



Information letter for those to whom fracking matters and updates on the website FFI

Thanks to all for your contribution

contact: ineke@frackingfreeireland.org

visit: www.frackingfreeireland.org

facebook: [NO FRACKING IRELAND](#)

fracking ireland google groups, apply for membership: charlie2williams@gmail.com

BAN FRACKING IN IRELAND!

For an overview of all groups and contact details visit:
<http://frackingfreeireland.org/contact/contact-local-groups/>



Jingle bells !!

Fracking Wells Fracking Wells
Fracking all the day
Through the night, pumping Sh*te
into the waterways
Fracking wells Fracking Wells
do one more we say
what can possibly go wrong
we report to the EPA

Dashing thru Belcoo
To get to Garison Town
to drill 1000 wells
500 meters down
we've got magic cement
it never leaks oh no
and even if it cracks and vents
who will fracking know

Thanks to Tracey Jean Yappa (card) and Tom White

Here's the first Christmas card for the MLAs like getting Christmas cards too.
The leitrim group are sending them to the European politicians too.

(**MEP'S all email addresses:** <http://mailariksdag.brinkster.net/EUFind2.aspx> and visit
Fracking Free Ireland: contact politicians)

EVENTS and other small CAMPAIGN news

CALL FOR Comments from the Public on the EPA

The Irish Environmental forum are requesting the Public to submit comments to us, if at all possible **before the 20th December 2012** on their views and dealings with the Environmental Protection Agency. These comments can be sent by email to the Secretary Pat Geoghegan at geogheganpat@eircom.net or **posted to Boolaglass, Askeaton Co.Limerick.**

**Read more: header: Thoughts – opinions- comments
and QUESTIONNAIRE at the end of the newsletter**

Public seminar in UCD on HF 28 November.

The UCD Earth Institute is delighted to host a public seminar on the subject of hydraulic fracturing on 28th November 2012 in Dublin's city centre. The Professor of Applied and Environmental Geophysics at Keele University, Peter Styles, will speak on 'Managing the Risks of Fracking for Shale Gas extraction' from 6.30pm at the Royal Irish Academy on Dawson Street, Dublin 2. There will be a wine reception from 6pm, and all are welcome.

To register for this free event and for further information, please visit our website:
<http://www.ucd.ie/earth/newsevents/>

Professor Peter Styles, who spoke in Dublin last week, is a member of Shale Gas Europe, which is also funded by several oil and gas companies. (see also heading: EU)

One of our campaigners reports:

Yesterday evening as Mr Styles was giving his lecture at UCD, I decided to email him and ask if he was paid by Shale Gas Europe, a lobbying platform set up by FTI Consulting and funded by oil and gas giants such as Cuadrilla, Halliburton, Chevron et al.

Below the reply I received last night. **Like Mr Helmer, Prof. Styles is into one-word replies!**

----- Forwarded message -----
From: Peter Styles <p.styles@keele.ac.uk>
Date: 29 November 2012 00:01
Subject: Re: Shale Gas Europe
To:

Nothing-----

This morning I received an email from UCD defending Mr Styles, which I will forward to you now.

Dear.....

Just to confirm that Prof Peter Styles is an academic based at the University of Keele, and is not retained or paid by any other organisation for his research work. The UCD Earth Institute invited him in order to provide evidence-based commentary on the subject so as to inform public debate.

Kind regards

Aideen

--

Dr Aideen Hartney
General Manager
UCD Earth Institute
Belfield
Dublin 4

Tel: 01 7162873
Mob: 0879537576

Some campaigners did visit the event and questioned Peter Styles...
on many points, he was trying to say that chemicals are no more harmful than washup liquid
she taced him on the depths, he kept repeating 3000 meters and didnt like her corrections

MEP'S all email addresses: (reporter Charlie Williams)

I found a brilliant website which provides the newest emails of all MEPs. You can even search for different groups, countries etc. there.

=> <http://mailariksdag.brinkster.net/EUFind2.aspx>

If you just press the "Sök" button the emails of all MEPs will appear in

the copy-and-pasteable text box.

