

Transition Chesterfield
Objection to INEOS Planning Application (CM4/0517/10)
For an exploratory well at Bramley Moor Lane

Summary of objection

Transition Chesterfield has grave concerns about the environmental impacts of the proposal and believes that the application fails to conform to the following key planning documents:

- Derby and Derbyshire Minerals Local Plan
- National Planning Policy Framework (NPPF)
- North East Derbyshire Local Plan
- The Landscape Character of Derbyshire
- Derbyshire Climate Change Charter, 2014-2019

We also believe that the case for the necessity of this project has not been sufficiently well made – and that the potential harm of the project and subsequent related developments far outweigh any benefits. We urge the Planning Committee to reject this application for the following reasons:

Cumulative Impacts

It is clear that this application is the first stage in the eventual large-scale extraction of shale gas throughout the region. We therefore believe that consideration of this proposal must consider the wider potential cumulative impacts of fracking.

Climate Change

The proposal will compromise UK's binding targets to reduce greenhouse gas emissions to net zero by 2050 due to the following:

- (1) Fugitive emissions of methane, a powerful greenhouse gas, which will nullify any greenhouse gas emissions compared to coal
- (2) Carbon dioxide emissions from burning of the shale gas subsequently, as this is unlikely to substitute for either coal or natural gas, and will likely be additional.

Energy security

- Fracking will not increase UK's energy security and will likely undermine it.
- Rather than providing heat and power for generations estimates of the practically recoverable reserves from the entire Bowland shale suggest that it will provide at most around 3 years of natural gas consumption for the UK which will require over 3000 wellheads across the north of England with a massive environmental footprint and unknown environmental risks.
- Most of the UK's gas imports are from Norway and we export significant amounts of gas, equivalent to about one third of imports.
- Investment in renewable energy, coupled with energy reduction would provide a safer, cleaner, less risky means of increasing energy security.

Landscape and Green Belt

- The visual impacts of this proposal will be moderate to substantial in a very rural and unspoilt area.

- The proposal fails to conform with a number of planning policies to protect landscape character in the North East Derbyshire Local Plan and the Derby and Derbyshire Local Minerals Plan.
- A previous planning application for a conventional gas extraction process in North East Derbyshire was rejected, partly on landscape grounds.
- The development is within the Green Belt and we consider an industrial drilling rig, 60m height and lit 24 hours to clearly constitute inappropriate development in a Green Belt area, contrary to policies in the NPPF and North East Derbyshire Local Plan.

Traffic

- The increase in HGV movements as a result of this proposal will be significant – at peak times representing a 500% increase in HGVs (based on a fairer like for like comparison). It is therefore essential that a separate traffic environmental assessment is carried out.
- The back lanes around the area are totally unsuitable for HGVs.
- A previous planning application for a car boot sale at the same site was rejected on traffic grounds.

Water Contamination

There is a risk of water contamination resulting from leaks of drilling fluids due to well failure.

Seismic Activity

There is evidence that the extraction of shale gas and/or the reinjection of produced water increases the risk of earthquakes. This well is in an area of already high seismic activity.

Inadequate Regulatory Framework

The current regulatory framework for fracking is inadequate with many gaps. There are also concerns over the capacity of regulatory agencies and local planning authorities to enforce the regulations and planning conditions, with breaches of the latter already occurring at other fracking sites in the UK.

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[Transition Chesterfield](#) is a local community group whose aims are to raise awareness of the issues associated with climate change and the need to develop a resilient, sustainable, low-carbon society.

We would like to make the following comments on the application above for an exploratory well for fracking in a private site off Bramley Moor Lane near Marsh Lane in North East Derbyshire.

We have grave concerns about the environmental impacts of the proposal and believe that the application fails to conform to the following key planning documents (key policies and extracts are shown in an Appendix):

- Derby and Derbyshire Minerals Local Plan 2000¹
- National Planning Policy Framework (NPPF)²
- North East Derbyshire Local Plan (2011-2033)³
- The Landscape Character of Derbyshire⁴
- Derbyshire Climate Change Charter, 2014-2019⁵

We also believe that the case for the necessity of this project has not been sufficiently well made – and that the potential harm of the project and subsequent related developments – far outweigh any benefits, which almost entirely accrue to the developer and not the local community. This is contrary to paragraph 14 of the NPPF and policy MP35 of the Minerals Local Plan. We urge the Derbyshire Planning Committee to reject the application for the reasons outlined below.

1. Cumulative impacts

Although this application is for an exploratory well only this is inextricably linked to future plans for hydraulic fracking of shale gas. This is clearly acknowledged by everyone involved. Therefore this application cannot be considered in isolation but as part of a staged process towards eventual fracking.

The application notes: *“INEOS are not aware of any other major mineral developments occurring either concurrently or successively, that when combined with this proposal, would have an unacceptable cumulative effect.”*

This statement is entirely disingenuous in the view of the fact that this is clearly the first stage in a much bigger process that will potentially affect the area of Bramley Moor Lane and beyond. INEOS have fracking licences covering 1.2 million acres in the North West of England, North Yorkshire and the East Midlands, including large areas of North East

¹ www.derbyshire.gov.uk/environment/planning/planning_policy/minerals_waste_development_framework/

² www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

³ www.ne-derbyshire.gov.uk/index.php/resident/local-plan

⁴ <http://www.derbyshire.gov.uk/environment/conservation/landscapecharacter/>

⁵ https://www.derbyshire.gov.uk/images/Climate%20Change%20Charter%20final_tcm44-256206.pdf

Derbyshire.⁶ To consider this development as a stand-alone development would be analogous to considering the development of an airport runway in isolation from the aviation traffic it was built to support, or considering the development of the foundations for a house separately from the house construction.

The Planning Statement tries to limit the contribution of the proposal towards greenhouse gas emissions to that of the exploratory well only:

“Climate change emissions associated with the proposal are expected to be limited primarily to those from vehicles and drilling equipment, which are considered to be small and not significant.”

On the other hand, the Planning Statement also tries to justify the proposal in terms of the future extraction of shale gas:

“This means reducing our reliance on coal and transitioning to a mix of energy sources which have lower emissions. There is a time period where the UK will need to rely on gas during this transition process.” (planning statement p10)

Either this application is a stand-alone proposal for an exploratory well – in which case the greenhouse gas emissions can be considered relatively minor but there can be no justification for the project. Or the application is part of a bigger project to extract shale gas, in which case the wider climate and environmental impacts must be taken into account. From comments throughout the Planning Statement it is clear that this application is the first stage in the eventual large-scale extraction of shale gas throughout the region. We therefore believe that consideration of this proposal must consider the wider potential cumulative impacts of fracking. Our comments therefore relate to both the immediate and direct impacts of the exploratory well as well as the wider and cumulative impacts of the fracking process that this well is designed to support and is inextricably linked to.

2. Impacts on climate change

The extraction of shale gas by hydraulic fracking represents two threats to climate change:

1. The fugitive emissions of methane, a powerful greenhouse gas, during extraction
2. The burning of the gas subsequently.

The Climate Change Act 2008 requires a UK reduction in CO₂ emissions by at least 80% relative to 1990 levels by 2050. The National Planning Policy Framework supports the transition to a low-carbon future as a core planning principle and cites the Climate Change Act 2008 as a material consideration. Following the UN COP21 Agreement in Paris the Government has committed to enshrining in law a target of net zero carbon emissions. The Derbyshire Climate Change Charter recognises the legal requirement placed on authorities to contribute towards the national targets.

