beneficial uses.
- 3.2 Cumulative impacts can be defined in many different ways depending on the circumstances. In generic terms it can be defined as *“impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project.”*²
- 3.3 An alternative definition is *“the net result of environmental impact from a number of projects and activities.”*³
- 3.4 A further definition with direct relevance to Derbyshire and Derby and the local minerals industry is that cited in a practice guide developed in response to the issues generated by the Australian mining industry. It states that: *Cumulative impacts are the successive, incremental and combined impacts of one, or more, actions on society, the economy and the environment. Cumulative impacts can result from the aggregation and interaction of impacts on a receptor and may be the product of past, present or future activities. Cumulative impacts can be both positive and negative and can vary in intensity as well as spatial and temporal extent. Cumulative impacts may interact such that they trigger or are associated with other impacts. They may aggregate linearly, exponentially or reach ‘tipping points’ after which major changes in environmental, social and economic systems may follow*⁴.

² Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interaction, Hyder, May 1999. [Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions \(europa.eu\)](#)

³ Environmental Assessment in a Changing World, Sadler 1996.

⁴ Cumulative Impacts: A Good Practice Guide For The Australian Coal Mining Industry, University of Queensland.

- 3.5 This definition is relevant to the local situation for several reasons. It extends the range of impacts beyond those on the environment to include impacts on society and the economy. The historical importance of the impacts on society and the economy will be reviewed in more detail below but it is relevant to the local situation as it recognises the impacts on people and an area. It recognises the importance of those people who have or are experiencing the impacts and that an impact can affect a wider area due to the linkages with other activities. It is also important because it recognises the role of tipping points or thresholds in the assessment of cumulative impacts, above which it can be considered that further impacts would not be acceptable. It suggests that the addition of further impacts over and above the tipping point could be the turning point where the overall vitality and viability of a community or area would be threatened.
- 3.6 These definitions indicate that cumulative impacts can arise from several aspects of developments. In the case of a single development for example, the combined effect of noise, dust, odours and traffic impacts could be so significant in combination that it would be regarded as unacceptable, even though the impacts may be considered less detrimental when assessed individually. Cumulative impacts could also arise from the additional effects of a single proposal with those of an existing development or developments nearby or one that is planned to take place in the locality in the future. Cumulative impacts could also be generated by the long-term effects of similar developments or even unrelated developments in an area, even where one or more of the original developments has ceased.
- 3.7 From the definitions above there are three elements to cumulative impacts; spatial, temporal and linked.

Spatial Impacts

- 3.8 Spatial impacts are those which occur over an area and may vary in extent and intensity. A spatial extent impact may concern the area where previous developments have resulted in adverse impacts such as the loss of a feature (trees and hedgerows for example), whilst spatial intensity impacts may occur where there is an overlap between spatial extent impacts from more than one source.

Temporal Impacts

- 3.9 Temporal impacts are those which occur and vary over time. Simple temporal impacts are those which commence at a specific date and which can be measured over a particular period. This could involve the impacts of noise from a development where the change in noise levels in an area can be measured for the duration of a development and compared with the background levels prior to the development. Temporal impacts can be more complex however, where, for example, noise is generated by several developments in an area simultaneously during a period or for overlapping periods. In this situation the additional noise from each individual site may not be unacceptable but the overall extra noise generated by the developments in combination may be. In this situation it may be difficult to measure the impact (i.e. noise levels) from individual sites due to the 'interference' from other noise sources. Sites located next to or close to a major road is an example of cases where background and operational noise levels are affected by traffic noise.

Linked Impacts

- 3.10 Linked impacts involve more complex interactions where one impact triggers another or where one activity has multiple effects. Triggered impacts are those where one impact, either by its occurrence or where it exceeds a threshold, causes another impact that would not have occurred otherwise.

