

## **TRANSCRIPT OF APPG ON SHALE GAS REGULATION & PLANNING**

**8<sup>th</sup> November 2016**

### **Kevin Hollinrake**

Good afternoon ladies and gentlemen. I'm Kevin Hollinrake – I'm the Member of Parliament for Thirsk and Malton and I have quite a number of constituents here today which is good to see. Thank you everyone for attending. I am also the Chair of All Party this Parliamentary Group on Shale gas Regulation and Planning. Just to explain: we purposely set out, when we started this group, not to be a body to say whether we should, or shouldn't push ahead with shale gas exploration. It's very much about – if we are going to do it, and that decision was taken in Parliament some time ago, in January 2015 – is it going to be regulated properly, is it going to be planned properly? So we've had a number of evidence sessions and it's great to see so many attendees today, although due to the way the parliamentary calendar has fallen a short recess starts tomorrow, so there are not quite so many parliamentary colleagues as we would like, but more to come I think and a number from the House of Lords, so welcome. We've also got a number of people here from the Department of Business, Energy & Industrial Strategy which is good to see. The outcomes of our All Party Parliamentary Group are – we intend to write a report which will be published sometime early in the New Year, which very much is about recommendations to government, both locally and nationally, about how we should move forward with this and also what the concerns of the public are and also the concerns about generally how this industry might roll out if we take this step in the UK.

Could I ask anybody who is going to make a contribution to come through me, obviously and I'll go to our panel in the first instance, but also to speak very clearly – we are recording today's event so that you are aware – and also we will do a transcription of the recording to go on our website, which is: [www.appgshalegas.uk](http://www.appgshalegas.uk) So anybody who isn't here and would like to hear what went on and to have more information can access that through our website.

Today the opening session is very much to hear about community impact, something we hear a lot about as parliamentarians, so we felt it was only appropriate to have the community to give evidence and take the entirety of one session to talk about the concerns we are experiencing so far and we've people from different parts of the country who will introduce themselves shortly. Also I am delighted to say we've got somebody from outside the country – somebody who has taken refuge perhaps from the presidential elections - Amy Nassif. Amy will introduce herself shortly. Because I think many of us have spoken to much about this and heard so much evidence on either side of the equation, I was encouraged by some constituents and went and made the journey over to Pennsylvania and Pittsburgh and met with Amy and some of her group to talk about their concerns and I'm delighted that Amy was able to come over to the UK and we couldn't miss the opportunity to hear about her direct experiences of shale gas exploration in her part of the world. We also have Bishop Graham Cray, who is well known to us and has given evidence before, Councillor Gordon Smith and Barbara Richardson all to give evidence today. Thank you for attending – it is much appreciated. If I can I'll leave you to introduce yourselves and the organisations you represent and also if you want to take two or three minutes just to give us an overview of where you stand and what your position is and what your concerns are and whatever else you would like to tell us about. If I could start with our international guest, Amy Nassif.

**Amy Nassif**

Thank you Chairman and committee members. It's definitely an honour to attend and give evidence at this APPG on Shale Gas Regulation & Planning meeting. In light of today being US Election day I do hope that we've enough friends here over the past few days and the past year, that if things do go terribly wrong we may have a place to stay. I'm here in London today – I'm really on holiday with my husband and my two daughters, Olivia Julia. So we're enjoying the city and we'll get to actually enjoy the countryside for two days also.

I wanted you to know that I'm not sitting here by myself today – that's something that I think is very important. As I sit here I want you to remember that bring the voices of hundreds of parents from my community in Mars, which is in Pennsylvania. We steadfastly have campaigned to limit shale gas drilling and all related infrastructure near our children's schools. I also bring with me the experience, the knowledge and the expertise of communities across Pennsylvania and the United States that we have come to know over the past 2 ½ years since our group formed. I am a core member of the Mars Parent Group that formed back in March of 2014. We are just that – we are a diverse group of parents. Up until March 2014 we were parents like any others in the community; we work, we take care of our families, we take care of our homes, we attend school activities, soccer games, plan birthday parties, just like other parents do. We came together because industry was proposing to drill under our school and in relation to a proposed well site which was only going to be half a mile from our school campus which has 3,200 children. We quickly began to research the consequences of allowing this unconventional gas drilling near schools. We kept searching for reasons for consolation or reassurance, but it was quite the contrary. The current data available at the time – the research and the documented incidents and accidents actually gave us alarm. We petitioned our school administration, our local and state legislative authorities, local and state regulatory agencies and even appealed to the industry itself to proceed with extreme caution. We've asked for at least a one mile buffer zone between our schools and this heavy, volatile industrial process.

I hope today to offer this committee evidence regarding the significant community impacts by sharing our data that we've collected, our research that we've collected and definitely our experiences as parents in the community. I can speak to the divide that industry has created in our community that silenced my group and myself for over a year. I can speak to the sprawling nature of infrastructure and also the cumulative impacts of well sites, pipelines, compressor stations and processing plants. I would like to clarify the true history of the Pittsburgh renaissance, as I have lived in the suburbs of this city for my entire life.

**Bishop Graham Cray**

I am a retired but active so honorary Assistant Bishop in the Diocese of York, formerly Bishop of Maidstone and after that Missioner to the Archbishops of Canterbury and York. My wife and I have had a house in Kirby Misperton village for 20 years with a view to our retirement. Two and a half years ago we moved there permanently – five months later came the announcement that Third Energy would apply to frack at the KM8 site, which as the crow flies is half a mile from our house and we live on Main Street which all the HGVs will have to go down. It meant I had to start making enquiries about fracking. Apart from briefly in Lancashire it's not happened in the UK so I had to look at the places where it has happened and by coincidence – or if you're in my job divine sovereignty – I was lecturing at theological seminaries in Pittsburgh and Ambridge at precisely the same week that you, Mr. Chairman, visited. I was not able to tour but I was able to invite people to come and see me. They did from three different counties and the evidence they gave me on the impacts on communities gave me considerable cause for alarm.

### 3.

Since then I am part of Frack Free Ryedale but Frack Free Ryedale is simply an association of concerned residents in the villages in Ryedale, in all of which now the PDL licences have been issued and are effectively under threat as potential fracking sites. So I want primarily to speak today as a member of my community, but treat that as a representative community of the second lot of licences that was issued, covering more than 200 communities in the Diocese of York which were not already in exploration licences - so there are very large questions of the impacts of scale, not just the impacts upon a local community

#### **Councillor Gordon Smith**

I am a councillor from Treales, Roseacre & Wharles Parish Council on the Fylde peninsula, in the constituency of Mark Menzies. Our Parish Council has been subject to proposals and planning applications to frack for shale gas for several sites in the countryside, rather than locations provisioned by the local authority for such heavy industrial activities, such as fracking, for six years since 2010. Initially in our ignorance we supported a fracking site in 2010 which was approved, but was not implemented by Cuadrilla, the operator. Subsequently, as a council, we worked hard to understand the benefits and adverse impacts arising from fracking and we concluded that in the applications before us they are not sustainable, they are not safe and they are not supported. They unacceptably adversely affect our community and we object to them. We note that the government shale gas strategy indicates that it wants to engage the communities and have transparency. Despite making multiple attempts to engage government through the efforts of our MP, Mark Menzies, we have found that he has been denied any replies or indeed replies that do not simply answer the questions. And those questions relate to the safety recommendations that were raised in 2012 by the Royal Academy on behalf of the government Chief Scientist; the eight recommendations raised by Public Health England and now we have three further safety recommendations raised by the Climate Change Committee and we had sixty-one recommendations raised by the Director for Public Health in Lancashire, appointed by Public Health England. They are not sustainable applications because they don't take advantage of the government's strategy to support applications areas supported by the local authority, which are indeed areas that would provide provision for industrial activity. And they are not supported because we've not been asked whether we want to host shale gas or not - despite our attempts to communicate we get no engagement or are dismissed, so that is why we object to these applications before us.

#### **Barbara Richardson**

I am a member of the Roseacre Awareness Group in Lancashire and the same parish as Gordon represents. Our group represents over 200 local residents who are firmly opposed to shale gas in their community and who are extremely concerned about the potential impacts on the community. I am also a member of Frack Free Lancashire, which is an amalgamation of several groups within Lancashire, all opposing shale gas within the county. We have played a very active part since February 2014, when we first heard of the plans to frack for shale gas in our community and the community at Preston New Road which is only about eight miles from where we are. The proposed site is about 6km from the only other site that's ever been hydraulically fractured for shale gas in the UK, and that is at Priests Hall and that was in 2011 and we all know about the earthquakes that were a cause of that drilling. It is important to say that I am just a normal member of the community - I am a resident - I live 500 metres from the proposed site so I have a very vested interest in what's going to happen to my own family and to my community. I'm not on my own - there are groups all across the UK now. 60% of licences in the UK have been awarded. I am just one of the first communities that are threatened with this activity. As I say we've got very serious concerns.

