

Matters, Issues & Questions:

Matter 1: Minerals – Hydrocarbons

Question 54 - 63

Hydrocarbons

54. Briefly explain how the section of the Plan that deals with hydrocarbons is consistent with national policy.

The NPPF's Paragraph 143 (NEB01) requires Minerals Planning Authorities to provide for the extraction of mineral reserves of local and national importance, including onshore gas and oil reserves. It states within Paragraph 147 that MPAs, when planning for on-shore oil and gas developments, including unconventional hydrocarbons, should clearly distinguish between the three phases of development (exploration, appraisal and production) and address constraints on production and processing within areas that are licensed for oil and gas exploration or production.

Further guidance is provided within PPG (NEB02). MPAs at Paragraph 105 are encouraged to make appropriate provision for hydrocarbons in local minerals plans (Paragraph: 105 Reference ID: 27-105-20140306). They are expected within the next paragraph, Paragraph 106, to include Petroleum Licence Areas on policies maps (Paragraph: 106 Reference ID: 27-106-20140306) and criteria-based policies for each of the three phases of development. Specific locations may be included, should the industry wish to promote specific sites. Safeguarding areas are not normally needed.

Specifically in respect of shale, Ministerial Statements (LPA/19 and LPA/22)) have stated that "*there is a national need to explore and develop shale gas and oil resources in a safe, sustainable and timely manner, stressing that exploring and developing the UK's shale gas and oil resources could potentially bring substantial benefits and help meet objectives for secure energy supplies, economic growth and lower carbon emissions*" (when compared to coal).

Hydrocarbons are dealt with in paragraphs 5.93 – 5.160 in the Plan (CD17), including *Proposed Changes* PC54 – PC81 (CD09). The Plan recognises that resources exist and that there is developer interest in exploration, appraisal and development of a range of hydrocarbon resources, including shale gas. The PEDL areas are shown on the *Policies Map*. The Plan is consistent with national policy in that it addresses the three phases of development, whilst also recognising some PEDLs are located in particularly sensitive areas, including within the National Park and AONBs, which are also subject to the highest level of protection under national policy. It is considered that the approach in the Plan represents a suitable balance between these potentially incompatible objectives.

Policy M16 sets out the key spatial principles for hydrocarbon development. The policy supports hydrocarbon development in appropriate areas whilst recognising that there are parts of the Plan area where surface development would be inappropriate because of the areas' special status.

Policy M17 deals with other spatial and locational criteria – accessibility and transport, cumulative impact, local economy and local amenity considerations. The policy is positively worded stating that hydrocarbon development will be permitted in suitable locations, whilst recognising that there are criteria that needs to be assessed and taken into account.

Policy M18 deals with other specific criteria applying to hydrocarbon development – waste management and reinjection wells and decommissioning and restoration. Again, the policy acknowledges the potential for development proposals to come forward, in line with national policy stating that proposals will be permitted subject to meeting the various requirements.

Policy M19 states that proposals for carbon and gas storage will be permitted subject to complying with relevant criteria.

The Plan (CD17), including the *Proposed Changes* (CD09), therefore covers all relevant aspects of national policy whilst setting out the various spatial and other constraints that apply to hydrocarbon development in the Plan area. It is considered therefore that the Plan is consistent with national policy.

The Plan goes into a comparatively high level of detail for hydrocarbons, relative to other minerals. This reflects the range and complexity of relevant issues and the fact that there is a high degree of public interest in this particular matter, including a strong community view that the Plan should set out a comprehensive policy response. Such an approach is considered to be in line the NPPF requirement (Paragraph 150) that local plans must reflect the '*...aspirations of local communities*'.

55. Does the Plan set out a clear and readily understandable policy structure for hydrocarbons?

Policies M16, M17, M18 and M19 deal with hydrocarbon development. As set out in the response to Q.54, Policy M16 sets out the key spatial principles for hydrocarbon development, whilst Policies M17 and M18 deal with the various planning and environmental criteria that apply to hydrocarbon development and Policy M19 deals with the distinctive elements of carbon and gas storage.

