FOE/3/2

Town and Country Planning Act 1990

SUMMARY OF PROOF OF EVIDENCE

of

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Director of Medact

For a public inquiry into appeals by Cuadrilla Elswick Limited and Cuadrilla Bowland Limited concerning Exploration Works at:
1) Roseacre Wood: APP/Q2371/W/15/3134385; LCC/2014/0101
2) Preston New Road: APP/Q2371/W/15/3134386; LCC/2014/0096

On behalf of
Friends of the Earth

19 January 2016

1. Introduction

1.1 My name is David McCoy. I am a public health physician. Presently I am a senior clinical academic and Director of Global Health Taught Programmes at Queen Mary University London; and the Director of Medact, a London-based public health charity.

2. Brief Introduction to Assessing the Public Health Impacts of Fracking

2.1 High-volume hydraulic fracturing (HVHF) coupled with horizontal drilling to exploit unconventional natural gas embedded in shale formations is a new activity. Although growing, the scientific literature examining the health impacts of HVHF is relatively limited and comes mostly from the United States. There are few robust and long-standing 'exposure and health impact studies' of HVHF and a number of reasons why scientific understanding of HVHF is limited and constrained.

2.2 The impacts of HVHF on health are, however, considered to arise through multiple "pathways". In my evidence I describe the direct hazards; the intermediate hazards; hazards arising from climate change and positive impacts. I also address the correct approach to risk assessment.

3. Overview of My Evidence

3.1 I set out a number of aspects of the Appellant's approach to risk assessment and conclusions which deserve either some qualification or challenge, in particular the failure to consider public perception, the regulatory framework, and specific issues regarding noise, transport, waste, and the considerations of development at scale.

3.2 I then consider some of the specific areas of risk that are relevant to public health: noise, traffic and other nuisance effects; socio-economic effects; exposure to pollutants and hazardous material; and climate change. I also consider the Health Impact Assessment conducted for the Lancashire County Council's Director of Public Health, which found that members of local communities are already experiencing fear, anxiety and stress which is affecting their mental wellbeing, with some people experiencing sleep disturbance and depression.

3.3 An important recommendation made by the Director of Public Health is that there must be "robust baseline and long term monitoring of environmental and health conditions". He provides an "indicative framework" for long term monitoring, and a suggested list of data for collection and analysis, with which I agree.

4. Assessing Risk and Benefit Through a Comprehensive Public Health Lens

4.1 From the specific perspective of only shale gas exploration in two sites, my view is that while both projects *will* produce some health and environmental hazards, any negative direct impacts on human health will be concentrated in people living in the immediate surroundings of the two proposed sites and be most likely caused by the effects of noise and other nuisances. Depending on the extent to which noise and other nuisances are effectively mitigated or tolerated, the level of negative impact may range from being negligible to being significant.

4.2 In relation to other hazards (notably water and air borne pollutants), the levels of risk to human health posed by various potentially hazardous pollutants associated with shale gas *exploration* have been generally assessed to be low or negligible but only on the assumption of adherence to best practice guidance and stringent safety measures (properly enforced), and that facilities to adequately and safely store, transport, treat and dispose of wastewater, including flowback fluid, exist. Evidence produced by Alan Watson shows that this is unlikely to be the case. The toxic potential of flowback fluid is a notable health hazard of HVHF and this deficiency in the Appellant's assessment may mean that some risk to environmental and human health has been underestimated.

4.3 Turning to shale gas development conducted on an industrial scale, there is evidence of more widespread stress, anxiety and illness due to fears over the prospect of commercial shale gas production taking place at scale.

4.4 The serious and potentially catastrophic threats posed by climate change are such that any activity to further the extraction and production of fossil fuels should be

assessed in terms of greenhouse gas emissions. Shale gas exploitation also poses an indirect and more long term threat to health by virtue of hindering international efforts to limit global warming to a rise of less than 2^{oC}.

4.5 There are already observed negative impacts of climate change on health. Although future health impacts are hard to predict with precision, all plausible futures resulting from realistic anticipated emissions trajectories will expose the global population to worsening health consequences.

4.6 Even if there is a strong likelihood of significant environmental pollution and negative social and health effects, this would need to be weighed up against the potential benefits of shale gas exploitation, at both a local and national level. At a local level, these have been described as including the creation of new jobs, although these are limited and unskilled. A comprehensive economic impact assessment should also examine who exactly will benefit from any economic benefits and new jobs; the costs associated with shale gas development and the impact on other economic sectors; and the effects of economic decline when shale gas comes to an end.

4.7 The risks associated with climate change when coupled with the additional risk that shale gas exploitation could delay or hinder our transition to clean and renewable energy, and when combined with the generation of various health-related hazards and risks and a potentially inadequate regulatory system, point to the need to avoid or prevent shale gas exploration.