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**Planning Regeneration and Cultural Services**  
**Rotherham Metropolitan Borough Council**  
Riverside House  
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17 July 2017

Planning Application Number: RB2017/0805  
Site Address: Land adjacent Common Road Harthill 9999  
Applicant Name: INEOS Upstream Limited (via Turley Planning Consultancy)

Statement submitted to: **Public Consultation on “Application to Drill a Vertical Core Well”**

(Project Description: Construction of a well site including the creation of a new access track, mobilisation of drilling, ancillary equipment and contractor welfare facilities to drill and pressure transient test a vertical hydrocarbon exploratory core well and mobilisation of workover rig, listening well operations, and retention of the site and wellhead assembly gear for a temporary period of 5 years on land adjacent to Common Road, Harthill, Rotherham)

**1. Introduction - Why the impacts of entire the fracking process needs to be considered as part of this consultation.**

**If Ineos finds, after the drilling and the pressure transient test of the hydrocarbon exploratory core well contemplated by the immediate application, the results promising, the company will undoubtedly apply for stimulation (i.e. hydraulic fracturing) of this well and the development of their Petroleum Exploration and Development Licences (PEDL) 304 at Harthill.**

Therefore, before we explain in detail our reasoning against the proposed shale gas development in your Council District, we would like to stress that in order to properly and thoroughly consider the impacts of the project, you have to take fracking (and the whole industrialisation process including traffic and waste disposal) into consideration when you make a decision on the current application of Ineos Upstream Limited. Failure to do so means that this project is being looked at in a piecemeal fashion that fails to fully consider the anticipated impacts that will ensue with the granting of this application.

The unconventional fossil fuels industry is a space and resources consuming industry on a large scale (especially shale gas) and has a massive impact on the regional planning/development. That's why



we cannot debate the exploration and extraction of so-called unconventional fossil fuels without recognizing that these projects inevitably collide with the existing regional planning frame in the targeted areas.

We must also acknowledge, that **hydraulic fracturing is a crucial part of the exploration phase contemplated here**. Without the so-called “stimulation drilling” a company cannot ascertain if there is enough economically viable gas in the underground. Once they make that positive determination, full scale fracking will inevitably ensue.

We therefore strongly disagree with the view that **this exploratory vertical well** development should not be regarded as an integral part of a more substantial project since it **is most certainly not a discrete proposal that could proceed independently**<sup>i</sup>.

The exploration phase aims at the extraction phase and cannot be considered and assessed separately. Allowing the first steps – and this application is the first step - will eventually lead, bit by bit, to the inevitable industrialisation of your region.

Baker McKenzie highlight in their report “Shale Gas – An International Guide<sup>ii</sup>” that: *“Once an economic play has been ascertained, the project can enter the development phase, which, in a shale gas development, will typically involve the drilling of hundreds of wells.”*

The amount of acquired Petroleum Exploration and Development Licences (PEDLs) by Ineos throughout the UK and the large areas these PEDLs<sup>iii</sup> cover, show that this kind of development (including the construction of a network of wells over a period of 30 – 40 years) will eventually take place. The longterm plans of Ineos to frack England cannot be ignored.

That’s why you - as the regional planning decision body – have to take into account the following as part of this consultation process:

The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscapes and the interrelationship between the above factors that fracking will bring. These effects must include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

On that basis alone, in addition to the other the reasons given in this statement, including the existing evidence concerning the negative impacts of fracking and the bad environmental record of Ineos, we urge the Rotherham Metropolitan Borough Council to reject the application.

**2. The location of the targeted site is not suitable for the proposed activity. (Note: the following information has been extracted from the Screening Opinion of the Planning Service of the Rotherham Metropolitan Borough Council)<sup>iv</sup>:**

The site proposed for the beginning of shale gas development in PEDL 304<sup>v</sup> is in a rural and agricultural area (identified as being of Grade 2 value, i.e. very good arable land), approximately midway between the villages of Harthill and Thorpe Salvin.

