

Fracking

Speleological Union of Ireland: Fracking Statement:

"Hydraulic fracturing is a technique for recovering gas from relatively impermeable rocks such as shale. It involves pumping water containing sand and chemicals into boreholes at high pressure causing them to fracture and so increase their permeability. SUI is concerned that if hydraulic fracturing is carried out near karst areas it will impact groundwater, hydrology and cave environments. SUI will therefore use the planning process to object to any proposed drilling that may detrimentally impact sites of speleological interest within Ireland if needed."

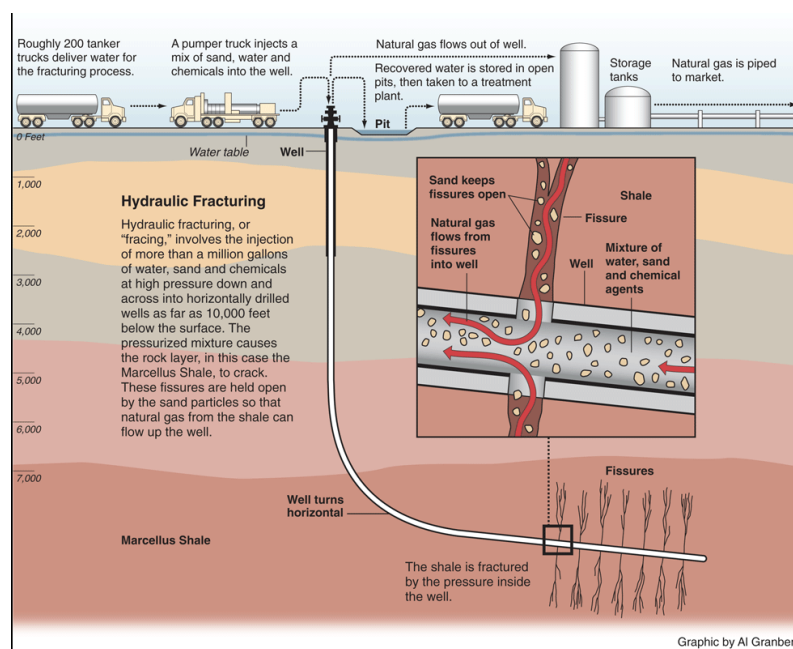
Explanation of Term

Hydraulic fracturing, often called fracking, fracing or hydrofracking, is the process of initiating and subsequently propagating a fracture in a rock layer, employing the pressure of a fluid as the source of energy. The fracturing is done from a wellbore drilled into reservoir rock formations, in order to increase the extraction rates and ultimate recovery of oil and natural gas and coal seam gas.

Man-made fluid-driven fractures are formed at depth in a borehole and extend into targeted formations. The fracture width is typically maintained after the injection by introducing a "proppant" into the injected fluid. Proppant is a material, such as grains of sand, ceramic, or other particulates, that prevent the fractures from closing when the injection is stopped.

Shale gas became commercial in the early years of the millennium and its share of the natural-gas market in the US is expected to increase from 5 per cent to 45 per cent within 20 years. The production of shale gas has been endorsed by President Obama and was the subject earlier this year of a *Time* magazine cover with the provocative heading: "This rock could power the world."

The first gas well in the area was drilled 50 years ago and the most recent in 2002. The gas there was deemed uncommercial until now, but fracking has transformed its prospects.



Use in America

- Shale gas makes up about 14 percent of the US natural gas supply today but is expected to reach 45 percent by 2035, the [US Energy Information Administration](#) says.
- More than half of US states have some amount of fracking under way.
- The New York state assembly has banned fracking despite considerable pressure from the gas industry
- Little regulation over fracking
- Republicans passed the 2005 changes to the Clean Air and Safe Drinking Water Acts which greatly reduced the Federal EPA from investigating and regulating the contamination and pollution created by the Oil & Gas industry. Reducing the effectiveness was in exchange for economic support.

Use in Europe

- Fracking is set to be adopted widely throughout Europe
- The French assembly has recommended a fracking ban. This could possibly be due to the fact that the only reserves are in the Paris basin and little potential elsewhere. Also, France produces almost 80% of its electricity from nuclear power and so is not reliant on fossil fuels
- British parliamentary committee has supported it and they have moderate potential
- Poland reserves are potentially so substantial that they could become a huge supplier of gas in Europe. The government are investing millions of Euro into shale gas

Other bodies

FSE:

- is going to set-up a European working group about Shale Gas (waiting for the European Shale Gas militants to create the European petition (hopefully ready in September). FSE were told this at the European shale gas meeting held in Brussels on last April)
- will broadcast petition to all European caving clubs
- will create the FSE-SG working group at the same time
- will be discussing this topic during next FSE GAM in September

For your information a petition has already been made in France on last January : http://www.petitions24.net/signatures/gaz_de_schiste_non_merci/

Positives

- Northwest Ireland Carboniferous Basin, an area comprising counties Leitrim, Roscommon, Sligo, Cavan, Donegal and Fermanagh, where gas has already been found. The most recent estimates suggest that there are 9.4 trillion cubic metres of gas in the area, or 1.5 billion barrels of oil equivalent (BOE, the basic unit used to measure gas production). It is worth €120 billion at current oil prices
- In June 2010, the Wall Street Journal reported that EPA administrator Lisa Jackson had informed Congress that there have been no "proven cases where the fracking process itself has affected water."
- A 2011 study by the Massachusetts Institute of Technology concluded that "The environmental impacts of shale development are challenging but manageable."