4. Purpose of Cumulative Impact Assessments

- 4.1 The introductory section above indicates that it is now a legislative requirement to assess and take account of the potential cumulative impacts of a proposed development. It is also a means of addressing the full implications of developments. The main objective for the planning system, as defined in the NPPF, is to achieve and support sustainable development. This requires that the full range of human generated stresses are understood in their environmental, economic and social context. The role of cumulative impact assessment is to enable decision makers to identify, examine and respond to such impacts. The aim of cumulative impact management is to keep the total effects of all stresses at acceptable levels and to enhance opportunities through co-ordination.
- 4.2 The application of cumulative impact criterion adds to the considerations which are taken into account and is a method of ensuring that fundamentally unacceptable developments do not take place and that only sustainable developments do proceed. The assessment of development proposals for potential cumulative impacts is therefore an example of good planning practice and the use of appropriate methods will be an important aid to decision making.
- 4.3 The purpose of an assessment is to determine when cumulative impacts become significant. This has been defined as when the impacts become so frequent in time or density in space that they cannot be assimilated or become combined with the effects of other activities in a synergistic manner.⁵
- 4.4 The central idea behind the assessment and management of cumulative impacts is that it is insufficient to only consider the impacts of a single action or project.

⁵Cumulative Effects Assessment: A Context for Further Research and Development, Canadian Environmental Research Council, 1987.

5. Assessment Methodology

- 5.1 The Environmental Impact Assessment regime requires a methodical approach to the assessment of impacts. It requires the identification of a range of potential impacts and an assessment of the scale or significance of those impacts with and without mitigation measures. It establishes a logical approach to the overall assessment of the acceptability of a development proposal. It seeks to identify the point where impacts become so significant and outweigh any benefits that they cannot be regarded as acceptable. This requirement applies to the assessment of cumulative impacts.
- 5.2 The point at which the cumulative impacts can no longer be regarded as acceptable can be treated as a tipping point. It is important, therefore, to have a robust and clear method of assessment which can establish that tipping point and enable a thorough assessment of a proposal against a set of policies and criteria.
- 5.3 There are a number of different methods available to assess cumulative impacts which vary according to the type of proposal or project under consideration^{6&7}. Different methods have been devised which involve the application of models, whilst others use matrices and threshold analysis. At present, there is no one standard method which is used to address the cumulative impacts of proposals subject to planning applications. Two cases, however, have set a precedent for a minimum approach (a High Court judgement by Mr Justice Burton on the Long Moor surface mining proposal in Leicestershire and the Inspector/Secretary of State decision on an appeal against the refusal of planning permission for a surface mining development near Telford in 2009). The methodology adopted in these cases consisted of addressing i) successive effects, ii) simultaneous effects from concurrent developments, and iii) combined effects from the same developments. These would appear to be a comprehensive and an appropriate set of categories for assessing the

⁶ Draft Guidelines on Cumulative Effects Assessment of Plans, EPMG, Imperial College London, 2003.

⁷ EIA Newsletter 14, Cumulative Impacts, Manchester University, 2003.

potential cumulative impacts of mineral planning applications in the Plan area.

- 5.4 Whichever method is adopted it has to be capable of performing certain tasks. It has to provide a systematic procedure for the identification and evaluation of significant effects from one or multiple activities. The analysis of the causes, pathways and consequences of those impacts is an essential part of the process. These three elements define the complex cause-effect relationship that is central to a cumulative effects assessment.

Identification of Sources

- 5.5 This involves the identification of the action or multiple actions that can cause adverse impacts or environmental change. It is important to understand the fundamental nature of the development that is proposed and the activities it will generate; how those activities can impact upon the area and how those impacts compare to established criteria or measurements. It is imperative that the exercise identifies who or which site is the source of impacts so that they are not wrongly attributable to another activity. It is also important that the exercise investigates how the impacts may change over time, with or without future mitigation measures.

Considering the Process

- 5.6 This involves consideration of the pathways of impacts between the sources and receptors and the linkages between these impacts. It is essential to fully understand the mechanics of such impacts, to understand how they are created and how they are transmitted.

Effects of the Impacts

- 5.7 This involves the analysis of the attributes of these effects, whether such impacts are additive, antagonistic or synergistic. It is essential that the analysis includes a comprehensive statement or assessment of the baseline situation such that the implications of the impacts can be fully assessed. This will involve an assessment of the sensitivity of an area to change and the identification of trigger points or thresholds to enable an informed judgement of the actual impact on the people of an area, of the economy and environmental quality and character of an area.