MAGAZINE - ARTICLES – FRACKING FIGURES/Guaranteed Fracking Free

Just to let you know that we have published the December 2012 (39th) issue of *irish environment* including:

News: updated each Monday, Wednesday, and Friday

Commentary: Patrick Mc Cabe, "Return of the sea: Designing Dublin's new coastal defences"

Report: Carbonification, or How We Are Condemning Ourselves to Hell Because of Our Lust for Carbon: assessments of where we stand on climate change by PricewaterhouseCoopers, scientists in a *Science* article, the World Bank, National Research Council (for US Intelligence communities), and the European Environment Agency

Podcast: Interview with Alex Attwood, MLA, Environment Minister for Northern Ireland on recent initiatives, Special Areas of Conservation, independent environment agency, planning reforms, climate change, and **fracking in Northern Ireland (continued from November issue)**

iePEDIA: Climate Computer Modeling

YouTube: Stop Bankrupting Our Oceans (WWF/UK)

Please pass along this Notice about the magazine to colleagues, friends and others interested in protecting the environment.

an online magazine covering environmental matters on the island of Ireland

www.irishenvironment.com

Robert Emmet Hernan
Blue Stacks Productions Inc.
Publisher
publisher@irishenvironment.com

One of the campaigners informed the politicians regarding the benefits of staying Guaranteed Fracking Free.

Here is the information I said I would send about the economic costs to Ireland of allowing fracking and the benefits of staying Guaranteed Fracking Free.

Please see the following links:

1. Agri-food Study by Shale Gas Research Ireland "Ireland's Agriculture and Food Industry and the Shale Gas Question"

<http://shalegasresearchireland.wordpress.com/>

2. Study from Environment America on the costs of fracking that are not generally counted when talking about shale gas development. This link is to a synopsis, and there is a link to download the report itself.

<http://www.environmentamerica.org/reports/ame/costs-fracking>

3. Here is a study from Failte Ireland showing visitor numbers and

associated revenue estimates from 2011. Visitors to Clare brought in an estimated €99 million to the county.

http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/2_Regional_SurveysReports/COUNTY_Numbers_Revenue_11P.pdf?ext=.pdf

4. Finally, I attach the following PDF file: An article from The American Oil and Gas Reporter ("The 'Better Business' Publication Serving the Exploration/Drilling/Production Industry") entitled "Study Assesses Shale Decline Rates". The article contains graphs which show very clearly that the production of wells in the major American "plays" falls off quite significantly after the first few months of production. In the USA, this has meant that companies have had to keep drilling more and more wells to boost their bottom lines for investors.

LETTERS to politicians/EU ombudsman

One of the campaigners wrote to the Taoiseach..

Dear Taoiseach,

Having read about your visit last week to Philadelphia and your meeting with Pennsylvania Governor Tom Corbett, I am appalled that you are prepared to take advice from the man who signed in The Marcellus Shale Law (House Bill 1950) with its horrific implications for residential areas and allowing known medical hazards to be kept secret, who received millions of dollars from the oil and gas industry for his election campaign, who has drastically cut education budgets in order to force universities to allow fracking on campus and who is mentioned in the context of "the corrupt Corbett administration" in newspaper reports. Perhaps you do not realise either that Pennsylvania has a poor record on regulation.

How can you reconcile your (accurate) description of Ireland as a precious place with your express desire to "emulate Pennsylvania's success in developing these resources"? Surely the introduction of hydraulic fracturing is not compatible with protecting the country and its citizens which you have been elected to serve? How can you be willing to destroy the industries of agriculture and tourism that you claim to regard so highly? How can you be prepared to jeopardise the health of both land and citizens of the island of Ireland? Neither pollution nor earth tremors respect county borders. I feel strongly about this because of close family connections with some of the counties in the proposed fracking basin: my parents were from Co Sligo and I have happy childhood memories of holidays in the Ox Mountains, breathing pure air, eating flavoursome local produce and drawing water from the spring wells. I have extended family ties with counties Mayo and Roscommon and I visit all three counties every year. Having worked with the European Parliament for 22 years, I have always felt proud to be Irish and I hope that is not about to change.

I am not alone in my concerns about your statement in Philadelphia and I would appreciate some clarification from you as to your intentions regarding hydraulic fracturing in Ireland.

