

Fracking

Introduction

This is going to be a simple and concise paper; details of complexities would be frustrating and serve little purpose. Here I simply want to point out the basics of the operation and highlight the very serious dangers, which our government refuses to acknowledge or talk about. Literally, people's lives are at risk for virtually no overall benefit.

What is fracking?

Fracking is a slang term used to denote unconventional coal seam oil and gas extraction by a method called hydraulic fracture. In simple terms it employs a drill to create a hole in a seam of rock through which water and chemicals are pumped at high pressure to fracture rocks and force up gas and shale oil.

It has been employed in America, Canada and Australia to devastating effect and it is currently in the process of starting on an industrial scale in Britain in several areas. A test drill in Lancashire some years ago caused an earthquake.

The crazy thing is that the numbers do not stack up. It costs more to extract the product than the returns on selling it when oil prices are down. Cuadrilla, supported by British Gas, in the UK is already ten million pounds in debt.

Despite the stories from abroad of poisoned water tables, massive increases in cancer and other illnesses and problems with polluting waste disposal, the British government is pushing ahead despite widespread local opposition. The policy is literally insane.

Fact file of the unconventional gas and oil industry

Types of unconventional gas and oil industry

- Shale gas.
- Coal Bed methane.
- Underground Coal Gasification (which involves setting fire to underground coal seams).

Shale gas

Shale gas is methane (natural gas) which is trapped in shale rock deep underground. Conventional natural gas is trapped in permeable rocks such as sandstone but methane cannot flow through shale. The rock must be cracked to free the gas by hydraulic fracture (fracking). This requires many wells at regular intervals, thousands more to equate to conventional gas well production.

Fracking

This requires massive slickwater hydraulic fracturing in every well (of which there must be hundreds to be profitable). Millions of gallons of water, sand and chemicals are injected under high pressure into the rock.

Lifespan of wells

Is very short. A typical well will decline by 70% in the first year alone. Thus more new wells need to be drilled.

Stages of the fracking process

- Licensing.
- Surveying: i.e. seismic surveys, including explosive charges and much disruption.
- Land acquisition.
- Pre-planning: public relations exercise to mollify local people. Environmental impact assessment.
- Planning application.
- Post-planning: site construction, applications for environmental permits, schedule drilling.
- Drilling: mobilise site (thousands of vehicles), drill for core samples, fracture process, flow tests etc.
- Production: drill thousands of wells in the licence area, build hundreds of sites and access roads, gas processing, waste removal, etc.

Repercussions

Industrialisation

Massive disruption to local areas. This includes thousands of lorries going back and forth, taking supplies in and bringing waste materials out. Inaccessible wells require special roads to be built, again causing much local disruption.

Hundreds of workers will need to be involved in drilling multiple wells, which will cause much local social disruption and increase local traffic congestion.

Massive increase in diesel fumes and vehicle exhaust pollution. Plus an increase in industrial noise levels; often in sensitive rural areas.

Obliteration of the licence area which will turn agricultural fields or woodland into a huge industrial site.

Environmental problems

The intensity of the production methods means that there are many more problems than associated with conventional drilling. These include:

- Leaking methane.
- Water contamination.
- Air pollution.
- Radioactive contamination.
- Massive industrialisation and ruination of the landscape.
- Earthquakes.
- Medical problems to local residents.

Contamination of groundwater has been a significant problem already in fracking sites in America, Canada and Australia. More than one major urban area now has water that is undrinkable (e.g Flint, Michigan).

The waste of water in this process is also causing problems. In Colorado farmers are losing access to water.

The waste products are a serious problem. Toxic and radioactive waste has to be disposed of somewhere.

Earthquakes are a regular result of fracking. This has sometimes happened when companies have injected toxic waste into the ground.

Air pollution resulting from fracking causes vastly increased ozone levels, plus many carcinogens such as hydrocarbon vapours. Contaminants and pollutants not only affect local residents but can travel hundreds of miles on the wind.

Many people ignore this believing that they are too far away to be affected. This is a false hope. While local residents will be the worst affected, depending on wind currents, people many miles away can suffer serious effects. For example, the proposed fracking site near Dorking could easily affect people in Greater London, Guildford and Horsham as well as the Surrey stockbroker belt.

The measurable dangers of fracking

It is pointless arguing about the pros and cons of fracking from a theoretical viewpoint. Such debates can go back and forth and shed very little light; that is if you can verify stated supposed facts, which often prove to be lies. What is important is to evaluate an actual, historic fracking exercise and investigate what the results are. Only this is of any real value. Fortunately we have a good opportunity to this from an example in Queensland Australia.

In essence, the data shows that fracking directly affected a rise in hospitalisation rates; it caused massive illness and suffering to local people.