#### 4.

One of the things I wanted to draw attention to is that Roseacre ward is in fact a greenfield site – completely greenfield. It's in the heart of rural Fylde, as Mark would attest to. It's a very rural, very tranquil area which is used by thousands of people that don't just live there but actually use that amenity for things like walking, cycling – it's very much a rural community and relies heavily on agriculture and the tourism industry. We have been fighting this for about 2 ½ years and as Gordon says we probably weren't originally opposed to shale gas extraction but the more we looked into it the more we realised the adverse impacts would be intolerable in our community. We have fought all the way through the planning process, from working with our Parish Council, our Borough Council, our County Council and latterly an independent planning inspector at a public inquiry, who actually rejected plans to frack at Roseacre ward in particular. So we've engaged in the process all the way through – we've done what we thought was legitimate, right and just and yet we are still faced with something that our residents do not want to have imposed upon them. To say we would host a shale gas industry is an insult – we would not host it – we are completely opposed to hosting anything of this nature. So I just wanted to make the point that I am an ordinary resident – I am not a NIMBY, I'm not a scaremonger, I'm not easily influenced by groups like Greenpeace and Friends of the Earth, although I do listen to what they have to say. I listen to what the industry has to say and I listen to what independent scientists have to say. I think I take a rational view and that's what I wanted to get across – that I am just an ordinary person and I am probably one of the first, as with other communities, that are going to be facing this and I think you already know from the BIS tracker that support for shale gas is diminishing. I think with awareness grows opposition. I think it's something you are going to be faced with by many more communities in the UK.

#### **Kevin Hollinrake**

As Chair I'll use the Chair's privilege and ask the first question. Amy – I know the Mars Parent Group specifically was formed to deal with a specific application that was in close proximity to a number of local schools. If I could ask you to put that to one side for a second – that particular application. Would you say the general concerns regarding shale gas exploration across where you live, in the region – not specifically Mars but in the region – are diminishing or getting greater?

#### **Amy Nassif**

Unfortunately in Pennsylvania they're getting greater. Based on the most current research – one of them is the Yale study that just came out and it's looking at infrastructure and the effects of the infrastructure on public health. So what's happening in Pennsylvania is the research is accumulating on the negative side. There hasn't been any research that I'm aware of – because we continue for search for it and we even ask industry for that research – to show the opposite. So the research that we started 2 ½ years ago only continues to accumulate. So much has accumulated just in Pennsylvania alone that our medical society has recommended a moratorium on fracking to our state legislators. They have asked for not only a moratorium but also to take a step back and get more public health input and get perspective from the public and take proper baseline data, which wasn't done initially but least to start somewhere. And then continue on for more research prior to continuing any more shale gas development. So unfortunately for Pennsylvania and the story is the same even in California and Texas with other parent groups and other parents and other residents that I've kept in touch with – the story is the same there. The research unfortunately is tipping the scale in the negative direction.

#### **Kevin Hollinrake**

Do you support the moratorium that's been asked for?

**Amy Nassif**

Yes – I absolutely do. I’m a physical therapist myself – I’m in the medical profession, my husband’s anaesthesiologist, so we have a medical background. But more importantly than all of that is that I’m a parent, I’m a mum and I have two children so I have think about their future and my good friends in the community and their children and their friends in school. If our own medical society is finally taking a stand and saying that we’ve had enough in Pennsylvania. There’s enough research to say put a stop to this. Even if it’s temporary we need to respect that from our medical society.

**Mark Menzies**

Amy, thank you very much for your contribution. I’d like to understand a little bit about the regulatory framework that you faced in Pennsylvania. For example how much monitoring is being done to understand the changes to air quality, to pollution levels and so on – paint a picture for me.

**Amy Nassif**

Are you talking from inception ?

**Mark Menzies**

From your own personal experience – what you saw in your community – what did that look like ?

**Amy Nassif**

In my own community, as far as we’re aware, because we campaigned as parents and we had the data and research to support our campaign, we actually did get air quality monitoring at the location that’s near the school. It was a small consolation for the parents and we had a laundry list of best practice that we had researched for and that we found through industry and through the DEP and throughout the United States of what best practices were. What we did was put that to the energy company that was coming to the school and said, if other companies can do this – at least if you’re going to be this close to our school you should entertain and implement these best practices. So our school did get that .... protection because we campaigned for it.

**Mark Menzies**

What’s on this laundry list of things you asked for?

**Amy Nassif**

Some of the things that they never considered that we thought about with the schools – bus traffic; the school buses travel the roads approximately from 8-9.30am – heavy bus traffic which would intercept with heavy truck traffic. So we asked them to lift that truck traffic during the school hours and then again repeat that in the afternoon when the children are being dismissed and going home. We got that placed in as part of a commitment from the energy company. Another thing that we did was at the intersection, where they built the exit ramp – it wasn’t a main intersection with a fast lane or a stop lane, so it was kind of set off from that and with heavy traffic coming out about 8ft away it would intersect with the bus traffic leaving and exiting the school. So we asked them to have a directional change where they could only make a right turn out and then a right turn in, to not disrupt the flow of the traffic and not intersect with the buses at the time. We talked to the township with that, so it was not only us requesting that but the township did too and they agreed to that.

6.

Air monitoring was a big one. That was something that had really been done and actually Rex Energy who did develop the well by the school had never done that to our knowledge prior to this and what they did was they did air quality monitoring but they did it themselves. They have all the data – we have no idea.

**Mark Menzies**

There was no independent oversight ?

**Amy Nassif**

No and because it isn't a state law or a federal law in our case, the companies had to do that – they just agreed as a compromise - it wasn't a law - because we campaigned so hard to try to get some measures of protection for the children.

**Mark Menzies**

In terms of baseline monitoring – before they began their activities on site, what did the baseline monitoring look like, so you could establish what the site was like before they moved on in terms of air quality emissions and so on. What happened there?

**Amy Nassif**

That's a great question – I wish I knew. They didn't share the data with us – we have no idea to this day – they did the monitoring and they are not required by law to have to share it with us. There are agencies that we have in the United States, for example the Clean Air Council, who are actually trying to help on our behalf to petition them even further to say you need to release this data – it's of public interest so you need to release it. So it's more forcing of the hand but they're not willing to release that data.

**Mark Menzies**

So if you were to give us any advice purely on that package of measures you've just outlined – could you give us any advice from your experiences – what would that be?

**Amy Nassif**

If you're going to speak just on air quality only. Patrice ... who is a member of our group and Dr. Marsha Hayley also, they are both parents in the district, very knowledgeable. Dr. Marsha Hayley is a radiation oncologist and she actually did some independent research and what they found is that fenceline monitoring needs to take place and it needs to be monitored 24/7. In other words what we experience and what our Pennsylvania Department of Environmental Protection was doing this – they would come and do what's called a grab sample – they would come and they would sample the air once a week. And that's not a true picture of what the emissions are at a site, especially because it changes throughout the development between the construction of the .. and then begins the more heavy, industrial process – actually drilling the well vertically and then fracturing it. The fenceline monitoring 24 hours a day, 7 days a week – the data had to be collected and it would have to be done by an independent, third party. And remember I'm speaking from the fact that I have no control to say it doesn't belong here. The only control I have as a parent is to try and put the best regulations that I can in place to protect the kids.

**Kevin Hollinrake**

Councillor Smith – you spoke before that you supported an application in 2010 and that particular application Cuadrilla didn't go forward with it. Since then you have tried to engage with different people within the ministerial department. Are you saying that if some of your concerns around these 8 recommendations...

The ten recommendations were in relation to the report commissioned by the government Chief Scientist by the Royal Academy of Engineering and the Public Health England report by Kibble, 2014.

**Kevin Hollinrake**

So are you saying if these recommendations that you want to see implemented and you get the engagement level and you are able to specify the sites ... in industrial areas for example – are you saying you would support applications on that basis?

**Councillor Smith**

You go through a process – you go through ‘is something safe?’ First of all as a Parish Council we have to deal with development every day. I’ve been a parish councillor for 13 year and dealt with public inquiries at a whole series of different levels on development – so intrinsically you start off with an application. If it’s safe and currently clearly shale gas is not safe because the report the government commissioned – the recommendations have not been independently verified as completed – so it’s not safe. Secondly is it sustainable? Well shale gas is a heavy industrial process – so fundamentally bringing a heavy industrial process into the countryside is conflict of the National Planning Policy Framework and the Local Plan. It doesn’t need to be that way – you’ve heard from John Blaymires, the Chief Operating Officer of IGAS at your last session that we can drill out to 10km and at Witch Farm it could be 11km. And then is it supported? So Government introduced the concept of hosting shale gas ... So if it’s not supported, and this Parish Council has concluded that it’s not supported, then one wouldn’t take it forward.