We consider that the extraction of shale gas extraction locally and anywhere in the UK is likely to compromise the UK’s legally binding climate change targets, and the Paris COP21 agreement to stop the global climate warming by 2°C above pre-industrial levels.

⁶ <http://www.ineos.com/news/shared-news/ineos-adds-to-shale-gas-licence-portfolio/>

The applicant argues that fracking is a bridge to a low carbon economy and will substitute for coal or imported natural gas. However fracked gas is not a substitute for other fossil fuels but is likely to be used in addition to existing fossil fuel use. Rather than being a bridge, fracking can divert investment away from renewable technologies and hinder the transition to a low-carbon economy.

2.1 Fugitive emissions

While methane emits about half the carbon dioxide of coal when it's burned, leading some to tout it as a relatively "clean" fuel, methane is 28-36 times more powerful over a 100 year period.⁷ Therefore if fugitive emissions of methane are too high, it nullifies any advantage in reducing greenhouse gas emissions. It is estimated that around 3% of natural gas during distribution in the US is lost and unaccounted for.⁸ Given the higher global warming potential of methane, leakage levels above 3% over a 100 year period, would effectively cancel out any emission advantage over coal.

A much-quoted Government study states that "*With the right safeguards in place, the net effect on UK GHG emissions from shale gas production in the UK will be relatively small.*"⁹ However it has been shown that this conclusion is based on selective use of "bottom-up inventory studies" which significantly under-estimate the impact of shale gas production by an estimated factor of four compared to more recent top-down studies.¹⁰

Estimates of gas production leakage rates are expressed as a percentage of total production and various peer-reviewed studies show that they range from 0.6 to nine per cent.¹¹ One study which uses a probability approach estimated that fugitive emissions from unconventional gas extraction (such as fracking) were likely to be higher than from conventional gas extraction due to the greater probability of fractures in well casings.¹²

A 2014 review of the science by the IPCC notes that "*Empirical research is required to reduce uncertainties and to better understand the variability of fugitive gas emissions as well as to provide a more-global perspective. Recent empirical research has not yet resolved these uncertainties.*"¹³ However numerous research studies have suggested that displacing coal with shale gas does not significantly reduce emissions, in part due to the uncertainties over the fugitive methane leaks issue.¹⁴

The Planning Statement notes that "*Concerns about "fugitive emissions" (i.e leaks) of methane during production were overestimated in early studies.*" However INEOS provide no evidence of what fugitive emissions are likely to be or have been in similar fracking operations. Given the uncertainty in knowing what the fugitive methane emissions will be,

⁷ Over a 20 year period the GWP of methane is even higher, 84-87 times more powerful than CO₂ due to its shorter lifetime in the atmosphere (it's impacts are discounted over the longer 100 year span).

<https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

⁸ <https://www.scientificamerican.com/article/how-much-natural-gas-leaks/>

⁹

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/237330/MacKay_Stone_shale_study_report_09092013.pdf

¹⁰ http://www.talkfracking.org/wp-content/uploads/2013/04/20170200-whitehalls_fracking_science_failure-lq.pdf

¹¹ <https://www.carbonbrief.org/explained-fugitive-methane-emissions-from-natural-gas-production>

¹² <http://www.pnas.org/content/early/2014/06/25/1323422111/suppl/DCSupplemental>

¹³ http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter7.pdf

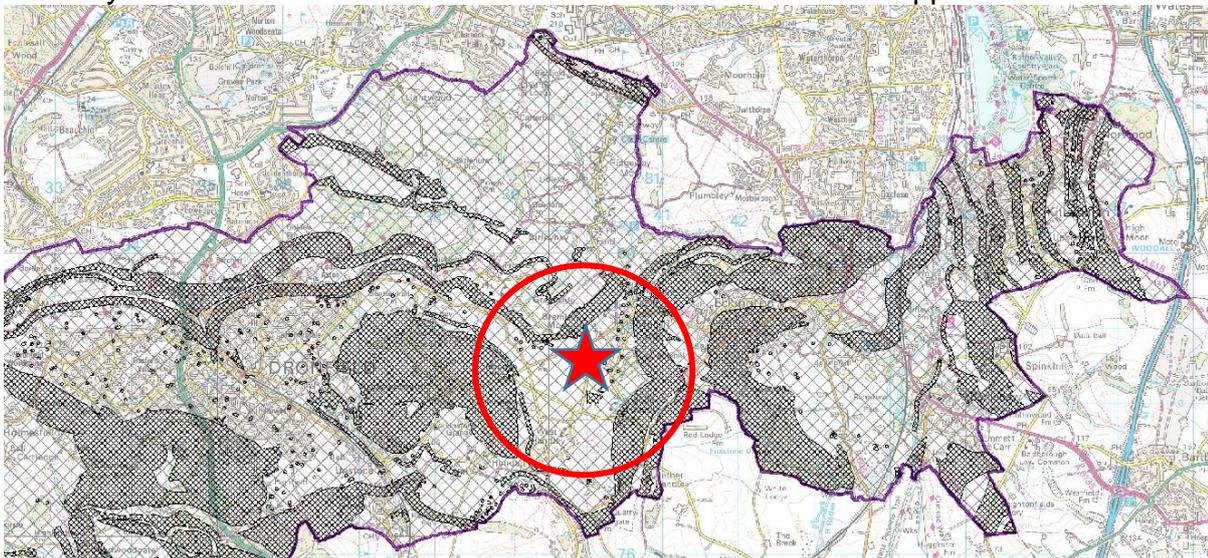
¹⁴ A long list of studies which undermine the case for the climate benefits of shale gas can be found at:

<https://thinkprogress.org/methane-leaks-erase-climate-benefit-of-fracked-gas-countless-studies-find-8b060b2b395d>

particularly in old mining areas such as North East Derbyshire¹⁵ where there are many old shafts and tunnels, there is a high risk that fracking will increase rather than reduce UK's net greenhouse gas emissions due to leakage of methane through the numerous shafts and tunnels underground.

An extract of the Coal Authority's map of development high risk areas for North East Derbyshire is shown below in Figure 1. The risk areas include past mine entries and potential zone of interest, fissures and break lines etc. Although Bramley Moor Lane is in an area of low development risk, if fracking were to go ahead the area of underground lateral drilling would extend approximately 1-1.5 km in every direction at a depth of 2km, intruding significantly into the surrounding areas of high risk development.

Figure 1: Extract of map from North East Derbyshire: coal mining risk area plan.¹⁶ The coal mining development risk plan shows the boundaries of high risk (dark-hatched) and lower risk (lighter-hatched) coalfield areas. The red star indicates the location of Bramley Moor Lane and the red circle indicates the area within approx.1.5 km distance.



While the INEOS Proposal notes that the presence of old mine workings was considered in the identification and design of the site, the Environmental Statement Section 7.3.11 on ground gas acknowledges the potential for old coal workings acting as conduits for gas: *“Abandoned coal workings in the region, if not flooded with water and returned to hydrostatic pressure, may serve as conduits for the potential movement of naturally occurring gases such as methane, carbon monoxide and carbon dioxide.”* If they can act as conduits for naturally occurring gas, they can also presumably act as conduits for shale gas.

The statement that shale gas will be a bridge to a low carbon economy is based on selective evidence that is not supported by more recent studies, and we consider that shale gas is likely to increase rather than reduce greenhouse gas emissions, due to the fugitive emissions of methane.

