

UK industry sees hope for shale

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INGS

The UK could be giving the green light to hydraulic fracturing in early December, as part of the autumn statement, say industry sources. The finance minister is keen to open up a possibly major new revenue stream.

The UK government is expected to give approval to the resumption of onshore hydraulic fracturing on December 5, several industry sources told Platts at a shale gas conference November 7. Finance minister George Osborne will be delivering the autumn budget that day, and he is in favor of shale gas.

The same day, the Department of Energy and Climate Change is expected to issue a report it has commissioned from the British Geological Survey on the shale gas resources that Cuadrilla has in its Bowleven shale, one source said, adding that a wider report on the UK's overall shale gas reserves could come out in February. He said the results would be staggering.

The British Geological Survey's team leader for unconventional gas, Nick Riley, told delegates that it was up to the government to decide the timing of the two reports' publication, saying: "It will come out when DECC says so."

He cautioned that it was important when interpreting the findings to understand what the BGS meant by "resources" and "reserves" since those terms were often wrongly used interchangeably.

Cuadrilla is still drilling wells – it has done four so far – but it stopped hydraulically fracturing them when it noticed a coincidence between the subterranean explosions caused by fracking, and minor tremors. It reported them and stopped fracking. But "These are not earthquakes," Riley said, comparing the vibrations with those that the passing of a van might cause.

Assessing Britain's ability to produce gas will depend on the geology, which lies beyond the control of the industry, Riley said. "We can't decide whether or not to produce until we know what there is," he said.

That means drilling a number of wells, since their production performance, even in prolific plays such as the Marcellus in the US, is highly unpredictable, he said.

Misguided policies

Former Citi analyst Peter Atherton told the conference that the European Union's energy policy, while notionally relying on three basic principles, gave much weight to climate change and some to security of supply, but very little to affordability, the third pillar.

He said the policies were based on peak oil theory, that implies a steady rise in the price of oil. So moving away from oil altogether to develop renewable energy instead would be better in the long run.

But as the policies were implemented, and prices were pushed up by subsidies, the question of affordability has become critical. He said subsidies in Germany alone reached €20 billion/year, and somewhere between 25% and 30% of the average bill was down to subsidies.

Governments have been stressing the economic case for the present policies, talking about green jobs and rising and volatile energy prices, he said. They believe Europe can benefit from the export of skills and technology world wide.

Layers of regulation and policies have been built on the wrong assumptions, he said. "A whole industry has grown up on the tens of billions of subsidies, and it will fight for those down to their last mansion," he half-joked. But in fact the EU utility sector was very poor performer in 2009 to 2011, he said. "The only way you could have lost more money was by buying shares in the renewables plant manufacturing sector.

"That is still the the policy mindset in the UK and the EU, despite shale gas and despite the economic recession," he said, and things might be getting worse, he added, referring to the UK's Committee for Climate Change preference for a range of 50g-100g CO₂/kWh intensity ceiling in the power sector.

However, lawyer Alan Riley informed the conference that in his opinion, there were key directorates, such as energy and competition, within the EC that were in favor of shale gas.

The EC is in the process of looking at shale gas and is producing this year a formal consultation on managing the risks of shale production.

Cognitive dissonance

But what will it take for the EU to change its mind, Atherton asked. "Will governments in 2016-2020 be sticking to these policies, and keep paying investors who have built the assets?"

This doubt is keeping investors out of the market, delegates said privately, especially where nuclear is concerned. Until last month's announcement that Japanese Hitachi was to buy Horizon, investment in UK nuclear plants has not been forthcoming. In the US, by contrast, higher energy prices were considered a bad thing. North America has been enjoying the benefit of low-priced energy.

"We have not begun in Europe to consider the implications: how can EU politicians continue to sell this policy to the public when there is no industry and no exports and high prices? This does not look good, compared with the US. Supporters of shale gas production in the UK believe that the grim economic reality does not admit any alternative to home-produced shale gas," he said.

Junior energy minister John Hayes brought down the wrath of his boss Ed Davey and made front-page news in the UK press, when he said that there were enough wind farms projected to be built and no more plans need be submitted.

'Responsible strategy means existing technology'

Robert Hefner, sometimes described as the prophet of shale gas in the US – his forecasts, presented to Congress in the 1970s, that there could be 3 quadrillion cubic feet of gas reserves there have been more or less borne out – described wind and solar power as "great, but today not commercial."

