

A Response to *The Challenge of Fracking*

A critique of the CTIL discussion paper

The Challenge of Fracking

Shale gas exploration & proposed extraction in Lancashire

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Summary

This document *The Challenges of Fracking* <http://www.ctlancashire.org.uk/data/uploads/documents/issues/the-challenges-of-fracking-discussion-document-january-2015.pdf> was produced through the Environmental Committee of the Diocese of Blackburn and has been circulated since January 2015 by *Churches Together in Lancashire* with the endorsement of the all church leaders from the various denominations. Thus we can take it that it is the official view of all the Lancashire churches.

It would be good to give a very brief review of a few hundred words, but technicalities and complexities of the subject matter prevent that. To summarise the paper as **false and misleading** is true but helps no one. I now briefly list the errors and expand on them in the main body of this review. These are;

- A total bias against fracking, with no fair and reasonable presentation of fracking.
- The work on fracking by experts (inside or outside the industry) from government agencies and academics has been ignored.
- Readers are guided only to anti-fracking literature of dubious worth and not the vast array of sound material on the subject
- The central claim that only ONE out of TEN recommendations from the RS/RAE report of 2012 has been implemented is simply a falsehood.
- The paper is dependent on work by Mike Hill, a self-styled fracking expert from Lytham, whose contributions are seen by almost all as false and misleading
- The section on “Churches and fracking debate” is poor on the use of bible and takes an extreme “green” view
- Due to the above reasons, the paper brings disrepute upon the churches.
- Due to its errors, the paper will misinform local Christians

Introduction

I obtained a copy at a church meeting on fracking in Lytham St Annes in January and as I read it I can only say that I was appalled at the very high level of bias and inaccuracy. I contacted the Bishop of Blackburn on 9th February detailing my concerns with a long screed on Regulations and in reply was told it had been passed on to the Dean to deal with. I have yet to receive a reply. As this discussion paper is being widely circulated with the churches' *imprimatur* I feel that, as someone with moderate technical competence, I should reply and give an assessment. Due to lack of space I have only given a critique and have not given a reasoned argument for the acceptability of fracking, which I would happily do.

I should add that I gained a degree in geology and worked for several years as a mining and exploration geologist, during which I had to deal with diamond-drilling and planned and supervised one rig. I have published on the history of geology in leading journals and continue to lead geological field trips. Over the past few years I have made a detailed study of fracking and focus on technical papers from government sources and agencies and also academics both in the UK and USA. At present I am visiting the various major exposures of the Bowland Shales in the Forest of Bowland.

<https://michaelroberts4004.wordpress.com/2014/12/16/bowland-shales-type-succession/>

It would be easy for a reader to say that I am not Green in any way because I severely question this paper, but that is not so as I have been concerned with environmental issues for decades. In the early 80s I tried to get it on the agenda of the Liverpool Diocese Board of Social Responsibility but failed due to lack of concern!

In 2010 I went to a symposium of Religion and Climate Change in Potsdam and wrote a chapter "Evangelicals and Climate Change" for the book *Religion in Environmental and Climate Change* (ed Gerten and Bergmann, Continuum, 2012), which was critical of evangelicals who did not accept Climate Change. Ironically the editor approved my final draft on 1st April 2011, the day of the first earthquake at Preese Hall! Being only ten miles away I did not feel it and would not have predicted my involvement in future issues!

I am seriously concerned at what people with a good knowledge of the oil/gas industry will make of this paper, as the flaws will be quickly identified. I have already had some very negative responses from those with knowledge of fracking. This can be considered by seeing how I might have reacted to it in the past.

Here are two counterfactual scenarios from my past:

In my final term at university I was preparing for finals in geology, applying for jobs in geological surveys and mining companies and searching after Christ. That searching lasted several months and I became a Christian shortly before my exams. Had a well-meaning Christian given me this paper at that time I would have quickly found its flaws and would have stopped searching for Christ and decided that being a Christian was silly and even dis-honest.