The closest houses are only 700 m away, raising concerns about light, noise and air pollution for the inhabitants. A network of rural footpaths and very small and narrow roads in the area run close to the boundary of the proposed site with a single point of access, i.e. Common Road. There are

troubling questions regarding how the proposed route to the site along Packman Lane, in places only 9ft wide, could ever cope with convoys of heavy goods vehicles needed for the project (HGVs)<sup>vi</sup>.



Common Road, Harthill with 9ft measure. Photo: Harthill Against Fracking

Two woods (Crow & Loscar Wood) are situated east and west of the site. It lies within the Loscar Common Local Wildlife Site and within an Area of High Landscape Value and the Green Belt, as identified on the adopted Unitary Development Plan (1999), and part of the East Rotherham Limestone Plateau Landscape Character Area. Loscar Wood is identified as an area of Replanted Ancient Woodland.

The PEDL 304 that covers the site at Harthill is only a small part of a big cluster of licenses that touches the Peak District National Park and that stretches over big parts of Sherwood Forest<sup>vii</sup>. All these areas are geologically connected underground and form part of the Bowland Shale formation that Ineos wants to exploit<sup>viii</sup>. Any kind of permission given for the development of the site at Harthill will eventually have an effect on the development within this cluster of PEDLs itself and - as the process of shale development in the overall targeted area takes hold - would also have a negative and irreversible effect on the worldwide known, national treasure Sherwood Forrest.

It is also quite obvious that the scheme would threaten local wildlife and open the door to transform the region into a heavily industrialised zone, permanently altering the current, pastoral and wooded landscape.



Packman Lane, Harthill. Photo: Harthill Against Fracking

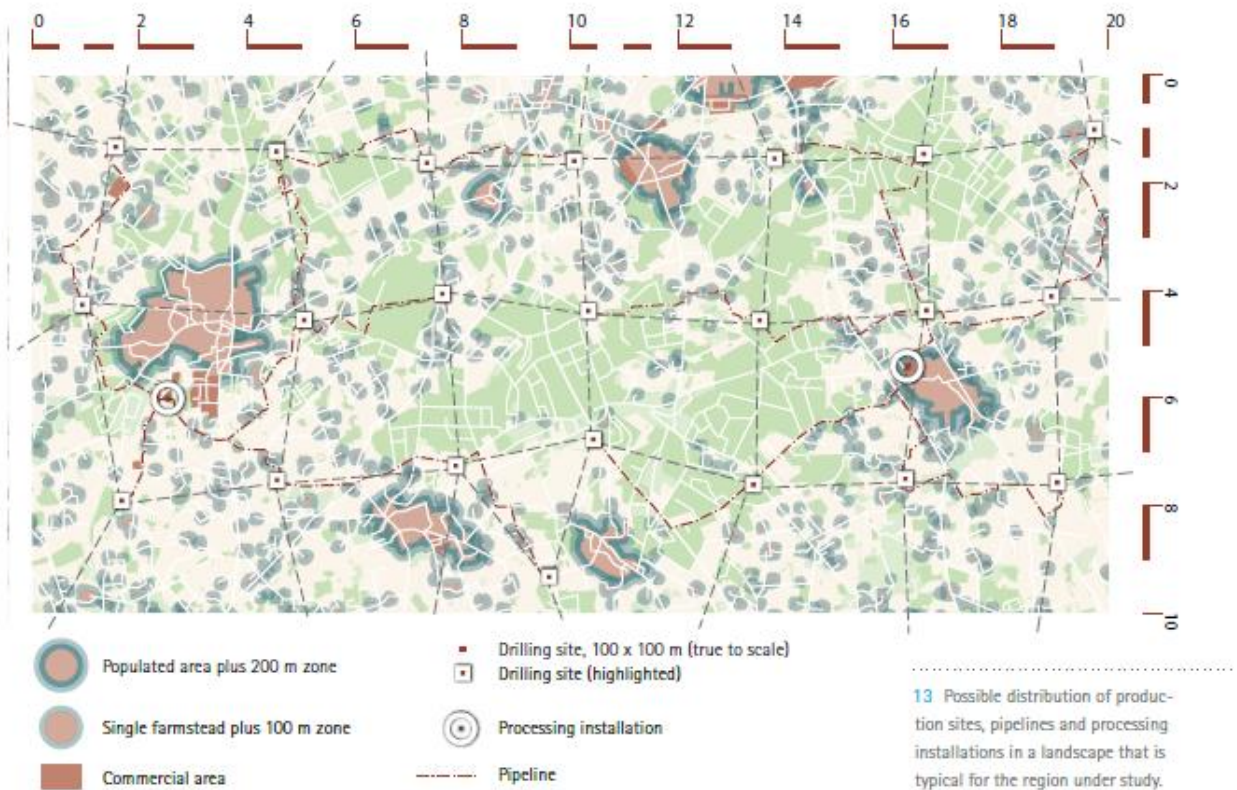
**3. An unconventional oil and gas industry in the UK will have significantly detrimental impacts on the social, community and health wellbeing of the nation:**