6. Current Legislation, Policy and Guidance

6.1 This section sets out current planning legislation, policy and guidance relating to the assessment of cumulative impacts. As set out above, the assessment of cumulative impacts is an area where there is little consensus about an agreed methodology. Whilst there is a range public sector and industry led guidance available, there is no single agreed industry standard method.

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the ‘2017 Regulations’)

6.2 The 2017 Regulations cover the process of environmental impact assessment in respect development which is given consent under Part III of the Town and Country Planning Act 1990 including proposals for minerals and mineral related development. Specifically with regard to cumulative impacts, Paragraph 5(e) of Schedule 4 requires developers to provide a description of the likely significant effects of the development on the environment resulting from:

‘...e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;’

National Planning Policy Framework (NPPF)

6.3 The NPPF⁸ seeks to promote sustainable development and advocates the use of appropriate environmental criteria to assess and determine individual planning applications. One of the objectives of the NPPF is to conserve and enhance the natural environment, and it advocates (paragraph 185) that *“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development..”* With regard to preparing minerals plans, it states (paragraph 210) that local planning policies should *“set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects*

⁸ [National Planning Policy Framework - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

of multiple impacts from individual sites and/or a number of sites in a locality.”

Planning Practice Guidance (PPG)

6.4 Planning Practice Guidance (PPG) reiterates much of the policy approach of the NPPF. For example, it identifies the environmental issues of mineral working that should be addressed by mineral planning authorities. However, it acknowledges⁹ that some parts of a mineral planning authority area may have been subjected to successive mineral development over a number of years and states that, where appropriate, mineral planning authorities should include appropriate policies in their minerals local plan to ensure that the cumulative impact of a proposed mineral development on the community and the environment will be acceptable.

Derby and Derbyshire Minerals Local Plan, 2000

6.5 The importance of cumulative impacts in the consideration of minerals and waste developments was recognised in both current minerals and waste local plans. In the adopted Derby and Derbyshire Minerals Local Plan, April 2000¹⁰, Policy MP4: Interests of Acknowledged Environmental Importance, states that proposals for mineral development will not be permitted where irreparable or unacceptable damage would result to interests of acknowledged environmental importance. With regard to cumulative impacts it states that one of the aspects for deciding whether a development was acceptable or not would be where it would result in an unacceptable cumulative impact on the environment of an area, either in relation to an individual proposal having regard to the collective effect of different impacts, or in relation to the effects of a number of mineral developments occurring either concurrently or successively.

6.6 The supporting text to this policy indicates that cumulative impacts could arise where there is a concentration of mineral workings in a particular location, either concurrently or successively over a period of time, and where the local community has experienced more than its fair share of environmental disturbance. It notes that these concerns can be particularly relevant in the Derbyshire coalfield where the adverse effects

⁹ Planning Practice Guidance Paragraph 017 ref ID: 27-017-20140306 (March 2014) [Minerals - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

¹⁰ [Minerals and waste planning policy - Derbyshire County Council](#)

of operations should not inhibit efforts to regenerate those areas. In addition it notes that proposals for mineral working may result in a series of environmental impacts which are not individually unacceptable, but which taken collectively and taking account of any impacts of other mineral or non-mineral developments in the same area may create unacceptable damage to the environment.

Derby and Derbyshire Waste Local Plan, 2005

- 6.7 Reference is included to the adopted Derby and Derbyshire Waste Local Plan, March 2005¹¹, as it contains a corresponding policy for waste developments. Policy W10: Cumulative Impact, which states that proposals for waste development will be assessed in the light of the cumulative impact which they and other developments would impose on local communities, concurrently or successively. It adds that waste development will be permitted only if the development would not result in significant and detrimental cumulative impact on the environment of those communities.
- 6.8 The accompanying text also refers to the creation of unacceptable cumulative impacts from developments operating concurrently or successively. It cites the example of disturbance to a local community from mining and landfill operations over a long period where a proposal to extend the landfill site or develop another waste disposal site or waste management facility, even one that would benefit the wider waste management system, might result in significant, cumulative harm to the community's amenities and may have to be refused.
- 6.9 Reference to this Plan is included as it also provides a guide to potential applicants and decision-makers by setting out the aspects that may contribute to cumulative impact. These are of direct relevance to minerals developments and include:

Planning Inspectorate Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects (August 2019)¹².