The second is after working for a mining company in Africa I came home with a call for ordination. Again if a well-meaning but ill-informed senior priest had given me this paper, I would have seen through it, and after some spiritual turmoil on whether a Christian had to be ruthlessly honest and also totally realistic and green over the use of mineral resources, I would probably have found my calling too problematic and chosen not to serve in any church which gave their blessing to a paper of this quality. Out of disillusionment with the churches, I would have returned to mining or, perhaps, gone back to Africa as a hydro-geologist.

Pastoral Implications

As part of their calling to serve Christ, all churches have a duty of care to both those in the churches and in the communities. They are also called to be totally truthful and not to aggravate any tensions in society. Though the production of this paper was initiated and supported with the best of intentions, the churches, and especially the church leaders, have failed in this.

All living in Lancashire will know how controversial fracking is and that many people are concerned or even scared of what it may entail. A clear example is the worry over earthquakes following the two tremors at Preese Hall in 2011. As soon as many think of earthquakes they immediately think of a massive one (Mag 7 or more) which results in great destruction and death.

These fears have been played on by anti-frackers. It is the same over risks to water and chemicals supposedly leaking from sites only to cause cancers. All this inaccurate scaremongering is the daily diet of anti-fracking sites and summed up in this dishonest cartoon from Talk-fracking



(Just one point, radioactive wastewater was NOT dumped in the Manchester Ship canal. Some was cleaned by UU at Davyhulme and then AS it was clean enough put in the canal. The rest was "cleaned" by the Preston firm Remsol prior to disposal. This false claim is frequently repeated.)

Rather than addressing the fears and worries people have over fracking this paper has only added to them, and this has been compounded as the church leaders have endorsed this paper and it has gone out in the name of *Churches Together in Lancashire*. The paper also fails to give any accurate information about fracking.

If there were any truth to this paper, this would be a right and proper action by the churches, but as the whole argument is false and flawed it has merely added to the climate of scaremongering.

General Points

What is overlooked is that at present only exploration is being carried out. For gas to be extracted good extractable reserves must be proved. What is needed is to assess the potential gains and risks. As for risks, despite the false allegations on regulations in this paper and elsewhere the risks are containable and no worse and no better than any other industry. There will not be a rise of ill health, cancers or anything else, yet this paper is suggesting that there will be serious health effects.

As for gains, fracking would give an increase of employment in an area which needs more work. Depending on the actual quantity of gas found, this could be anything from modest increase in jobs to a large number, especially when you consider all the jobs needed beyond the wellhead.

(See <http://oesg.org.uk/> , who also have good web articles on fracking.)

To this end the Blackpool and Fylde College is being developed as an energy centre. What the future holds is entirely dependent on what the proposed exploration actually finds.

It should be obvious that local gas is preferable to imported gas, both for the environmental effect of reducing emissions, but also reducing net cost, not necessarily in lower prices, but in energy security and improving the balance of payments. However the paper did not consider any of these facets.

This paper was a great opportunity to present a balanced presentation on fracking, rather than to repeat standard anti-fracking memes. What should have happened is that real experts, especially those outside the industry, should have been consulted, but they were simply ignored. Even within the churches of Lancashire there are numbers who are experienced in all aspects of energy, whether from coal, oil, gas, nuclear or renewables, yet none were used. They would have been helpful in guiding the panel to reliable sources.

Whenever the churches discuss technical issues they need to consult those with technical understanding and not rely on those with enthusiasm but no knowledge. For my understanding of the geology of Lancashire, despite being a geologist, I have to consult my copies of Geological Survey Memoirs and ask experts in the field e.g. Prof Styles, Dr Nick Riley or Prof Joe Cartwright among others. Both Styles and Cartwright sent me PDFs of their technical papers, which clarified many things, which would not have come from a newspaper article. I then go out into the field to study the outcrops, not once but several times. I do not use the landscape notes in a visitors' guide to Lancashire!

In other words, several of the group should have had some technical knowledge of different aspects and well enough informed to point people to good material. I may have laboured my point, but to comment on technical things one does need REAL knowledge.

Sadly, this paper is ill-informed and grossly biased and will only mislead those who read it, expecting good guidance from the church.