**Kevin Hollinrake**

Back to the original two conditions. My question was – if those recommendations were implemented and it was zoned in areas that you felt were appropriate, such as you quoted Igas in saying it would be strategically located – would it be supported on that basis?

**Councillor Smith**

Not unless it was supported with regard to the support from the community, because what we’re talking about is confidence and trust in the regulatory system, so at the safety level we know now that the Government is directing the regulators to promote shale gas – that’s been published. We know that the local authorities are not resourced to manage conditions and enforce them. So there isn’t a sound regulatory framework, so even if that context you describe – and we know it doesn’t exist today – there are still further levels of matters we can’t conclude.

**Kevin Hollinrake**

Let’s put those assumptions into play – that that regulation *is* where you want it be, and I accept your scepticism about that – if that regulation is in place and oversights are in place that you would feel is appropriate – and then the locations are in appropriate places, would you support shale gas on that basis?

**Councillor Smith**

The answer’s ‘no’ because it would fail to meet the National Planning Policy Framework because the NPPF is designed to support development for residences, support development for industrial activity and make provision and support rural activity. The areas in which are they promoting within our parish do not comply with that.

**Kevin Hollinrake**

That was one of the conditions that I put to you – the fact that these were areas that you would support. I guess what I'm saying to you is – are there any conditions under which you would support shale gas exploration?

**Councillor Smith**

Any development that complies with all the regulations and all the support and all sustainability would go ahead. But of course if you're talking about shale gas, it hasn't demonstrated that so if you're saying that there is a magic wand with which everything's perfect then of course it should go ahead. But of course you're talking about reality and as things stand today there are things that can be controlled and managed by the Government but haven't been, which undermines trust and confidence – they are not that today.

**Kevin Hollinrake**

So in a perfect world then you're saying you would support it ...

**Councillor Smith**

In a perfect world any development would be supported because it would comply with the regulations and it would be sufficiently regulated but we don't have that situation. So if I was in Disneyworld I could do it.

**Mark Menzies**

Thanks very much for coming along today. On that point that the Chairman's just outlined – about six months ago you came to see me and you gave me aerial maps of my constituency and you identified a number of sites where you thought shale gas would be more suitably located. What were the criteria that you felt that those sites were suitable for shale gas development?

**Councillor Smith**

So, in terms of the National Planning Policy Framework we have sites, we have areas that are designated to be supported for different sorts of development and those sites are compliant with support provision for heavy industrial development, so they have highways access, they have the requisite utilities, they have environmental and community protection. The other aspect is that shale gas is demonstrably shown to be able to be drilled out to 11km so sometimes the quote is that 'you can only mine minerals where minerals lie'. Actually the technology allows you to mine them out to 11km, so there is no requirement to put it into countryside. So in terms of the NPPF, what those sites were indicating was actually within the target geology all those sites would be eligible for consideration with the respect of the NPPF, which all the sites that Cuadrilla have submitted to date haven't been.

**Mark Menzies**

So I think in terms of community impact it's actually quite important because the area you represent is highly rural.... So in terms in road infrastructure, the sort of distance from major road infrastructure, that speaks for itself. Can you tell me a bit more about the sites that you identified in my constituency that you thought could be suitable for shale gas development. Talk me through some of the key criteria and why you thought the community impact would be less there.

**Councillor Smith**

One particular site has direct access from the motorway network; it's actually excess government operated land; it has access to utilities – there is a main gas pipe that runs beside it; it has its own security fences with 24 hour operations, so therefore there's background noise; there's even a communications antenna that's the same height as a fracking rig. There are also sites – there are now four local enterprise zones all approved by the national government, all of which have planning permission to operate heavy industrial activities, all adjacent to primary routes, all have utilities. None of these have been elected to be considered, never mind rejected, by the applicant. If you have a look at the shale gas strategy by the Government it actually indicates that it would steer operators to areas that local authorities support, that have industrial development. That's not being applied and that goes back to July 2015.

**Lord Hamilton**

I live in Devon now but before that I lived in Surrey which is quite a suburban home county and we've had oil wells operating there for years. Most people don't even know they're there. I just make that point because I think once these things are established it's a rather different story – you can grow trees round them and things. People hardly know they even existed. So there seem to me short terms problems of the construction of these sites which involve traffic and people and lorries and God knows what else. Once, surely, they're operating not much happens from then on does it?

**Amy Nassif**

Actually that's some misinformation I understand because we were told as a community the same thing – that we will come in, we will drill these wells and you'll have a Christmas tree – it'll look like a Christmas tree when we're done. And I also in my area, just north of me is oil city, which is the first developed oil wells in the country, so I'm very familiar with the extraction industry. And so is Pennsylvania – it's rich in our history from oil to coal and now to natural gas. But when you're talking conventional wells versus unconventional wells, those are two very different things. So to say that in the end you're going to be left with a Christmas tree is not true. What you have are very large – and when I say large they're usually 10-15ft tall the diameter is sometimes over 20ft - tanks, they're condensate tanks, that are placed on the well pad to capture the flowback fluid that needs to be then trucked out until pipelines are in place. Once the condensate tanks are there you have to remember that they are susceptible to fugitive emissions, so to say again that that's just there and it's not a possibility of anything happening is unfortunately not true because we've had in Pennsylvania and especially in my area.. we've had incidents and accidents where we've had fires at these sites that are in production, we've had fugitive emissions released and they're not being monitored so it's actually not the end when they're done with drilling and they're fracking the well. You need pipelines to be in place to transport that gas and how our system is set up in Pennsylvania is that you need compressor stations, usually every 60-70 miles to then compress, clean and compress the gas and send it on its way, which usually goes to a processing plant and to be further divided. So the infrastructure is not just that well site.

**Bishop Cray**

Could I add just one point, please, to the same question – which is simply that, as we heard at the last meeting of this group, a well produces a lot of gas at the beginning and quite quickly deteriorates, the consequence being that for the industry to be viable it must drill and drill again. And therefore even if there were only the problems at the beginning they are happening all the time in an area that is being fractured at an industrial level, if I understand that correctly.

**Amy Nassif**

Yes, absolutely and to extend on what you're saying is that a well site in my area that went into production three years ago, they actually brought a rig back and so they have to maintain access to that site, they have to maintain that site to come back and then re-frack the well and try to stimulate it and get more gas out of it. So it doesn't become a closed off area that you never see again. You can plant trees around it but it's still there and it's still an emitter – there are fugitive emissions – and then the possibility is that they can come back and do this year after year after year and it has to be an available site to them, so you can't just turn it into grass again or a farming site, they have to have access with their trucks to get in there and continue to develop the sites after years.

**Kevin Hollinrake**

You said that site would be managed for three years. According to the Oil and Gas journal only 1% of sites of wells in the US have been re-fracked. Is that your experience – have you seen that more frequently in the other sites – only where you're directly aware of.

**Amy Nassif**

I'll speak as just in my community and that was one instance because that well is of particular concern for us because that's on a dairy farm – you saw that well – so that has other consequences that as a parent I'm concerned about because the milk that is coming from the cows in that area is being sold in the stores and also the schools, so there is a whole other consequence with that. But if we're just talking about the well site itself, they did come back and re-frack that well – there was a rig up again.

**Kevin Hollinrake**

How long did that last for when they came back?

**Amy Nassif**

I live about five miles from there so I wasn't constantly watching it – so roughly a few weeks. I'm aware more of the truck traffic on the road, that kind of thing. I'm not close enough to hear the noise or see the lights or feel the vibration or any of those other impacts. But I'm just aware because it's something that I drive past in my travels.

**Lord Hamilton**

Do you have any evidence that what cows eat, in terms of polluted grass, ends up in the milk?

**Amy Nassif**

I do not have .

**Lord Hamilton**

No, I don't think there is any.

**Lord Michael Jopling**

I'll begin by saying that I have every sympathy with regard to those people who live close to these operations. I live in Yorkshire and I can remember very much the same arguments being used when the Selby coalfield was proposed.. coal mining is very much more intrusive than fracking. With regard to fracking, I did spend a week in Alberta a few years ago and I did see every aspect of fracking and shale gas exploration and my impression was very much what Lord Hamilton mentioned just now, that the disruption - one has to acknowledge there is some disruption – is very much at the beginning of the operation. What struck me in particular was the noise factor – pipes clanging together – that is very intrusive.

