



Planner: Magnus Gallie
 Mob: 07764 364377
 Email: magnus.gallie@foe.co.uk

Friends of the Earth England Wales and Northern Ireland

Response to Inspector's comments

Ongoing EiP of the North Yorkshire Minerals and Waste Joint Plan

10th July 2019

Weight to be given to the Written Ministerial Statements following the High Court judgement

We set out our arguments and evidence below in response to Inspector Ord's question of what weight should be given to the 2015 and 2018 WMSs following the recent High Court judgement in the case *Claire Stephenson v SoS for Housing and Communities and Local Government* CO/3511/2018.

Talk Fracking's High Court Challenge¹ led to the quashing and deletion of paragraph 209a of the NPPF. This previously stated planning should:

'...recognise the benefits of on-shore oil and gas development, including unconventional hydrocarbons, for the security of energy supplies and supporting the transition to a low-carbon economy; and put in place policies to facilitate their exploration and extraction'.

The deletion of paragraph 209a removes the NPPF's explicit 'in-principle' support for fracking exploration and extraction. Its deletion together with views expressed by Mr Warren QC, acting for the Secretary of State, during the course of this case, regarding the role of evidence, we believe have significant implications for the weighting of the Fracking Written Ministerial Statements (WMS) of 2015² and 2018³, specifically those matters claiming shale gas can:

- **support the transition to a low carbon economy; and**
- **improve security of energy supplies;**

We discuss these points against more up to date information below, in order to demonstrate how the weighting of such claims in the WMSs (as material considerations) must be reduced and should therefore be disregarded for the purposes of mineral planning authorities drawing up hydrocarbon policies. This especially applies to the North Yorkshire Council coalition and the North Yorkshire Minerals and Waste Joint Plan. This is because on the latest available evidence hydrocarbons do not provide a transition to a low carbon future. This is even less the case now than it was back in 2015 when the WMS was issued.

"Supporting the transition to a low carbon economy"

The 2015 WMS (HCWS202) provided the source material text for the now deleted NPPF paragraph 209a. This states that:

‘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’

‘Shale gas can create a bridge while we develop renewable energy, improve energy efficiency and build new nuclear generating capacity’

‘Studies have shown that the carbon footprint of electricity from UK shale gas would be likely to be significantly less than unabated coal and also lower than imported Liquefied Natural Gas[9].

The High Court quashed paragraph 209a due to government failing to carry out proper consultation and take into account evidence, such as the [Mobbs report](#). Mr Justice Dove gave credence to the report as being *‘capable of having a direct bearing upon a key element of the evidence base for the proposed policy and its relationship to climate change effects (para 67)’*. The Report (commissioned by Talk Fracking) questioned the current ‘bottom up’ method used in assessing fugitive methane leakages from hydraulic fracturing sites compared to alternative ‘top down’ modelling – the latter which seems to produce very different results; but which has up to this point been ignored by the government.

The Report does this by critiquing the government endorsed Mackay-Stone (2013)⁴ analysis of shale emissions, which the Department for Energy and Climate Change (DECC) (now BEIS) relied on when making the “bridge fuel” claims in the 2015 WMS. It is these same claims that eventually made it to the NPPF – in as many words – before being deleted⁵. Mobbs concludes:

‘At the time of its publication [i.e. Mackay and Stone] it was not possible to state the conclusions of that report with such certainty – and at no point did DECC ministers properly communicate those uncertainties when making their statements.’ (para 129 – Feb 2017) [our insertion]

To assume shale gas’ credibility as a bridge fuel also implied its compatibility with UK Carbon Budgets – which in light of ever-emerging evidence seems now highly questionable. A recent (September 2018) paper⁶ found that methane leakage from natural gas sites in the US – not just fracking – varied between 0.9% and 4.5% of total production⁷. This is potentially significant because researchers at Edinburgh University found that “domestic shale gas production with even a modest 1% fugitive emissions rate would risk exceedance of UK carbon budgets”

Committee on Climate Change (CCC) evidence is also relevant regarding WMS bridge fuel claims. In 2016 the CCC advised the government that shale gas could only be accommodated into UK carbon budgets if all three CCC tests were met⁸ - including i) rapid action to address methane leaks, ii) overall UK gas consumption remaining in line with UK carbon budgets and iii) emissions from shale production being accommodated within UK carbon budgets. The last test was thought achievable based on the proviso that Carbon Capture and Storage (CCS) would be available on a national scale going forward (to offset additional emissions). With no evidence of CCS operating in the UK (and none envisaged until the mid-2020s⁹) and with on-shore renewables still being discouraged¹⁰,

it's extremely hard to see shale gas being accommodated within UK carbon budgets. This despite the government's response that this would be possible.

