But what about...?

Jobs: Unconventional gas developments will not create jobs for local people, they will be for transient professionals in the drilling industry. Developments abroad have in fact shown these industries to be job negative, by affecting tourism, agriculture and other sectors. They will not create long-term, sustainable local employment.

Any tax or economic contributions are unlikely to cover the true cost of environmental impact, harm to tourism or agriculture and other consequences of drilling. The Hot Springs in Bath for example contribute £92 million to the local economy each year and are at risk of drilling operations in North Somerset.

Regulation: There is currently no regulation in the UK specific to the extraction of unconventional gas. The ability of the Environment Agency and the Health & Safety Executive to monitor safety when both are subjected to budget restrictions and staff cutbacks is also questionable. Ultimately, no regulations in the UK can ensure the safety of these operations that operate on landscape and hydrogeological scales with industry-proven inability to maintain well integrity.

Cheap Gas : Fracking is an expensive way to produce gas. It requires high energy prices to make it viable. Therefore expanding fracking will not cause prices to fall significantly. Gas fracking involves taking energy from a cheaper/ low-value source of energy - electricity generated from coal and diesel fuel - and creating a higher value energy source - natural gas. It does nothing to improve the efficiency and sustainability of our energy systems.

Energy security: Shale gas gives a false sense of energy security. Shale gas is not a 'solution' to our energy problems. It is a means for the oil and gas industry to generate new income streams as hydro-carbon depletion cuts their conventional business activities.

It is not a sustainable energy solution: At best its a stop gap measure, for 2-3 decades, before global energy shortages precipitate a far greater crisis; at worst it will not address problems of energy supply and prices in the UK, it will contaminate land and exacerbate pollution.

We can not be distracted by what is really needed: Reducing energy consumption, and developing an infrastructure for local, community-owned renewable alternatives and safe energy options, not only for Somerset, but the whole of the UK.

How can I stop this harming my community?

Organise - with your community to raise awareness about the risks, start a local group, organise a film showing or public meeting, lobby your local council to declare your parish or ward to be Frack Free. Support this entirely grassroots community-led campaign by joining the coalition, fundraising or volunteering. We can support you with any resources you need.

Object - to any planning applications submitted by companies wishing to develop these industries in Somerset. Sign up to our newsletter online for the latest action alerts of when applications are submitted. Even if it is not in your village or district, every objection counts and solidarity is needed across the county and country.

Frack Free Somerset is a coalition of concerned groups in Somerset who are taking action on hydraulic fracking & unconventional gas developments.

We are in favour of clean, safe energy choices and object to the pollution and health damaging threats from unconventional gas developments. We want clean air, soil and water for human and nonhuman communities across Somerset. Having evaluated the evidence and risks, we believe the threat unconventional developments pose is unacceptable and are taking action.

Email: info@frackfreesomerset.org Tel: 07999564085

FRACK FREE SOMERSET
CLEAN WATER FOR ALL

FRACKING IN SOMERSET

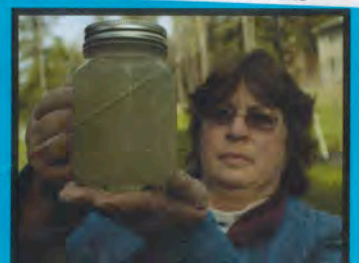
WARNING:

THIS AREA COULD BE AT RISK FROM HYDRAULIC FRACTURING (FRACKING), COAL BED METHANE EXTRACTION & UNCONVENTIONAL GAS DEVELOPMENTS

Drilling slurry: a toxic mixture of lubricants, radioactive minerals & other chemicals

A worker samples water from a well at a coal bed methane drill site

There could be 2,100 wells across Somerset if



Overview

If you are reading this leaflet it may mean that you live in an area covered by a Petroleum Exploration and Development License (PEDL) sold by the Government to companies wishing to drill for unconventional gas. In Australia and America, where communities are experiencing the health, economic and environmental impacts of these new drilling methods, people are now organising against unconventional gas developments in their communities.