But my clear impression was that this is a problem whilst the development is going on. I did visit one site where the drilling had all been completed. They were just pumping the gas out rather than fracking. It was an area not a lot bigger than this room with a series of wells, a sort of cartwheel effect and that was a site which was not very much different to a sewage farm which serves the villages where I live in North Yorkshire. Of course you mentioned the pipelines and so on. Well those all go in in the beginning and once they're in they're in. And of course there has to be access to the sites. There has to be access to the sewage farm, there has to be access to the wind turbines, there has to be access to all the public utilities really. So that I don't buy quite frankly. But I know the site we went to - which was an operation just doing pumping - they did tell us that they expected to be operating for 30 years. It was pretty innocuous from the intrusion point of view and therefore, as I began by saying, I am wholly sympathetic to the disquiet of those who live close to these operations, but it seems to me that - following earlier questions - our friend here was saying it's unacceptable with the regulations - well one can change the regulations, it might be an argument to change the regulations to make them stricter ... and if you did that I rather got the impression that your council would not necessarily be particularly in opposition...

### **Councillor Smith**

In terms of *our* council, it wouldn't comply because the technology allows you not have to be constrained by being on top of the geology, so in this new technological age that we have you can actually reach out so you can start with the logic that says 'where does my planning policy actually provision to support the development of business and industry' well we've already provisioned for that at particular locations. So you don't have the problem then of having to worry about access, to worry about the extra infrastructure of pipelines and then you go onto the second point, which is actually fracking is a very consumable process. So you are talking about a construction site, but actually it's a continuous process because the geology continually moves, so that's why you get the relief of the gas coming initially - when you blow it open with the water and then prop it open with the sand and then you use hydrochloric acid to keep it de-furred for as long as you can and then geology moves and it closes it down. So sometimes you get lucky and it stays open for a while and sometimes it doesn't open at all but then you have to keep going back and back and the significance in some of the areas in the UK of the shale is a lot thicker. Because of the time you go through you actually have to look at investing infrastructure for longer. So the government strategy says that 'we think within 5 years production under way from the first converted sites' so the intention is to continue using exploration sites. So we won't finish because you have to go back to accommodate the geology...

### **Kevin Hollinrake**

It's important to talk about evidence here rather than speculation and this is what we certainly need to hear in terms of the community. You have got evidence of that being the case with the constant re-appraisal on re-fracking of these sites, which I think is what you were concerned about. You said this is a continual process.

### **Councillor Smith**

Yes - because if you have a look at the industry they have multiple wells, so we know that Cuadrilla applied for 4 sites, but we have actually spoken to the Chief Executive and he has told us 9 and then you do multiple horizontals in a plan, so you get 40 very regularly, you heard at your last presentation because that's exactly what the industry seeks to achieve because it consolidates and it's fixed investment.

**Kevin Hollinrake**

I have to say my experience of being out in Pennsylvania asking this question - and I met with Amy and many other people in Pennsylvania – certainly that there is a period of time which I think we all acknowledge, of industrial activity on a site that lasts maybe 6 months, 12 months, 18 months – would that be a fair assessment ? But in terms of – I think you described it as ‘continual industrial process’ what evidence have you got for that statement ?

**Councillor Smith**

Because the multiple wells that exist in the US – the difference in the two geologies is that in much of the US the geology is fairly thin. So you have a vertical well and a series of horizontal wells at the same level. The geology that has been targeted in the Bowland shale the operators believe is up to one mile deep. So their expectation is that they will drill multiple vertical wells ..

**Kevin Hollinrake**

Yes for a period of 12-18 months.

**Councillor Smith**

Yes and that’s cycle, cycle, cycle. So in that time you have...

**Kevin Hollinrake**

You’re concerned that is a continuous process. That’s another reassurance you need in terms of your parish council, if people expect that to be the case I quite understand the concern.

**Barbara Richardson**

I just go back to the very first meeting I went to when Francis Egan, who is the Chair of Cuadrilla was at the meeting and obviously we raised our concerns about the four exploratory wells. My question to him was that once you’ve done that if you find a gas reserves that you think you’re going to find, what will happen then? Will it become a superpad, as they are called in the US? And he said yes, you are very right to be concerned about that so each site could have up to 40 wells. You are not telling me that that’s only going to take eighteen months to drill and frack those wells? You are talking possibly 15-20 years. This is what the industry to me need to show what the scale of this industry is and the not coming clean in my view with how many well pads will be needed across the UK, how many wells per pad, how long it will take. I’m talking about the production scenario.

**Kevin Hollinrake**

Given that ... I can quite understand that a site 500 metres from your home might be difficult to accept. But let’s assume it isn’t 500 metres away from your home or anybody’s home – it is somewhere where it’s not going to cause direct concern – but given that this was done over a finite period of time, at that point in time you believed it would be well regulated and beyond that initial period of time there was not going to be ongoing disturbance – would you then support shale gas exploration?

**Barbara Richardson**

I would say you have to consider the whole of the industry from a production scenario. What you’re talking about – this industry – it’s going to need huge amounts of sand, for example, to be transported across the motorway network to service the industry. You’re talking about drills being moved across the country from site to site, so the impacts are not just on one particular locale, these impacts are across many communities for different reasons.

And another thing we've not talked about - and I suppose it's not relevant in the sense of this committee – but my view is we're talking about another fossil fuel industry which is going to bring into play methane emissions and we know from the States already that there are significant peaks in that. How does that fit in line with our climate change targets?

**Kevin Hollinrake**

We're actually talking about community impact but I take your point and it's on record and I think it's very important that we take it into consideration.

**Bishop Cray**

If I could just stay on this issue of does it just keep going. We heard at the last meeting that one of the differences between here and Pennsylvania is that it's not a lot of people who own the mineral rights having a lease and a well on their land. And we know I think from the Draft Minerals Plan emerging in North Yorkshire that there will aim to be a limit on the number of pads per 10k exploration area should that be agreed. Therefore the critical issue is how many times do you drill, how many times do you frack on one of those pads? And that's where the repetition comes in. You will remember I asked the representative of Third Energy last time if we have 8 weeks of 900 lorries, 500 other vehicles, night club level noise, lights etc. and as Mr. Dewar said to me only 8 weeks, how many more 8 weeks, because that quantity is where a well is already drilled – all that is needed just for the frack. How many times does that happen in our village? How many sequences of 8 weeks simply to drill again or to frack again and we are, certainly in North Yorkshire, talking about pads with multiple wells, not lots of individual wells scattered around. So I think if we are talking about community impact – and I think the figure in the Draft Minerals Plan is no more than 10 sites per 10k – that is an awful lot of wells in North Yorkshire and certainly our villages are close together that's why I quote this 200 communities figure. I actually went through a list and counted to make sure it was right. So it is almost impossible to do this without very major impact on a whole circle of villages every time you do it.

**Amy Nassif**

Two things I was thinking about - you asked me about evidence for animals. Although there is no research because Pennsylvania has not done any research on animals – there is plenty of health impacts that are now being recorded by people that live in close proximity to shale gas and the development of it. So as a healthcare professional, if you're affecting the community that's in close proximity, I would be suspect to not wonder if the animals in that area are being affected also. And there have been anecdotal stories – and I can give you plenty – of people's cats, dogs – problems with birth – calves being born deformed, stillborn calves on different farms; goat farmers that have had problems with their herds. So there are anecdotal stories. Unfortunately there is no hard pressed research. Part of the problem is that most of these people that are experiencing these problems have invited the gas industry on their property, again they own the mineral rights, which is very different from here. So we don't have the ability to collect true data in that respect. A lot of times those types of cases are settled prior to any public knowledge at all. If there is a problem with the site it's usually handled between the leaseholder and the industry without any public record. So that's part of the problem. So I would think that if you were to go forward here in the UK with something like this and you were going to propose it close to a dairy farmer, close to any of your agriculture, you should be very clear about what kind of emissions you have, because what goes up in the air comes down in the rain and affects your grass, it affects your streams, it affects your lakes, it affects your community. So that would be my suggestion for that.

**Lord**

I hear what you say but I would have thought that what you needed to do was to get hold of some of the milk off one of these farms and get it tested and find out whether it's polluted or not.

**Amy Nassif**

That's something that my group as discussed. Unfortunately we are grass roots coalition and we are parents who work in the community – we're self-funded. I'm here on my own time – on a holiday with my family so I don't have the means nor do I have the resources to do that. It's something that we continue to talk about and we have concern and I think it is coming. But again I will stress that in Pennsylvania we have no funding or support for any of this research. All of this research that's being gathered now, that's being presented has been done independently.