A reading of the CCC's Net Zero 2050 Report (2019) casts further doubt on the compatibility of shale gas with UK carbon budgets. For the government to meet its new 2050 legislative target¹², the CCC recommends '*widespread electrification of energy demand, alongside a widespread and rapid roll-out of renewable and other low-carbon power sources*'¹³. It's now evidently unclear how shale gas can be recognised as a "low-carbon power source"/ "bridge fuel" in this context or how the UK government can still meet its net-zero 2050 target going forward with the scale and impact of fugitive emissions from fracking remaining highly questionable and its inability to pass the CCC's three tests.

Further evidence, such as The National Infrastructure Commission's 2018 report¹⁵, also supports the notion that the UK would be unable to achieve its emissions targets while relying on natural gas. Similarly, future energy scenarios modelled by the National Grid which incorporate shale in the energy mix are projected to fail decarbonisation targets.¹⁶ Lastly, the Government's own Clean Growth Strategy (2018) fails to identify shale gas in any meaningful way to suggest it either constitutes a bridge fuel or has a large part to play in the future energy mix. While industry may counter with arguments that gas will still be important for hydrogen production (as it can be cracked and hydrogen extracted) our view is hydrogen can also be produced in a totally zero carbon way from electrolysis – and on mass once renewables have geared up further.¹⁷ With renewables now producing around a third of all electricity in the UK¹⁸ – its likely role in future hydrogen production should not be underestimated, while at the same time proponents of natural gas cannot be allowed to perpetuate the myth of that gas will remain a central part of the UK's future energy mix (re as a part of hydrogen production).

In the absence of any robust "top-down" methane monitoring as suggested by Mobbs, we remain in the dark regarding the true cost and scale of fugitive emissions from fracking exploration and production. With doubts regarding the ability of natural gas to be considered a transition fuel (in some part¹⁹) similar claims and inferences from both Fracking WMSs should be substantially diminished in weight – especially when considering the main modifications of the draft NYMWJP policies. We acknowledge however, that despite these deletions and reductions in weight that some government support for fracking remains and so consideration of more recent WMSs²⁰ is also required in the overall balance.

With the above in mind, we find that the IPCC's suggestion²² that more empirical research is needed before natural gas itself (not just shale gas) can be considered a 'bridge fuel' is very pertinent – and surely any WMS statements suggesting otherwise should be given very little weight until further credible evidence is produced.

"Security of Energy Supplies"

The support given to shale regarding security of energy supply within the 2015 and 2018 WMSs is also now open to question. Since 2015 we have seen renewable output further rise²³; gas imports reduce²⁴; the government enacting legislation for a Net-Zero 2050– all of which will require a greater push on renewables, as well as technological and

behavioural changes to home heating, transport, house building, industrial processes and energy use (etc).

Despite all this clear evidence and very recent passing of legislation committing the UK to becoming Net-Zero by 2050 the “*we think it’s right*” approach to justifying a domestic shale strategy - as set out in the 2018 WMS - is in our view potentially damaging and misguided. That this same blind justification has informed hydrocarbon policy-making across the UK shows how cautious we must be as planners when giving weight to WMSs. We ask the Inspector to consider such implications for this plan – especially in terms of the extent of the sheer landmass these fracking policies will eventually cover, the number of communities that could potentially be affected, the direction of legislation, energy trends and wider evidence.

With the inevitable national policy and regulatory shifts needed to achieve the UK net-zero carbon 2050 target, and growing recognition of a “climate emergency” not addressed within either the 2015 or 2018 WMSs or the NPPF; the “*we think it’s right*” approach to justifying mass shale exploration must now be considered out of date and not based on robust evidence. With industry practitioners acknowledging further major revisions to national planning policy now being required to accommodate the government’s potentially paradigm shifting climate change aspirations²⁶, it’s essential that the North Yorkshire Minerals and Waste Joint Plan’s approach to a precautionary approach should not be restricted by what is outdated and misguided WMS guidance.

‘Does the judgement highlight uncertainties in the scientific evidence on emissions or anything else, which would justify a precautionary approach being reflected in Plan policies e.g. 500m buffer zone?’