With best wishes.

Yours sincerely,

I refer to your letter to the Taoiseach, Mr. Enda Kenny, TD, of 15 October last.

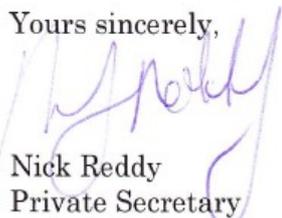
The Minister for Communications, Energy & Natural Resources, Mr. Pat Rabbitte, TD, is responsible for the matter of exploration licensing.

Officials from his Department have advised that no decision will be made on any future application for permission to use hydraulic fracturing in shale gas exploration, until there has been an opportunity to consider the results of research, that is currently being scoped by Ireland's Environmental Protection Agency. That research is not expected to conclude until 2014.

Any further queries on this matter can be directed to Minister Rabbitte's Department.

The Taoiseach extends his very best wishes to you.

Yours sincerely,



Nick Reddy
Private Secretary
to the Taoiseach

One of our campaigners is complaining about MEP Roger Hellmer

Dear Madam/Sir,

I wish to complain about rude emails I received from MEP Roger Helmer.

Not only is Mr Helmer misleading, he is insulting scientific facts and findings as well as other reports with a meil to me with the single word, "nonsense".

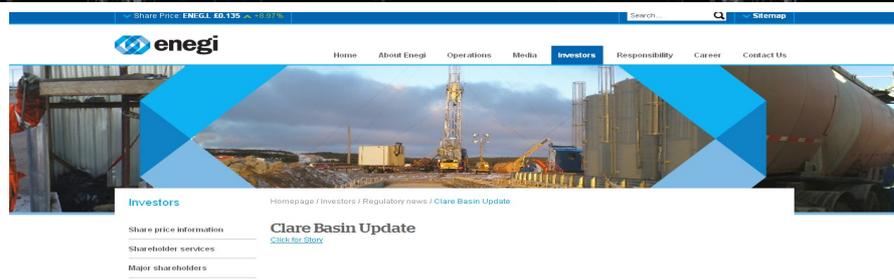
In a later letter he is calling me a "silly little chap".

(Plese see attached files)

I believe this behaviour is not appropriate for an elected representative in the European Parliament.

Kind regards,

MAKE-YOU-CRY-NEWS



The screenshot shows the Enegi website's investor page. At the top, there is a navigation menu with links for Home, About Enegi, Operations, Media, Investors (highlighted), Responsibility, Career, and Contact Us. Below the navigation is a large banner image of an industrial site. Underneath the banner, there is a section titled 'Investors' with a sub-section for 'Clare Basin Update'. The 'Clare Basin Update' section includes a 'Click for Story' link. On the left side of the page, there is a sidebar with links for 'Share price information', 'Shareholder services', and 'Major shareholders'.

Enegi Oil press release saying they are going for an exploration license and Clare looks promising...

<http://www.enegioil.co.uk/news.php?id=clare-basin-update-1>

here is the pdf: <http://frackingfreeireland.org/wp-content/uploads/2011/08/clare-basin-update-30-november-2012-final.pdf>

MEP'S – ENVI/ITRE voting – POSITION ON FRACKING

A selection of replies from MEP's with regards to the ENVI/ITRE voting on 21 November 2012

Dear Ineke,

Unfortunately, the European Parliament voted against the amendment calling on EU Member States to introduce a moratorium on hydraulic fracturing.

The result of the vote on the amendment was as follows: 262 voted in favour, 391 against and 37 abstained.

On a positive note, the ENVI report, which was adopted, contains some very good proposals on the regulation of fracking. I also understand from comments made by the Environment Commissioner during the debate on the two reports that he is preparing legislation to deal with the risks and regulatory shortcomings. A public consultation will be opened in 2013 and legislation will be published in 2014.

I wish to confirm that I voted in support of the amendment calling for a moratorium and also against the ITRE report, which was also adopted.

Thank you once again for contacting me concerning this very important issue.

With regards

Pat the Cope

A Chara,

Further to our previous correspondence on the issue of Hydraulic Fracturing, I am writing to give you the latest update on my work on the issue at European level and I included below previous updates I sent out on the issue for your information.