The Plan recognises in paragraphs 5.97 - 5.99 that:

- gas has been exploited in the Plan area by conventional drilling techniques over a substantial period of time;
- such development continues;
- further resources are known to exist, and;

- there is developer interest in exploring and extracting these resources

Furthermore, the Plan recognises that there may be significant resources particularly within the shale gas formations using unconventional drilling techniques. There has been recent and ongoing developer interest in the exploration, appraisal and development of such resources (paragraphs 5.100 – 5.101) e.g. permission having been granted for hydraulic fracturing of an existing gas well near Kirby Misperton (paragraph 5.105). The Plan also recognises the presence of coal mine methane in the Plan area and that there are resources of coal potentially suitable for underground coal gasification, though there has been no commercial interest to date in this latter type of development (paragraph 5.102).

The Plan recognises the important role of other regulatory regimes in relation to development proposals and the public interest that such proposals generate (paragraphs 5.114 – 5.118).

To ensure that the policy approach is clear, paragraph 5.119 defines the key words and concepts that apply to hydrocarbon development.

Policies M16, M17 and M18 relate to both conventional and unconventional hydrocarbon development. Paragraph 5.120 recognises that there are both similarities and significant differences between the two. Consideration was given to whether conventional and unconventional hydrocarbon development should be dealt with in separate policies. However, it is considered that it would be clearer, more appropriate and less repetitive to deal with both in the same policies whilst setting out within the policies if certain criteria related to a specific type of hydrocarbon development. Therefore, for example, Policy M16 includes a section dealing with coal mine methane. Further detail on this is provided in response to Q.58.

Hydrocarbon development embraces a variety of activities some of which are relatively new and untested in the UK. It can be complex and is subject to several regulatory regimes and this reflects the detail addressing this subject matter in the Plan. It is considered that the Plan sets out a clear and readily understandable policy structure for hydrocarbons in the Plan area.

56. Taking account of the Written Ministerial Statement of 16 September 2015, does the hydrocarbon section of the Plan provide the right balance between supporting appropriate hydrocarbon development (taking account of economic and social benefits) and protecting the environment and sensitive receptors from its potential impacts?

The abovementioned Written Ministerial Statement of 16th September 2015 by Rt Hon. Mrs Amber Rudd MP (LPA/19 is referred to in paragraph 5.106 of the Plan). The Statement set out the Government's view that there is a national need to explore and develop the UK's shale gas and oil resources in a "safe, and

sustainable and timely way". It states that exploring and developing our shale gas and oil resources "could potentially bring substantial benefits and help meet objectives for secure energy supplies, economic growth and lower carbon emissions" (relative to coal).. It also states that "this must and can be done whilst maintaining the very highest safety and environmental standards".

National policy towards hydrocarbon development as set out in the NPPF (NEB01), PPG (NEB02), Ministerial Statements (LPA/19 and LPA/22) and the Infrastructure Act 2015 (NEB23) recognises that a balance must be struck between supporting exploration, appraisal and development of the industry and environmental protection. This is reflected throughout the section in the Plan dealing with hydrocarbons.

The Plan area includes extensive areas that have received PEDLs to enable potential hydrocarbon resources to be explored, appraised and developed. At the same time, the Plan area also includes extensive areas designated for environmental protection and/or areas that would be sensitive receptors to the potential impacts from hydrocarbon development, including areas which are subject to the highest level of protection under national planning policy. It is considered that the Plan seeks to ensure that protection is afforded to the environment and local communities whilst meeting the Government's aim of supporting hydrocarbon development.

57. Should there be specific policy provision within the hydrocarbon section of the Plan covering the potential impact on climate change? Are the policies consistent with NPPF paragraph 94 requiring local planning authorities to adopt proactive strategies to mitigate and adapt to climate change?

National planning policy (NPPF Paragraph 147 (NEB01)) requires that MPAs should plan for hydrocarbons, including unconventional hydrocarbons. With specific reference to unconventional hydrocarbons, PPG (Paragraph: 091 reference ID: 27-091-20140306) states that "as an emerging form of energy supply, there is a pressing need to establish – through exploratory drilling – whether or not there are sufficient recoverable quantities of unconventional hydrocarbons such as shale gas and coalbed methane present to facilitate economically viable full scale production". The Written Ministerial Statement of 16th September 2015 (LPA/19) sets out the Government's view that there is a national need to explore and develop our shale gas resources in a safe, sustainable and timely way. It also states:

Exploring and developing our shale gas and oil resources could potentially bring substantial benefits and help meet our objectives for secure energy supplies, economic growth and lower carbon emissions.