¹⁵ A March 2017 blog, by former MP Harry Barnes, provides links to maps of old Coal Authority development areas <http://threescoreyearsandten.blogspot.co.uk/2017/03/challenging-fracking-use-official-coal.html>

¹⁶ <https://www.gov.uk/government/publications/coalfield-plans-north-east-derbyshire-area>

2.2 Burning of shale gas

It has been argued that shale gas can play a role in tackling climate change because it substitutes for coal burning. In April this year Britain had the first continuous 24-hour coal-free period for Britain since the industrial revolution.¹⁷ This trend will continue with coal-free days becoming increasingly common as coal is phased out, even without fracking. Coal accounts for just 9% of electricity generation in 2016, down from around 23% the year before, while renewables were responsible for 25% electricity generation in 2015, up from 5% in 2005.

The independent Committee on Climate Change have concluded that “*exploitation of shale gas on a significant scale would not be consistent with UK carbon budgets and the 2050 target unless three tests are met* [emphasis added]....*the need to regulate tightly production emissions; the need for such shale gas production as does happen to substitute for imported gas and not add to overall gas consumption; and the need to find additional abatement measures to compensate for the emissions attached to production, even under tight regulation.*”¹⁸

The first of these conditions is discussed above in the section on fugitive emissions, and the difficulty in controlling methane emissions in production, since no amount of regulation can prevent failures of well casing.

The second of these conditions is the need to ensure shale gas substitutes for imported gas. However INEOS has no proposals and cannot guarantee this will happen and it is more likely that additional gas supplies will simply slow down the transition to clean, near zero carbon, renewable energy sources. The physics of climate change is clear. We have to keep 80 percent of the fossil-fuel reserves that we know about underground. A third of oil reserves, half of gas reserves and over 80% of current coal reserves globally should remain in the ground and not be used before 2050 if global warming is to stay below the 2°C target agreed by policy makers, according to research published by Nature. This is not an option but something we have to do to avoid catastrophic climate change impacts. There is further discussion on the issue of imported gas in the section on energy security below.

The third ICC condition is the need to find additional abatement measures, which consist of Carbon Capture and Storage (CCS), an undeveloped technology, the programme for which was cancelled in November 2015. The Committee go on to say “*Should CCS not be deployed, meeting the 2050 emissions reduction target will require elimination of almost all fossil fuel use in power generation, transport and buildings. This implies a reduction in gas consumption by 2050 of around 80% on today’s levels. It also implies that gas would cease to be used for electricity generation by the mid-2030s.*”

Based on the likely climate change impacts of fracking this proposal will undermine the UK’s Climate Change Act, and be contrary to policies in the Derby and Derbyshire Minerals Plan, the National Planning Policy Framework, the Derbyshire Climate Change Charter and the North East Derbyshire Local Plan.

¹⁷ <https://www.theguardian.com/environment/2017/apr/21/britain-set-for-first-coal-free-day-since-the-industrial-revolution>

¹⁸ Committee on Climate Change (2016) Onshore Petroleum.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/535207/Compatibility_of_onshore_petroleum_with_meeting_UK_carbon_budgets_-_Committee_on_Climate_Change_-_2016.pdf

3. Impacts on Energy Security

The Planning Statement also attempts to make the argument that any shale gas extracted by hydraulic fracking will help UK's energy security by avoiding imports of natural gas:

"It is possible that the UK could import gas to help during this transition period. However, this simply exports the responsibility of extraction to other countries which, in turn, presents potential issues including risks to the UK's security of supply and lesser environmental controls over extraction processes. We currently import 54% of our gas supply and this is forecast to increase to around 90% by the 2030s. UK shale gas can make an important contribution to reducing these imports."

Ken Cronin, the chief executive of UKOOG has stated *"Domestic shale gas production has the potential to secure the UK's energy supply by reversing the increasing reliance on gas imports. By using the natural gas we have just a mile under our feet, we ensure that the British public have the means to heat and power their homes for generations."*¹⁹

However, although it is true that the UK does import over 50% of our gas we also export significant amounts, equivalent to around one third of that imported in 2015. In other words if we had not exported gas we would have reduced our imports of gas by one third.²⁰ The UK 2015 exports of natural gas were 158 TWh, up 36% in comparison to 2014. This is equivalent to about half of domestic heating gas supply in 2015.

The issue of security of supply also implies that we are importing gas from unreliable suppliers. However in 2015 the majority (61%) of UK gas imports were from Norway.²¹

Addressing UKOOG's claim that shale gas can provide heat and power for generations, a recent peer-reviewed study looked at the amount of practically recoverable shale gas from the Bowland Shale taking into account infrastructure constraints.²² This study suggests the amount of practically recoverable gas from the north of England (Lancashire, Cheshire, Yorkshire, Nottinghamshire and Derbyshire) is equivalent to about 3.4 years worth of UK total gas consumption,²³ hardly *'heat and power for generations'*. To practically extract this amount of shale gas would require developing all of the 127 x 100km² licence blocks in the north of England with an estimated 3,302 well sites.²⁴ This would create a direct footprint of 35.7km² (3,570ha) and a sub-surface footprint of 305km² (30,500ha) roughly the size of the county of Rutland. This would industrialise large swathes of northern England, have a massive impact on the landscape and amenity, create unknown environmental risks and would be done against the wishes of the majority of local residents.²⁵

The much greater likelihood is that due to public opposition and diminishing economic viability of fracking only some of these well pads will be able to be developed so that the

¹⁹ <http://www.ukoog.org.uk/about-ukoog/press-releases/203-ukoog-welcomes-the-conservatives-renewed-commitment-to-natural-gas-from-shale>

²⁰ Total exports of natural gas were 158,413 GWh and total imports were 489,219 GWh. Table 4.5 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/540923/Chapter_4_web.pdf

²¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/540923/Chapter_4_web.pdf

²² Clancy S. A. et al (2017) An assessment of the footprint and carrying capacity of oil and gas well sites: The implications for limiting hydrocarbon reserves. *Sci Total Environ.* doi: 10.1016/j.scitotenv.2017.02.160

²³ Estimates of the practically recoverable shale gas from the Bowland Basin is $2.2 * 10^{11}$ cubic metres. This is equivalent to about 2,460 TWh.

²⁴ Clancy et al (2017) see above.

²⁵ <http://www.manchesterfoe.org.uk/66-of-lancashire-residents-oppose-fracking-in-their-local-area/>

amount of recoverable gas in practice will be much less than the amount estimated above. By the time that this enormous investment in fracking infrastructure has taken place the cost of renewables will have fallen by so much that the industry will be left with stranded assets²⁶, and thousands of blighted sites that they will be unable to restore. Local authorities will be forced to pick up the bill for restoration.

The alternative safer, cleaner and much less costly way of ensuring future energy security is to invest in renewable energy and energy efficiency.

“As gas and electricity prices increase and the market becomes more volatile it is important that Derbyshire develops a resilient decentralised energy supply made up of local and renewable sources of heat and power.” Derbyshire Climate Change Charter.

The UK can be fully self-sufficient in safe, clean and cost-effective renewable energy without fossil fuels or nuclear by 2030.²⁷ To do this we also need to reduce our energy demand significantly by reducing wastage and use energy much more efficiently. This has many other benefits including reducing fuel poverty, and improving health and air quality. Renewables are already meeting 25% of our electricity demand (up from 5% in 2005) and in July 2015 renewables generated almost enough electricity for every house in the UK.