Just a quick update on the recent debate and vote in the European Parliament on the two fracking reports.

First it is important to say that neither of these reports were legislative, in other words they do not impact in any way on legislation in EU Member States. However, they do indicate the view of the Parliament.

Unfortunately, the amendment I co-signed proposing a moratorium on fracking in all EU Member States until such time as there is a satisfactory regulatory framework was not carried.

Again, it is important to note that even if it had been carried, it would not have any legal impact, but it would have sent a strong signal from the Parliament.

Both reports were carried and the final documents with amendments will be available in a few weeks time. I voted in favour of the Environment Committee report and against the Industry Committee report.

In my view, the comments of EU Environment Commissioner Janus Potocnik were very important: he said in the European Parliament that existing legislation is not sufficient to address all risks arising from fracking.

He went on to say that the Commission has now committed to an impact assessment in 2013, part of which will be a very significant public consultation, which will give citizens an opportunity to make their views known. I will be keeping a close eye on this and will let you know when the consultation is open.

You can also keep an eye on the Commission's Environment homepage:

http://ec.europa.eu/environment/index_en.htm

and the page that details fracking legislation:

http://ec.europa.eu/environment/integration/energy/unconventional_en.htm

Here for your information are links to my latest Press releases:

http://www.marianharkin.com/index.php?id=20&tx_ttnews%5Bcat%5D=1&tx_ttnews%5Btt_news%5D=764&tx_ttnews%5BbackPid%5D=4&cHash=6f4170bcf8428fe03751998de8d8fdb7

http://www.marianharkin.com/index.php?id=20&tx_ttnews%5Bcat%5D=1&tx_ttnews%5Btt_news%5D=765&tx_ttnews%5BbackPid%5D=4&cHash=14aa4a7226b891dcdae7491861f005bc

Please keep in touch if you have any further queries, or any information you wish to share with me.

Kind regards,

Marian

Marian Harkin MEP

28 Emmet Place

Union Street

Sligo

Tel: 071-9150152

Email: marian@marianharkin.com

Website: www.marianharkin.ie

Facebook: www.facebook.com/marianharkin

Twitter: www.twitter.com/MarianHarkin

"MEP of the Year " Award Winner 2011 & 2012

Anti-fracking amendment before EU Parliament

Published on **Saturday 17 November 2012 09:00**

Sinn Féin Northern Ireland MEP Martina Anderson co-signed an anti-Fracking amendment last week which it is hoped will be accepted for discussion at the November plenary session in the EU Parliament.

<http://www.leitrimobserver.ie/news/anti-fracking-amendment-before-eu-parliament-1-4474610>

Dear Ms Scholte,

Thank you for your email and for contacting Mr Aylward in relation to your concerns about shale fuel extraction. Mr Aylward has received several similar emails and letters over the past

number of months and is aware of the issues raised.

I will bring your email to the attention of Mr Aylward ahead of this week's Plenary session.

Yours sincerely,

Laura Real
Assistant to Liam Aylward MEP

Dear Charlie

Many thanks for your email of 11th November last.

It is my position and that of Fianna Fáil that no further hydraulic fracturing licences, whether preliminary or exploratory, should be issued in the absence of a broader policy on the issue which takes into account environmental, societal and community concerns.

While the Government has issued preliminary licences for fracking, we believe that they must commit to publishing a Green Paper or a White Paper on the issue of onshore exploration in Ireland before any further licences are issued.

Thank you for taking the time to write to me.

Kind regards

Is mise le meas

Brian

Brian Crowley MEP

Maryborough Lodge

Maryborough Hill

Douglas

Cork

Tel (021) 4896433 Fax (021) 4896 401

Email info@briancrowleymep.ie

Web www.briancrowleymep.ie

Facebook www.facebook.com/briancrowleymep



THOUGHTS – OPINION - COMMENTS



Comments from the Public on the EPA

The Irish Environmental forum are requesting the Public to submit comments to us, if at all possible before the 20th December 2012 on their views and dealings with the Environmental Protection Agency. These comments can be sent by email to the Secretary Pat Geoghegan at geogheganpat@eircom.net or posted to Boolaglass, Askeaton Co.Limerick.

