

Fracking

Text A

What is fracking and why is it controversial?

Drilling companies suggest trillions of cubic feet of shale gas may be recoverable from underneath parts of northern England, through a process known as “fracking”.

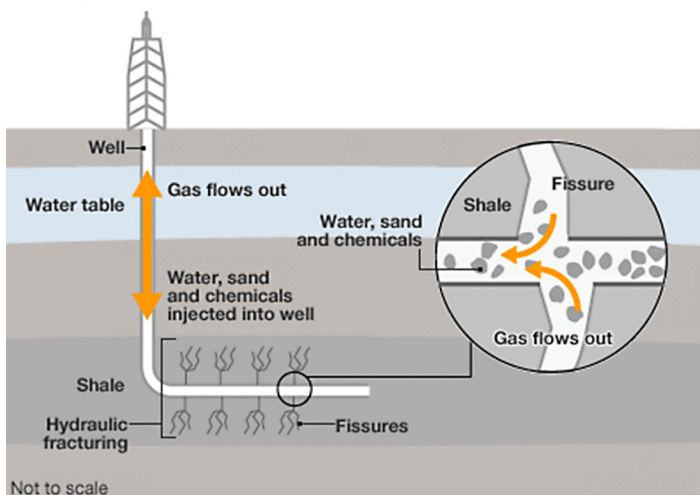
Hydraulic fracturing, or fracking, is a technique designed to recover gas and oil from shale rock. But how does it work and why is it controversial?

What is fracking?

Fracking is the process of drilling down into the earth before a high-pressure water mixture is directed at the rock to release the gas inside. Water, sand and chemicals are injected into the rock at high pressure which allows the gas to flow out to the head of the well.

The process is carried out vertically or, more commonly, by drilling horizontally to the rock layer. The process can create new pathways to release gas or can be used to extend existing channels.

Shale gas extraction



Why is it called fracking?

It is shorthand for hydraulic fracturing and refers to how the rock is fractured apart by the high pressure mixture. Experts also refer to a “frac job” and a “frac unit”.

Why is it controversial?

The extensive use of fracking in the US, where it has revolutionised the energy industry, has prompted environmental concerns.

The first is that fracking uses huge amounts of water that must be transported to the fracking site, at significant environmental cost. The second is the worry that potentially carcinogenic chemicals used may escape and contaminate groundwater around the fracking site. The industry suggests pollution incidents are the results of bad practice, rather than an inherently risky technique.

There are also worries that the fracking process can cause small earth tremors. Two small earthquakes of 1.5 and 2.2 magnitude hit the Blackpool area in 2011 following fracking.

“It’s always recognised as a potential hazard of the technique”, says Professor Ernie Rutter from the University of Manchester, “But they’re unlikely to be felt by many people and very unlikely to cause any damage.”

Finally, environmental campaigners say that fracking is simply distracting energy firms and governments from investing in renewable sources of energy, and encouraging continued reliance on fossil fuels.

“Shale gas is not the solution to the UK’s energy challenges,” said Friends of the Earth energy campaigner Tony Bosworth. “We need a 21st century energy revolution based on efficiency and renewables, not more fossil fuels that will add to climate change.”

What are the advantages of fracking?

Fracking allows drilling firms to access difficult-to-reach resources of oil and gas. In the US it has significantly boosted domestic oil production and driven down gas prices. It is estimated to have offered gas security to the US and Canada for about 100 years, and has presented an opportunity to generate electricity at half the CO₂ emissions of coal.

The industry suggests fracking of shale gas could contribute significantly to the UK’s future energy needs. A report by the Energy and Climate Change Committee in April said shale gas in the UK may help to secure energy supplies, but may not bring down gas prices.

Where is fracking taking place?

Reserves of shale gas have been identified across swathes of the UK, particularly in the north of England. However no fracking is currently taking place, and drilling firms must apply for a fracking licence if they wish to do so in the future.

Source

<http://www.bbc.co.uk/news/uk-14432401> [Accessed 18 August 2015]

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Fracking: Welsh Government urged to declare its stance



Pressure is mounting on the Welsh Government to say whether it would back the controversial gas extraction process of “fracking”.

Prime Minister David Cameron has announced financial sweeteners for councils and communities in England who pass plans to drill for underground shale gas, sparking an angry backlash.

Opponents of fracking and coal bed gas extraction have accused the Government of attempting to bribe English councils, to get the dash for underground gas through. Now they want Welsh Government chiefs to declare what their stance is, with Wrexham and the Flintshire borders with England a prime location for drilling applications, a new data map has revealed.