The question is whether we can produce enough energy at all times from renewables even when the wind isn't blowing, the sun isn't shining and our energy demand is high. Detailed modelling has shown that renewable energy sources would produce surplus energy over 80% of the time.²⁸ We can ensure there is enough energy the rest of the time by shifting energy demand using 'smart' appliances and batteries, pumped storage, heat storage, and hydrogen for storage. All of these technologies are proven and safer than fracking with its associated environmental problems and health and safety risks. It is simply not the case that we need shale gas to improve our energy security.

4. Impacts on local landscape and amenity

The planning statement shows that there will be substantial effects at a local landscape level during Stages 1, 2, 3a and 5. The effects during Stage 2 on the local landscape character area will extend to 3 km.

The visual assessment undertaken by INEOS states that *“moderate or substantial effects on views may occur during all stages of the development”* within 1.5km of the site including people living in Marsh Lane and Middle Handley as well as nearby farms. Until the site is decommissioned and restored anyone within 1.5km of the site will be subject to substantial visual impacts, a period of nearly 2 years for the exploratory phase alone.

There are a number of properties in close proximity to the site including Ten Acres Farm (ca. 300m distance), Heatherlee Farm (ca. 320m distance) and properties in Marsh Lane (ca. 370m distance). An existing public footpath (Eckington FP 77) is situated approximately 265 m to the east of the site.

²⁶ <http://www.smithschool.ox.ac.uk/research-programmes/stranded-assets/Revolution-not-evolution-SFP-Discussion-Paper-February-2017.pdf>

²⁷ Centre for Alternative Technology (2013). Zero Carbon Britain. <http://zerocarbonbritain.org/>

²⁸ As above

During the drilling stage of the proposal the drilling rig will be visible at distances over 1.5km. The drilling rig will be up to 60m in height with lighting on the top, lit at night during 24 hour operations. Figure 2 below illustrates for indicative purposes the height of a 60m rig compared to the Crooked Spire. Given that the site is one of the highest points in the area with expansive views, this suggests the rig will be visible for many miles.

Figure 2: Indicative illustration of the height of a typical drilling rig compared to the Crooked Spire (courtesy of Colin Harrison)



The Environmental Statement notes (p5-12) “*The introduction of the drilling rig will locally alter the character of the gently undulating and intensively farmed landscape and may be a visible and audible presence in the wider landscape.*”

While this is significant enough, the cumulative impacts of subsequent or other developments in the area must be taken into account. Although the most visually intrusive drilling stage will last only 3 months the likelihood is that there will be many other similar rigs throughout the licence area, potentially one every square km. Therefore the local landscape character area will be potentially peppered with dozens of similar incongruous and unsympathetic developments.

The North East Derbyshire Local Plan has a number of policies (see Appendix 3) which seek to protect the landscape character and natural assets of the area including:

- **Policy D11 Natural Assets**
- **Policy SS1: Sustainable Development**
- **Policy SDC3: Landscape Character**

The local landscape character type is Wooded Hills and Valleys within the Nottinghamshire, Derbyshire and Yorkshire Character Area.²⁹ The area is characterised by “*a broadly undulating upland with a strongly wooded character defined by woodland, mixed farming and sparsely scattered settlement.*” Ancient, semi-natural woodland persists in many areas, particularly notable in the Moss Valley, which has been designated as a

²⁹

http://www.derbyshire.gov.uk/images/Part%201.4%20Nottinghamshire%2C%20Derbyshire%20and%20Yorkshire%20Coalfield_tcm44-245612.pdf

Conservation Area. In the valleys the low intensity pastoral farming, watercourse and woodland bands create important habitat corridors.

The Landscape Character for Derbyshire³⁰ notes that: “Despite the immense pressures of development, with Sheffield abutting this landscape character type to the north, *the area has remained essentially rural and intact.*” [emphasis added]

The location of Bramley Moor Lane is in an attractive rural landscape with a patchwork of enclosed arable and pastoral fields and long expansive views across the valleys. There are no effects of industrialisation and apart from the houses of Marsh Lane the prevailing character is deeply rural and one that is clearly valued by local residents (see Figure 3).

Figure 3: View to Marsh Lane from Bramley Moor Lane (image courtesy of Drill or Drop)³¹



The map of Area of Multiple Environmental Sensitivity (AMES)³² shows Bramley Moor Lane as within an area of secondary sensitivity, ie having at least two sensitive environmental assets, such as biodiversity, the historic environment and visual unity, which relate to the ‘intactness’ of the landscape. These areas are sensitive to change and will attract a strong focus on the management (conservation and enhancement) of their assets. In addition Marsh Lane is in an area characterised by relatively high tranquillity.³³

We consider that this proposal fails to conform with the following policies to protect local landscape character and the countryside:

- Paragraphs 7, 17 and 109 of the NPPF (see Appendix 1)
- Policies MP1, MP3 and MP13 of the Minerals Local Plan (see Appendix 2)
- Policies SDC3, D11 and SS1 of the North East Derbyshire Local Plan (see Appendix 3).

³⁰ <http://www.derbyshire.gov.uk/environment/conservation/landscapecharacter/>

³¹ <https://drillordrop.com/2017/05/12/first-ineos-shale-gas-planning-application-published-key-details/#more-44057>

³²

www.derbyshire.gov.uk/images/Part%204%20Using%20Landscape%20Character%20as%20a%20Spatial%20Framework_tcm44-245621.pdf

³³ See map, final page, same document as above.

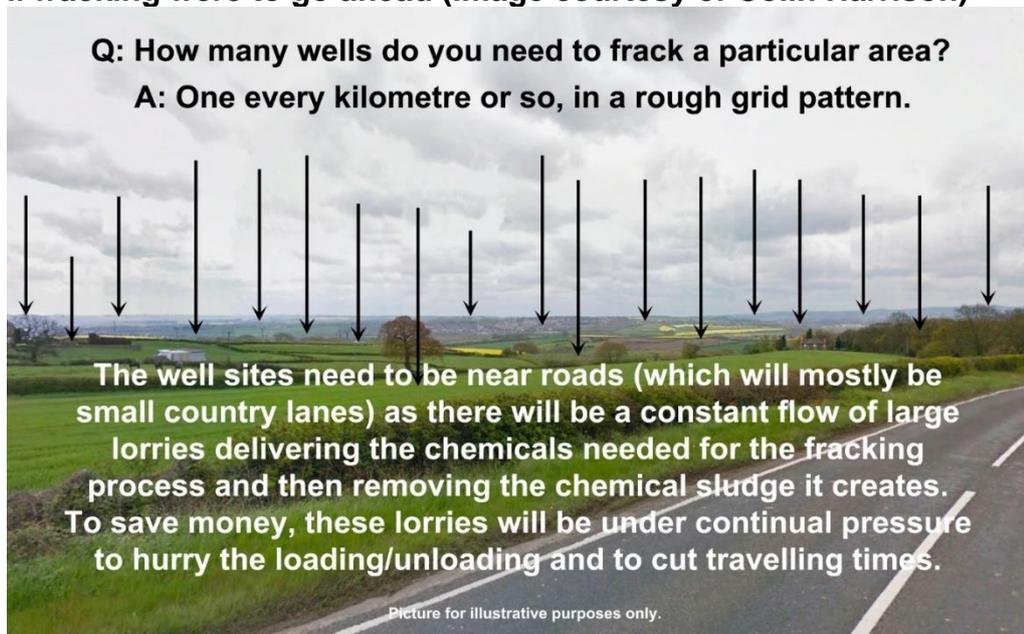
In an Appeal decision³⁴ for an application for a similar development for conventional gas extraction in Calow, North East Derbyshire, the Inspector noted “*When set against the established character of the landscape the proposal would be seen as an alien feature...The tall flue stacks, lighting columns, and the buildings associated with the proposal, including the substantial acoustic wall and security fencing would appear as incongruous industrial elements in an otherwise rural landscape.*”³⁵