Having access to clean, safe and secure supplies of natural gas for years to come is a key requirement if the UK is to successfully transition in the longer term to a low-carbon economy. The Government remains fully committed to the development and deployment of renewable technologies for heat and

electricity generation and to driving up energy efficiency, but we need gas - the cleanest of all fossil fuels – to support our climate change target by providing flexibility while we do that and help us to reduce the use of high-carbon coal.

It is also noted that PPG Paragraph: 124 Reference ID: 27-124-20140306 states: *Mineral planning authorities should take account of government energy policy, which makes it clear that energy supplies should come from a variety of sources. This includes onshore oil and gas, as set out in the government's Annual Energy Statement published in October 2013 (LPA/20).*

It is not considered that there should be a specific policy in the Plan addressing the potential impact of hydrocarbon development on climate change. However, alongside this position also lies the important consideration of climate change which is embedded within the four priorities which underpin the *Vision and Objectives* within Chapter 4 of the Plan. In order to ensure that specific development proposals reflect and address factors relevant to mitigation of, and adaptation to, climate change impacts at a more local spatial level, the Plan contains a number of relevant elements. These include policy support for the use of pipeline transport for produced gas (Part1) iii) of Policy M17), shared use of infrastructure (Part 2), iii) and iv) of Policy M17), Policy D09 *Water environment* and Policy D11 *Sustainable design, construction and operation of development*. Regard must also be had to the climate change-related policies of the other adopted Plans that, together, form the '*Development Plan*' as a whole for the area. In combination, this is considered to be consistent with the national policy position including the requirements of NPPF Paragraph 94 (NEB01).

Furthermore, the Sustainability Appraisal (SA) process was used to promote sustainable development and consider relevant significant environmental, social and economic effects of the Plan including the effects of and resilience to climate change. The SA Framework includes SA Objectives 5 (Reduce the causes of climate change) and 6 (Respond and adapt to the effects of climate change). The *SA Framework (CD26, Appendix 1)* was used to assess the Plan *Vision and Objectives*, Plan Policies and their reasonable alternatives. A summary appraisal of Plan Policies, including those for hydrocarbons are summarised in section 6 of CD25 (with full detail provided in *CD26, Appendix 2*).

58. Should there be a distinction in Policy between conventional and unconventional hydrocarbon extraction?

The emphasis in the hydrocarbon section of the Plan is to apply a consistent policy approach to all forms of hydrocarbon development, except where there are specific issues, arising in association with particular forms of hydrocarbon development, that justify different, or additional, policy criteria. Thus, for example, the specific locational considerations relevant to Coal Mine Methane have led to the inclusion of Part c) of Policy M16. However, the hydrocarbon policies do contain specific elements relating to development involving hydraulic

fracturing, which is typically (but not exclusively) associated with the shale gas form of unconventional hydrocarbons. This approach is reflected in the distinctions between M16 Parts a) and b) and M17 1), c), iii) for example. It is considered that this approach reflects relevant matters, that justify a distinct policy response arising from the hydraulic fracturing process and as explained in the text of the Plan, for example paragraphs 5.120, 5.132-5.137, 5.148, 5.153 and 5.159).

The difference in policy regarding hydraulic fracturing (and therefore mostly relating to unconventional hydrocarbons) is also reflected in a different spatial approach, acknowledging the Government's commitment under legislation to ensure hydraulic fracturing from surface development does not take place within "Protected Areas". Within the Plan area, these are listed in part b) i) of Policy M16.

With the new PEDLs granted in the Plan area, there is expected to be a new focus on exploration for shale gas and, as this is normally associated with hydraulic fracturing of the shale, there is a need for greater policy detail to address the different planning impacts of this process. Therefore the Plan, in paragraph 5.120 explains that, although certain activities associated with shale gas development are similar to conventional gas development, there are also some important differences. These include the potential for increased duration and intensity of activity associated with the need for drilling of a greater number of wells in a particular location, more intensive surface activity associated with hydraulic fracturing such as, for example, that to generate the hydraulic pressures required for fracturing and the potential for increased traffic particularly HGV movements to bring in or remove materials/wastes and water. For this reason, Policy M17 is clearly very detailed and comprehensive as it needs to include criteria which are applicable to the additional planning impacts arising from hydraulic fracturing. Thus, Part 1) iii) of Policy M17 includes the need for proposals involving hydraulic fracturing to be located where there are adequate water supplies to avoid the need for bulk transport of water.