Our forum are basing our questionnaire around previous feed back we have had from present and pass members along with NGOs through our forum and the results of their interactions with the EPA. The information we receive back will be dealt with in a strictly confidential manner and is intended to update our forum on the current state of confidence or non confidence with the workings of the EPA on the ground amongst ordinary groups and people. Since our formation in 2005, all our members personal experience with the EPA and its personnel have been very negative and our forum have engaged in public consultation processes to express the areas in which our members feel the EPA are failing in or ignoring the genuine concerns of the public,

at a time our forum is concerned with Fracking, Incinerators, oil and gas explorations and other projects in the pipeline for many parts of the Country.

Our Forum support groups and individuals throughout the Country, where the EPA has failed in their duties to protect them. Our Forum is totally independent of Government and Industry and is a voluntary ENGO. We receive no funding what so ever from anyone. We deal with the Irish Government and the European Commission on an ongoing basis.

The Irish Environmental Forum was formed also on the basis, that we must have an Independent system in place here in Ireland to licence facilities, that everyone can have full confidence in, to date no system what so ever exists.

The EPA has recently requested suggestions from the public into the strategic plan 2013-2015 which our forum have lodged as follows

EPA Strategic Plan 2013-2015 - Working with others for a better Environment

The Irish Environmental Forum would like to make suggestions in bringing about a better Environment for all. Our Forum believes for this to happen, that the EPA must look first at themselves, to see if they are in a position to be part of that process or in a position to even deal with suggestions from the General Public, when so many questions hangs over them in not being independent from Government and Industry.

Our Forum intends to deal with the following statements, made by the EPA from their own site, requesting suggestions, which we have highlighted in italics.

The EPA is seeking views from the public on how the Agency should prioritise activities over the next number of years to protect and improve Ireland's Environment.

Our Forum believes that the EPA have gone ahead of themselves here. Before the EPA ask, how they should prioritise anything for the public, they must first prioritise themselves to deal with these suggestions and act on them in an Independent manner.

The EPA are in no position to seek such views, when they themselves have ignored the findings in a Government review group report on the EPA back in May 2011. That review group set up by Minister Gormley, found that the immunity from prosecution should be removed from the EPA, because it was unconstitutional. We are now 18 months on and the EPA still have their immunity in place by Government. The closeness of the EPA to Government is clear, when the Minister for Environment Mr Phil Hogan, is refusing to have the immunity removed, following this review group report. We believe that if some one has immunity from prosecution, they are not held accountable for decisions, that they make in relation to the protection of our environment and this must change immediately.

Another finding by the Review Group and quote taken from the Irish Times article on Tuesday 31st May 2011 stated and I quote " that allegations of maladministration should be investigated by the ombudsman" We are all too well aware, of what the word maladministration means and the consequences it has for the EPA Agency as a whole, until proved otherwise.

A statement is carried by Laura Burke the Director General of the EPA and I quote "We believe that a clean, healthy and well protected environment lies at the heart of economic recovery"

Our forum were surprised at the above statement by Laura Burke, because it was only back on the 17th April of this year, six months earlier, that the same Ms Laura Burke stated and I quote "The Environmental Protection Agency should not be racing to prosecute business for not complying with environmental licences and regulations" This was carried in an interview in the Irish Times with Ms Burke.

Now we have Ms Laura Burke, asking the public to believe that the EPA wants a clean and healthy and well protected environment after Laura Burke six months earlier, were telling Industries that they could breach their licences and may not be prosecuted. This in turn would lead to damage of that same environment and health that she now speaks about protecting. This again shows the closeness that polluting Industry can enjoy with the EPA.

Such comments by Laura Burke has brought the Agency into disrepute and has damaged the functions of the EPA further, coupled with the alleged maladministration still outstanding to be investigated and needing the immunity from prosecution to protect those polluters that Ms Burke would not be racing to prosecute. The Government closeness to the EPA is evident here as Minister Hogan has refused our forums request to date to remove Ms Burke from office after her public comments. Ms Burke and others in the EPA closeness to Industry, where they originally came from is quite evident too.