The Inspector concluded that the proposal for conventional gas extraction at Calow would cause significant harm to the character and appearance of the area; harm that would not be off-set by the proposed mitigation. He concluded that this was contrary to Policies MP1 and MP3 of the Derbyshire Minerals Local Plan. Moreover, the proposal also failed to conform to Policy GS1 of the (then) North East Derbyshire Local Plan and would cause harm to the intrinsic beauty of the countryside, contrary to one of the core principles of the National Planning Policy Framework at paragraph 17 and the requirements of paragraph 109 which states that the planning system should protect and enhance valued landscapes. The resulting environmental harm would be contrary to the environmental role of sustainable development at paragraph 7 of the Framework.

The Inspector concluded that the weight that should be attributed to mineral extraction did not outweigh the significant harm that would arise from the proposal and recommended that the appeal should be dismissed.

Although the Inspector’s decision related to a longer time period for development, this current proposal should be seen in the context of the much longer term development being planned, and the cumulative impacts of other potential drilling in the area (see Figure 4).

Figure 4: Illustrative indication of the number of wells that will be visible in the area if fracking were to go ahead (image courtesy of Colin Harrison)



³⁴ The development proposed was Drilling of exploratory boreholes, erection of containerised units, associated plant and equipment, extraction of natural gas, electricity generation, and ancillary operations.

³⁵ Inspector Chris Preston. Appeal Decision 28 Aug 2015. Ref: APP/U1050/W/15/3002704 Land North-East of Dark Lane, Calow, Chesterfield, Derbyshire

5. Impacts on Green Belt

The proposed development is within the Green Belt.³⁶ The planning statement argues that mineral extraction is not inappropriate in the Green Belt, provided it preserved openness and did not conflict with Green Belt purposes.

The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The essential characteristics of Green Belts are their openness and their permanence, providing long term protection and ***certainty from inappropriate development*** [emphasis added], which is by definition harmful to the Green Belt. To permit inappropriate development that conflicts with the purposes of the Green Belt would not conform to Policy SS9 of the North East Derbyshire Local Plan and paragraph 17 of the NPPF. We would argue that an industrial drilling rig, 60m height and lit 24 hours, clearly constitutes inappropriate development in a Green Belt area.

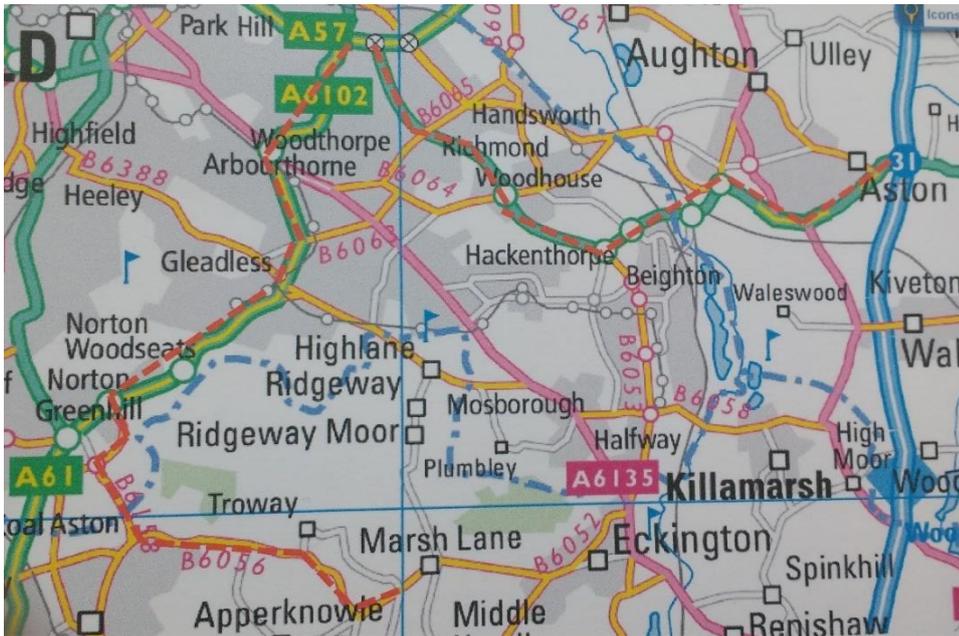
6. Impacts on Traffic and Transport

This proposal will increase levels of traffic, particularly HGVs, on narrow, winding and unsuitable roads in the area. Approximately 6 km of the route is undertaken on B roads: the B6057 Jordanthorpe Parkway and the B6056 Eckington Road and Snowden Lane. Many of the back lanes around Marsh Lane are very narrow, with poor lines of sight, and totally unsuitable for heavy goods vehicles. The Landscape Character Assessment for North East Derbyshire describes the roads in the landscape area of Wooded Hills and Valleys which includes Marsh Lane “*Due to the rural character of the landscape, roads are few and tend to be narrow and winding, occasionally sunken on the steeper slopes.*”

According to the Environmental Statement, the proposed route for vehicles accessing the site will be from M1 Jn 31, along the A57, A630, A6102 to Norton and then along the B6057 Jordanthorpe Parkway, Snowden Lane and onto the B6056 Eckington Road (see Figure 5 below). Approximately 1.5 km of the route through Coal Aston has residential frontage onto sections of the route and experiences on-street parking.

³⁶ <http://www.ne-derbyshire.gov.uk/images/Repository/localplan2017/Dron-Eck-Kill-Ren---GB.pdf>

Figure 5: Map of proposed route for development traffic (see dotted red line)



The planning application shows a predicted total traffic movement of 14,444 vehicles over the 5 year period of which 5,484 are cars, 2628 LGVs and 6332 HGVs and the maximum traffic movements a day range from 32 during stage 3 to 70 during stage 1. The planning statement notes that “*Maximum impact of development traffic: 1% increase on the baseline on the B6056 near the site...**The maximum percentage increase in HGV’s for this section of the route is approximately 17%, which is below the 30% threshold** [emphasis added] set out in the Guidelines for the Environmental Assessment of Road Traffic (Institute for Environmental Assessment) for when separate traffic environmental assessments should be undertaken.”*

The Table from the INEOS Environmental Report showing the ‘impact’ of the proposed traffic is reproduced below.

Table 1: Reproduction of Table 3-5 Indicative traffic impact summary from p3-11 of INEOS Environmental Report

	Existing traffic		Development traffic		% impact	
	Vehicle	HGV	Vehicle	HGV	Vehicle	HGV
Eckington Rd	7988	433	70	60	1%	14%
B6056	6634	355	70	60	1%	17%
Bramley Moor Lane	182	12	0	0	0%	0%

Baseline traffic counts undertaken by INEOS show 6,634 daily vehicle movements on the B6056 of which they estimate 355 (5%) were HGVs. These figures are somewhat different to the traffic movements recorded by local volunteers from Eckington Against Fracking who recorded weekday traffic movements of 6,692 vehicles over 12 hours (7am – 7pm) of which the vast majority (98%) were cars and vans and only 48 HGVs (<1%).

