

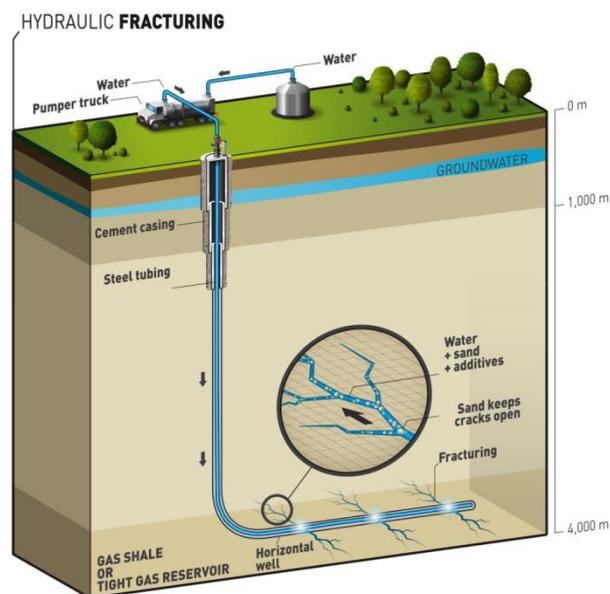
HOW WOULD FRACKING AFFECT YOUR LAND?

Over the next few months, farmers and landowners in Ryedale might be approached by representatives of energy companies, such as Third Energy or Moorland Energy, asking for permission to come onto your land and establish fracking well-sites. On the face of it, this might appear to be an extremely attractive financial proposition, as energy companies are offering sizeable amounts of money to access private land so they can drill down to the Bowland shale rock that lies below Ryedale's beautiful and fertile fields.

But don't be fooled – once you allow them access to your land, life will never be the same again.

WHAT IS FRACKING?

- Fracking is short for 'hydraulic fracturing', which is a drilling process designed to release gas or oil from layers of rock that lie thousands of feet underground.
- In Yorkshire and Lancashire, fracking companies are very interested in a layer gas-bearing rock called Bowland Shale, which lies about 9,000 ft below the surface.
- Firstly, a well is drilled vertically to the desired depth, then turns ninety degrees and continues horizontally for up to two miles into the shale rock, which contains the trapped methane gas.
- A mixture of water, sand, and a cocktail of toxic chemicals is then pumped into the well at very high pressure in order to create cracks in the shale, allowing the gas to escape.
- The gas is then drawn back up the well to the surface, where it is processed and shipped to market.
- Large quantities of contaminated waste water also return to the surface after fracking is completed.



HOW WOULD FRACKING AFFECT YOU?

- **Your most important asset – your land – could be at risk of permanent damage from chemical or saline spills.** If contamination should take place, your land will be worthless, and so will all the food that you work so hard to produce.
- **You and your family may be subjected to fumes and dust that could affect your health.** Toxic substances released from gas wells can affect the endocrine, respiratory, immune and nervous systems. Many of these are carcinogenic and can also affect your livestock.
- **You will have to put up with constant noise and light pollution.** Fracking wells work 24/7 and are flood-lit at night, while more than 1,000 truck movements are needed to service a single well.
- **Your water supply would be at risk of contamination.** Many fracking wells fail over time, leaking contaminated water into the aquifers – layers of underground water-bearing rock – that provide clean water for your family, livestock and crops (see over).
- **Your crops may fail due to air and soil pollution.** Fracking creates increased ozone levels in the air, stunting crop growth (see over).
- **The health of your animals might be at risk.** There is growing evidence of links between fracking and animal diseases (see over).
- **It may be hard to sell your produce.** Customers may be reluctant to buy your food if they know that it comes from a fracking area.
- **The value of your property may fall.** Property prices in other parts of the UK where fracking is planned have fallen by up to 70%.
- **You may not get compensation if something goes wrong.** The Country Landowners Association (CLA) says that "there seems to be little protection for landowners should problems occur."