- 6.10 Whilst this advice note relates specifically to Nationally Significant Infrastructure Projects, the MPA considers that it also provides an

¹¹ [Minerals and waste planning policy - Derbyshire County Council](#)

¹² [Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects | National Infrastructure Planning \(planninginspectorate.gov.uk\)](#)

appropriate methodology for determining a 'zone of influence' for each relevant environmental topic that would be equally applicable to all EIA projects. It sets out clear methodology for Cumulative Impact Assessment which includes a staged process that applicants may wish to adopt.

Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interaction, Hyder, (May 1999) ¹³.

6.11 Although over 20 years old, these guidelines still represent a comprehensive guide to undertaking cumulative impact assessment. The document sets out a variety of approaches which can be adapted and combined depending on the project concerned.

Broad Issues to consider when assessing cumulative impacts

Concentration of Development

6.12 Whether the area is suffering from the effects of a concentration of activity such as existing mineral working and/or waste disposal and whether it would be reasonable to expect communities to accept the additional, predicted traffic, noise or other emanations from the proposed development in combination with the impacts from the existing activities.

Period of Exposure

6.13 Whether the local community has experienced environmental disturbance for a long time and whether it would be reasonable to continue to expose the community to future disturbance.

Effect on Regeneration

6.14 Whether the adverse effects of such cumulative disturbance would inhibit efforts to regenerate the local economy, especially in the priority areas (coalfields and the deprived areas of Derby).

Overall Effect on the Environment

6.15 Whether the development, collectively with existing land uses and any permissions which may have been granted for other development, would create adverse damage to the environment – even though the damage caused by each individual development would not be so significant as to warrant refusal of permission.

¹³ [Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions \(europa.eu\)](http://europa.eu)

7. Baseline – Spatial Characteristics and History of the Plan area

- 7.1 An important aspect for the assessment of cumulative impacts is the baseline conditions against which potential impacts will be evaluated. The baseline will vary from area to area and will reflect the characteristics and history of the area. The baseline and the sensitivity of the Plan area will be different from that of other counties and will also vary within different parts of the Plan area. The historical pattern and form of development are important elements in the determination of that sensitivity. The industrial heritage of the Plan area and the impacts it has had on the quality of the environment and the social and living conditions of the area will influence the threshold levels used to assess new development proposals.
- 7.2 The industrial heritage is evident in both the major towns of the county and also in the rural areas. The County of Derbyshire has a reputation as one of the most attractive counties in the country. It contains a significant portion of the Peak District National Park, which together with adjacent areas is renowned for its stunning and diverse landscapes, which underpin a valuable leisure and tourism industry. It is also well known for its wealth and diversity of important minerals which have brought significant benefits to the area, but at a cost to the environment and also to some of the local communities. Many of the important limestone reserves are located in the areas of high landscape value (as classified by the 'Landscape Character of Derbyshire' publication¹⁴), which adds to the potential level of conflict.
- 7.3 Derby City is the main urban area and is considered to be a birthplace of the industrial revolution. It was home to Lombe's Mill, the first factory in the world. In the 19th century Derby emerged as an engineering centre with a focus on the locomotive industry. The subsequent decline of some sectors of the engineering industry left a legacy of derelict buildings and unused and contaminated sites, particularly in parts of the inner city and Sinfin. Some of these areas have been redeveloped where small scale business developments such as those around the former Baseball Ground have helped replace the jobs lost by the closure of William Lees. The former industrial area immediately to the east of the city centre has now become Pride Park where the former contamination and dereliction

¹⁴ [Landscape character - Derbyshire County Council](#) (2013)

has been replaced by a modern employment/business area and the new home of Derby County Football Club. In Sinfin, the former heavy industries have been replaced by some modern business/leisure developments.