Although there are no published traffic data for the B6056, the nearest DfT traffic count point is on the A6135 near Mosborough between Park Lane and the LA boundary.³⁷ This shows the Annual Average Daily Traffic flow on this section of road in 2016 was 7,479 vehicles a day, of which 136 (2%) were HGVs. For a minor road like the B6056, which passes through residential areas with parking, it would be expected that the daily traffic flow of HGVs would be considerably less. It is therefore very surprising that the count of HGVs on the B6056 recorded by INEOS is nearly 3 times that of a nearby A road.

On closer examination of INEOS’s traffic figures it appears that when counting HGVs **for existing traffic** they include vehicles classed in the Environmental Statement as ‘medium vehicles’. These include Class 4 (TB2: two axle truck or bus), Class 5 (TB3: three axle truck or bus) and Class 6 (T4: four axle bus). In fact, the vast majority of the ‘HGVs’ counted by INEOS are medium vehicles (see Table below) and of these, the vast majority (around 90%) are in Class 4, the lowest class of medium vehicles.

Table 2: Average daily number of vehicles (existing traffic) recorded by INEOS³⁸

	Number of vehicles (average daily flow) (% of total flow in parentheses)			
	Total vehicles	Light vehicles	Medium vehicles (a)	Heavy vehicles (a)
Eckington Rd	7988 (100%)	7555 (95%)	419 (5%)	14 (<1%)
B6056	634 (100%)	6280 (95%)	343 (5%)	12 (<1%)
Bramley Moor Lane	182 (100%)	171 (94%)	11 (6%)	1 (1%)

(a) Together medium vehicles and heavy vehicles were added together by INEOS to get the figures for HGVs shown in their Table 3-5.

From observations by volunteers from Eckington Against Fracking who conducted their own traffic counts, the majority of these Class 4 vehicles are either transit vans (of the type used by local tradesman) or skip lorries accessing the nearby skip depot in Staveley.

Figure 6: Types of Class 4 vehicles counted as ‘HGVs’ by INEOS in their existing traffic count



However, when INEOS were counting HGVs for proposed traffic they only include vehicles >7.5 tonnes. Many of these vehicles are abnormally-heavy vehicles (>32 tonnes) and according to Table 5 from the Planning Proposal during Stage 2 these abnormally-heavy vehicles form over half of all traffic movements.

³⁷ Count ID 77382. <http://www.dft.gov.uk/traffic-counts/cp.php?la=Derbyshire#77382>

³⁸ Figures derived from Appendix 3-1 of the INEOS Environmental Report.

Figure 7: Types of vehicle counted as HGVs by INEOS in their proposed traffic figures



Clearly INEOS is not comparing like with like when estimating the percentage increase in HGVs compared to existing traffic. When the class of medium vehicles is excluded from the existing vehicle count we get a much fairer comparison, as shown in the recalculated Table 3 below.

Table 3: Recalculated Table 3-5 of Indicative traffic impact summary, with a like for like comparison of HGVs (i.e. excluding medium vehicles from the existing traffic figures)

	Existing traffic		Development traffic		% impact	
	Vehicle	HGV	Vehicle	HGV	Vehicle	HGV
Eckington Rd	7988	14	70	60	1%	428%
B6056	6634	12	70	60	1%	500%
Bramley Moor Lane	182	1	0	0	0%	0%

Based on the more accurate like-for-like figures shown above, the peak daily HGV traffic proposed represents a 400-500% increase on existing HGV traffic along Eckington Rd and the B6056. This is well above the 30% threshold set out in the Guidelines. It is therefore essential that a separate traffic environmental assessment be undertaken.

Previous planning applications in 2008 and 2009 on the same site for operation of a car boot sale (14 events per year) were refused, partly due to concerns about traffic.³⁹ The advice from the Highways Authority stated:

“The application site is accessed via a roadway which is limited in terms of drainage, street lighting and geometry and is therefore considered unsuitable to safely cater for the vehicular or pedestrian traffic associated with the proposals. The proposals if permitted would be likely to set an undesirable precedent which in view of the above concerns would exacerbate the Highway Authority’s concerns regarding highway safety.”

Dronfield Town Council have also objected to the potential traffic with the following motion opposing fracking on the grounds of traffic:

“That the Council writes to Derbyshire County Council to reiterate it’s opposition to fracking and to express very serious concerns over the proposed route for HGV traffic for its planned operations at Bramley Moor Lane, Marsh Lane. Council strongly objects to the use of Dyche Lane, Eckington Road and Snowdon Lane for up to 100 HGV movements per

³⁹ 09/00038/FL: Land Between Main Road And West Side Of Bramley Moor Lane Marsh Lane. Proposal. Use of land for the operation of a car boot sale (14 events per year) (Major Development)

day during certain phases of the development for exploratory drilling, which is likely to increase dramatically should fracking be pursued in this location.

Councillors are already being contacted by residents with concerns over the existing volume of HGV traffic on Eckington Road and the impact on their quality of life. Council notes that Dyche Lane is narrow in places, with narrow pavements and a lack of adequate pedestrian crossing facilities. The junction of Eckington Road and Dyche Lane is a busy mini-roundabout, where parked cars can often cause obstructions. The junction of Stone Road and Eckington Road is also unsafe due to poor visibility. Council is extremely concerned about the safety of pedestrians and road users if HGV traffic were to increase along this proposed route.”

The proposed increase in traffic, particularly HGVs as a result of this development, is unacceptable and potentially unsafe in an area of narrow country lanes passing through many residential areas, and contrary to Policies MP1 and MP5 of the Derby and Derbyshire Minerals Plan, paragraphs 143 and 144 of the NPPF and policies SS1 and SDC3 of the North East Derbyshire Local Plan.

6. Water contamination

Drilling fluids proposed for use by INEOS during the drilling phase include fresh water, water-based muds and ‘low toxicity oil-based mud’. Leaks of these fluids can potentially occur through faulty well construction or from surface spillage of drilling fluids, increasing the risk of water contamination.

The risk of well failure varies considerably. Researchers at Durham University examined leakage rates of hydrocarbon wells in various countries, onshore and offshore, and found that well barrier failure occurs in between 1.9% and 75% of wells.⁴⁰ Of more than 8,000 shale gas wells monitored in Pennsylvania between 2005 and 2013, the research shows that 6.3% had evidence of well barrier or well integrity failure.⁴¹ Failure rates of conventional gas wells in the UK are much lower (1%) but even a 1% failure rate would equate to 33 wells failing across the Bowland Shale. Any leakages or spillages could have a serious negative environmental impact.

7. Seismic Activity and Subsidence

There are a number of old mine workings in the area, though none directly under the site. Although the current application for an exploratory well does not involve any hydraulic fracturing this is the intended purpose for the site and the impacts of this in terms of potential for increased seismic activity and subsidence should be taken into account at this stage. Seismic activity can occur as a result of the intensive extraction of shale gas and from the reinjection of produced water.