If the EPA wants to treat people out there like they have been doing for years as fools, then our forum would certainly not be part of that charade.

If one was to look more closely at Laura Burke's statement again "We believe that a clean, healthy and well protected environment lies at the heart of economic recovery.

In November 2011 a report was published by Professor Jaculine McGlade, of the European Environmental Agency. The heading in the Irish Times on 25th November 2011 says it all. "Seven Irish Plants among the most damaging in Europe says agency" This damning report found that these seven Industries damaged our environment that our EPA pro ports themselves in their statement to having clean and been the statutory body responsible for protecting the Environment in Ireland.

The European report also found damage to Human health from the emission of these seven Industries, that the EPA pro ports to we having a healthy environment.

The European Report also found that a monetary cost from these seven industries to the Irish Economy was found to be in the region of 700 million to 1 billion euros just for 2009 alone, even though the EPA pro ports in their statement to be at the heart of economic recovery. We certainly wont see much of a economic recovery with the EPA, it will be billions of euros to the State every year in Environmental damage, leading to the real toxic debt here in Ireland.

The most worry factor is this, is all happening under legal held IPC licences that the EPA have giving out, if that's not bad enough, more Industries out there in Ireland have not come to the attention of Professor McGlade because its not compulsory to contact her agency.

Our Forum are now requesting the EPA to stand aside from this process or any process that they may enter into the future, until an Independent process can deal with these suggestions lodged on this occasion.

With regard to the EPA, our forum sees Government and Minister Hogan in particular protecting the EPA as long as they can, for polluting industries, that will damage any strategic plan from 2013 – 2015 onwards. Everyone should be under no illusion, that it was never an option in they working with others for a better Environment. They only need you to make suggestions and enter into a PR process in making you think, that you helped towards a cleaner and safer environment.

END

Its of the utmost importance that existing groups/NGOs especially, would participate in this survey as its vital to have all the information possible, to support other groups/NGOs out there that are heading into the unknown, when it comes to our Environmental Protection Agency here in Ireland.

Kind Regards

Pat Geoghegan
(Secretary)

Fracking and renewable energy

Reporter Declan

Saudi Arabia is one of the largest oil-producing countries in the world. Despite the fact that oil has been Saudi Arabia's cash crop for decades, the country recently admitted that it does not represent the energy source of the future. EcoWatch reports that during last week's Global Economic Symposium in Rio de Janeiro, Prince Turki Al Faisal Al Saud of Saudi Arabia said, "I would like to see Saudi Arabia using 100 percent renewable energy within my lifetime." (He's 67, by the way, so we're talking about years, not decades).

Wow. When the country from which America imports a huge amount of oil announces that it wants an economy based on renewable energy, it should be a wake up call. Too bad the oil and coal industries have paid to stuff our ears full of cotton and handed out pro-fossil fuel propoganda like sleeping pills. We can't hear the alarm bells that have jarred Saudi Arabia into action.

In fact, Saudi Arabia and other oil producing countries in the Middle East are banking on the fact that Americans will maintain their oil addiction up until the very last possible second. "I see renewable energy sources helping to prolong our continued export of crude oil," Saudi Arabia's oil minister, Ali al-Naimi, told The Wall Street Journal. This means that while his own country begins the shift to renewable energy for its own power needs, it will continue exporting to America and other oil-dependent countries, charging top dollar for ever barrel.

While our politicians scoff at the idea that we should abandon oil, gas and coal for clean energy alternatives, countries in the Middle East are proving that it's possible — and doesn't need to happen as gradually as we think. Earlier this year, Saudi Arabia announced that it would invest \$109 billion to exploit its abundant solar resources. Mecca, which hosts millions of pilgrims a year visiting Islam's most holy shrine, hopes to become the first city in Saudi Arabia to operate an entire power plant from renewable energy sources. In fact, Middle Eastern potential for solar energy production is so promising, American companies are investing in it...something

they're reluctant to do here at home.