Detailed Criticisms

Total bias against fracking

Any presentation on a controversial subject MUST be balanced and seek to present a fair argument for “both sides”, and be rigorously accurate. This paper fails badly on these points and simply gives a one-sided advocacy of anti-fracking position. This comes out in several ways;

- An inaccurate definition of so-called high volume hydraulic fracking (HVHF) in the introductory sentence. *‘Fracking’ is the word commonly used now to describe the extraction of shale gas by a mining process correctly described as high volume hydraulic fracturing (HVHF), which began in the US in 1998.*

This is not recognised by any within the oil and gas industries and does not recognise or understand the development of “fracking” over the years with hydraulic fracking going back to 1947 and other means including dynamite going back to the 1860s. I identify the source of this misunderstanding/misrepresentation later.

See on fracking http://en.wikipedia.org/wiki/Hydraulic_fracturing which also points out hydraulic fracking started in 1947 and has been evolving ever since AND will evolve again.

- Nowhere in the paper is a positive presentation of shale gas to be found, as it shows a negative and jaundiced view throughout. The recommended source of information on fracking is the CIEH paper *Shale gas and fracking: examining the evidence*, which was written by convinced anti-frackers (and activists). Its shortcomings have been detailed by Dr James Verdon, a geophysicist from Bristol University <http://frackland.blogspot.co.uk/2014/10/the-cieh-and-me-full-discussion.html> (His blog is excellent on fracking) In the “Further Sources” anti-fracking work by Mike Hill (the Lancet letter) and Toothill are recommended.
- No reference in the paper is made to the vast amount of sound and solid material produced in recent years by non-industry individuals and groups, such as the DECC – Dept of Energy and Climate Change, BGS (British Geological Survey) PHE (Public Health England) EA (Environmental Agency) or CIWEM, Water UK, EASAC (European Academies Science Advisory Council), The European Union, among many others. There are also a vast number of similar American sources. The RS/RAE report of 2012 is a basic resource <https://www.gov.uk/government/publications/about-shale-gas-and-hydraulic-fracturing-fracking> Or here <http://www.raeng.org.uk/publications/reports/shale-gas-extraction-in-the-uk>.
- There is no reference to experts like Prof P Styles, Nick Riley, Prof P Younger, James Verdon and many others. It is as if they do not exist. It is wrong not to inform church members of their existence and what they say.
- Ironically the first page states “We take our start from recognised experts in the field...”, but do not state who these experts are. My previous section itemised many of the shale gas experts the committee chose not to refer to!! This is both misleading and bad practice.
- The only people the committee seem to have referred to are, to put it bluntly, anti-fracking activists like those writing for the CIEH, Alan Toothill, and, as will be apparent, Mike Hill from Lytham, none of whom are experts. **The central claim that only ONE of the TEN recommendations put forward by the RAE/RS report of 2012 has been implemented is simply a FALSEHOOD – and a very serious one.** After the two tremors at Preese Hall in 2011 the report <http://www.raeng.org.uk/publications/reports/shale-gas-extraction-in-the-uk> was commissioned which made a series of ten recommendations which are reprinted in full in the paper under the heading **The Search for Security**.

After that the paper makes these comments: *the Government has adopted only one of its recommendations as a mandatory requirement : Regulation 3 concerning the seismicity... Indeed it is hard to see that many risks identified by the Report of the Royal Society and the Royal Academy of Engineers are all being taken seriously [by the govt]* This is so manifestly false that I wonder how the committee have been so misinformed. When I first read it, I knew that many WERE in fact in place, and to ensure I got things right I contacted an ex-oil engineer and also Ken Cronin from UKOOG. As a result I could present the case to my bishops that the report was VERY VERY wrong on this accusation as most were in place. A few weeks later UKOOG published a paper http://www.ukoog.org.uk/images/ukoog/pdfs/UKOOG_progress_in_meeting_Royal_Society_recommendations_March_2015.pdf showing that 6 were in place and the rest under way, demonstrating that these claims of the committee were falsehoods.