There is evidence of increased seismic activity as a result of both conventional and unconventional gas extraction. The city of Groningen and surrounding area in Holland has suffered repeated earthquakes due to intensive *conventional* gas extraction.⁴² Groningen

⁴⁰ <http://www.refine.org.uk/media/sites/researchwebsites/1refine/wellintegrityrb/Well%20Integrity%20RB%202.0.pdf>

⁴¹ Ibid

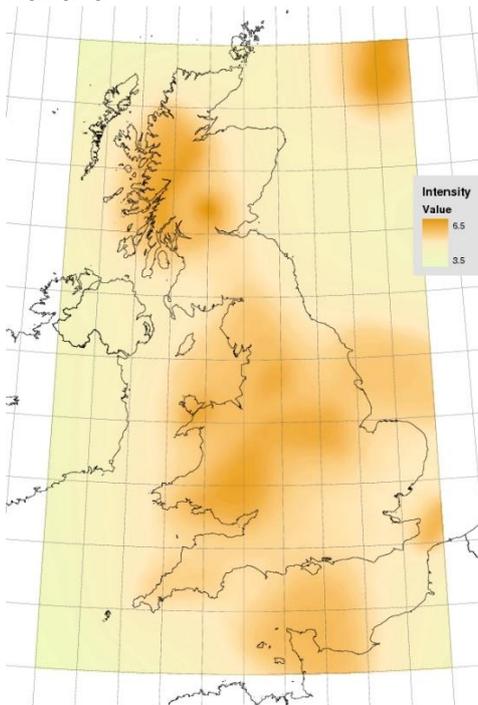
⁴² <http://royaldutchshellplc.com/2012/08/30/shell-causes-earthquakes-in-the-netherlands-2/>

does not sit on any fault lines and before the gas extraction had no history of seismic activity. A report commissioned by the Groningen government estimates the cost of repairing properties and protecting them against future earthquakes at €30bn during the next 30 years.⁴³ Oklahoma in the US had 41 earthquakes of magnitude 3+ a year in 2010, which increased to 903 in 2015 and 623 in 2016. The Oklahoma Geological Survey has determined that the majority of recent earthquakes in central and north-central Oklahoma are very likely triggered by the injection of produced water in disposal wells.⁴⁴ In British Columbia Canada an earthquake of 4.4 magnitude that occurred in 2014 has been attributed by the Oil and Gas Commission to fracking.⁴⁵

The INEOS Proposal states that “*The drilling process would be strictly monitored and any unusual occurrences investigated and remedied.*” It also states that “*A Coal Authority Deep Energy Access Agreement would be required to ensure well design has taken old mine workings into account.*”

However, if permission for this exploratory well is granted and shale gas is detected, this will likely lead to further applications for fracking. While the fracking industry is keen to play down the risks of earthquakes, it is worth noting that it was predicted that a seismic event would ‘not be likely’ to occur as a result of fracking at Preese Hall and Hesketh Bank near Blackpool in 2012. However, tremors were felt in Lancashire as a result of fracking. Given the already high seismic activity in North East Derbyshire (see Figure 8 below), there is concern that fracking will lead to even more seismic activity and possible earthquakes and subsidence.

Figure 8: British Geological Survey map of Britain showing areas of seismic hazard⁴⁶



⁴³ <https://www.theguardian.com/environment/2015/oct/10/shell-exxon-gas-drilling-sets-off-earthquakes-wrecks-homes>

⁴⁴ <http://earthquakes.ok.gov/what-we-know/>

⁴⁵ <http://www.cbc.ca/news/canada/british-columbia/fracking-triggered-2014-earthquake-in-northeastern-b-c-1.3203944>

⁴⁶ <http://www.earthquakes.bgs.ac.uk/hazard/UKhazard.html>

8. Inadequate Regulation and Controls

The current regulatory framework for fracking is complex and drawn largely on offshore and on-shore conventional gas extraction regulation. The framework is not designed for fracking and experts have pointed to the widespread and significant gaps in the regulations. For example in evidence to the House of Commons Environmental Audit Committee Jo Hawkins, a legal scholar at Bristol University, stated:

*“There is a well developed existing regulatory framework governing conventional oil and gas extraction. However, when applied to the extraction of unconventional oil and gas, gaps in the current regulation are apparent. These can be seen in areas relating to chemical use, waste, emissions, environmental liability, environmental assessment, water and planning. These gaps are the result of uncertainty surrounding if/how current regulations apply and from the presence of inappropriate application thresholds. ... Attention needs to be drawn to the problems in the current regulatory system if the risks of fracking are to be considered in context.”*⁴⁷

There are also problems with capacity for enforcement, with regular breaches of planning conditions at potential fracking sites in other parts of the UK.⁴⁸

There are also numerous examples of INEOS breaching health and safety and environmental regulations in the UK⁴⁹ and the US.⁵⁰

At present, the framing of shale gas and fracking activities as low risk is based on the assumption that a robust regulatory system is in place. However this is clearly not the case. There is a high potential for breaches of existing regulations, as well as health and environmental problems in areas that are currently poorly regulated or unregulated. Given the massive funding cuts to local authorities and the statutory agencies we are concerned that the enforcement authorities do not have the staff or resources to effectively monitor INEOS and its operations at Bramblemoor Lane and other sites and ensure that regulations and planning conditions are properly enforced.

⁴⁷ <https://www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/856/856.pdf>

⁴⁸ <https://drillordrop.com/2017/03/01/senior-lancs-councillors-criticise-cuadrillas-record-on-planning-conditions/>

⁴⁹ An investigation by the Sunday Herald revealed that oil and chemical plants run by INEOS at Grangemouth had breached health and safety regulations 34 times between 2011-2015, been officially condemned as "poor" for pollution for three years in a row, and seen more than 20 staff injured since the start of 2015. http://www.heraldscotland.com/news/13205775.Revealed__the_catalogue_of_health_and_safety_breaches_by_INEOS_at_Grangemouth/

⁵⁰ The site Violation Tracker lists 11 environmental offences committed by INEOS since 2010 with total fines of US\$6 million. <http://violationtracker.goodjobsfirst.org/parent/ineos>

Appendix 1: Key policies from Derbyshire Minerals Plan 2000

Policy MP1 - The Environmental Impact of Mineral Development

3.7 Proposals for mineral development will be permitted provided that their impact on the environment is acceptable having regard to:

- 1) the effect on local communities and neighbouring land uses by reason of noise, dust, vibration or other pollution or disturbance
- 2) the effect on agricultural interests including the extent and quality of agricultural land loss and the feasibility of achieving a high standard of restoration
- 3) the visual effect of the proposals
- 4) the effect on the character and quality of the landscape including the effects on trees, hedgerows woodland and topographical features
- 5) the effect on sites and features of wildlife or geological/ geomorphological importance
- 6) the effect on sites of archaeological importance and their settings
- 7) the effect on the built environment and especially features of architectural, historical or heritage importance, and their settings
- 8) the transport implications, and in particular the scale and nature of traffic likely to be generated, and its implications for site access, highway capacity, road safety, and the environment generally
- 9) the effect on public rights of way and areas of importance for formal or informal recreation and
- 10) the effect on the quality and quantity of water resources including the ecology of water courses and wetlands, and on water supply and flood protection interests.

Policy MP3 - Measures to Reduce Environmental Impact

3.14 Proposals for mineral development will be permitted provided that any adverse effects on the environment can be eliminated or reduced to an acceptable level, with particular regard to:

- 1) the measures which are proposed to minimise the environmental impact of proposals
- 2) the duration of the proposed operations
- 3) the extent to which proposals maximise the efficient use of materials and minimise the production of waste
- 4) the proposals for reclamation and after-use
- 5) the potential for reinstating or making alternative provision for features which are affected and
- 6) any wider environmental benefits resulting from the proposal which would help to offset adverse environmental impacts.