The lesson here is plain: America is lying to itself. Oil isn't safer or cheaper. It won't last forever. Instead of burning through every last bit, oil-rich countries are making the move to renewable energy now. They're saving those last, excruciatingly expensive barrels for the last chump standing, which is likely to be the U.S. We're being outpaced by China, Spain, Germany, Norway, and now apparently Saudi Arabia in every aspect of the clean energy game.

As stated in Renewable Energy World, America's energy "policy hiatus, coming ironically at a time when fully competitive renewable power is starting to be a realistic possibility in a few years' time, is posing a threat to continued growth in investment in the sector in 2012 and beyond."

If what our leaders (and Presidential candidates) really want is an energy-independent America, why do they insist we remain tethered to fossil fuel's sinking ship? Wake up America. And think before you vote.

-----one
One of our campaigners wrote:

"Worth taking a read of these two articles:

WWF Supports IEA conclusion: Two Thirds of Fossil Fuel Reserves Must Be Left Underground <http://www.utilityproducts.com/news/2012/11/12/wwf-supports-iea-conclusion-two-thirds-of-fossil-fuel-reserves-must-be-left-underground.html>

Hydrofracked shale gas has a worse carbon footprint than coal
<https://sites.google.com/site/frackingireland/fracking---a-boom-and-bust>

Also, at a conference held in the European Parliament this June, shale gas expert Professor Anthony Ingraffea of Cornell University warned the EU that if shale gas development gets the green light in Europe, the EU would be very unlikely to meet its climate change reduction targets by 2020. See <http://www.slideshare.net/gdecock/euro-parliament-ingraffeaune2012>
The Tyndall Institute has echoed his claims."

MOVIES- SONGS

BAN FRACKING IN IRELAND – one minute video



<http://www.youtube.com/watch?v=-Hq5zJB41X4&feature=plcp>

Cecily walk to the Dail - <http://www.youtube.com/watch?v=9EWbxvM7QEY>

Recieved from Doris Selz:
Hey folks!

Here are 3 movies made close to where we live in West Virginia. Stop all fracking in Ireland!!!!!!!!!!!!!!

http://www.snagfilms.com/films/title/after_the_gas_rush_part_2
http://www.snagfilms.com/films/title/after_the_gas_rush_part_2

Land ownership:
http://www.snagfilms.com/films/title/battle_for_wetzel_county

Mark & Bonnie

and two video's of a person who is in the process of moving to New York because her home in Pennsylvania is now surrounded on all sides by gas wells.

https://www.youtube.com/watch?feature=player_embedded&v=AfG6ZBiwUEg#!

<http://www.thenation.com/article/171504/fracking-our-food-supply>

The video is a tour of Pennsylvania gas well sites, which shows what we are in for, and the article from the Nation is an excellent piece on the **possible impacts of fracking on food**. Highly recommended

IRISH NEWS

Teacher walks 133 miles against fracking



<http://www.longfordleader.ie/news/teacher-walks-133-miles-against-fracking-1-4475775>

EPA

This is an update on EPA’s study of the potential impacts of hydraulic fracturing on drinking water resources.

In today’s Federal Register (<https://www.federalregister.gov/articles/2012/11/09/2012-27452/request-for-information-to-inform-hydraulic-fracturing-research-related-to-drinking-water-resources>) , EPA announced it is accepting information through April 30, 2013, including data, studies, scientific analyses and other pertinent scientific information related to the potential impacts of hydraulic fracturing on drinking water resources.

This information will help to ensure EPA is current on evolving hydraulic fracturing practices and technologies as well as inform current and future research and ensure a robust record of scientific information

Consistent with the Agency’s commitment to using the highest quality information in its scientific assessments, EPA prefers that people submit information that has been peer reviewed. EPA will consider all submissions, but will give preference to peer reviewed data and literature sources.

There are several ways to submit information to the docket for this request. Be sure to include the docket identification number Docket ID No. EPA-HQ-ORD-2010-0674 on every submission.

For more information about EPA dockets visit<http://www.epa.gov/dockets/>.

For more information about EPA's hydraulic fracturing study, visit<http://www.epa.gov/hfstudy/>.

To submit information - <https://www.federalregister.gov/articles/2012/11/09/2012-27452/request-for-information-to-inform-hydraulic-fracturing-research-related-to-drinking-water-resources>

Thank you for your interest in EPA’s study of hydraulic fracturing and its potential impacts on drinking water resources."