YOUR LAND IS YOUR LIVELIHOOD

If you do allow fracking on your land, your family's lifestyle will be adversely affected for decades. The experience of the majority of landowners who have dealt with shale gas companies has been overwhelmingly negative, and greatly outweighs any one-off financial payments that they received.

Visit www.frackfreeryedale.org for first-hand accounts of the impacts of fracking from farmers and landowners in other countries, as well as key news reports about the effect of fracking on farming communities from around the world.



FRACKING IS BAD FOR WATER

- Each fracking well requires between **two and five million gallons** of locally sourced fresh water.
- Fracking wells also produce **millions of gallons of waste water**, which needs to be disposed of.
- The waste water is either taken away to be treated, resulting in **dozens of HGV journeys** each day, or it is re-injected back into underground layers of rock.
- This water is contaminated by **toxic chemicals** used in the fracking process and **additional contaminants** from deep within the ground, such as radioactive elements, carcinogens and heavy metals.
- If any of this contaminated waste water spills onto the land, it will become **infertile**. Fracking companies are not legally obliged to reveal which chemicals they are using in the fracking process.
- A recent **official US report** on the fracking industry (July 2014) identified at least **59 chemicals** in the waste water or the air that are **dangerous to human health or the environment**, including arsenic, benzene, lead and radioactive materials. Many of these are known **carcinogens** and can affect your **livestock** too.
- In Ryedale we rely on **aquifers** (underground layers of water-bearing rock) for our **clean drinking water**. If any of the waste water escapes or migrates into these aquifers, it will **contaminate the local water supply**.
- Another danger to our water is **well failure**, which occurs when the concrete well-casing cracks or ruptures. In the USA, 5% of wells fail in their first year of operation, 25% will leak within five years, and 50% leak within fifteen years. Eventually all wells fail, allowing contaminated water to escape into the water supply.
- Every fracking well in Ryedale would need to drill through an aquifer before it reaches the Bowland Shale.
- A recent report by state regulators in Pennsylvania, USA, listed **243** cases of contaminated drinking water in the last **six years** that were caused by companies fracking for oil or gas. Do we want the same thing to happen here?

FARMING IN A FRACKING GAS-FIELD



FRACKING IS BAD FOR ANIMALS



Professor Robert Oswald, an expert on molecular medicine at Cornell University and the co-author of the first study into links between fracking and sickness in farm animals, said that his findings of deaths and deformities in American livestock are **so alarming that Britain should halt growth of the practice while further research is conducted**. He compiled a list of 24 incidents across six US states where livestock on farms adjacent to drilling sites died or suffered illness, including reproductive and neurological problems, following exposure to fracking chemicals.

In his opinion, fracking for gas and oil in the British countryside poses such a significant risk to livestock that a moratorium should be imposed on the industry until its impact on food safety can be assessed. (Independent on Sunday 17/09/13)

FRACKING IS BAD FOR CROPS

As well as the danger from waste water spills and leaks, the emissions from drilling pads, truck traffic, compressors and other equipment related to the drilling process can give rise to "gas field haze", which contains very high levels of ozone. This results in weaker, stunted plants, inferior crop quality and **greatly decreased yields of up to 30%**.

The **National Farmers' Union (NFU)** are concerned that "the DECC has not identified the need for monitoring of the impact on agriculture, and long-term responsibilities (for compensation, restoration and aftercare of sites) may be reassigned, **possibly defaulting to the landowner.**"

The **CLA** say that the recent consultation on fracking was "**focused solely on the needs of the shale industry** and fails to provide a balanced approach to the provision of access. It is **appalling** that these fundamental issues are seemingly not being addressed."

The overall impact of the **oil and gas boom**

"is like a death sentence for soil,"
said Eugene Kelly, chief of soil and crop science at Colorado State University.

- The Denver Post
- 5/4/14