Policy MP5 - Transport

3.28 Proposals for mineral development involving the transport of minerals by road will be permitted provided:

- 1) there is no feasible alternative to road transport which would be environmentally preferable
- 2) the proposed access arrangements would be satisfactory and the highway network is adequate to accommodate the traffic that would be generated and
- 3) the impact of the traffic generated would not be detrimental to road safety nor have an unacceptable impact on the environment.

The mineral planning authority will seek to prevent heavy lorries associated with mineral operations from using unsuitable roads by means of traffic management or, where appropriate, other measures which may be secured under Section 106 of the Town and Country Planning Act 1990.

Policy MP 13 - Mineral Exploration

6.18 Proposals for mineral exploration which require planning permission will be permitted provided that their impact on the environment is acceptable and they would not cause irreparable or unacceptable damage to interests of acknowledged environmental importance.

Where permission is granted it will be for a temporary period only, and conditions will be imposed to ensure that:

- 1) operations are regulated to minimise the effect of the development on the environment and

2) any land disturbed as a result of the operations is satisfactorily reclaimed to an acceptable after-use.

Policy MP35: Oil and gas

Proposals for the development of oil and gas, including facilities associated with the production, processing or transporting of oil or natural gas will be permitted only where they can be carried out in an environmentally acceptable way, and provided that:

- 1) any irreparable damage to interests of acknowledged environmental importance is outweighed by a proven need for the development in its proposed location
- 2) the proposal is consistent with an approved overall scheme for the appraisal of, or production from, the area
- 3) the proposed location of the development is the best having regard to geological, technical and environmental considerations
- 4) satisfactory arrangements have been made for the avoidance of seepage pollution, the off-site disposal of drilling mud and other drilling residues and the flaring and disposal of unwanted gas.

Appendix 2: Key Policies from National Planning Policy Framework

Paragraph 7. There are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles

- an economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;
- a social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
- ***an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.*** [emphasis added]

Paragraph 14. At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. For plan-making this means that:

- local planning authorities should positively seek opportunities to meet the development needs of their area;
- Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:

— any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or

— specific policies in this Framework indicate development should be restricted.

Paragraph 17. Within the overarching roles that the planning system ought to play, a set of core land-use planning principles should underpin both plan-making and decision-taking. These 12 principles are that planning should:

[1] be genuinely plan-led, ***empowering local people to shape their surroundings***, with succinct local and neighbourhood plans setting out a positive vision for the future of the area. Plans should be kept up-to-date, and be based on joint working and co-operation to address larger than local issues. They should provide a practical framework within which decisions on planning applications can be made with a high degree of predictability and efficiency;

[2] not simply be about scrutiny, but instead ***be a creative exercise in finding ways to enhance and improve the places in which people live their lives***;

[5] take account of the different roles and character of different areas, promoting the vitality of our main urban areas, ***protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it***;

[6] ***support the transition to a low carbon future in a changing climate***, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, ***and encourage the use of renewable resources*** (for example, by the development of renewable energy);

[7] ***contribute to conserving and enhancing the natural environment and reducing pollution.***

Allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework;

etc [emphasis added throughout]

Paragraph 109. The planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Paragraph 142. Minerals are essential to support sustainable economic growth and our quality of life. It is therefore important that there is a sufficient supply of material **to provide the infrastructure, buildings, energy and goods that the country needs.**[emphasis added] However, since minerals are a finite natural resource, and can only be worked where they are found, it is important to make best use of them to secure their long-term conservation.

Paragraph 143. In preparing local plans, local planning authorities should:

- identify and include policies for extraction of mineral resource of local and national importance in their area;
- set out environmental criteria, in line with the policies in this Framework, against which planning applications will be assessed so as **to ensure that permitted operations do not have unacceptable adverse impacts on the natural and historic environment or human health, including from noise, dust, visual intrusion, traffic, tip- and quarry-slope stability, differential settlement of quarry backfill, mining subsidence, increased flood risk, impacts on the flow and quantity of surface and groundwater and migration of contamination from the site; and take into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality,** [emphasis added]
- when developing noise limits, recognise that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction;
- put in place policies to ensure worked land is reclaimed at the earliest opportunity, ...and that high quality restoration and aftercare of mineral sites takes place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources), geodiversity, biodiversity, native woodland, the historic environment and recreation.

Paragraph 144. When determining planning applications, local planning authorities should: ...

- give great weight to the benefits of the mineral extraction, including to the economy;
- ensure, in granting planning permission for mineral development, **that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality,** [emphasis added]
- ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source, and establish appropriate noise limits for extraction in proximity to noise sensitive properties;
- provide for restoration and aftercare at the earliest opportunity to be carried out to high environmental standards, through the application of appropriate conditions, where necessary. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances;

Appendix 3: Key Policies from North East Derbyshire Local Plan (2011-2033). Draft for Consultation⁵¹

D8 Addressing Climate Change:

To address, mitigate and adapt to the effects of climate change on people, wildlife, and places by increasing energy efficiency, promoting renewable energy generation, [emphasis added] matching the vulnerability of land uses to flood risk, and managing surface water in the most sustainable way.

D11 Natural Assets:

To recognise the value of natural assets *by protecting, enhancing and expanding North East Derbyshire's network of green and blue infrastructure including its distinctive landscape character, open spaces and nature conservation sites* [emphasis added] in part by supporting opportunities to improve countryside access.

Policy SS1: Sustainable Development

In order to contribute to sustainable development in North East Derbyshire, development proposals should:

- g. *Protect and enhance the character, quality and settings of towns and villages and heritage assets;*[emphasis added]
- h. *Protect, create and / or enhance the character, quality and diversity of the District's green infrastructure and local landscapes, the wider countryside and ecological and biodiversity assets* [emphasis added]
- k. *Play a positive role in adapting to and mitigating the effects of climate change,* [emphasis added] including through the use of sustainable drainage systems, to contribute to the health and well being of communities and the environment through the location, design and operation of development;

NED Green Belt

The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. *The essential characteristics of Green Belts are their openness and their permanence, providing long term protection and certainty from inappropriate development, which is by definition harmful to the Green Belt.* [emphasis added]

Policy SS9: North East Derbyshire Green Belt

Other forms of development which may be appropriate in the Green Belt, provided it preserves the openness *and does not conflict with its purposes* [emphasis added] include:

- a. Mineral extraction
- b. Engineering operations

Policy SDC3: Landscape Character

Proposals for new development will only be permitted where they would not cause significant harm to the character, quality, distinctiveness or sensitivity of the landscape, or to important features or views, or other perceptual qualities such as tranquillity unless the benefits of the development clearly outweigh the impacts. [emphasis added]

Development proposals should be informed by, and be sympathetic to, the distinctive landscape areas identified in the Derbyshire Landscape Character Assessment and the Areas of Multiple Environmental Sensitivity (AMES), or any successor document(s), and contribute, where appropriate, to the conservation and enhancement, or restoration and re-creation of the local landscape taking into account its wider landscape character type. [emphasis added]

⁵¹ www.ne-derbyshire.gov.uk/images/Repository/localplan2017/Consultation-Draft-Local-Plan.pdf