They need big subsidies, he said, which were a "long-term tax to lock in a long-term brake on economic growth," perhaps for 30-50 years. "That is not a responsible energy policy," he told delegates. Energy, after all, had often proved a more important part of a country's economy than cash.

Leapfrogging over existing technologies to those that were not proven, such as industrial-scale carbon capture and storage, was not viable either, he said.

Nuclear energy would never be competitive with gas, either, meaning that the UK would have to lock in electricity prices much higher than today's, to enable plant to be built.

To solve the problem caused by so much relatively cheap US coal arriving at European ports and going on to make gas-fired generation uneconomic, Hefner proposed a carbon tax; and regulations to limit the other noxious emissions from coal burn, which would make coal more expensive.

Hefner said the US price of \$3/MMBtu might not be a realistic guide to worldwide prices in the wake of a major global shale gas production revolution; but \$6 or \$7/MMBtu could be achievable in due course, he said.

First there would have to be a major restructuring of take-or-pay contracts, similar to what happened in the US following FERC resolution 636 which opened up the pipelines to gas competition and exposed the much lower market value of gas, relative to term contracts.

"The US got out of \$80 billion of contracts and one major gas line went bankrupt. Most had committed to gas that was no longer marketable. That has to be played out first – the contract readjustments," he said.

In the EU, that process is already well under way in the arbitration courts; while the principle of oil indexation might remain, the discount to the prevailing oil price is being contractually widened.

Winning over the public

Judging by past performance, a government announcement signalling the possibility of shale gas production in the UK, with the help of fracturing, will trigger alarmed rhetoric from the renewable lobby groups. They regard shale gas as a distraction from the business of building windfarms.

Public opposition to shale gas is not inevitable, delegates were told: that element of the US example could be avoided, as long as the industry follows strict guidelines and the regulators are perceived to be ahead of the game, rather than having to react to what the industry might be doing.

Nevertheless, mass instantaneous communication has made life easier for organizing opposition; and films like *Gasland*, while being "wholly unreliable as documentaries, still make for terrific movies," according to one panelist.

"You need to keep the public on side," said Navigant's director of energy Rick Smead, which included not telling the public that it failed to grasp the issues. The CEO of a major shale gas producer in the US had made that mistake more than once, he said.

On the other hand, technology had come a long way since the days when napalm was used for the job. Now scientists have experimented successfully with liquefied natural gas, which expands as it vaporizes and does not need removal from the output.

Full and frank disclosure

"The public needs to believe the authorities are protecting them from abuse." Generally, the best advice was to look very carefully at what the US had done in this regard, and avoid doing it yourself, he said.

The president of the US Natural Gas Supply Association Skip Horvath said that transparency with the local residents was vital. They need to know what the impact will be: the dust, the noise, the traffic, and so on. And don't engage with opponents on public platforms, he said. "You cannot fight emotion with reason."

This view was endorsed by Martin O'Neill, former chairman of the UK Nuclear Industries Association and before that, the chair of the parliamentary select committee on energy. "Fighting the opposition is the job of prices and markets," he said. "Don't say that shale is the only thing that will save us. You need to emphasize the role of gas as a part of the energy mix."

He said that the UK nuclear industry had survived the backlash against nuclear following the Fukushima disaster, whereas Germany's had not, and he believed that the difference was that the UK nuclear industry's viewpoint had been put forward unemotionally by scientists, who argued for nuclear as an essential part of a balanced portfolio which would also have gas, coal and renewables.

It had not put forward industry figures to argue the case for nuclear, in order to avoid the "well, they would say that!" response.

He also expressed the hope that the UK would be less "profligate" with shale than it had been with its North Sea oil and gas. He said shale should be for national sustainability, rather than open-market exploitation.

This view was balanced by Patrick d'Ancona of M: Communications, who argued that a balance had to be struck between attracting investors – "our supply chain is nowhere near the level of that of the US," he said; and a strict reservation policy. Norway appears to have put plenty aside for a rainy day, while still allowing a wide range of companies to operate offshore.

O'Neill also pointed out that UK defeatism in the face of great entrepreneurial and technological challenges had been often belied by outcomes. He gave as an example the UK's own North Sea oil and gas industry, which had brought in billions of dollars despite the unpromising work environment.

"If you can do it there, you can do it anywhere," he said, of the UK offshore, implying onshore shale should be relatively straightforward. "That is the story of the last 50 years. It transformed our economy. I am not complacent; but I am sanguine, to an extent, about shale. And the supply chain will sniff out the opportunities."