Yes. Failure on the part of the Government to take into account new evidence such as the Mobbs report (in addition to not properly consulting on the NPPF) played a part in the judge’s decision to quash paragraph 209a. The Mobbs report provides clear evidence why shale gas should not be considered a transition fuel, including the highlighting unknown environmental cost of fugitive emissions. Such recognised uncertainty into the true extent of methane emissions from unconventional exploration has implications for key planning matters such as health and air quality – especially for local communities living near to these sites. As Mobbs suggests:

‘Any large under-estimate of emissions under the current regulatory regime potentially has a high impact on public health. For this reason there has been an apparent official reluctance to discuss the implications of recent top-down studies’. (para 29 – 2017)

Therefore, we need to give more credence to arguments that the “known-unknowns” regarding methane emissions from fracking could have potential for similar “unknowns” in terms of general air quality around such sites. The NYMWJP – specifically the 500m buffer (or “respect zone”) within policy M17²⁷ – has aimed to protect local residents from the risk of poorer air quality from fracking. With doubts now raised into the extent of fugitive methane emissions - isn’t this yet another reason why the precautionary approach for set-back distances must be maintained; especially *if* bottom-up monitoring of other

gases is recognised as being inaccurate, perhaps some way down the line? Surely this is the whole purpose of the precautionary approach?

Retaining the 500m set-back/ 'Respect' zone:

Literature demonstrating the health risks linked to fracking, and specifically concerning an increase in such risk the closer one gets to oil and gas wells, continues to be produced. The following studies are just some of those published since the start of 2018 in this area, and so can be considered additional material rather than a rehashing of our previous submissions (which should still carry weight).

An analysis published in April 2019 of peer-reviewed literature published from 2012 – 2018 on hazardous air pollutants associated with oil and gas extraction found that **the majority of studies continue to find poor health outcomes increasing as distance from fracking operations reduce**. Its authors wrote:

'Recent health-based studies have uncovered a spatial relationship between upstream ONG and a range of health outcomes. Epidemiological and health-based studies have found increased risk and incidence of adverse birth outcomes near ONG activity compared with further away. Similarly, studies that utilize distance metrics as proxies of exposure reported increased health risks for individuals living near ONG activity compared with further away. These findings are corroborated by symptom surveys that found that the number of reported symptoms was higher among residents living closer to well pads compared with those living further away'²⁸.

A further 2019 study looked at levels of air pollution in the Los Angeles metropolitan area, where around 1.7 million people live within one mile of an active oil or gas well. The University of California pilot study investigated air pollution around active wells and showed that, even in neighbourhoods where residents are exposed to complex mixtures of air pollution from multiple sources, levels of several volatile organic pollutants are higher in communities closer to wellheads and decrease in concentration with distance away from the wellheads. These include the carcinogen benzene²⁹.

Similar concerns have been found with relation to water contamination. In the first study to collect drinking water samples, health information, and data on proximity to drilling and fracking operations at the same time, researchers from Yale University analysed household drinking water in Belmont County, the most intensely fracked county in Ohio, with 548 permitted wells in 2017. Samples from 66 households were analysed for the presence of fracking-related chemicals and the researchers also interviewed residents about health symptoms. The researchers found that team found that all homes had at least one volatile organic compound or other organic compound above detectable levels and that prevalence of contaminants in drinking water, including toluene, bromoform, and dichlorobromomethane, was higher in homes closer to the wells. Further, people who lived closer to multiple wells were more likely to report health problems including wheezing, stress, fatigue, and headache³⁰.

An expert panel in Pennsylvania looked specifically at what setback distances should be recommended from unconventional oil and gas development. The panel reached consensus that setbacks of less than ¼ mile (402m) should not be implemented and

additional setbacks for vulnerable populations should be recommended. Vulnerable groups included children, pregnant women, the elderly, those with pre-existing medical or psychological conditions, and those with pre-existing respiratory conditions. Vulnerable settings included schools, day care centres, hospitals, and long-term care facilities. The panel did not reach consensus on recommendations for setbacks between ¼ and 2 miles. This was seen to reflect the limited health and exposure studies and need to better define exposures and track health³¹.

The Department of Health of the City of Los Angeles published a report last year following complaints of headaches, eye and throat irritation, nausea and vomiting were received from residents of South Los Angeles, Wilmington and other areas in recent years. According to a report in the Los Angeles Daily News “(t)he health department emphasized increasing the distance between sensitive populations and oil wells as one of the better ways to protect public health. This can be done by extending what is called the setback from an oil facility and a residence or school”. The report recommended increasing the setback from 300 feet (91 metres) to 1500 feet (approximately 455 metres)³².

The above evidence suggests the possibility of a reasonable relationship between distance from hydrocarbon wells and health issues, with detailed justification into defining set back zones in the US – which is highly relevant for the NYMWJP plan.