Darling Downs

Increased human suffering

Between 2007 and 2014 there was a significant increase in hospitalisations, which is the same period as the years when the coal seam gas industry was increasing its activity in Darling Downs.

- Acute respiratory conditions more than doubled from 1257 to over 3000.
- Acute hospital admissions for circulatory problems more than doubled from, 2198 to over 5000.

The modest rise in population (9.46%) does not explain these rises.

Harmful pollutants

The gas industry's **own data**, reported by them to National Pollutant Inventory shows escalation in emission of air toxins (pollutants and particulates) known to cause harm to health.

- *Particulates* (which cause cardio-vascular problems and death, plus childhood respiratory diseases) was up 6,000% to 1926 tons.
- *Oxides of nitrogen* emissions (which irritate eyes, throat and lungs, and hospitalise asthma sufferers) rose nearly 500% to over 10,000 tons.
- *Emissions of formaldehyde* (a sensory irritant and carcinogen) rose from 12 kilograms to over 160 tons.
- There were also similar rises in carbon monoxide, volatile organic compounds, and sulphur dioxide; all of which harm humans.

Darling Downs residents were forced to breathe this toxic soup of harmful toxins with no warning or escape.

Other problems included:

- Permitting a quarry for silica, which causes lung cancer, in the middle of a rural residential estate with no requirement for air quality monitoring.
- The government permitted the disposal of untreated coal seam gas flowback on rural roads.
- The disposal of coal seam gas drilling fluids and human waste on to agricultural land.
- Permission for a toxic waste landfill to bury millions of tons of contaminated salt and unidentified sludge within 50 metres of a tributary of the Murray-Darling river system.

This is sheer insanity.

Monitoring failed

Proper evaluation of the environmental affects of the gas industry in Queensland, that was supposed to have been done, was not done. The Australian Medical Association warned about the dangers and called for coal seam gas health checks and stated that necessary regulations were not in place.¹

Like many previous advances in technology that involve money, there had been no proper scientific investigations of the dangers to the public about the impact of this industry before the work began (cf. GMOs).

In 2013 Dr Geralyn McCarron demanded proper human health studies into the impact of this industry after interviewing patients that had become ill and attributed it to this industry. 58% of the people she surveyed reported health impacts of many types.

The government eventually responded to this pressure with a completely inadequate report, which relied on industry commissioned data. Only 15 people were seen by the specialist who was only an occupational health doctor; no input from a wide range of other specialists that were treating the symptoms of local residents. However, Queensland Health (the territorial authority) required full data from the industry on toxic emissions and the impact on health.

Five years later that data is still not available. This data flow was blocked by the regulator, the Dept. of Environment and Heritage Protection (Queensland Government). This is very serious; people are considered as expendable for an industry of disputed worth.

When there has been infrequent ad hoc testing, residents noted that the industrial activity was turned off (no flaring) to give false figures.

Residents that raised concerns with the Australian government complain that they have been ignored and treated with contempt. Residents did their own monitoring and noted raised levels of gas and particulates around their homes and raised radiation levels where produce water had been dumped. Urine tests showed high levels of dangerous chemicals; nothing was done. Debris from the industry routinely fell from the sky on to cars, which stripped off the paint, and home roofs, which had collection traps for drinking water. Water tanks that were tested showed the presence of acid rain caused by air pollution plus heavy metals. An independent scientist showed that residential water tanks showed high

¹ AMA President Dr Steve Hambleton, 'AMA calls for coal seam gas health checks', 23 May 2013.

levels of radioactive substances. Studies have also shown that a variety of cancers in the residents of coal seam gas fields are present at far higher rates than anywhere else.

Despite all this, the government did nothing. Make no mistake; governments do not care about people.

In fact, Queensland Government issued licences to the coal seam gas industries contrary to the requirements of the *Environmental Protection Act 1984*. It has also failed in its duty of care for people under the *Universal Declaration of Human Rights*, which Australia has signed.

Source

The source of this medical evaluation is Dr Geryllyn McCarron, a GP in Brisbane. She has medical degrees from the Queen's University of Belfast. She is a Fellow of the Royal Australian College of GPs, a member of the National Toxics Network and a member of Doctors for the Environment of Australia. She has spent over five years studying the gasfields of Australia. See YouTube: Dr Geryllyn McCarron, 'The impact of unconventional coal seam gas'.

Some sites in the UK

Wood Barn Farm (South East Weald)

- Site: Adversane Lane, West Chiltington, Billingshurst, West Sussex, RH14 9EB.
- Type: Shale.
- Licensee: UK Oil and Gas Investments (UKOG).
- Status: Drilling rig on site and operational.

Portside One

- Site: Portside North, Ellesmere Port, Cheshire, CH65 1BW.
- Type: Shale.
- Licensee: Gas Energy.
- Status: Exploration.