Hydraulic fracturing, or fracking, is a technique employed by the oil and gas industry to extract fossil fuels. Thousands of gallons of water (from drinking water reservoirs, rivers or lakes), mixed with tons of toxic chemicals and silica sand, are pumped deep underground under extreme pressure to crack oil or gas bearing rocks in order to set free so-called “unconventional” fossil fuel resources.

However, gas and oil are neither “conventional” nor “unconventional.” All fossil fuel resources can be classified as hydrocarbons. “Unconventional” does not refer to the characteristics or composition of the oil or gas. Instead it refers to the porosity, permeability, fluid-trapping mechanism or other characteristics of the geological reservoir or bearing rock formation from which hydrocarbons could be extracted. These characteristics result in the need to artificially alter the geological features of the reservoir or bearing rock formation using stimulation techniques such as fracking to extract hydrocarbons.

**A. Land use implications of fracking**

The fracking industry itself consumes land area and water on a large scale. It has—through the construction of a network of thousands of wells—a significant impact on the regional development of the targeted regions and it inevitably affects areas where either settlements or environmentally and culturally sensitive zones can be found<sup>ix</sup>. To be economically viable, continuous drilling of new commercially producing wells are required (especially in shale layers, but also in sandstone and clay formations) over a period of 30 - 40 years. Depending on the geological and topological circumstances, we can expect each well pad to cover 2 – 4 km<sup>2x</sup>.



Graph from the Hydrofracking Risk Assessment (2012) - that was part of ExxonMobil's hydrofracking dialogue in Germany - showing shale development scenario<sup>xi</sup>

Our experience with other drilling operations around the world casts significant doubt on the opinion that other exploration (and later production) rigs would be located a significant distance from the site under consideration here, and not within 10 km, of other rigs<sup>xii</sup>.

The German Environment Agency has estimated that approximately 48,000 boreholes would be needed in an area of 9,300 square kilometres to get the estimated resources of 0.7 – 2.3 trillion m<sup>3</sup> shale gas out of the German ground<sup>xiii</sup>. Industry numbers not only from the US, but also from Argentina, confirm this assumption. According to the agreement between the Argentinian YPF and the US company Chevron, a development of up to 1,500 wells is scheduled for an area of 395 km<sup>2</sup> in Neuquén, Argentina<sup>xiv</sup>. The undeniable fact is that the fracking industry designs its operations to condense as many wells as possible in a limited geographic area to reduce production costs and maximize extraction and profits. There is absolutely no reason to think that the same pattern will not occur with this currently proposed development.

The needed, dense industrialisation process is the one of the reasons why the German Advisory Council on the Environment (SRU) pointed out in their report on fracking for shale gas production in Germany<sup>xv</sup> that:

***"In a densely populated industrialised country like Germany, land use for shale gas production competes with other uses, especially agriculture, forestry and human settlement, and also recreation and nature conservation. This is particularly true of the reservoirs in Lower Saxony and North Rhine/Westphalia, which are covered by land used for intensive agriculture where there is already great pressure on land. This increases the competition for use, and the reduced availability***



*of land can lead to intensification of agricultural use. It also increases the pressure on land not used for agriculture.”*

We are of the opinion that the situation is quite similar in the UK, especially in the region contemplated in the current application. The Rotherham Metropolitan Borough Council should, therefore, not prioritize the single economic interest of a private company over the other existing, competing public interests in the targeted area.

