

SCC Policy summary on a UK shale gas industry, September 2013

Please refer to our technical briefing for more detail

OUR POSITION

The Stop Climate Chaos Coalition does not support shale gas extraction in the UK because the Government has failed to demonstrate convincingly that it will not compromise the UK's legally binding climate change targets, or its broader commitment to limiting global climate change to two degrees. Britain should be leading the world in moving to clean renewable power, not aiming to extract ever more inaccessible fossil fuels. The UK must act in line with its historical responsibility for climate change, which is already affecting the world's poorest people, and provide an example to the world.

Stop Climate Chaos is calling on the Government to reconsider its support for fracking for shale gas immediately and to focus its policy on making a rapid transition towards a sustainable low carbon energy system, which will put the UK on an economically sensible and beneficial pathway to meeting its climate change commitments.

BACKGROUND

What is shale gas?

Shale gas is a form of 'unconventional gas' which is trapped inside shale rock formations deep underground. It is chemically effectively the same as natural gas, being mainly methane. 'Unconventional' refers to where the gas is extracted from. It's harder to extract than conventional natural gas and up until now it hasn't made sense financially to do so. However, advances in drilling techniques mean that it's now a more attractive prospect and is being actively pursued by developers and our Government alike.

What is fracking?

Hydraulic fracturing (fracking) involves injecting fracturing fluid at high pressure down a borehole to create fractures in shale rock formations, which enable shale gas to be extracted. Advances in drilling techniques mean that several boreholes can be drilled from one 'well pad' and then extend horizontally in different directions to access as much of the shale rock as possible.

What does this mean for the UK?

Estimates vary dramatically about how much economically recoverable shale gas exists in the UK. Recent studies suggests as little as 4% of gas identified could actually be extracted, and that's if it's economic to do so.

The UK Department of Energy and Climate Change has issued generic oil and gas drilling licenses across a wide area which could also be used for the extraction of unconventional oil and gas. Exploratory drilling has already taken place in Lancashire and Sussex, giving rise to considerable controversy and local opposition. In some areas, notably Scotland, the main source of unconventional gas is likely to be coal-bed methane and local opposition to this is also strong.

IMPACTS

What impact does shale gas extraction have on climate change?

If current trends continue, the world is on track for a warming far in excess of 2°C. The impacts of global warming will have devastating consequences for both people, with the poorest disproportionately affected first, and wildlife.

It compromises our commitments to climate action

If we are to meet the goal of limiting global warming to 2 degrees, more than half of the world's proven gas supplies – which do not include shale gas – will need to be left in the ground. This means it is likely that

pursuing a shale gas industry in the UK and elsewhere will result in burning more gas than is compatible with avoiding catastrophic climate change.

Investing in shale gas extraction also compromises our ability to meet the legally-binding targets laid out in the Climate Change Act if it is burnt in the UK. The Committee on Climate Change advises that to meet the targets in the Climate Act (a reduction of carbon emissions by 80% by 2050 on 1990 levels), the UK power sector should be almost carbon free by 2030 – just as a UK shale gas industry is likely to reach peak production.

Shale gas is not necessarily a lower-carbon alternative to other fossil fuels

Advocates say we should exploit shale gas because it has lower carbon emissions than coal and equal to natural gas. However, this doesn't take into account the risk of methane (a potent greenhouse gas) escaping during exploration and production.

Furthermore, shale gas may be used in addition to existing fossil fuel use, rather than replacing it. In the US, the switch from coal to gas has reduced domestic emissions, but the coal is still being extracted; it's just being exported, increasing emissions elsewhere.

Renewable alternatives may be ignored in favour of shale gas

Shale gas is being supported in the UK at the same time as a large new generation of gas-fired power stations. This risks locking the UK in to a fossil-fuel based power system for decades to come.

In contrast the Committee on Climate Change has made a clear case that a rapid transition towards a low-carbon energy system will provide the most cost-effective way for the UK to meet its climate targets. It could also allow the UK to become an industrial leader in technologies such as offshore wind, wave and tidal power and electric cars. Current tax breaks, however, increase the economic incentives for fracking and weaken investor confidence in low-carbon solutions.

What impact does shale gas extraction have on the natural environment?

Significant uncertainties remain over the potential ecological impacts of shale gas extraction in the UK but the cumulative impact could be extremely significant. Any potential impacts will be considerably greater when operating at a commercial scale. Concerns include water pollution from hazardous substances in the fracking fluid, water stress from intensive use of water, habitat fragmentation and loss, disturbance caused by industrial activity in rural areas and air pollution.

What impact will shale gas extraction have on fuel bills?

Despite often repeated claims that fracking will reduce UK fuel bills (including from David Cameron and Chancellor George Osborne), experts remain highly sceptical. Analysis suggests that with or without shale gas, the price of gas in the UK and the EU is unlikely to go down.

Direct comparisons to falling bills in the US are not reliable as they ignore the higher operating costs for fracking companies in Europe and the numerous and complex global dynamics which affect gas prices.

What impact will shale gas extraction have on UK jobs?

Current estimates of the direct impact on jobs in the drilling and supply chain sector vary widely and lack independent verification. Numbers can be over-stated and most employment is in the initial drilling stage. Any potential jobs benefits should also be weighed against possible costs to the local economy, including agriculture, tourism and house prices.

Wider economic implications: Stranded assets

If global action is taken to tackle climate change, research suggests that wholesale gas prices may be below the cost of UK shale gas extraction by the time it comes on stream, which would leave shale gas assets stranded or in need of financial support. Put another way, betting on the future profitability of UK shale gas is betting on a world where catastrophic climate change is inevitable.

* Although this paper focuses on shale gas, the concerns expressed also apply broadly to coal-bed methane.