Plot 11, Ince Resource Recovery Park

- Site: Grinsome Road, Elton Cheshire, CH2 4LP.
- Type: Shale.
- Licensee: Gas Energy.
- Status: Exploration. [Drilling of the original coalbed for methane November 2011-January 2012.]

Lower Stumble Hydrocarbon Exploration Site (South East Weald)

- Site: London Road, Balcombe, Haywards Heath, West Sussex, RH17 6JH.
- Type: Shale.
- Licensee: Cuadrilla Resources.
- Status: Flow testing. Was drilled in 2013. Application to flow test and flare. Powerful local lobbying and protests.

Roseacre Wood

- Site: Roseacre Wood, Preston Lancashire, PR4.
- Type: shale.
- Licensee: Cuadrilla Resources.
- Status: no activity; new public enquiry for appraisal stage. Initial fracking plans were refused by Lancashire County Council in 2016.

Horse Hill (South East Weald)

- Site: 5 Horse Hill, Horley, Surrey, RH6 OHN.
- Type Shale:
- Licensee: Horse Hill Developments.
- Status: exploration.

Brockham

- Site: Brockham, Betchworth, RH3 7AU.
- Type: shale.
- Licensee: Angus Energy.
- Status: production.

Bramley Moor

- Site: Bramley Moor Lane, Sheffield, S21.
- Type: Shale.
- Licensee: Ineos Upstream (subsidiary of INEOS chemical company).
- Status: exploration.

Common Road, Harthill

- Site: Common Road, Harthill, Sheffield, S26.
- Type: shale.
- Licensee: Ineos Upstream.
- Status: exploration.

Preston New Road

- Site: Preston New Road, Preston, Lancashire, PR4 3PF.
- Type: shale.
- Licensee: Cuadrilla Resources.
- Status: drilling underway; preparing for production. Fracking was refused by Lancashire County Council but approved by the Secretary of State on appeal. Residents have lodged a legal challenge.

East Midlands

- Site: Killamarsh, East Midlands.
- Licensee: Ineos Upstream
- Status: seismic survey.

Kirby Misperton

- Site: Kirby Misperton Road, Malton, North Yorkshire, YO17 6UR.
- Type: Shale.
- Licensee: Third Energy.
- Status: appraisal.

Lidsey, West Sussex

- Site: Barnham, Bognor Regis, PO22 8NS.
- Type: shale.
- Licensee: Angus Energy.
- Status: exploration.

Misson Springs

- Site: Springs Road, Doncaster, Nottinghamshire, DN10 6ET.
- Type: shale.
- Licensee: Gas Energy.
- Status: exploration.

Tinker Lane

- Site: Retford, Nottinghamshire, DN22.
- Type: shale.
- Licensee: Gas Energy.
- Status: exploration.

Leith Hill (Bury Hill Wood)

- Site: Coldharbour Lane, Dorking, Surrey, RH5 6HB.
- Type: shale.
- Licensee: Europa Oil & Gas.
- Status: exploration.

There are many more planning applications in place as well as numerous existing environmental permits and drilling sites. Possible drilling wells in the Sussex Weald alone could number in the thousands.² Seismic surveys have been taking place in Nottinghamshire, South Yorkshire, Derbyshire and Rotherham.

Documents published by INEOS reveal plans to drill ten wells per square mile, or 396 wells per licence block. This is higher than the US average of eight wells per square mile.

Conclusion

McCarron's studies only substantiate the papers written by specialists all around the world regarding the dangers of fracking. There have been multiple warnings of the adverse effects of this on people, the environment, the local ecology and the water table, let alone the increased danger of earthquakes. The American, Canadian, British and Australian

² UKOG data, based upon the Horse Hill samples, would require over 3,000 wells.

governments seem hell bent on an ecological disaster. Such psychosis is hard to explain – unless the leaders are psychotic.

The irony in all this is that this industry is broke; it is not economically viable. The production costs of extraction of gas and shale oil far exceeds the sale of produce at current sales costs (which is why they illegally cut corners).

People need to be aware of the facts regarding unconventional coal seam gas/oil extraction because it is coming to a site near you. As well as multiple fracking sites in the north and Northamptonshire, there are plans to start fracking on the South Downs and an old wood near Dorking as well as multiple sites in the Weald. Your drinking water source could be the next victim. There are already large towns in America where the drinking water is now polluted and unsafe.

What's wrong with Fracking? It rapes the environment and kills people nearby.

For up to date information on the current state of fracking sites in the UK see YouTube video updates by Ian R Crane, an activist constantly campaigning at the sites of current fracking enterprises.

I acknowledge a debt for some information from *Frack Off: Extreme energy action network*.

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