Dart Energy have already applied to test drill for underground gas at a field near Commonwood Farm in Borrass, Wrexham, and are awaiting a decision by Wrexham council. But underground gas extraction has been shrouded in controversy with opponents claiming it could pollute water courses, impact on the environment and lead to health problems for people living nearby. Dart Energy officials have insisted there has been no “reviewed studies linking the production and processing of unconventional gas to public health problems.”

Fracking is one method of extracting underground shale gas where water is mixed with sand and chemicals, and the mixture is injected at high pressure

into a wellbore to create small fractures to get the gas out. Or companies could pump millions of gallons of water underground to flush the gas out which is then extracted. The Prime Minister has announced plans to allow English local authorities to retain 100% of any business rates from shale gas developments, as part of a package to allay resistance to wells. Local communities in England are also set to be offered £100,000 when a well is dug, along with 1% of revenues over its lifetime – potentially £7-£10m.

Llyr Gruffudd AM, Plaid Cymru's shadow energy minister, said: "Councils should not be put in a position where they are reliant on approving planning for fracking operations to maintain public services. That is the danger from David Cameron's attempted bribe to local authorities faced with planning applications in England. The Welsh Government has an opportunity to make it clear what type of energy future it has planned for Wales. Any short-term benefits of a dash for shale gas are outweighed by the long-term need to move away from carbon intensive energy production to a more sustainable energy plan that does not risk polluting the environment and water courses."

Green Party in Wales leader Pippa Bartolotti said: "What we are talking about here is the industrialisation of the countryside. There is going to be a massive impact on the environment, they are not disclosing the full list of chemicals they are using. And let's not forget they are talking about extracting fossil fuels here and methane which is a greenhouse gas, which when they fracture the rock, not all goes into the pipe and bubbles up out of the ground."

A Welsh Government spokesman said: "Given the challenges of energy security and supply we understand there is a need to look at the potential of this type of energy resource. However, there is also a need to fully consider all the evidence relating to both the exploration and potential commercial development of shale gas and particularly any impacts on communities and the environment. The Welsh Government will continue to work with developers and local authorities across Wales to look at energy solutions that would bring the most benefit to communities."

Source

<http://www.dailypost.co.uk/news/north-wales-news/fracking-welsh-government-urged-declare-6519941>

[Accessed 18 August 2015]

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Reading

Read **Text A** and answer the following questions.

1. What is the meaning of the word ‘controversial’ in the heading ‘What is fracking and why is it controversial?’
- a. causing joy and hope ☐
- b. causing discussion or disagreement ☐
- c. causing uncertainty ☐
- d. causing agreement ☐

This is a multiple choice question which asks you to choose the best fit meaning for a word based on its use in this passage.

2. Explain in your own words the benefits of fracking according to the text.

*This is a summarising question. You must select information from the text and convey it in your own words. **Do not** just copy from the text.*

[illegible]

3. Is this statement true or false?

	True	False
Fracking is currently taking place in the USA and areas in the north of England.		

This question tests your ability to retrieve information from the text.

Read **Text B** and answer the following questions.

4. In your own words explain the two methods of fracking the text describes.

This question tests your ability to retrieve information from the text.

5. What is the meaning of the verb 'to allay' in the sentence 'to allay resistance to wells'?

- | | | |
|----|-------------|--------------------------|
| a. | to ensure | ☐ |
| b. | to increase | ☐ |
| c. | to promote | ☐ |
| d. | to reduce | ☐ |

This is a multiple choice question which asks you to choose the best fit meaning for a word based on its use in this passage.

6. Summarise the opinion of Mr Llyr Gruffudd AM, Plaid Cymru's shadow energy minister.

*This is a summarising question. You must select information from the text and convey it in your own words. **Do not** just copy from the text.*

Look at **both texts** to answer the following question.

7. Compare what each text says about the disadvantages of fracking.

This is a retrieval question which asks you to find information and compare what is said in each text.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Oracy

Access to the internet is required for this task.

- ## 8. Group task

Research the effect of fracking in the USA and present your findings to the class. Are the members of your group for or against fracking? Explain your opinions to the class.

Group size: 3

Time: 30 minutes

Writing

9. Your friend needs help with a geography homework project. He/she has heard about fracking in the news but doesn't really understand what it is or what the environmental effects are. He/she has asked you to summarize the topic and explain the advantages and disadvantages. Write an email to your friend.

Use the above articles and group research for ideas.

Plan carefully before writing.

Create a success criteria for layout and language used in an email.

Write 500-600 words.