- 7.4 One of the most important industries in terms of historical legacy is coal mining. The coalfield areas are focused on the eastern and southern parts of the county. The legacy of large scale coal extraction left these areas with significant social, economic and environmental problems. Whilst there is now only one active coal extraction site in the County, the picture would have looked very different fifty years ago. In the middle of the 20th century coal mining was a major industry, with over fifty collieries, employing some 60,000 people. Derbyshire collieries made a significant contribution to the national production peak of 225 million tonnes in 1955.
- 7.5 The mining industry supported other ancillary industries, such as coking plants and provided the fuel for other traditional industries such as the local metals based engineering businesses. For example, the Avenue Coking Works site to the south of Chesterfield occupied an area of nearly 80 hectares (almost 200 acres). It closed in 1992 leaving the site as one of the most contaminated in the country and a significant blight on the surrounding area. A recently completed intensive and costly remediation programme has removed the contamination and provided a range of beneficial after-uses but it remains an important aspect of the baseline legacy conditions of the area, especially when viewed in context with the site of a similar operation nearby at Grassmoor (remediation scheme also now completed).
- 7.6 In the late 18th century the availability of coal, other ores and water led to the development of engineering firms in the Ripley/Ironville area that were to become nationally and internationally important companies (Butterley Engineering for example). Similar companies were then developed in Clay Cross and in the Chesterfield/Staveley, Ilkeston and Swadlincote areas. These industries provided a significant number of jobs but also had a profound impact on the areas in terms of the visual appearance of the large-scale facilities, associated tips and other ancillary facilities, the impacts of noise and dust and a legacy of long-term pollution.
- 7.7 Regeneration initiatives are resulting in the gradual remediation of the former mining areas. Since the 1970s, most of the former colliery sites

have now been subject to some form of remediation and/or a redevelopment scheme which has lessened the visual presence of these sites and has helped them to assimilate into the surrounding areas. In some cases this involved the complete removal of the former colliery tip, although for others it was restricted to a landscaping and planting scheme where the physical mass of the tips remains as a major presence. Some of the colliery sites have been redeveloped into new industrial estates where the new job opportunities have partially offset the losses from the closure of the collieries, although these new activities are also now part (albeit small) of the industrial development legacy which may need to be taken into account in the assessment of cumulative impacts of new developments in these areas.

- 7.8 The ancillary industries which coal mining supported also had a profound impact on the area. Some of these were substantial developments occupying large tracts of land where the site and surrounding areas suffered from these uses. In addition to the Avenue and Grassmoor Coking Works, there are a number of other major developments where the businesses have ceased but the sites await remediation, in some case many years after the closure of the respective facilities. The adverse impact on the visual amenity of the areas in which they are located has been significant. In addition, the presence of these sites was a source of environmental pollution. The activities undertaken at these sites, the nature of the operations and the materials that were used also had an impact on the health of the workforce and has given rise to concerns about residual long-term health effects on the communities in the surrounding areas.
- 7.9 Sites such as the former Biwaters site (Clay Cross foundry) have been reclaimed subject to regeneration initiatives but the remediation works by their nature added to the cumulative impact on the area as it necessitated major engineering operations followed by landfilling to restore the land to the desired standard. Other sites, such as the former Forge site in Ironville, stood derelict for many years, and in this case it was only restored as part of an opencast mining operation that affected a wider area of unspoilt agricultural land, some of which was close to the remains of Codnor Castle. Many other sites however remain largely untouched with the obvious presence of derelict buildings and structures. Even where these buildings and structures have been removed, many of the bases and foundations remain together with other land affected by other tipping and ancillary activities.

