

The State of the Nation The truth about fracking in Scotland



Exclusive by Rob Edwards (18 Feb 2017)

Frack is a harsh, ugly word, with unpleasant connotations. If public arguments were won or lost on single words, the fracking industry would be on a hiding to nothing. Fracked, as it were.

But the issue of whether or not to exploit Scotland's reserves of underground shale gas is much more important than a word. It is hard not to feel sympathy with the industry's public relations executives as they struggle to avoid the term, talking about hydraulic fracturing instead.

The long and tortured arguments over fracking in Scotland are now coming to a head. The Scottish Government has published six expert reports, launched a four-month public consultation, and is promising to take "a final decision by the end of 2017".

The companies that want to drill for onshore gas and their political backers, the Conservative Party, are embroiled in a fight to the finish with their opponents: environmentalists, local communities,

Scottish Greens and the Labour Party. The outcome, with the SNP as judge and jury, is difficult to predict.

The technology they are talking about is a method of drilling between one and three kilometres under the ground to extract tiny pockets of shale gas trapped in rock. Water, sand and chemicals would be pumped down wells and injected under pressure to fracture the rock and release the gas.

The technique is not new. It was used by the oil company BP to extract gas from a 1.3-kilometre well near Airdrie in 1964. But plans to deploy it on an industrial scale to tap gas that happens to be under the densely populated central belt of Scotland are unprecedented.

The evidence of the risks and benefits of fracking is fiercely disputed, but it is possible to chart a factual course through key parts of it. Take, to start with, the potential economic impact, which is often emphasised by the industry.

“Independent reports show this industry could bring real economic benefits to Scotland,” said Ken Cronin, chief executive of the industry association, UK Onshore Oil and Gas (UKOOG), “by creating up to 3,100 jobs, spending up to £6.5bn in Scotland, and providing up to £1bn in community benefits and business rates.”

An earlier statement provided on his behalf suggested that a much higher amount - £10.8bn - would be spent on fracking in Scotland. But when this was queried by the Sunday Herald, the figure was reduced to £6.5bn and the statement amended with apologies.

Exaggeration aside, Cronin’s figures only tell part of the story. The jobs and spending predictions come from the report by accountants KPMG for the Scottish Government.

But they are taken from the highest of three envisaged scenarios. The “central” scenario suggests 1,400 jobs and a £2.2bn spend, while the “low” scenario has 470 jobs and spending of £0.5bn. All the figures are estimates up to 2062.

When the Scottish Government produced its report to launch the consultation last month, it chose to highlight the central predictions. The projected spend of £2.2bn over the next 45 years would amount to just 0.1 per cent of Scotland’s economic output, it pointed out.

The industry is perhaps on stronger ground arguing about Scotland’s energy needs. “78 per cent of Scotland’s homes use gas and 43 per cent of all our gas is used by industry,” said Cronin.

“Without our own gas 75 per cent of the UK’s gas will come from outside the UK by 2035. If we don’t use gas how are we going to heat our homes and power our industries? The idea that we can meet our needs with other energy sources isn’t credible and certainly not economic.”

Opponents either have to accept gas imports, envisage alternative sources of gas like hydrogen or biogas, or posit increased electrification or radically improved energy efficiency. None of these things are impossible, but consumers anxious to heat their homes may need convincing.

“Let’s ask ourselves some fundamental questions,” argued Cronin. “Do we use all of Scotland’s expertise and regulation to secure our own gas in an environmentally sensitive way, or do we let others with less scrupulous credentials do it for us? Do we create jobs or export them?”

Now let's turn to the issue of health and environmental dangers. The nub of the argument comes down to regulation. There is little doubt that there are risks to workers and communities from pollution, leaks and accidents.

“The fracking industry brings known hazards, some known risks and many potential risks to human health at local, regional, national and global levels,” said Professor Andrew Watterson, an occupational and environmental health expert from the University of Stirling and a leading fracking critic.

“The threats exist to the public health, worker health and global health through air, water and soil and transport and include exposure to carcinogens and endocrine disruptors, noise and light. The risks may be to human reproduction, development, respiratory, immune and other systems, mental health and well-being.”

But the industry argues that all these risks can be rendered acceptable by proper regulation from the Health and Safety Executive, the Scottish Environment Protection and local authorities. Critics are sceptical.

