

Unconventional Gas

'Fracking', Coal-bed methane and other extraction methods

Introduction

Much of the planet's natural, fossilised, hydro-carbon gas is trapped underground and was considered unrecoverable as it is scattered throughout layers of shale rock, and other geological formations such as difficult, expensive-to-mine coal seams. Today these are known as Unconventional Gas (UG) reserves. Several industrial techniques have been developed to access these fossil fuels, including (i) 'fracking' - a drilling technique to bore horizontally through shale rock, blast it with explosives, and force into the cracks, under enormous pressure, millions of gallons of water laced with a proprietary mix of toxic chemicals to further fracture the rock and release the gas; and (ii) drilling into and de-watering coal seams to release methane. Exploration licenses for shale gas and coal bed methane have been granted in Scotland, and licences to develop the latter. Planning permission for commercial scale extraction of coal-bed methane is under consideration at Airth – near Falkirk.

Leaving aside the much publicised Lancashire earthquakes caused by fracking (which threaten to exacerbate the normal environmental threats caused by fossil fuel drilling operations) there are major concerns:

- (a) that the methane gas produced from coal seams and shale (a 20 times more powerful greenhouse gas than carbon dioxide) is not effectively captured, with the strong possibility of leaks evidenced already;
- (b) as to what impacts the various extraction techniques will have on water contained within the shale rock, coal seams and the other rocks that form our water table;
- (c) as to what is done with the billions of gallons of severely contaminated waste water both removed from coal seams and returned to the surface as part of the 'fracking' process; and
- (d) as to what impacts UG extraction and 'fracking' will have on communities, agriculture and landscapes in Scotland – and what possible soil and atmospheric contamination might result.

In addition to these significant environmental risks and uncertainties, there is little understanding of the extent of the unconventional gas resource in Scotland, and its potential to have significant economic benefits or impact on fuel security is unclear. Although energy is an issue reserved to the UK, Scotland has devolved control of planning, so is in a position to protect our environment and communities from the risks. The removal of the presumption in favour of UG extraction in the new draft of the Scottish Planning Policy (SPP) is welcomed – as is the requirement for buffer zones between sites and settlement (although this could be strengthened by recommending a specific minimum distance such as 2km, as with waste management facilities).

LINK strongly supports the proposed removal of the presumption in favour of UG extraction in SPP.

Applying the Precautionary Principle

Scotland is committed by statements of the UK and Scottish Governments to the 'Precautionary Principle' – and bound by the terms of the Rio de Janeiro Treaty. "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

The scientific evidence concerning environmental damage arising from UG extraction and 'fracking' is in its infancy, despite extensive claims of damage to public health and, applying the Precautionary Principle, the practices have been restricted in:-

- **France:** first country to ban – in March 2011;
- **Denmark:** moratorium at least until the end of 2013;
- **Germany:** moratorium in North Rhine-Westphalia;
- **Switzerland:** moratorium on fracking in the Canton of Fribourg since 2011;
- **Netherlands:** moratorium on drilling for UG until study of environmental and health risks concluded;
- **Bulgaria:** ban since January 2012;
- **Czech Republic:** moratorium in May 2012 considering pure ban;



- **Spain:** Cantabria banned fracking in 2013, and La Rioja region is currently considering the same;
- **Canada:** Quebec: moratorium pending environmental review;
- **USA:** Vermont: banned in May 2012; New York State, passed 3rd moratorium in 2013;
- **Republic of Ireland:** moratorium pending three Government environmental studies; and
- **Australia:** New South Wales – ban on any CSG within 2km of residential areas – not just fracking, 2013.

LINK urges the Scottish Government to learn from other jurisdictions and apply the Precautionary Principle – leaving unconventional gas reserves in the ground until environmental and health concerns are addressed. If a sustainable use for fossil fuels and safe technologies do emerge, the resource will still be there.

World Leaders against Climate Change

Scotland describes itself as a “world-leader” in the fight against climate change, with the strongest legislative targets in the world. First Minister Alex Salmond, MSP, has stated, unequivocally, that there is a “moral imperative” to fight climate change. The International Energy Agency clearly stated in 2012 that unconventional gas will contribute to global temperatures rising by an unsustainable 3.5 degrees. Despite some variable evidence demonstrating that UG gives rise to lower carbon emissions than conventional fossil fuel sources when it replaces coal mining, LINK believes that (i) UG extraction in Scotland would not be a replacement for coal mining, but rather an additional fossil fuel product and (ii) our international reputation would be seriously undermined if we adopt a policy of encouraging a new fossil fuel extraction process.

LINK calls for the reinforcement of our role as a world leader in the fight against climate change.

Market Signals

Scottish policy since the nineties has actively, and successfully, encouraged the development of carefully sited renewable energy technologies. Together with successive Scottish Governments’ opposition to new nuclear power development, clear signals have been given to the energy markets that we seek to be at the vanguard of the clean, green renewables revolution. The result has been the investment of billions of pounds in Scotland. These market signals, and consequently this investment, will be seriously threatened by adopting a positive attitude towards further development of fossil fuel capacity.

LINK calls for reinforcement of the message that energy investment should be directed towards renewables.

Energy Employment

Based on industry predictions, UG would only create small numbers of short-term jobs in Scotland. These new jobs are highly unlikely to be in research and development (R&D), as the United States has established a huge lead in fracking and UG technology. Nor are jobs likely to be created in small and medium enterprises (SMEs), in Scotland. In the meantime, investment in renewables has promoted the creation of many R&D jobs and SMEs in Scotland. Significant resources have been dedicated in Scottish universities and colleges to developing renewable technologies. All of this investment might be undermined by shifting the emphasis from renewables.

LINK calls for full backing for the creation of high quality employment in our energy sector.

Conclusion – Scotland must take a robust position on Unconventional Gas

In West Lothian and other parts of the Central Belt, the remaining bings still stand as a testament to the environmental and human damage left behind by the short boom period of the extraction of paraffin - from shale rock. Little, if any, long-term benefit remains – and much damage. We urge the Scottish Parliament and Government to avoid the same type of consequences – or worse – emerging from a short-term dash for Unconventional Gas. Whilst we welcome the removal of explicit reference to unconventional gas in the draft SPP, LINK calls for an explicit presumption *against* UG extraction until environmental concerns have been addressed, with further consideration of its compatibility with Scotland’s climate change targets.

LINK calls for a presumption against UG extraction to be inserted in the SPP.

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