## **B. Environmental and public health implications of fracking**

More than a decade of large-scale use of the fracking technique (mainly in the US and Canada) has shown how harmful and destructive this extraction process can be, as confirmed and acknowledged by countless peer-reviewed scientific studies. There are numerous proven risks and impacts related to the development of fracking projects, such as heavy freshwater consumption, water and soil contamination, and public health impacts<sup>xvi</sup>.

Since 2005, according to industry and state data, nearly 140,000 fracking wells have been drilled or permitted in more than 20 US states<sup>xvii</sup>. According to industry-reported data in the FracFocus database, oil and gas wells fracked across the U.S. between 2005 and 2015 used at least<sup>xviii</sup>:

- 5 billion pounds of hydrochloric acid, a caustic acid;
- 1.2 billion pounds of petroleum distillates, which can irritate the throat, lungs and eyes; cause dizziness and nausea; and can include toxic and cancer-causing agents; and
- 445 million pounds of methanol, which is suspected of causing birth defects.
- 239 billion gallons of water since 2005, an average of 3 million gallons per well. Water used in fracking becomes unsuitable for most uses other than fracking another well.

Farmers can be particularly impacted by the oil and gas industry's demand for freshwater, especially in drought-stricken regions of the country. In one water auction in Colorado in 2012, oil and gas companies paid up to \$3,300 for an acre-foot of water, as much as 100 times what farmers typically pay.

Fracking wells produced at least 14 billion gallons of wastewater in 2014. Wastewater production data is not available in some of the states with the most wells, including Texas and North Dakota, meaning that the total amount of fracking wastewater produced in the United States is higher than is estimated here.

Pennsylvania regulators have confirmed at least 260 instances of private well contamination from fracking operations since 2005, a number that is likely a severe underestimate. Data from fracking wells in Pennsylvania from 2010 to 2012 show a 6 to 7 percent rate of well failure due to compromised structural integrity.

Of the 685 peer-reviewed studies, commentaries, and reviews published on fracking<sup>xix</sup>:

- 84 percent of the studies on health impacts identified potential public health risks or actual observed poor public health outcomes;
- 69 percent of the studies on water quality showed potential, positive association, or actual incidence of water contamination associated with shale gas development;
- 87 percent of the studies on air quality indicated elevated levels of air pollutant emissions and/or increased atmospheric concentration.

#### **4. Fracking has a devastating impact on climate conditions and targets while undermining regional economic benefits from renewables and energy efficiency**

On a global scale, we have a very significant, but mainly ignored, problem with fugitive methane emissions from gas extraction in general and from shale gas in particular. There is a leakage rate of roughly 4 to 12 percent from the lifetime production of gas wells being emitted into the atmosphere<sup>xx</sup>. Since methane is at least eighty-six times more powerful as a greenhouse gas than CO<sup>2</sup> over a twenty-year period, opting for business as usual or even more fracking simply means that it won't be possible to reach the climate objectives and/or the objectives of the Paris Agreement and holding "the increase in the global average temperature to well below 2°C [...] and to pursue efforts to limit the temperature increase to 1.5°C"<sup>xxi</sup>. These crucial commitments do not leave much room to improvisation as there is little time before these thresholds are reached: We already reached the 1.1°C point in 2016<sup>xxii</sup> and the 1.5°C point will be reached in less than 10 years with current emissions<sup>xxiii</sup>.

For the UK to do its part in meeting the challenge of climate change, one of the most urgent tasks is to decarbonise the electricity supply. According to the Committee on Climate Change the UK needs to have decarbonised electricity to 50gCO<sup>2</sup>/kWh by 2030<sup>xxiv</sup>, from around 330 gCO<sup>2</sup>/kWh in 2015.