- 7.10 The decline of the mining industry and related industries in the latter part of the 20th century and the early part of the 21st century also had a profound impact on the social fabric of these areas, particularly those which were reliant on one or a few major employers. The mining towns and villages of eastern Derbyshire together with those in the adjoining coalfields of Yorkshire and Nottinghamshire in particular have suffered in this respect. Major job losses reduced the income of the local communities which in turn affected the viability of local shops and other businesses resulting in closures adding to the spiral of decline in the vitality of the areas. The adverse impact on community facilities such as pubs and clubs added further to this impact. Similar effects were evident in parts of the main urban areas of Derby and Chesterfield resulting in pockets of social deprivation.
- 7.11 The closure of the collieries, however, did not witness an end to the impacts from mining activities in these areas. Coal, like all other minerals, can only be worked where it occurs. The areas where the former mining and other traditional industries were based also contain the remaining coal resource. Sites in these areas have since been subject to surface mining developments, including the sites of some of the former deep mine collieries, sites which have been subject to previous surface mine workings of the shallower seams, sites of other former traditional industries, as well as 'greenfield' sites of agricultural land. These new developments have extended the period of disruption to the respective areas, although some of the developments have had the benefit of enabling the remediation of some longstanding derelict sites.
- 7.12 The winning and working of other minerals has also impacted upon other parts of the county. The Matlock/Wirksworth/Buxton area is the focus of the local limestone quarrying industry, both current (often large-scale) and former operations. These mines involved large surface areas and deep excavations where the landscape was altered significantly by the mining operations and the visually intrusive tips and associated plant. The bulky nature of the mineral generates the use of many heavy goods vehicle movements from these quarries, often on relatively minor roads not designed to accommodate modern vehicles. These movements impact on the villages and settlements along these routes and sometimes on the experience of visitors to the area. Many of the older, abandoned quarries were not subject to restoration provisions but have self-regenerated, which has helped them assimilate into the landscape. Some have been restored and redeveloped for recreational use

(camping/caravan sites) providing some compensatory benefit, but this does not ameliorate the earlier impact that these sites have had.

- 7.13 The exploitation of the sand and gravel reserves along the Trent, Lower Derwent and Lower Dove valleys has extended the influence and impact of mineral mining to a substantial area of southern Derbyshire. Due to the limited depth of these reserves, the sites are often very large, extending over hundreds of hectares. Several of the larger quarries have been extended a number of times onto adjacent land resulting in the presence of the quarries and the processing plant for a prolonged period. These sites often result in a permanent change to the landscape of the area where traditional riverside meadows have been replaced by extensive water features. The transport of these minerals has also added to the number of HGV movements on local roads.

8. Implications for Future Policy

- 8.1 The spatial portrait of the area indicates that parts of the Plan area have a high level of sensitivity to further adverse impacts of new developments, including further cumulative impacts. Based on responses to previous consultation exercises and to individual planning applications, it is apparent that cumulative impacts are a very important issue to the communities in these areas. This will need to be reflected in the policies of the Plan in order that this issue is recognised and is fully addressed in the assessment and determination of future development proposals.
- 8.2 The NPPF and PPG advocate that the criteria to be used by local planning authorities to assess individual mineral planning applications should include the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality. For the reasons highlighted above, it will be necessary to consider whether the scope of the assessments they suggest is too narrow a basis for the assessment of cumulative impacts in the Plan area. The NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development. Consideration will therefore have to be given to the way in which the assessment of cumulative impacts will reflect that objective, including the three separate elements of sustainable development.

Economic Role

- 8.3 The economic role of planning is stated as contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places at the right time to support growth and innovation. Cumulative impact policy will need to prevent inappropriate developments in locations which would result in impacts that would be detrimental to these objectives. It will need to take account of the full range of economic costs and benefits of development proposals.

Social Role

- 8.4 The social role of planning is stated as supporting strong, vibrant and healthy communities by providing the supply of housing to meet local needs and by creating a high quality built environment that reflects the community's needs and supports its health, social and cultural well-being. Cumulative impact policy will need to take account of the impacts

of development proposals, which could affect the overall well-being of communities.

Environmental Role

8.5 The environmental role is stated as serving to protect and enhance our natural, built and historic environment and helping to improve biodiversity. Cumulative impact policy will need to take account of the aggregate or cumulative effect of developments, over a period, or at the same time, which could significantly impact upon the quality and character of the environment of an area. The policies of the current Minerals and Waste Local Plans, together with those in the respective district and borough local plans already provide an extensive list of environmental issues to be addressed in the assessment and determination of planning applications (loss of trees/hedgerows, loss of wildlife and habitats, impact on water features etc.). Consideration will have to be given to the need for additional environmental issues to be taken into account which address the current situation in respective parts of the Plan area and the introduction of new technology into minerals operations.