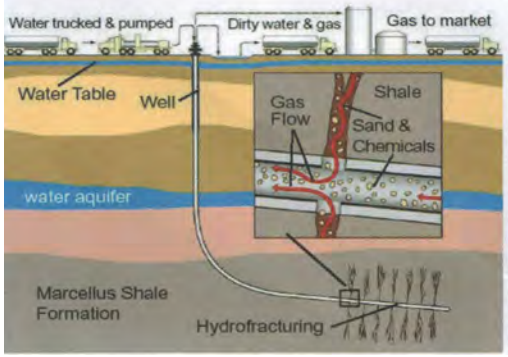
In Somerset four licenses have been granted which puts these areas at risk. In order to frack, companies also need land to be leased by public or private landowners, and under current legislation planning permission needs to have been awarded by the local council. The coalition government's energy bill proposes abolishing the requirement for this planning permission.

This leaflet introduces the technology and risks involved while debunking common myths about unconventional gas developments. For more information, scientific resources and the latest news on local developments, please visit: **www.frackfreesomerset.org**

What is fracking?

Hydraulic fracturing (fracking) is a technique used to extract gas trapped in certain types of rock. In particular the widespread use of fracking is being driven by the expansion in shale gas extraction.

Shale gas is natural gas that is trapped in impermeable shale rock, as opposed to more conventional natural gas deposits that are trapped below a layer of impermeable rock. Therefore simply drilling down to it is not enough and the rock must also be fractured in order to allow the gas to escape.



How does hydraulic fracturing work?
Hydraulic fracturing uses pressurised fluid to free trapped gas. Wells are drilled and the fracking fluid injected into them under high pressure to crack the rock. The toxic fracking fluid consists of water, sand and a massive amount of chemicals. Millions of gallons of water (and hundreds of tons of chemicals) are used to frack a well. The process has the potential to contaminate the land and water supply for generations.

What is Coal Bed Methane (CBM)?
CBM, sometimes called Coal Seam Gas is methane gas trapped in coal seams underground. To extract the gas, the basic method is to drill into the coal seam. Then, if the seam is permeable enough, pumping water out of the seam will be enough to start gas flowing from the well. If not, it is often also necessary to frack the seam to extract the gas.

The process uses huge amounts of water and water contamination is one of the largest concerns, both from the 'produced water' in the process but also from leaking wells. As coal seams are much closer to the surface methane contamination increases in likelihood. **With the necessity of thousands of wells to ensure continuing production, the cumulative potential risks and impact of unconventional gas operations is undeniable.**

Why should I be concerned?

***Water pollution** including contamination of water sources with radiation, toxic chemicals and methane. 20-40% of the contaminated, hazardous and potentially radioactive water flows back to the surface and then needs to be disposed of. Slurry or drill mud is allowed to settle in lagoons on-site before being sent to local landfill sites and discharged water may still contain a range of pollutants that are harmful to the aquatic environment. In the event of heavy rain, storm-water run-off and flooding, untreated contaminants may also enter local water courses.

The remaining 60-80% of the contaminated fluids may remain underground and the only thing defending our aquifer from contamination is the integrity of the wells. Industry research states all wells leak and degrade over time.

***Chemical pollution** from over 500 toxic chemicals used in the process, including Benzene, Toluene, Phenol & Formaldahyde, several of which are carginogenic. Migration pathways can bring pollutants to the surface and its never possible to eliminate all risks from the operations involved. In 2011 a study by Duke University correlated gas in water in areas close to fracking sites and the US Environmental Protection Agency has also linked fracking to drinking water contamination.

***Air pollution** - Leaking wells and condensate tanks exacerbate local air pollution. Operations and processing also cause light and noise pollution - usually 24 hours a day.

***Health impacts** - Air pollution from wells producing condensate are having major recorded adverse health impacts. A study by the Center for Disease Control & Prevention in the US has shown counties over the Barnet Shale, that have been extensively fracked, are one of the only locations where breast cancer rates have been steeply rising against a wider national fall. Health impacts such as headaches, nausea, and breathing difficulties have all been recorded. There are also risks of contamination to human and animal health in our food chains.

***Industrialisation of the countryside** - Figures boasted by the company UK Methane, intending to drill in Somerset, would necessitate the drilling of over 2000 wells. Pipelines, access roads, and the construction of 'frack pads' are all necessary. It takes over 2-4,000 large truck movements to frack one well. These developments would lead to the industrialisation of our countryside.

***Earthquakes** - Fracking has also been associated with earthquakes, most notoriously in the UK in Lancashire. It can also cause subsidence.

***Climate change** - Fracking worsens climate change and extinguishes any opportunities to reduce greenhouse gas emissions on a county or national level.


Toxic lagoon of drilling slurry


Significant air pollution risks


Water pollution risks


Methane contamination


Major increase in traffic


Fracking requires industrial drilling infrastructure