While the ‘great weight’ of the benefits of mineral extraction (para 205) and the need for planning policies to ‘provide for the extraction of minerals of national importance’ (p.204a) remain in the NPPF 2019, the quashing of para 209a deleted the need for plan-making authorities to ‘put in place policies to facilitate their exploration and extraction’ (i.e. oil and gas). This deletion surely provides plan-making authorities with more flexibility as to how their local policies can manage hydrocarbon extraction.

Judicial clarification is also provided in the judgment on the Talk Fracking case regarding the weight to accord to different parts of the NPPF. While the paragraph in question (209a) is now quashed, we consider the principle and point raised to be equally applicable to the NPPF as a whole and also the two WMSs (which also constitute statements of government policy). As the Judgment records (paragraph 71), it was made clear by Mr Warren QC, acting on behalf of the Secretary of State that:

‘in the context of individual decisions by plan makers or decision takers it would be open to depart from the in principle support for fracking provided by paragraph 209(a) on the basis of the requirement, for instance in paragraphs 148 and 149 of the Framework in particular, for the planning system to take decisions which support reductions in greenhouse gas emissions and plan proactively for climate change. Thus, he submitted that in the context of individual decisions it would be open for the Claimant and other participants to place before the decision maker material like the Mobbs Report which supported the contention that shale gas extraction would have a deleterious impact on greenhouse gas emissions, and these could be weighed against the in principle support contained in paragraph 209(a) of the Framework.’ (Para. 71 of the judgment).

For the NYMWJP, our view is that the retention of the 500m buffer/ ‘respect zone’ remains compatible with NPPF paras 204a and 205, as it does not prohibit hydrocarbon

mineral extraction. In the absence of para 209a, however, these two paragraphs provide the main policy framework specifically relevant to hydrocarbons and other minerals (together with the WMSs published in 2015, 2018 and 2019). Para 204f is also relevant to the buffer's retention justified because of the fugitive methane issue:

f) planning policies should set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural or historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in the locality.

In addition to 204f, it's worth reiterating the climate change paragraphs (re 148 and 149) and the need to reduce greenhouse gases. Para 148 states:

The planning system should support the transition to a low carbon future in a changing climate...contribute to radical reductions in greenhouse gas emissions...and support renewable and low carbon energy and associated infrastructure”

Para 149 then states:

‘Plans should take a proactive approach to mitigating and adapting to climate change...Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts”

With ‘in-principle’ support for shale exploration now removed from the NPPF (and weighting of the 2015 and 2018 WMSs diminished), and bearing in mind other relevant considerations to hydrocarbon extraction (re paras 204f, 148 and 149), there is further justification for the precautionary protections put forward by the NYMWJP to be considered reasonable and justified.

The NYMWJP policies should which allow facilitation of hydrocarbon extraction subject to very minor and ‘justified’ caveats – which in this instance requires applicants submit more detailed information where proposed within 500m of sensitive receptors - remains reasonable and sound, especially with the ability to review such policies in 5 years’ time.

If so, should there be a commitment to specifically review any relevant precautionary Plan provisions within 5 years of adoption, to allow experience of operations to be taken into account, setting out what that review would entail and building on the statutory obligation under regulation 10A of *The Town and Country Planning (Local Planning)(England)(Amendment) Regulations 2017*?

We assumed this commitment to review the plan – which formed part of the Inspector’s rationale at the 2018 hearings – was still retained. If justification of the precautionary approach in M17 can be achieved on a commitment for Local Plan Review - in order to re-evaluate the effectiveness of the policy approach and its necessity going forward – then we are supportive. A five-year timeframe should allow enough time for evidence and data on fugitive emissions to be collected, reviewed and inform the policy’s future retention. Likewise, if no further evidence is forthcoming, then the policy should remain in place into the long term based on the requirements of para 204f.

This overall approach to retaining the buffer should reassure those with air quality and health concerns arising from fugitive gas leaks (as well as other harms) – namely the local communities nearest the wells – that policy makers, planners and the Inspectorate are being mindful of their health and wellbeing as far as possible.

We would not object to a commitment to review these particular precautionary provisions in the draft plan and see no reason why the current policy approach (subject to the modifications proposed) cannot be maintained as a result.