There's a second point if you don't mind is to address the temporary inconvenience. I really want to stress this, because I have friends who have children not only in school where the well site is, but they would come home and their homes were near the well site. The story that you may not have heard is that one of my very good friends – her daughters began to have nosebleeds and headaches and they were 5 and 8 years old and go to school with my daughters. I'm offering for them to come to my home and stay with me to get away from what's going on there at the well site. There was nobody available to protect them. The industry would not return the calls – the DP was failing them and not answering calls. If they would show up they would show up a week later and test the air a week later, not at the time that something was happening and they were smelling something or there was a flaring going on or whatever at the time that was going on. So she really didn't have any knowledge of what was happening at the site. Industry wasn't cooperating with her and our own government wasn't helping to protect her. So there are real stories. There's a parent in Washington County just south of me – her daughter has benzene poisoning – benzene – that's not a natural occurring thing in the air. Their school is surrounded by 30 gas well sites. That's proliferation. That doesn't go away, that stays in the air and then there are fugitive emissions and like I've said before, if you put these gas wells in place the pipelines come with it, the compressor stations come with it and then also the upper infrastructure. What you are deciding to do in the UK is put a heavy, industrial process in a residential, agricultural or suburban community and you have to be cognisant of that. This is a heavy, industrial process. It is not a construction site.

**Mark Menzies**

Thank you for Amy for your contribution. I am glad you're here. I'm normally very suspicious I've got to say of Americans who come across the Atlantic to tell us what to do. But if we can make an exception in this case. Some of the things that are outlining highlight the importance of robust regulation and also the need for rigorous up front monitoring so as to establish baseline monitoring. Knowing all the things you know now, with relevance specific to your own community, if you were here and advising government with regard to regulation or baseline monitoring whatever, talk me through what some of those recommendations would be.

**Amy Nassif**

Well I would go first to our medical professionals who have already answered that question. They have called for a moratorium because the research is tipping the scales as I've said towards 'this does not belong and it's causing public health problems, it's impacting on communities, it's impacting on water.' We've even had one of our first cases of public water contamination in .... County in Pennsylvania. So when you start to tip the scales in that direction, what we have to look at then is back it up and say public data, so you have to have a health register in place before you even comment.

15.

So you have to understand your constituency, what their names are where they're at and then from there you have to think your water and baseline testing in the area. Whether or not you're public or private it doesn't matter. You have to know what's in that water prior to coming in for all the examples and the horrendous examples that I can give you in Pennsylvania.

**Mark Menzies**

I'm not going to put words into your mouth so everything that I'm saying, I'm just checking you're understanding. If it's not what you think just tell me. You believe it's important that there should be – before the process begins that there should be baseline monitoring of water and air. Anything else ?

**Amy Nassif**

A public health registry.

**Mark Menzies**

You believe that monitoring should be done independently, not by the company but by independent agencies or organisations?

**Amy Nassif**

Yes – 24 hours a day.

**Mark Menzies**

Not coming in, taking a sample and going. The final thing is something I'd just like to test. One of the things I've been calling for in addition to that is rigorous, unannounced inspections. So it's no good saying to the company we will be here a week on Tuesday at 2.30, but literally at any point 24/7 a regulator or someone that's there to do checks have got power to go in and to do whatever checks they deem necessary. Does that power or anything like that currently exist in Pennsylvania and what benefits would you see that having in the UK?

**Amy Nassif**

This is a topic that frustrates me because I have spoken personally to our executives in the DEP and asked them why they haven't done inspections – where are the people that when my friend calls and has a problem, why is there no one there that can help them. Part of the problem that we've seen in Pennsylvania is the quick and expansive proliferation – 10,000 gas wells in the state. With that amount of proliferation the Department has not kept up. Not only with regulations but inspectors in place. In my town in Butler county, that has hundreds of wells itself, there are 2 inspectors – 2 – which covers the entire area and one of them is for surface operations and one of them is for sub surface operations. So really if you're in a well site and you're in the northern end of the county, that inspector's in the south – you can expect days before someone will come and answer your request. So the problem is that I've heard from government, I've heard from the DEP and I've heard from our local communities that everybody is doing what they're supposed to be doing.

But at the end of the day what they're supposed to be doing is not protecting the community. There are still people being harmed. So to say that you want to have these robust regulations is one thing – are you going to have your government fund it is another thing. Because we have that problem now where the DEP themselves have fought hard for a new regulation. We as a community fought hard for these new regulations and one of them in particular, which is a sore point with me, is to put special protection in for schools.

We finally got these regulations in place at the beginning of October and the coalition of the oil and gas industry, the Marcell Shale Coalition, is now in litigation and suing the DEP, the actual governing body – the regulators. They are coming back and suing their own regulators and saying – we don't like these at the end of the day - this is going to prevent us from making more money.

**Mark Menzies**

One final question. If it's been found that there has been a breach, serious or otherwise, of environmental protections regarding the wells in your area, what powers do the regulatory authorities have in order to stop drilling with immediate effect ?

**Amy Nassif**

They do not. They issue a fine. That fine may or may not get paid because industry may counter sue and say 'that fine was too much' or 'it may affect our profitability - so we can't really pay that fine. We didn't really mean to do that – we'll do better next time.'

**Mark Menzies**

So America being America this could end up with litigation which could end up in favour of the oil company but the regulators have got no formal powers in order to enforce that or close down the site.

**Amy Nassif**

Absolutely – they issue a fine. Actually there is a company now that has levied over a \$3m in fines but yet they just got issued new permits to continue drilling just a mile away.

**Kevin Hollinrake**

Could I ask the rest of the member of the panel – we did hear from the Environment Agency in an earlier session who said that part of their oversight was to include spot checks of these facilities. How reassuring is that?

**Bishop Cray**

It doesn't greatly reassure me because of the capacity situation. We are in this strange never never land of where a planning permission has been given and will come under judicial review – one's been refused and has been overturned – so all of us are gathering the best evidence we can to handle this as possible. But the moment you had the scale of fracking that would be necessary to be commercially successful – the moment you've got capacity, where is the capacity for regulation? You will be aware that there is no trust in my community with the company that wishes to drill. What I'm saying is regulation is meant to produce trust – I'm saying I cannot see how in the current financial circumstances there can be the level of staffing and expertise to monitor this scale of development.

**Kevin Hollinrake**

You trust the regulator but it's a capacity issue?

**Bishop Cray**

The real difficulty is trusting the independence of regulation. We have such a political pressure at the moment – I think it will be difficult for them not to be influenced.

**Councillor Smith**

I think in our experience of the Environment Agency, in broader matters, I think I would concur with the Bishop. They are extremely thinly spread. As individuals they are usually very committed individuals in my experience. However when we've been dealing with the Environment Agency in respect of fracking you get some very good lines to take being given to you. You are there to protect the environment, so what do you do about the long term monitoring of the well. It is actually supposed to be a permanent waste depository – it is actually supposed to contain between 30% and 70% of the fluid you put down and has to stay down. So how do you know whether it moves or not until it appears in your food? What monitoring? We don't do that – that's an environmental issue. When we talk about green completions – do you see the regulations? It's quite clear that there should be green completions. In fact actually from an energy waste point of view you can use the gas, you can burn it, you could actually supply 25% of the power for the whole of Fylde just from the initial flow tests as described. The EA are supposed to do a quantitative assessment to see which is the most appropriate mechanism, but they didn't do that and I've spoken to the operating director and they describe to me – the said 'we had our lawyers' – they didn't say we had our engineers doing the quantitative assessment and we decided the only appropriate way was to flare the gas. When I asked him – could you show us – he said well why are you asking. He said 'I'm not going to take this conversation any further.' And I spoke to the director who looks after climate change at the EA and he said 'we'll learn a lot from these early tests' which doesn't give me any confidence at all. So I think the regulatory environment and the individuals are well meant but bounded.

And then I look again at the shale gas strategy – at the time the Secretary of State for Environment, Food & Rural Affairs was actually putting their name to a letter that a regulator – that describes a plan to implement shale gas. And not one part of it is about improving the regulation or the capacity. So there is no independence of the regulator and the promoters. There's a fundamental flaw in any control mechanism.

**Kevin Hollinrake**

Can you just repeat that.

**Councillor Smith**

So we had a letter that was published in the Guardian, from three Secretaries of State to the Chancellor of the Exchequer and one of those Secretaries of State – for Environment, Food & Rural Affairs – which manages the Environment Agency – and they are describing a strategy that's there about promoting shale gas and none of its about improving regulation.

**Kevin Hollinrake**

You are aware – you will concede that government policy and departmental policy and the policy delegated to the Environment Agency and the Health & Safety Executive and the Oil and Gas Authority is all about improving regulation - green completions being one of those specific things the Government is looking to the industry, to bring about green completions.

**Councillor Smith**

If we take our example – you talked about experience – we had applications before us, an application that had been granted permits and the green completions hadn't been done so in terms of the thinking we've had 6 years experience of shale gas – 6 years. There are four years worth of government chief scientist's recommendations outstanding, 2 years from Public Health England and another 2 years from ... All these people are supposed to advise on regulation. All these things are outstanding so there is no confidence and no capacity in the regulatory environment for it to be enforced.

**Kevin Hollinrake**

On that point about green completions – on that particular case. You haven't been able to get a satisfactory response. Has Mark tried, on your behalf, writing to the Environment Agency to understand why this wasn't the case .. we intend to get an answer to that situation.