The approach to differentiating between conventional and unconventional hydrocarbon development in the Plan is therefore considered to be consistent with PPG, which also identifies a number of differences, in 'How long does exploratory drilling last?' ID: 27-098-20140306, 'What does the appraisal phase involve?' in ID: 27-100-20140306 and 'What constitutes an application for an exploratory well' in ID: 27-117-20140306.

59. Should there be more flexibility in dealing with potential exploration, appraisal and production of unconventional hydrocarbons in the North York Moors National Park, particularly as some Petroleum Exploration and Development Licenses (PEDL) lie within the National Park?

It is considered that the Plan strikes the right balance in its policy approach to the separate phases of unconventional gas development within the nationally

protected landscape of the North York Moors National Park, which, for the most part, is the same policy approach to the stages of conventional gas development, with the exception of the treatment of the process of hydraulic fracturing.

Thus, in terms of supporting the process of exploration of unconventional hydrocarbons that does not involve the process of hydraulic fracturing, Policy M16 under a) permits such proposals in appropriate locations, qualified in Policies M17 & M18, which includes the National Park.

Part b) of Policy M16 covers both conventional and unconventional exploration, appraisal and production which involve hydraulic fracturing and, where these involve surface drilling, the policy does not permit these forms of development within the National Park. It is not considered that the policy could be made more flexible in the context of national legislation which effectively bans the process of hydraulic fracturing within National Parks undertaken from surface development (the *Infrastructure Act 2015* (NEB23) and the *Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016* (NEB06)).

It is not considered that the fact that PEDLs lie within the National Park should override these restrictions and, in fact, some of these PEDLs pre-date this legislation. The Plan, therefore, maintains consistency with the Government's position on hydraulic fracturing in National Parks whether for exploration, appraisal or production.

Part b) ii) of Policy M16 relates to hydraulic fracturing carried out under the National Park by means of lateral drilling from surface wells located outside its boundaries. Such development is not caught by the abovementioned legislation or regulations and this is recognised in the policy. This therefore allows for such development in exceptional circumstances and where it is in the public interest as assessed under Policy D04 (*Development affecting the North York Moors National Park and the AONBs*) and NPPF Paragraph 116 – the '*major development test*'. Mineral extraction in the National Park is, in principle, considered to be major development (other than small scale quarrying for building stone – this is set out in the National Park's existing Development Plan) (OEB12), because of its nature, scale and impacts on the *Special Qualities of the National Park* (such as dark night skies, tranquillity, sense of remoteness and open uninterrupted views). The Plan makes it clear that where hydraulic fracturing takes place underneath the National Park, accessed by lateral drilling from outside, this is still considered to be *major development* and would be considered under the straddling county matters approach where the whole project is considered in its entirety.

60. With respect to Policy M16 (Key spatial principles for hydrocarbon development) briefly explain the reasons for choosing a distance of 3.5km for the AONB/National Park buffer zone in part d) of the policy and how this is intended to work in practice. Is this the most appropriate distance for such a buffer?

The NPPF indicates that National Parks and AONBs have the highest status of landscape and scenic beauty protection and it references the *2010 DEFRA Circular - Vision for National Parks (LPA/21)* at footnote 25. At paragraph 31 of the Circular it states '*Major development in or adjacent to the boundary of a Park can have a significant impact on the qualities for which they were designated*' (our emphasis), this acknowledges the position that development close to a nationally protected landscape can impact adversely on the character, appearance and special qualities of that landscape. There are also a number of adopted Local Plans including Ryedale which have, in effect, National Park 'setting' policies.