To achieve this, Friends of the Earth argue in its "Switching On: How Renewables Will Power the UK"<sup>xxv</sup> report that around 75% of UK's electricity should come from renewables by 2030, moving to a zero carbon system shortly after. Coal power should be gone by 2023, or by 2025 at the latest according to the UK government's recent consultation. Gas will need to reduce in prominence in the 2020s in order to decarbonise the grid by 2030.

This transition to a mostly renewable electricity system is not only achievable, it is underway. Renewables in the UK are growing at an astonishing rate – from 2010 to 2016 renewable electricity production increased from 7% to 25%. This is cleaning up the UK's electricity system, and creating new jobs and industries. Renewables are popular and the transition will be good for the UK and the planet – improving people's health and environment and boosting the economy. Allowing fracking projects like the one proposed in the current application represents a step backwards in the needed shift to renewables and our joint efforts to save the planet from catastrophic climate change.

The real community benefits lie, therefore, definitely with local energy produced by renewables and increased energy efficiency. New gas development will only lead to a further fossil lock-in which needs to be avoided at all costs.

#### **5. Ineos bad environmental record in the UK, Germany and USA**

On top of the existing risks and impacts related to fracking, Ineos itself has a very questionable and troubling history of environmental and public health transgressions and violations. Its past recklessness alone should give this Council significant pause in granting this application.

According to media reports, the oil and chemical plant run by INEOS at Grangemouth, Scotland has breached health and safety regulations 34 times in the last four years. It has been officially condemned as "poor" for pollution levels for three years in a row, while experiencing more than 20 staff injured since the start of 2015<sup>xxvi</sup>. The Scottish Environment Protection Agency (SEPA) has given the plant one of its lowest performance ratings because of nine incidents that caused pollution in 2016<sup>xxvii</sup>. In 2015 Ineos ChlorVinyls has been fined £166,650 over a toxic spill in the Manchester Ship Canal<sup>xxviii</sup>.

In Germany, Ineos has experienced several, including some very severe, incidents at their chemical plants in the country. These have included fires, explosions and contamination of water wells<sup>xxxix</sup>.

In the USA Ineos was fined \$6,335,427 for environmental, workplace safety, health, railroad safety or labor relations violations<sup>xxx</sup>.

Given the already existing negative impacts related to fracking and shale gas development, Ineos' very poor environmental and worker/public safety record throughout the world raises serious questions regarding the reliability of the company and raises the risk probability of, perhaps, irreversible damages for your region.

## 6. International Fracking alerts and bans

Fracking has become an internationally recognized threat to human and planetary health and safety. In 2012, the UN Environment Programme (UNEP) issued a "Global Alert" on fracking. In 2014, the Permanent Peoples' Tribunal began seeking testimony for a session on the many adverse Human Rights Impacts of Fracking<sup>xxxi</sup>. The Government of Victoria (Australia) has banned fracking in March 2017 in order to protect the 'clean, green' reputation of Victoria's agriculture sector<sup>xxxii</sup>.

The Republic of Ireland has recently banned fracking because the government was convinced that hydraulic fracturing or 'fracking' could not proceed in Ireland without having harmful effects on the environment and on human health<sup>xxxiii</sup>. The Scottish Government is also considering a fracking ban at the moment<sup>xxxiv</sup>. Even states in the United States, like New York<sup>xxxv</sup> and Maryland<sup>xxxvi</sup>, have issued bans on fracking in recognition of the devastating impacts the practice has on a number of fronts.

The potential social, community and health impacts of an unconventional oil and gas industry in the UK will be severe and irreversible. The impacts described above are inherently related to the fracking technique itself and the whole industrialisation process. Even strict regulation of fracking cannot prevent these impacts, especially absent constant monitoring; these harms are inherent. It is time to follow the well-reasoned decision of other countries and ban fracking!

We hope that the Rotherham Metropolitan Borough Council is taken our submission and arguments into consideration. Consequently, the application of Ineos to drill a vertical core well at Harthill needs to be rejected.

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