**Councillor Smith**

Again I actually went to the Head of Audit and the Head of Audit allocated the Operations Director who is actually responsible for it. So when I challenged that they said well it was far enough away. Anybody would have shown what's the cost effectiveness of doing green completions and generating energy from waste or flaring it and all the fugitive emissions that creates.

**Kevin Hollinrake**

So to summarise your perspective on the regulator: you've said that these people are committed individuals – you would feel that there is sufficient competence within the regulator but not enough capacity.

**Councillor Smith**

The individuals are well intended individuals – they have not demonstrated the competence of regulation because they don't actually have the confidence within their organisation...

**Kevin Hollinrake**

You don't trust the regulator and you don't believe there is enough capacity.

**Councillor Smith**

That's the evidence before us.

**Barbara Richardson**

It's a similar story. I would say, as we've had discussions with the various agencies, as you drill down to find out even more information about what they're going to do the answers are not coming back – they're not satisfactory. They do not understand what this industry is about and that's not through any fault of their own – like Gordon said with the best will in the world you know they're well intentioned – but they've never had to deal with this industry before, they've never looked at the scale of this industry and what the implications of the scale of the industry are going to be. And you've got to look at the knock-on impact – how many people would be required to regulate the industry and we all know that obviously with pressures and austerity these agencies are being cut, we've got growing problems with climate change, so the demands are growing and yet resources are getting less. So how do you reconcile that – that's what needs to be done.

**Mark Menzies**

If I can ask, Gordon – can you describe the environmental regulatory framework that you would like to see? What's that look like?

**Councillor Smith**

The environmental framework is a resourced one that actually is controlled, so if we take it from the top down at the moment there isn't independence of the regulator from those parts of the organisation that are promoting and you simply follow government best practice advice, whether you take it from OGC, or from the Treasury, the evidence of the need to control tasks and complete is there but it's not being applied. Open loop.

**Mark Menzies**

So describe this regulator that you would like to see regulate the industry and what it will look like.

**Councillor Smith**

At a bottom-up level (because we're talking about impacts today) you have safety in terms of managing the risks with a critical eye, not an accommodating eye, because the reason why that is, is that then the resource constraints are prioritised to try to achieve a best possible case rather than the protection of the community case...

**Mark Menzies**

So what would you like to see in place – in order to give you the reassurance that you would like to see?

**Councillor Smith**

The biggest thing would be to separate the regulator from the proponent – so independence. If you like an easy ask is that regulator reports to Parliament – doesn't report to Government.

**Mark Menzies**

Can you think of another example where that you think that currently takes place?

.....

For example the nuclear industry – are there any parallels we can draw there?

**Councillor Smith**

I don't pretend to know enough about the nuclear industry. I would focus on performance – if we write something down we do it and at the moment we say we are looking at – I could show you 61 recommendations from the Director of Public Health and most of them we are thinking about starting to do something soon. If I look at the responses to the 10 recommendations in the government Chief Scientist commissioned report – they accepted all those recommendation and when you've finally got your response a second time from Minister of State.

**Mark Menzies**

It's important not to paint a picture of government departments who don't respond. It's important to be accurate.

**Councillor Smith**

With due respect you have not had an answer to the questions you raised as to the completion status of the 10 recommendations and 8 recommendations and you have not even had a reply from the Secretary of State for BEIS.

**Mark Menzies**

Well actually, in fact, other people from your area have got a reply today – I gave it to them before the meeting. In order to be sure that that regulator is truly independent, how do we make sure? This for me is really important, because what I don't want is allegations saying that the environmental regulator isn't independent and there's going to be interference and pressure from an external body. How can we recruit the right people? How do we make sure that they are accountable in a way? I accept the parliamentary point's an interesting one but how do we make sure that that body is both skilled enough to do the parliamentary regulation and also resourced enough in order to address your concerns – describe that for me?

**Councillor Smith**

You count the strategy and you resource it.

**Mark Menzies**

How do you make sure it's independent – what does that level look like that will give you reassurance?

**Councillor Smith**

The level of independence is one that they don't rely on their careers – to be contaminated by somebody who has their career tasked with promoting the subject.

**Mark Menzies**

For some time a number of people have said, myself included, that it's all very well having the individual independent regulators in place. What we need is perhaps an over-arching body which could well be ..... not to try and second guess regulators, not to undermine them, not also to try and change the rules by which they operate because independent regulators, health and safety executives are well established and we can't try and change that. The important thing is a body that's set in looking at shale gas and take on board some of the concerns that you have quite regularly raised and make sure that the regulators are then robustly regulating shale emissions, following through with independent inspections and so on and so forth, so that we as Parliament have then got a body we can go to and hold directly to account and challenging the failings that they are picking up on behalf of independent regulators.

**Councillor Smith**

Why should shale gas be any different from any other industry or business? What's special about shale gas? What we are seeing is that the Government, despite the issues associated with shale gas, is still trying to promote it. But by any other objective assessment, i.e. 10 outstanding recommendations from the Royal Academy, 8 outstanding recommendations from the PHE, 61 recommendations from DPH – it's quite consistently not applying the national PPF.

**Kevin Hollinrake**

.... The Government does promote things it thinks will be beneficial to the economy. I would ask you – do you honestly think the Government's willing to promote that at the expense of people's health?

**Councillor Smith**

At the moment that's my impression.

**Bishop Cray**

One quick comment on regulation. I agree entirely that the fragmentation of accountabilities is a huge problem. If I can graciously object. You asked us to come here to give you evidence about community impact and are spending a lot of the time asking us to advise you about how to regulate it. There has been reference to the National Planning Policy Framework; Frack Free Ryedale has recently had a report produced on the ambiguities now within planning on getting decisions on the differences between the local and the national and so on, which courtesy of Nigel has now been posted on the website for a future occasion. But that framework says that there has to be an assurance that no unacceptable adverse impacts on the natural and historic environment, on human health, aviation safety (you can leave that one out I think for North Yorkshire) and take into account the cumulative effect of multi impacts on individual sites and the quantity of sites and I have spoken about the cumulative impacts and you have heard me try and get Third Energy to tell me how often they would hope to frack or to drill in our village.

But there are a sequence of things that are also, should time run out, recorded in Barbara's written submission which are generic I think to the concerns of communities. They won't be new to you so I won't expand on them but obviously the scale of traffic, the implications for road infrastructure – in North Yorkshire that is not just all the little rural roads that connect communities that are quite close to one another. It's the main roads that are full of people going on holiday in Scarborough and things like that. So there's a very significant question about the impact of the level of traffic. There's a very significant question about the safe trucking of contaminated waste back through those same roads. And no one has given me an adequate answer on the national capacity for the higher level of decontamination that has to take place. As far as I can see the biggest place is in Leeds and that can do the equivalent of a frack a day. Why it's a community impact issue is – what happens if it's got to be stored back because they can't process it? Is it going to be there on site at KM8? Is some other community going to store it? I think that one is important.

Our concern for our children is a consequence not only of air in the medical research, it's a consequence that in our village they go to schools in three different directions. Children come into the village to a pre-school and they come into the village for a toddler group and therefore there's practically no time of day when some children may not be moved through and just limiting the hours the lorries can roll – you've been on Main Street, there's only a footpath on one side at one point – there's a narrow little road – so there are real practical immediately local issues.

The health one is huge because the John Hopkins School of Public Health research, the University of Pennsylvania research, the University of Columbia research and now this call for a moratorium – I must point that the NHS Commissioning Group for that area called for a moratorium more than a year ago – they no statutory power and no one took the slightest notice. All the evidence as far as I can see is that long term high density fracking makes people around it sick, ranging from the irritating like nose bleeds to the highly serious like premature births and things like the. We are heavily concerned about the impact on jobs. Again you have to go by what happened elsewhere. You may know that in Australia the state of Victoria has banned fracking to protect its agricultural industry, because when they looked at what happened in Queensland, which has heavily done the equivalent of fracking, for every ten new jobs that the gas industry brought in, .. 18 were lost in agriculture. In New South Wales, where they have a concentration of racehorse stud centres and where they've vineyards – not our problem, Malton is the food capital of Yorkshire – they created created critical industry clusters – this is in New South Wales, where you may not frack anywhere within the area where the racehorse centres are and you may not frack within 2km of it because they believe government has to act to protect other substantial industry. You will know that your constituency is probably second only to Newmarket for racehorses. We indeed have at least to dairy farmers near to KM8. In Flamingoland we have participation in national breeding programmes for endangered species about a mile from the site. So if there are really serious questions about health that is in part through air pollution there are very significant particulars in the actual area that has had the permission

### **Kevin Hollinrake**

Just one question to you Amy – based on Bishop Cray's point. In terms of public health would you agree that if pollutants don't get into the water supply or into the air there can't be an impact on public health – would you accept that?