It completely eviscerates the false claims of this paper. To put it very bluntly the authors of the paper should apologise to Lancashire Christians. I had immediately realised on first reading the paper where these claims had come from as it was obvious that the committee had preferred to disregard national experts in favour of being **Dependent on a “local expert”**.

This screenshot from a deleted twitter account answers it all. This is from Mike Hill’s twitterfeed shortly before he deleted it (end of feb 2015) . Here he states HE put forward the view that only ONE out of Ten recommendations had been acted on and that **“The Church had used it in their response.”**



- (Note the pictures of flaring at top of twitter page . These are large and visually unacceptable, but as anyone who knows anything about oil/gas extraction in the UK knows that they are not permitted in this country and a small one used instead. This is very misleading)

- The paper referred to was probably:

<http://mycommunity.theiet.org/communities/files/256/5811#.VSkIDv1wZDw> Further we find that the definition of so-called HVHF on page one of this paper seems to come straight from ;http://media.wix.com/ugd/b0aabf_b5ea3b0be5f04361b5f99e182b0ba415.pdf

Hill Claims to being an advisor to many organisationsIn this paper on his website http://media.wix.com/ugd/b0aabf_bfe5f0bf110c41fea2109a030d7102c0.pdf Hill claims; “I consulted with, advised and presented evidence to the DECC, EA, HSE, DECC Select Committee, IGEM, BGS, The Royal Society and The Royal Academy of Engineering.” This statement is correct in that he “presented evidence” to these groups, but not that he advised them.

Just take the DECC; in response to a request they replied and stressed that he was not an advisor. (I do know the identity of the recipient who sent me copies.)



- In *The Times* on 31 March 2015 Ben Webster wrote; *He has previously been accused of misrepresenting himself by claiming to have advised the Department of Energy and Climate Change and the European Union on fracking. A DECC source said: "Mr Hill has rather over-promoted himself. Filling in a consultation [form] doesn't make him an advisor."*

One aspect of his claims about being an advisor to the EU was dealt with on an IPSO complaint <https://www.ipso.co.uk/IPSO/rulings/resolution-statements/detail.html?id=5> Note the comment from the EU; *"Mr Hill cannot speak in the name of the Commission. He is an active expert in shale gas, and a member of a Technical Working Group working on the review of EU rules on the management of extractive waste, but as a representative of the civil society. He is not currently advising the Commission per se, he is representing stakeholders' views in this Technical Working Group managed by the Commission."*

- **Now what about Hill's claim that his views have been endorsed by Church Leaders?**

Hill claimed in early Feb 2015 that he "had permission to confirm my position was also supported by them" Here Hill is claiming that church leaders support his position.

- <http://www.shalegasoffice.com/#!/comment/c1vw1>



1. Which church leaders support him?
2. When did this occur?
3. On what authority was it done?
4. Why has it not been publicised?

This raises some very serious questions both in regard to Mike Hill, but also his position in relation to this discussion paper. Further, all Lancashire church leaders need to clarify whether this claim is true or not. If the claim is true then these un-identified church leaders need to consider what they have done in doing this. As a priest I am very concerned about this and hope there is no truth in it.

Mr Hill is still making these allegations that there are no regulations and claims that all political parties are in favour of unregulated fracking – which is false – as this screenshot from his twitter feed of April 6th shows. What he says about the three main parties is simply a falsehood (and probably for UKIP too, but haven't checked that!).



Lack of competence

I have demonstrated Hill's lack of competence on Regulations (where I had to take the advice of experts in the field!). Initially I was not able to comment on particular aspects of oil/gas extraction for the obvious reason as I have no professional expertise in that area. However, as I studied fracking I soon became very concerned over his poor grasp of geological issues, the aspect I am most competent in.

The first is his suggestion that fracking will cause the Fylde coast to subside. This was reported on the RAFF site in Sept 2012, and as it is so absurd, risible and laughable one would have thought Hill would have got it removed or else made it very clear that it is not his view. (Note that Hill "advises" Stop Fylde Fracking)



It is difficult to take this seriously as a handful of 8inch holes 6000 feet below surface are simply not going to have any measurable effect. If it were a risk then most of our towns and cities would have subsided long ago due to the network of sewers, underground railways, gas mains and everything else. Here is Prof Mike Stephenson of the British Geological Survey being rather flippant about it.

