

Dear Sir / Madam,

**Re: Application no. ES/3379 By Island Gas Limited to develop a hydrocarbon wellsite and drill up to two exploratory hydrocarbon wells at land off Springs Road, Misson**

Medact is a registered public health charity based in London. It has over one thousand members who are health professionals concerned with the social, economic and ecological determinants of health. Many are public health specialists and general practitioners.

Last year Medact produced a report on unconventional shale gas production (USGP) and health in the UK, taking into account the published evidence about the safety of fracking, the threat of continued global warming to population health and the potential economic and social impacts of fracking which have indirect effects on health. We are currently producing an updated report, taking into account more than a hundred new academic publications on the issue.

I am writing to express our view that it would not be in the interest of either the local or wider UK population for Nottinghamshire County Council to grant permission to Island Gas Limited to conduct exploratory fracking.

The reasons for this are as follows:

Unconventional shale gas production is an inherently risky activity. A growing body of empirical data shows that fracking can lead to human, animal and environmental harm through a variety of pathways, including ground and surface water contamination, air pollution, the disruptive effects of industrial activity, and waste transportation.

The precise level of risk to human, animal or environmental health cannot be known for certain. While some of the local risks associated with the current proposal to drill 1 vertical and 1 horizontal well may be relatively small and can be mitigated, the company have applied for the current license as part of a wider intention to commercially exploit shale gas at scale across large parts of the country. Any assessment of this application should therefore include an assessment of the potential social, health, environmental and economic impacts of fracking at scale, and not just in terms of a single exploratory well.

Medact are concerned that granting an initial three year license for exploratory drilling will increase the likelihood that a license to produce shale gas will subsequently be granted. This comes at a time when evidence of the associated risks to health is mounting and the necessity of USGP to meet UK energy needs is being called into question.

There are a number of pathways by which unconventional shale gas production might impact negatively on health:

- a. exposure to various hazardous materials including emissions of air pollutants; chemicals and proppants used in hydraulic fracturing fluid; and the waste products of drilling and shale gas extraction, including flowback fluid.
- b. exposure to so-called 'nuisances' such as noise, light pollution, odour and traffic congestion.
- c. social and economic effects produced by USGP that may have an adverse impact on health and social wellbeing.

- d. The effects of global warming and climate change caused by the release of methane directly into the atmosphere and CO<sub>2</sub> emissions resulting from the combustion of gas.

Some effects may be experienced immediately, whilst others (such as cancers caused by exposure to carcinogenic toxins) may take many years. When it comes to concerns about the potential for exposure to environmental toxins, negative health effects will also arise from perceptions of risk which can result in anxiety and fear which can harm mental, physical and emotional wellbeing.

Most importantly, USGP is associated with an inevitable amount of 'fugitive gas' emissions due to emissions from the ground as well as leaks from wells and equipment used to store, process and transport gas. The scale of leakage is such that shale gas production and consumption may in some instances be as "dirty" a source of energy as is coal. This undercuts one of the primary rationales for fracking.

We also believe that the regulatory framework, systems and capacity currently available to minimise any risk are inadequate. Last year the Chartered Institute of Environmental Health (CIEH)<sup>1</sup> concluded that a "combination of weak regulation, diminishing resources within regulatory bodies, inexperience of industry and regulators, lack of an appropriate monitoring framework, poor industry compliance and potential conflicts of interests within the planning regime is very disquieting". Among the deficiencies is an over-reliance on self-reporting by the industry and the lack of funding available to conduct independent, regular and direct inspections of shale gas operations.

Furthermore, there is a lack of clarity about how the enormous amounts of wastewater that will be produced by USGP will be treated and disposed of safely and economically.

While there has been much concern about the negative health impacts of USGP, we also note the importance of potentially negative social and economic impacts. To our mind, the case that USGP will produce net social and economic benefits to local communities and the UK as a whole has not been made. The cost of adequate regulation, monitoring and public safety measures, as well as the costs associated with the impact of USGP on environmental capital, housing prices, peace, quiet and mental health have not been adequately considered. In addition, the negative social, economic and health effects of climate change have not been assessed either. Finally, while fracking will produce some local employment opportunities, experience from elsewhere suggests that such opportunities are short-lived, limited and in some cases, hazardous.

We do not negate the importance of energy to our economic and social systems; nor do we ignore the fact that energy is vital for the maintenance of good health. However, in our opinion, the solution to both climate change and the need for a secure supply of energy is to be found elsewhere.

Currently there is insufficient evidence to deem USGP as a safe industry. When coupled with knowledge of an inadequate regulatory system, we urge Nottinghamshire County Council to adopt the 'precautionary principle' and reject Island Gas Limited's applications for exploratory fracking until such time as that safety and socio-economic benefits can be proven.

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<sup>1</sup> Chartered Institute of Environmental Health and Scientists for Global Responsibility "Shale gas and fracking: examining the evidence" <http://www.cieh.org/WorkArea/showcontent.aspx?id=53520>