**Amy Nassif**

No – absolutely not. Based on the Yale School public health study alone – you have to remember that they have researched 1,000 chemicals and that's not only what's used by fracking but it's what's released by the process.

**Kevin Hollinrake**

My question is – if those are not present in the air and not present in the water we drink then there wouldn't be an impact on public health.

**Amy Nassif**

I don't know how that's possible. It coincides with unconventional gas drilling.

**Kevin Hollinrake**

I'm not asking you to judge whether these things will appear in the water supply or won't appear in the water supply. What I'm saying is if those pollutants did not get into the water supply or did not get into the air then public health could not be damaged, is that not fair to say?

**Amy Nassif**

The only way that that could not happen is if you were not drilling.

**Kevin Hollinrake**

So – and I know this may be a leap of faith – as I understand it you haven't had in Pennsylvania at all baseline monitoring ... before drilling occurs. That hasn't been present has it. That is the case in Kirby Misperton, for example, we've got baseline monitoring truly independent - the Environment Agency, British Geological Survey and the National Environmental Research Council are doing that. So if that demonstrated that there was no impact on air or water quality – if that's what that information says as a result, would you be comfortable in that there is not a health impact?

**Amy Nassif**

OK, so what you're saying to me is that the well that you're talking about was drilled and fracked. Prior to that you had air quality monitoring and baseline water testing and that was by a third party independent and prior to that you also did traffic studies, prior to that you also had a management plan for waste water and waste solids. You also had daily inspections in place, especially with infrared cameras for fugitive emissions. All of those things were taking place and then you're saying the data – during and after – that independent data came back and there was absolutely no contamination, nothing happened to the water nothing happened to air. I would question the data.

**Barbara Richardson**

I just wanted to raise some other impacts that affect people's health. I'm talking about the socio economics of the industry because people have got to live in these areas. One example which we've already spoken about – for communities that are living close to fracking sites there are material considerations, such as property prices - we've had this discussion about people being unable to sell their properties. We've had discussions with people about the noise – you can have 24/7 drilling by people's homes. People are anxious and they are stressed by these things – they're not reassured – there are going to be impacts on those people who live close to these sites. We're talking about a lot of communities. So it's not just about air pollution and things like that, you've got to look at the wider picture. You've seen this report from Dr. Anya Schlutzer (?) about the stress and anxiety caused to communities even before fracking is put upon them. So there are other impacts that you need to take account of.

In our village – we have a business, a guy who has been running a business for a long, long time in our village. He’s already been told that if fracking comes the people are no longer to use his business, they will move elsewhere. That guy is going to lose his business. He’s almost at retirement age – it was going to keep him going into his retirement. He will no longer be able to do that. That will cause stress and anxiety on that man and that is something that the people do not seem to take account of.

**Kevin Hollinrake**

Can I ask Amy a question: in terms of property prices in the area, in terms of displacement of employment that Bishop Cray referred to – is that a phenomenon you see in your area?

**Amy Nassif**

As far as the housing industry – again I speak to the same example as our farmers in the area, who experienced difficulty or an impact and they’re afraid to speak. And you have to remember that when people their mineral rights and they’re impacted, if they speak out about the industry and don’t settle it quietly or have remediation done quietly then it inhibits them..

**Kevin Hollinrake**

Have you seen the displacement employment – have you seen that phenomenon. Bishop Cray was saying that you’ve seen that. Have you seen that – businesses going out of business? Other businesses – restaurants ..

**Amy Naassif**

Absolutely. What has happened in Washington County is a huge example. They had a huge proliferation because they were one of the first areas to develop their natural gas down there – they started in 2003. So there was a huge boom cycle and now that that industry has tapered and then decreased. So there’s less business.

**Kevin Hollinrake**

We’re talking about existing businesses that operate today – that might be a bakery.

**Amy Nassif**

They’re generally rural or agricultural. So the restaurant industry – during that boom of the wells being drilled and there’s additional workers that may be living or staying in the area – whether temporary or permanent – most of them in our area in Pennsylvania – especially western Pennsylvania were temporary employees – they moved from well site to well site. So one area would get busy when that well was being drilled and then would be an influx of business for the local restaurants and things like that, hotels. But once the well was done and they were done with their operations then the workers would leave.

**Questions from the floor**

**Catherine McWhirter** – from Malton.

May I ask Amy to talk about the apparent cover up by the Environmental Protection Agency in Pennsylvania of the large number of water pollution incidents that there have been and also the wider issue about the report by the Environmental Protection Agency nationwide that the testing was questioned by a group of scientists. Could I just ask the rest of the panel as well what they think the use of regulation is if the industry’s allowed to self-monitor and self-report and whether what they actually want is regulation or is it no unconventional oil and gas at all?

**Amy Nassif**

So to speak to the EPA study – the report that came out in April. One of the flaws in the report that came out is the verbage that they used in their report which went out to the public. And they reported that there was no widespread contamination and again that was based on the available data. Now when you look at the available data the flaw with Pennsylvania is that at the time there were 271 water contamination confirmed cases but they didn't take into consideration that there were an additional 500 open cases that weren't considered. In addition to that one of the problems was that prior to that study our Auditor General in the state of Pennsylvania issued the DEP citations about their record keeping, that is very poor during the time of 2009-12. They were also mishandling complaints at that time. What they were was overwhelmed and we all knew that – it's because of the quick proliferation but yet the legislation wasn't funding them to get more inspectors etc. to handle these complaints. So their own national science advisory board at that time has a period of time when they can do review and then make recommendations on the EPA report. In August of 2016, after that report, they were asking the EPA to then clarify and quantify that controversial term of 'no widespread contamination'. They were asked actually to remove that from the report and omit that language altogether because there were three large cases that were omitted, including the one in Dimock, Pennsylvania.

In addition to that you have to understand that there was an additional investigation done in Pennsylvania by an independent organisation called The Public Herald – they're independent reporters, investigative reporters. They found during that period of time – which were not recorded – an additional 2,300 that were not recorded – they were the missing files. That covered 17 of 40 counties in Pennsylvania. That covers about 80% of the wells drilled in Pennsylvania. Now when you look at that data and you gather that information and you assimilate it, what happens is that the 3% that EPA was recording and gave that terminology 'well 3%, there's no widespread contamination'. If you consider the fact that the DP was not keeping good records - they had 500 additional documented cases and an additional 2,000 undocumented cases – it actually changes the percentage to 44% level of water contamination.

So another thing that was flawed about the study is that when the DEP collects that data they look at the data per well drilled, not per well pad. So again – when you assimilate percentages out of that – if you have a large number of wells you're not considering each well site and its impact which would lower your percentage rate. So again considering all that information the study and the report itself was flawed and their own science advisory board is addressing that issue – it may have I think until the end of the year to address those issues.

**Question from the floor**

There was mention, by Graham, of conventional oil and gas wells – particularly oil wells. What would be the difference between fracking in terms of well density and conventional wells as they are today. I don't think that was made particularly clear. If he could give us a clearer understanding of what the well density for fracking wells is likely to be versus conventional wells. For example I believe that in the last few years there have only been about 240 conventional gas wells drilled..... What is the difference between conventional well sites and fracking.

**Bishop Cray**

As far as we know the companies – there are 6 of them with licences to explore in North Yorkshire – want considerably more than they will be allowed to do. I documented last time what Ineos were advertising for for sub-contractors for seismic surveys which was something like 30 per 10km sq. The minerals plan will clearly restrict that but if you look at the number of licence blocks there are and the speed with which this has to be done before our climate change regulations mean we will burn less and less gas.

I can't give you a figure Frank, but it does seem to me that we are on a different sort dash for gas, that lots of this has to be done very quickly or it's not significant even economically or in terms of energy demands. That raises all of the questions of how on earth do you regulate that sort of capacity. I think we're heading for an impasse where it will be imposed on communities that don't want it but to be able to meet the aims that it has got. Ultimately, it seems to me, that to do something for a short term gain that does such potentially long term damage is simply not morally defensible but I think scale is a very big issue and the intention of scale.

**Kevin Hollinrake**

(to Amy) What's well density like in Mars? How far do you drive between well pads?

**Amy Nassif**

Right now, because of the energy sector decline, the number of wells has declined. So right now if you were to visit and even when you visited in 2015, it wasn't as densely drilled as it was in 2013. It depends on which direction I go because if I drive west I could drive probably 3 to 4 miles in between well pads. In one location, if I go even further west, it decreases where they're ½ a mile to a mile apart.

**Kevin Hollinrake**

Is that because they were done earlier on?