<https://www.youtube.com/watch?v=xPz4YTSBEW4&feature=youtu.be>

Others suggested that fracking could cause volcanoes in Blackpool!

Hill is also muddled on seismicity and uses the general lack of understanding of most to his advantage. This came clear at the launch of the Medact report in London on Monday 30th March 2015.

On the health effects of fracking

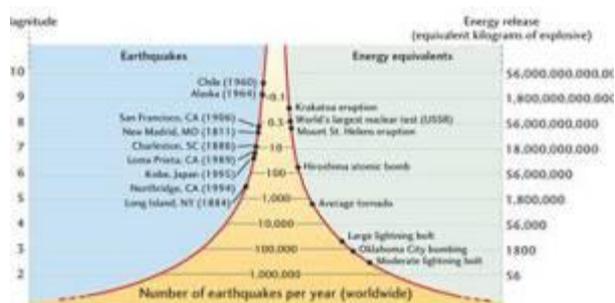
http://www.medact.org/wp-content/uploads/2015/03/medact_fracking-report_WEB3.pdf .

I was present and the only one to have some geological knowledge. [Its conclusions are very different to that of Public Health England (PHE) last year

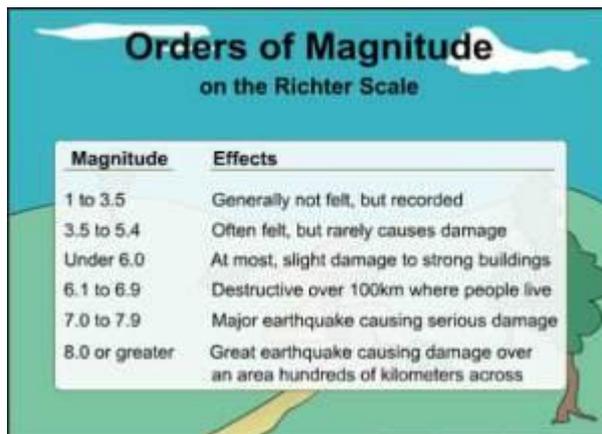
<https://www.gov.uk/government/publications/shale-gas-extraction-review-of-the-potential-public-health-impacts-of-exposures-to-chemical-and-radioactive-pollutants>]

Mike Hill was a major contributor to the report and in his introductory comments at the launch referred to the Preese Hall tremors, (which at Magnitude 1.5 and M2.3 were equivalent to a heavy lorry going past, and are at the lower limits of even being felt yet alone causing damage).

He then went on to say there were 48 other seismic events. That sounds rather scary. That is the case BUT these were of Magnitude plus 1 going down to Mag minus 1. To visualise what a Mag1 “earthquake” is like, at a recent lecture Prof Paul Younger of Glasgow University demonstrated it; - jumping up and down!! Anything below 0 or even 1 cannot be felt. These 48 events were recorded by seismic monitoring at the time, and are typical of any frac job. They are vastly less than underground blasting – which is decidedly scary, if you have been deliberately left to stand a matter of feet from the face being blasted! Suffice it to say, this is typical of anti-fractivist nonsense and scaremongering over the tremors of 2011. (BTW Hill did not like my explaining how minor they were comparing them to Mag 4 tremors which I often experienced in Uganda, which are a thousand times more powerful, or a Mag 8.6 I experienced as a child, which is more than a billion times more powerful!) (Since then there has been a horrific M7.9 earthquake in Nepal.) This diagram puts the Preese Hall tremors into perspective. Note that the scale is not *arithmetic*, i.e. a Mag 4 is twice that of a Mag 2, but *logarithmic* i.e. a Mag 4 is 1000 times greater than a Mag 2



Or more simply



Magnitude	Effects
1 to 3.5	Generally not felt, but recorded
3.5 to 5.4	Often felt, but rarely causes damage
Under 6.0	At most, slight damage to strong buildings
6.1 to 6.9	Destructive over 100km where people live
7.0 to 7.9	Major earthquake causing serious damage
8.0 or greater	Great earthquake causing damage over an area hundreds of kilometers across

This photos shows the most serious damage caused by a recent Mag 4 quake in Los Angeles!