Paragraph 5.128 of the Plan briefly explains that relevant planning applications within the 3.5km buffer need only to address the landscape and visual impact of drilling rigs on nationally protected landscapes within the 'settings' of National Parks and AONBs and it is considered that providing a guidance distance will assist interested parties. The distance of 3.5km is related to the visual impact assessment process adopted for wind turbines which are tall and slender structures and thereby equally applicable to drill rigs. In reality, in respect of taller wind turbines, it is normal custom and practice to scope out the visual impact of distant wind turbines. Institute of Environmental Management and Assessment qualified landscape consultants expect to scope out wind turbines under 50m in height when the application site lies 5 kilometres from the receptor viewpoint unless particularly elevated. This equates to an accepted standard of 10 metres per kilometre. At this vertical/ horizontal relationship, single point tall structures are not considered to have significant visual impacts. The experience of the Authorities has indicated that the nature of commercial drilling rigs which can drill down to 1500m or +3000m relevant to hydrocarbon exploration would typically have a vertical height of 35m. Drilling rigs can have a visually intrusive appearance, however, if more than 3.5 kilometres from a National Park or AONB boundary it is considered unlikely that the rig would be likely to have a significant visual impact based on the above approach.

In practice, it is likely that this policy provision will steer the location of drilling rigs to positions more than 3.5km from a National Park or AONB boundary. Where this is not practicable, it will steer locations away from flat and open agricultural plains and vales in favour of areas of forest cover with tall tree canopies or undulating landforms capable of masking the rig to help mitigate the landscape and visual impact scrutiny within the buffer.

61. With respect to Policy M17 (Other spatial and locational criteria applying to hydrocarbon development) part 4) and paragraph 5.146 does the 500m buffer around residential and other sensitive receptors strike the right balance between development and protection? Should there be more flexibility in separation distances and should this be dealt with on a site by site basis (PPG 27-018-20140306)?

It is important to recognise that the 500m stated in Policy M17 and in paragraph 5.146 is not an absolute measure but is a guide and is qualified. Thus the policy states '*proposals...within 500m of residential buildings and other sensitive receptors, are **unlikely** (our emphasis) to be consistent with this requirement and will only be permitted **in exceptional circumstances.***' (our emphasis).

Similarly in paragraph 5.146 it is recognised that '*the adequacy of separation distances to properties and other receptors will need to be determined by the Mineral Planning Authority **on a case by case basis***' (our emphasis).

The *Town and Country Planning (General Permitted Development) (England) Order 2015 (NEB27)* (as amended) sets out a 400m separation distance between agricultural development and protected buildings (permanent buildings occupied by people), which is well-practiced, to safeguard against the effects of noise and smells and their effect on residential amenity. However, a 500m separation distance is commonly used between wind turbines and residential properties. A hydrocarbon development has additional effects including light pollution and various perceived risks relating to safety, and land and water pollution, so an increased separation distance of 500m is considered appropriate.

Given the extent of PEDL areas in the Plan area and the fact that hydrocarbon developments are not subject to the same degree of locational constraint (i.e. minerals can only be worked where they exist (NPPF (NEB01) Paragraph 142) as most other types of mineral development, it is considered helpful to both industry and local communities to be stating that a 500m separation distance will normally be applied.

It is considered therefore the Plan is consistent with PPG 27 – 018 – 20140306.

62. Is the possible requirement of a financial guarantee in Policy M18 (Other specific criteria applying to hydrocarbon development) part 2) iii) for unconventional hydrocarbon development justified due to its novel approach or techniques? (PPG 27-048-20140306)

Comments received at the *Preferred Options* stage of the Plan production were compiled within the *Summary of responses and authorities response to Preferred Options consultation (PPC17)* published in November 2015. This included the following comment: "*Operators involved in hydrocarbon development should provide a financial bond which would be used for environmental clean-up and compensated for if a fracking accident occurs*".

In response to this call for a stronger policy on financial bonds for restoration/remediation, the policy now reflects that call in that it makes reference to a potential requirement for the provision of financial guarantees for site restoration in certain circumstances.

It is acknowledged that the NPPF (NEB01) states that *'bonds or other financial guarantees to underpin Planning conditions should only be sought in 'exceptional circumstances'* (Paragraph 144 of Section 13 *'Facilitating the sustainable use of minerals'*) and that the national Planning Practice Guidance (NEB02) (Paragraph 48 of Section 27 *'Minerals'* (6th March 2014)) continues with the guidance previously stated in the now replaced Minerals Planning Guidance 7: *'Reclamation of minerals workings'* (29 November 1996) (LPA/41) that there may be three possible circumstances where financial guarantees to cover restoration and aftercare costs could, in exceptional cases, be justified. These include:

- *very long-term new projects where progressive reclamation is not practicable...;*
- *where a novel approach or technique is to be used, but... [considered]... justifiable to give permission...; and,*
- *where there is reliable evidence of the likelihood of either financial or technical failure, but these concerns are not such as to justify refusal of permission.*

It is conceivable that all three such instances could potentially arise in the context of the nascent industry of unconventional hydrocarbons development. The very nature of these projects does not lend itself to progressive restoration of sites which distinguish them from other minerals-related developments such as sand and gravel workings that can be progressively restored over time. A further distinguishing factor is that, depending upon the scale of the target formation from which the hydrocarbons are to be exploited, such sites can be operationally productive for as many as 20 years or more; thereby satisfying the first of the aforementioned criteria within NPPF's (NEB01) Paragraph 144.

Furthermore, while still in the very early stages of development in this country, due cognisance has been made of the experiences elsewhere in the world where this industry has become established and whilst avoiding stating an expectation of either financial or technical failure, the Policy seeks to ensure that satisfactory safeguards are put in place as a precautionary measure until such time as it becomes clear that it is no longer warranted.

Plan Policy M18, therefore, seeks to reflect the first and third bullet points of national policy stated within Paragraph 144 of the NPPF (NEB01).

With specific regard to the *'novel approach or technique'* element, this is founded upon the characteristic specific to unconventional gas extraction of the shale formations using hydraulic fracturing. This industry is, as yet, unproven on a commercial scale in the UK. While the drilling of vertical wells down to various depths (some in excess of 3 kilometres (10,000 feet)) and the directional drilling of lateral wells have been undertaken within the Plan area, they have been for

the specific purpose of conventional gas drilling rather than for unconventional gas exploitation purposes. The specific undertaking of unconventional gas extraction; a process of elevated pressure pumping of high volumes of fluid (hydraulic fracture stimulation treatment) to fracture the formations at considerable depth has not been commonplace and therefore in this regard, proposals involving such an approach or technique have been viewed as 'novel'.

Equally distinguishing the unconventional from the conventional, the expectation is that the well pads for shale gas development are likely to be much larger than those for conventional extraction sites as a result of the scale and nature of additional equipment involved in the hydraulic fracturing process. Consequently, the land-use planning consequences are considered such as to justify treating such proposals as 'novel'; at least in the short-term.

The now superseded Minerals Planning Guidance (MPG) 3 (LPA/42): '*Financial Provision for Reclamation*' stated "[H]aving regard to the principle of the polluter pays and to the uncertainty that would otherwise arise, financial guarantees are a legitimate and appropriate means for reassuring the local community of operators' commitment and ability to restore sites properly and timeously....However, where the operator is covered by an established and properly funded industry guarantee scheme, which would adequately finance a programme of restoration and aftercare in the case of default by the operator, such a bond should not be necessary" (Paragraph 64 refers). This approach has been carried forward into the national Planning Practice Guidance (NEB02) at Paragraph 48 of Section 27 stating "where an operator is contributing to an established mutual funding scheme, such as the Mineral Products Association Restoration Guarantee Fund or the British Aggregates Association Restoration Guarantee Fund, it should not be necessary for a minerals planning authority to seek a guarantee against possible financial failure, even in such exceptional circumstances"

It is understood that no such Guarantee Funds currently exist that would cover developments of this nature. While in November of last year, the Government published its response to consultation on its '*Shale Wealth Fund*', it does not address issues of site reclamation and while the industry-wide undertaking of the possibility of '*Community Benefit Schemes*' of £100,000 to local communities and 1% of revenues from production has also featured within the commitments offered, again, this is not a fund to cover measures for restoration and 'after-care'.

Thus, whilst acknowledging that a national scheme for securing monies to ensure legacy sites can be appropriately addressed in the absence of known parties with liabilities has been muted, no such scheme presently exists and there is, therefore, a need, where warranted to do so, for financial assurances that the reclamation of sites previously used for unconventional hydrocarbon extraction are restored both effectively and in a timely manner in the interest of sustainable development.

It is further acknowledged that there are other regulatory bodies also involved in the specific industry of oil and gas; the responsibilities and jurisdictions of whom regard must be had.