Friends of the Earth England, Wales and Northern Ireland · National Office 1st Floor, The Printworks, 139 Clapham Road, SW9 0HP.
Tel 020 7490 1555 · Fax 020 7490 0881 · Website www.foe.co.uk

Friends of the Earth Limited, company number 1012357. Registered office is 1st Floor, The Printworks, 139 Clapham Road, SW9 0HP

¹ Claire Stephenson – vs -Secretary of State for Housing and Communities and Local Government (2019)

² <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2015-09-16/HCWS202/>

³ <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2018-05-17/HCWS690>

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/237330/MacKay_Stone_shale_study_report_09092013.pdf

⁵ In part due to the Government not abiding by Sedley principles another as the findings of Mobbs's were not fully considered.

⁶ Turk et al, Gas-fired power in the UK: Bridging supply gaps and implications of domestic shale gas exploitation for UK climate change targets, Science Direct

<https://www.sciencedirect.com/science/article/pii/S0048969717330735?via%3Dihub>

⁷ Omara et al, Methane Emissions from Natural Gas Production Sites in the United States: Data Synthesis and National Estimate, Environmental Science and Technology <https://pubs.acs.org/doi/10.1021/acs.est.8b03535>

⁸ <https://www.theccc.org.uk/2016/07/07/exploitation-of-onshore-petroleum-requires-three-key-tests-to-be-met-ccc-says/>

⁹ BBC News Article: <https://www.bbc.co.uk/news/uk-scotland-scotland-business-46358715>

¹⁰ In part due to onshore wind restrictions in the NPPF, but also linked to reductions in the FIT payment scheme.

¹² <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>

¹³ Pg 90 - <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>

¹⁵ - See pages 12 and 34 - https://www.nic.org.uk/wp-content/uploads/CCS001_CCS0618917350-001_NIC-NIA_Accessible.pdf and <https://www.independent.co.uk/news/business/comment/fracking-lancashire-energy-minister-clare-perry-national-infrastructure-commission-renewable-energy-a8463076.html>

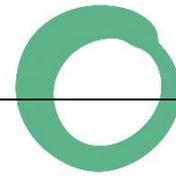
¹⁶ <http://fes.nationalgrid.com/media/1363/fes-interactive-version-final.pdf> See pp 21 and 22.

¹⁷ <https://www.energy.gov/eere/fuelcells/hydrogen-production-electrolysis>

¹⁸ <https://www.independent.co.uk/environment/uk-renewable-energy-third-electricity-generated-wind-solar-panel-any-other-forms-mentioned-coal-a8122921.html>

¹⁹ We acknowledge it was the government's failure to consider the Mobbs evidence rather than the evidence itself that led to para 209a's quashing

²⁰ "We remain committed to the safe and sustainable exploration and development of our onshore shale gas resources." WMS 23/5/19 - <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2019-05-23/HCWS1586/>



²² Chapter 7, section 7.5.1, page 527:

https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter7.pdf

²³ See footnote - Pg 38 – CCC Report - <https://www.theccc.org.uk/publication/onshore-petroleum-the-compatibility-of-uk-onshore-petroleum-with-meeting-carbon-budgets/>

²⁴ See 'key results':

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811968/Gas_June_2019.pdf

²⁶ <https://www.planningresource.co.uk/article/1588077/governments-2050-net-zero-carbon-emissions-target-means-planning>

²⁷ 'M17 - Other spatial and locational criteria applying to hydrocarbon development'

²⁸ Garcia-Gonzales DA, Shonkoff SBC, Hays J & Jerrett M, Hazardous Air Pollutants Associated with Upstream Oil and Natural Gas Development: A Critical Synthesis of Current Peer-Reviewed Literature, Annual Review of Public Health vol 40: 283-204 <https://www.annualreviews.org/doi/10.1146/annurev-publhealth-040218-043715>

²⁹ Garcia-Gonzales DA, Shamasunder B & Jerrett M, Distance decay gradients in hazardous air pollution concentrations around oil and natural gas facilities in the city of Los Angeles: A pilot study, *Environ Res.* 2019 Jun;173:232-236. doi: 10.1016/j.envres.2019.03.027

³⁰ Elliott EG et al (2018). A community-based evaluation of proximity to unconventional oil and gas wells, drinking water contaminants, and health symptoms in Ohio. *Environmental Research*, 167, 550-557. doi: 10.1016/j.envres.2018.08.022

³¹ Lewis C, Greiner LH, Brown DR (2018) Setback distances for unconventional oil and gas development: Delphi study results. PLoS ONE 13(8): e0202462. <https://doi.org/10.1371/journal.pone.0202462>

³² Scauzillo, S. (2018, February 27). Living near oil wells can cause health problems, LA County believes it has solutions. *Los Angeles Daily News*. <https://www.dailynews.com/2018/02/27/living-near-oil-wells-can-cause-health-problems-la-county-believes-it-has-solutions/>