Negatives

- Contamination of water supplies by fracking fluid. These include dizziness, headaches and irreversible brain damage, according to the environmental health scientist Dr Theo Colborn.
- Higher rate of contamination of groundwater by methane. *Gasland* has a scene where locals are setting their water alight. Gas companies claim that the lighted water was a result of naturally occurring methane, first reported back in 1976.
- More than 1,000 infractions of groundwater regulations in six states in the **USA**
- Possible cause of minor earthquakes (In the inauguration of a pilot study offshore near Blackpool, in the North-West of the United Kingdom, they suffered an earthquake of magnitude 2.3)
- The potential costs associated with possible environmental clean-up processes, loss of land value and human and animal health concerns are undetermined

Legislation and protection in Ireland

- Domestic legislation and Eu directives substantial
- Virtually all of the caving areas are environmentally designated in NI and RoI as ASSIs, SACs, SPAs, RAMSAR Sites, pNHAs and NHAs
- A full EIS will be required for planning and this will detail measures and procedures

Information from Tamboran Resources Pty

- Area of interest is west Fermanagh, Cavan, Leitrim and Sligo
- Licence application area for coverage of Bundoran Shale
- Much of the ground is non-prospective, mainly that in Sligo, west Leitrim and much of the Fermanagh and Cavan parts of the licence area
- Particularly those underlain by Dartry limestone and lower rocks (no potential for gas (too shallow))
- Cave bearing limestone is on the surface. The source rock is simply too shallow and is very unlikely to yield any gas
- They are not interested in these areas so no work is planned in limestone areas
- Most of the extent of the limestone areas and virtually all of the caving areas are environmentally designated in NI and RoI as ASSIs, SACs, SPAs, RAMSAR Sites, pNHAs and NHAs
- Karst systems and their catchments also have strong designation under the implementation of the EU Groundwater Directive as important aquifers
- No works would be permitted in such designated areas and no permission would be sought
- Detailed hydrogeological and hydrological assessment required as part of EIS
- Wind farm turbine bases in limestone areas have been refused at an early stage for a number of sites, including Tullybrack - Knockmore, Belmore Mountain and the Lough Lee area due to karst engineering issues (ground stability)
- They are developing a design for any wells which may be drilled through Dartry Limestone with a deep lined casing sealing the entire sequence from surface to the Bundoran Shale
- The well design, construction, completion and environmental monitoring proposals will be made freely available and would require all regulatory agreement, approval, permission and oversight

- Any drilling fluids to be used will also be disclosed. They will use no additives to the drilling fluid, just drinking quality water and sand
- Estimates the chances of success at getting gas at 75 per cent
- Extracting 10 per cent of the Lough Allen gas would constitute a reasonable return and that the drilling process would take at least a decade

Other data:

- The real target areas will be where the source rocks are lots deeper. This is the central part of the Lough Allen Basin (mainly the Lough Allen Area between Drumshanbo, Leitrim as far north as the Fermanagh border)

Procedure – timeline of events

Currently:

- Exploration licence or option has been granted to Tamboran Resources Pty (west Fermanagh, Cavan Leitrim and Sligo) and The Lough Allen Natural Gas Company (Langco) (Leitrim and Roscommon)
- In ROI the licence is referred to as an option as it is not yet a licence and is valid for 2 years. In NI the licence is for 5 years (with the first 2 years referred to as option)
- Limited work can take place during the option phase, limited to desk studies on existing data, do environmental baseline works or look at rock outcrop on surface. They may undertake seismic surveying of small areas.

2013 (When option phase runs out)

- Drilling of wells cannot take place during the option phase and will be 2013 at the earliest following permission
- If drilling is requested full planning and EIS will be required
- If nothing is found no further work will take place

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- Depending on the length of time taken to secure planning for the test wells another full planning application, with EIS, will have to be completed for permission for gas extraction development

Note:

The IFA reported in the Leitrim Observer on 21st September 2011 that ‘that they cannot get involved in anything to do with hydraulic fracturing at this “early stage.” Adrian Leddy Regional Development Officer with the Irish Farmers Association (IFA).

Mr Leddy said “they do not have planning and are far from getting the licence”. He said there is a long journey to drilling from here and it would be “pointless” for the national farmers organisation to get involved at the moment.

Possible submissions / questions to the following authorities:

Northern Ireland

- DETI Minerals/petroleum section (Department of Enterprise, Trade and Investment - <http://www.detini.gov.uk/deti-energy-index/minerals-and-petroleum.htm>)
- NIEA Water Management Unit, Natural Heritage Unit (Northern Ireland Environment Agency - <http://www.doeni.gov.uk/niea/water.htm>)
- FDC Planning, Environmental etc. Departments (Fermanagh District Council - http://www.fermanagh.gov.uk/index.cfm?website_key=47&category_key=133)
- GSNI (Geological Survey Northern Ireland - <http://www.bgs.ac.uk/gsni/>)

ROI

- Leitrim, Sligo, Cavan Planning and Environmental Departments
- PAD (Petroleum Affairs Divisions - <http://www.dcenr.gov.ie/Natural/Petroleum+Affairs+Division/>)
- Environmental Protection Agency (<http://www.epa.ie/>)

Links

Action group in Cavan: nofrackingcavan@gmail.com

Action group Fermanagh: <http://www.facebook.com/groups/243550102336845/>

All info taken from google, http://en.wikipedia.org/wiki/Hydraulic_fracturing, media such as The Irish Times and Leitrim Observer and personal correspondence