While it is understood that those in possession of licences must satisfy the Oil and Gas Authority (which issues Petroleum Exploration and Development Licences (PEDLs)) that they have access to sufficient funds to comply with their well drilling, plugging and abandonment undertakings, there is no evidence that such provisions extend so far as to surface restoration and long-term 'after-care'; unlike that which exists for other minerals-related development. A bond would ensure that sufficient resources would exist to secure the removal of a well pad and any associated infrastructure.

On 25th January of this year, the Rt. Hon. Greg Clark MP, Secretary of State for the Department for Business, Energy and Industrial Strategy, in a Ministerial Statement (LPA/22), announced that the '*financial resilience*' of an applicant to hydraulic fracture for shale gas will be assessed, '*including its ability to fund decommissioning costs*'. However, this too is anticipated to exclude such matters as the surface restoration and '*after-care*' of the well site once operations have ceased.

The seeking of financial guarantees would not be expected to be a certainty in respect of all hydrocarbons-related development, but instead be very much dependent upon the circumstance prevailing in the individual cases as they come forward. The decision as to whether a financial guarantee would be warranted would take into account such factors as scale, nature and the sensitivity of the location of the particular development as well as the development's anticipated life-cycle and also the site's intended after-use. Should there be no call upon the funds, then clearly they would be returned upon the completion of the '*aftercare*' of the site.

The Policy would ensure that there is appropriate financial provision in place, at the outset, to safeguard the satisfactory restoration and aftercare of the land in accordance with planning requirements and ensure that, where warranted, all the necessary tools in the planner's toolbox are available.

It is acknowledged, more generally, in the third bullet point under paragraph 4.11 on page 46 of the *Publication Draft (CD17)* and within the preamble text to the Hydrocarbons (Oil & Gas) section (Paragraph 5.96 refers) as well as, more specifically mentioned, within the accompanying text which follows Policy M18, that there is a recognised need to question whether the continued requirement for the approach taken with the regards financial guarantees would be warranted and this demonstrates that, were this aspect of the industry to succeed in developing further, that the experience of such would facilitate the answering of this question.

63. Has sufficient consideration been given to the potential impact on the strategic road network from hydrocarbon development and are there any outstanding concerns from Highways England or the Highways Authority?

Using the definition of the 'strategic road network' (SRN) of Highways England (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/639205/s170085_Network_Management_Map.pdf (LPA23)), those elements of the SRN over which are covered by the Plan area include the A1, A1(M), A64, A66, A66(M) and A19. Those elements of the SRN that are most likely to be affected by vehicle movements associated with hydrocarbon related developments include the A64 and the A19. This takes account of the locations of the PEDLs that have been issued within the Plan area which lie, for the most part, to the east of a straight line south from Northallerton to Selby as an approximate guide (see Figure 12 on page 75 of the *Publication Draft* (CD17)). In that these roads are strategic, their capacity to accommodate vehicle movements associated with hydrocarbons-related development has not been a cause for concern by those consulted during the progress of policy formulation in respect of the hydrocarbons element of the Plan.

Notwithstanding, Paragraph 5.131 explains that "[I]t is [...] important to ensure that development is located where there is good access to suitable road networks... The main road network in the Plan area comprises A and B classified roads and development should be located where suitable access to these routes can be obtained without harming the amenity of local communities and businesses."

It is important to note those specific characteristics of hydrocarbons-related development that distinguish them from other forms of minerals development. Whereas for aggregate-related mineral developments, one would expect, for the life of a producing site (which can be considerable), to generate a continuous (depending upon economic conditions) level of vehicle movements; however, the 'production phase' of a hydrocarbons-related development (the greatest duration phase of such development which could be as long as twenty years) sees perhaps the lowest levels of vehicle movements. The shortest in duration phases, i.e. the exploratory and the appraisal phases of the development, taking months rather than years (depending upon the number of wells), see the greatest volume and intensity of vehicle movements (please see Paragraphs 5.107 and 5.120 of the *Publication Draft* (CD17) which provide further detail).

Notwithstanding, all developments would be expected (see Policy M17 within the *Publication Draft* (CD17) on pages 88 and 89) to not give rise to volumes of traffic of a nature that would exceed the capacity of the road network from which it proposed to gain access and egress and give rise, *inter alia*, to unacceptable impacts upon local communities. The fact that the Policy references access to classified A and B roads reflects that distances to the SRN renders opportunity for direct access to be severely limited.

There are no outstanding concerns from either Highways England or the Highway Authority.

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