As that is 1000 times strong than Preese Hall tremors, the damage there was proportionally less!!

At best this is someone straying right outside of his area of expertise and calls into question all he writes.

Mike Hill also alleges that Mark Miller of Cuadrilla was sacked in 2013

Mark Millar was CEO of Cuadrilla until 2013. Even more disconcerting are allegations Hill has made on twitter. (All tweets on @FrackingRegs were deleted in early March 2015) Thus on Twitter on 28 Feb 2015 he stated that Lord Browne had sacked Mark Miller as CEO of Caudrilla and then appointed Francis Egan. See screenshot;



That is simply not true as Mark Miller told my wife and myself that he wished to move back home to Pennsylvania. This has been confirmed to me by his old colleagues at Cuadrilla. Further Mark Miller is still involved with Cuadrilla as a consultant in diverse ways.

There is far more I could have said on Hill's questionable credentials and tactics. Many criticisms are now on-line with odd e-mails sent by him to Mark Miller and also to Bob Dennet, the Green candidate for Fyde. His involvement in the recent Medact report on the safety of fracking has been challenged by UKOOG <http://www.ukoog.org.uk/about-ukoog/press-releases/146-shale-gas-industry-says-medact-report-fails-to-understand-uk-regulatory-system-and-lacks-credibility> and others.



I shall conclude this section by referring to a smear of a local Preston businessman <http://www.remsol.co.uk/12/section.aspx/337> , which may well have cost Remsol business. It was Remsol who were cleaning up the flowback water at Preese Hall.

This section demonstrates that the Lancashire churches have made a very grave error in looking to Mike Hill for expert advice. I do not know whether he advised them in person, or the committee simply used his website.

Church and the fracking debate

Though this is the least bad part of the paper, it does concern me as it is simply poor theology and rather sectarian. There are a good number of biblical references, but often when these are looked up, they do not support what they are claimed to do (see those in footnotes 2 & 6).

The whole tenor of this section is to make it seem that to care for the environment you have to oppose fracking. This is divisive sectarianism as it means that those who support fracking are implied not to care about the environment, whereas many of us who support fracking care deeply about the environment. This comes out in a series of loaded statements, which are not fitting for a paper which is supposed to inform and guide the Christians of Lancashire.

Further in dealing with Climate Change and Divestment it does not allow for or tolerate different Green and Christian views. It is very much starting from “keep it in the ground” and “divest”. I am sure that neither the Diocese or CTiL approve of such divisive and sectarian approaches.

It seems that the committee allowed their views on climate change and fossil fuels to guide their narrative on shale gas. There is no consideration of shale gas as a transition fuel, which by reducing coal would reduce emissions as it has done in the USA.

Conclusions

I am afraid I cannot say anything positive about this discussion paper as its shortcomings are simply so great. It will simply mis-inform and mis-lead church members about fracking, adding to an already highly charged atmosphere. My conclusions and questions are;

- The very high level of bias and inaccuracy
- The reasons that dubious, and uncited, material from Mike Hill was used to give the substance of the paper must be investigated. Did he advise or did the committee use him from websites without realising? (I had informed the Bishop of Blackburn, the Dean of Blackburn and two clergy on the committee of his unrecognised position as an expert and the inaccuracy of his work, so at least those were aware that I had criticised him before.)
- What qualifications and expertise in this area did any of the committee have?
- It is wrong for this paper to be passed by the church leaders without consultation with real experts and without informing the local churches and clergy and then made available to church members who will be misled rather than helped.
- This type of publication simply brings churches into disrepute.

I now rest my case.

For further information on fracking a useful source is and it is North West based;
<http://oesg.org.uk/resources/factsheets/>

This recent article on natural gas is especially useful and counters many misunderstandings.

<http://oesg.org.uk/does-the-uk-public-truly-understand-natural-gas/>