**Amy Nassif**

It's very complex you have to remember... it was a very different process at the time. Some of it had to do with once the energy company signed the lease with a landowner, they would have a period of time and typically in Pennsylvania it was about a five year contract to maintain those mineral rights and then go ahead and develop them or they would have to pay an additional fee to keep those mineral rights and keep paying the leaseholder. So there was kind of their own rush to go ahead and develop that site within those five years, so that's what they did. If I travel east, very interesting, the township next to me ... they actually only allow surface drilling – what you actually see – in industrial zones. So the ordinances stand that this is an industrial activity – you can drill but it has to be in an industrial area where there's already industry. They don't allow it in any other industry. So you see no surface drilling. But they could put a well pad in my back yard and they can drill underneath into that township. So the complexities continue.

**Kevin Hollinrake**

Could I read you something you said on your website. *“Speaking as a parent I am extremely disappointed to learn that industry is allowed to make their own rules and break the law. Their actions further erode confidence in ... operations as they encroach on schools and densely populated areas.”* I guess this is an easy question for you to answer – is your feeling that the producers are in charge of what goes on in shale gas?

**Amy Nassif**

Absolutely. They are in charge of the regulations and they are in charge of our government.

**Kevin Hollinrake**

Why is that?

**Amy Nassif**

Financial influence.

**Kevin Hollinrake**

So that must come right from the top. Obviously you have presidential elections today – President Obama advocates continuing with shale gas exploration as do the other two presidential candidates. All the information you have, that you have access to – President Obama and Hilary Clinton – do they have access to all that? Do you honestly believe that President Obama knows that it is damaging to people's health?

**Amy Nassif**

Unfortunately in Pennsylvania in particular, but also in other areas of the country, they have been designated and it's very well known within industry and within the government as a sacrifice zone. It's a terminology used by industry and then it's promoted by industry. Terry Engeldo, who is a University of Pennsylvania professor, he's a big consultant for natural gas exploration, often called like the founder of fracking in Pennsylvania, often consults them. He puts out reports all the time about how unfortunately Pennsylvania is a sacrifice zone.

I think as a politician you're making very different decisions and I stand by that as opposed to me just being a mum. Because I'm not answering to a full country or a full constituency. I feel that I can focus on the facts and the research and the data and I don't have the outside influence of oil and gas either giving me money or making promises to me about how fantastic this is going to be for my family or for my community or for my country or that I'm going to save the world by allowing fracking in my back yard. I go back to that terminology because that it is an accepted term in our country so there are a few people that become the sacrifice zone to benefit the entire country and yes, they'll do regulation .

**Kevin Hollinrake**

There are 15 million people within one mile of a fracked well in the USA – this isn't a sacrifice zone of only a few people, this is at least 5% of the population. Do you think President Obama would willingly sacrifice those people for the sake of the nation?

**Amy Nassif**

Unfortunately I think that is part of industrialisation of the country. Yes.

**Question from the floor (Jo)**

I would like to back up what Amy is saying because I think we can be a bit highbrow about this in Britain We know that individual MPs, such as yourself, have got integrity – you're not making money out of this. But I look at the way the planning laws are being changed to favour fracking, which takes away our democratic right. And let's look back at some of the things we've done where big industries have lobbied government where we've had issues with asbestos and they've been very slow to deal with it, very slow to acknowledge it. We've had it with the tobacco industry and we've had it with organic phosphate, so we cannot sit here and point fingers at the Americans because we've done it.

**Kevin Hollinrake**

I think it's an interesting point – I personally have a high regard for President Obama and I just think would a politician actually do that – destroy the health of tens of millions of people?

**Jo**

I believe he would and I don't think for an instant you haven't got integrity, Kevin. We may differ on our views on fracking but I don't think you're dishonest. But I do think that collectively governments do this because they're looking at money, they're being lobbied by very powerful institutions – I read somewhere that the oil and gas industry has spent several million pounds lobbying in Europe – our European government – and I think, you know, we look back and we have done things – the asbestos industry was a complete disgrace. We were allowing people to fall ill and we had that science and that knowledge and look how long it took .. for the situation to be sorted. So I think we have to really look at ourselves because, as you say, it may not be an individual politician but collectively we can do a lot of harm.

**Question from the floor**

I'm the Chair of Preston New Road action group and can I just say I agree with a great deal of what I've heard here today. My biggest concern for our local community is that the Director of Public Health, as Gordon's rightly said, indicated 61 recommendations which he said should be taking place before you even consider fracking in the area. We're aware that that hasn't happened. He also said we had to have this baseline health impact assessment carried out, because you can't determine harm if you don't know where you are now. Unfortunately the Inspector who heard the inquiry has determined that that is not necessary. So I would like to pose a question to this government – how is somebody with no medical background knowledge able to countermand what somebody with a great deal of medical knowledge has proposed as a way of protecting people?

**Rosemary - Third Energy**

I would like to ask Amy a question: in your area, at what depth are the lateral wells going out underneath the land and the supplementary to that, is there any evidence, rather than anecdotal feedback, that people are aware if the wells 2 miles underground but they know that they're there.

**Amy Nassif**

Remember that I'm not an expert in oil and gas – I'm just speaking to what I know and what we've been told for our area. We were told, as opposed to the well that's by my children's school, that they were going to drill about a mile underground vertically and they could horizontally drill about 2 miles.

**Rosemary**

Is anybody aware at the surface that that's happened? Apart from the well pad cell – one that's done and the fracking's done, are people aware of the underground portion is 2 miles in any way?

**Amy Nassif**

During the drilling process, yes. After the drilling process - it's actually a large site – so if you drive by it you can see it.

**Rosemary**

I'm talking about people who are living 2 miles beyond the well site that have presumably got a fracked well going underneath their land. Is there any evidence that people are aware of that?

**Amy Nassif**

In my community I don't know because they're leaseholders and they don't disclose information and they don't have to. So they may have water contamination and I wouldn't know and they may have had noise activity vibration – I would not know that because they don't disclose that.

**Ian Robson – Frack Free Lancashire**

Given that only one MP or Lord has had the courtesy to sit through this entire proceedings and is the Chair, I wonder how confident the panellists are that government and Parliament are actually listening to them and will sincerely address the legitimate concerns..

**Bishop Cray**

I'm happy to answer that. Yes, it would have been nicer to see more. I'm very pleased that the Bishop of Salisbury – the lead Bishop on environment issues for the Church of England – was here and I shall be in touch with him later. It seems to me what matters is that the evidence we have is heard, is recorded and becomes publicly available. Have I a lot of confidence you will do what I hope with it ? No. The problem with all this, including the climate change related issues, because local methane emissions is a climate change as well as a community impact issue – is that the evidence is not so much controversial as inconvenient - and it doesn't fit 5 year cycles of politics. Our job as representatives of local communities is to press home about the realities of that evidence, whether it's convenient or not and whether it's the five year cycles or not, though I'm very pleased that there are now two parties in this House with a clear total objection to fracking.

**Barbara Richardson**

Obviously we've all submitted written evidence which we haven't gone through in any detail. But in mine I've gone through what I believe all of the impacts are and if that is taking into account I feel more confident at least that evidence is before this committee and I would hope that that would be taken into account in the final report.

**Kevin Hollinrake**

All evidence, absolutely, will be taken into account to formulate our final report.

**Councillor Smith**

I think from our point of view, from our parish council, is that the evidence before us is that shale gas remains not safe, for reasons we described, it is not sustainable for the reasons we described, it is not supported for the reasons we described, there is no compensation; the benefit equates to less than £1 per week per thousand recipients; it is not life changing support – the sort of thing you get for a Nectar card – 1%. The Government claims it wants to support local authorities through greater efforts in local and national communications and transparency. It think it's self-evident that that's not the case and it's not surprising therefore that one of the hurdles to overcome to develop a more faithful public attitude is that nobody in the UK has seen or experienced shale fracking operation in their area. Well we have so we understand the nature of the operator and we have no trust or confidence in the operator either to date. Thank you very much for the platform you have given us today because repeatedly we have been dismissed and ignored, despite the good efforts from Mark. So thank you very much for the platform.

**Amy Nassif**

I'm a guest and this is not my government. I can only speak to the fact that my government, on a federal state and local level, is not listening to their community. So my hope is that by taking this trip, coming here today, speaking to you and speaking four times this week, to try to describe this method, that your government, Chairman, will be very, very cautious before you open Pandora's box, because that's really what this is at the end of the day. Unconventional drilling is not conventional – you've seen it, you've already had a problem so it's definitely about extreme caution and consideration for your community at the end of day. And I believe even if you are the only one here, I believe after all the conversations we've had and communication over the past year that you will take any evidence that I have, this panel, and present it to your colleagues.

29.

**Kevin Hollinrake**

Thank you to all for attending. Particularly thank you to Amy.

The minutes of the last meeting are on record, on the website. Our next evidence session – in terms of how we deal with any waste water – will be on Wednesday 14<sup>th</sup> December at 4pm and as always you are very welcome to attend.