An intriguing insight to the Scottish Government's thinking comes from an account of a private meeting between officials and regulators last October, released in January when the fracking consultation was launched. Though heavily caveated, it implies that regulators would need to seriously up their game to ensure that fracking was safe.

Observations made at the meeting “would form an appropriate basis for organising work to examine how regulation could be strengthened if that was to be required”, the report said.

“An effective approach, in the event that it is required, to advancing such work would be the formation of an Expert Regulatory Group, chaired by the Scottish Government.”

This echoes the conclusion of the report commissioned by the Scottish Government from the UK advisory Committee on Climate Change. The current regulatory framework for controlling climate pollution from fracking, it concluded, “lacks clarity over the responsibilities and roles of the various actors and may have gaps relating to regulation of emissions.”

Fracking poses major challenges to the Scottish Government's “world-leading” efforts to cut carbon emissions. It's not just that burning the gas causes pollution, it's the risk of leaks during mining, known as “fugitive” emissions.

The climate committee report warned that fracking on a significant scale was “not compatible” with Scottish climate targets unless three tests were met. Emissions must be “strictly limited”, it said. Fossil fuel consumption must stay in line with the targets, and any emissions that do occur would have to be offset by reductions elsewhere in the Scottish economy.

These are tough tests, and for environmentalists keen to see the end of fossil fuels, the killer blow for fracking. “At this critical stage in the fight against climate change, going after fracked gas is the last thing we should be doing,” said Mary Church, head of campaigns at Friends of the Earth Scotland.

“Methane leakage from drilling and fracking mean that shale gas could be even worse for the climate than coal. The government's own advisers have warned that allowing fracking to go ahead will make it much harder to meet our climate targets and mean extra carbon savings will have to be found in other parts of the economy.”

Church added: “It simply doesn't make sense to open up a dirty new frontier of fossil fuels at a time we should be making a concerted shift to renewables.”

This is disputed by Ineos, the petrochemical giant that runs plants at Grangemouth and wants to start fracking to replace shale gas imported from the US. According to the firm's communication manager in Switzerland, Richard Longden, fracking would enable the transition to a low carbon society.

“Extracting shale gas is not about using more fossil fuels, but displacing coal, and using our own gas rather than imports,” he said. Indigenous gas had a 10 per cent lower greenhouse gas impact than imported gas, he argued.

Decarbonising the economy by reducing the burning of fossil fuels was a “huge undertaking” that would take decades, Longden suggested. Because gas was half as carbon intensive as coal, it was “the most environmentally responsible method of meeting our energy needs as we make this transition.”

The point was put more bluntly in a UKOOG briefing: “To close down debates on ideological grounds by saying fossil fuels should stay in the ground closes down solutions that may well meet our emissions targets at a cheaper cost and least disruption.”

The argument pits different visions of Scotland's future against each other, and cannot be resolved by facts alone. So much depends on political leadership, technological development and economic circumstances – and how seriously people take the threat of climate change.

There is evidence, though, that in the end it may not matter as much as some think. Geologists say there could be a significant amount of shale gas trapped in tiny rock fissures underneath central Scotland - between 50 and 135 trillion cubic feet. Scotland consumed a total of 0.15 trillion cubic feet of gas in 2014.

But there are real questions over how much of it could actually be exploited. The Scottish Government pointed out that “only a proportion” was likely to be commercially viable. The amount wouldn't be known without exploratory drilling and core-sampling.

According to Roy Thompson, a geology professor at the University of Edinburgh, Scotland's underground rocks compare unfavourably to even the poorest producing of shale provinces in the US. At least a thousand wells would be needed across the central belt, he estimated, and the rewards may not be great.

The prospects were much better in the north of England, he argued. There, where Ineos and other companies were now focussing their efforts, shale gas reserves were much larger and the geology was more promising. An area in Lancashire is reckoned to hold between 822 and 2,281 trillion cubic feet of shale gas.

“So we should just wait and see what happens south of the border,” Thompson told the Sunday Herald. “If fracking is not commercially viable there, it certainly won't be in Scotland.”

After all the fuss, it could well turn out that Scotland couldn't have a viable shale gas industry. And even if it did, it may not produce much more than a few years' worth of gas.