It seems the EPA issued its annual report for 2011 Wednesday.

This is from the EPA site (press release):

=====

Ireland must use the present to build a resource-efficient, low carbon economy and put environment at the heart of all decision-making

Date released: Nov 21 2012, 9:58 AM

The Environmental Protection Agency (EPA) today published its Annual Report for the year ended 31 December 2011.

In launching the report, Ms Laura Burke, Director General of the EPA, said:

"Ireland’s environment is vitally important in its own right. It contributes to our health, our wellbeing, our economy and to our overall quality of life. To protect this precious ? and threatened ? national asset we must use the brief opportunity we now have to build a resource-efficient, low carbon economy before Ireland begins to recover from recession and pressures on our environment once again begin to increase. We must also implement all environmental legislation and put environment at the heart of all decision-making in Ireland."

The 2011 Annual Report sets out the main activities undertaken by each Office of the EPA during 2011. It also provides an overview of the independent external review of the EPA which was completed in 2011. Work has commenced within the EPA on recommendations made by the Independent Review Group.

The EPA Annual Report 2011 is available on the EPA website.

No decision on fracking until after EPA report in 2014

Published on **Sunday 25 November 2012 09:00**

The terms of reference for the second and more detailed Environmental Protection Agency (EPA) research are currently being drawn up by a steering group, that's according to the Minister for Energy, Communications and Natural Resources following a parliamentary reply to Sligo North Leitrim Deputy Tony Mc Loughlin.

Minister Rabbitte confirmed that the steering group will be made up of representatives from the EPA, Department of Environment, Community and Local Government, Department of Environment, Northern Ireland, Northern Ireland Environment Agency, Commission for Energy Regulation, An Bord Pleanála and his Department including the Office of the Geological Survey of Ireland.

The objectives of this further research are to establish if shale gas exploration and extraction involving the use of the fracking technique can be carried out in a manner that will not cause significant environmental pollution.

Full article: <http://www.leitrimobserver.ie/news/no-decision-on-fracking-until-after-epa-report-in-2014-1-4505888>

Enegi Oil press release saying they are going to go for an exploration license and Clare looks promising...

<http://www.enegioil.co.uk/news.php?id=clare-basin-update-1>

here is the pdf: <http://frackingfreeireland.org/wp-content/uploads/2011/08/clare-basin-update-30-november-2012-final.pdf>

Also, here are two links I just received from a friend in Pennsylvania who is in the process of moving to New York because her home in Pennsylvania is now surrounded on all sides by gas wells.

https://www.youtube.com/watch?feature=player_embedded&v=AfG6ZBiwUEg#!

<http://www.thenation.com/article/171504/fracking-our-food-supply>

The video is a tour of Pennsylvania gas well sites, which shows what we are in for, and the article from the Nation is an excellent piece on the **possible impacts of fracking on food**. I recommend both highly.

Anti-fracking amendment before EU Parliament

Published on **Saturday 17 November 2012 09:00**

Sinn Féin Northern Ireland MEP Martina Anderson co-signed an anti-Fracking amendment last

week which it is hoped will be accepted for discussion at the November plenary session in the EU Parliament.

<http://www.leitrimobserver.ie/news/anti-fracking-amendment-before-eu-parliament-1-4474610>

Climate change and Ireland

The good news is that global supplies of oil and gas will not be exhausted anytime soon. The bad news is that their usage will lead to higher temperatures, rising sea levels and more extreme weather events. These findings by the International Energy Agency (IEA) will rekindle debate on fossil fuels and global warming. The agency expects the planet to have warmed by 3.6 degrees by 2200, much higher than the 2 degrees set down in the Kyoto protocol. By that time too, supply and demand for oil and gas will reach equilibrium.*

<http://www.irishtimes.com/newspaper/opinion/2012/1119/1224326784278.html>

EU -NEWS

ENVI/ITRE voting – 21 November 2012

Reporter: Antoine Simon – Friends of the Earth Europe

Dear all,

As promised, here is a short update of what happened beginning of this afternoon with the Plenary vote of the two European Parliament reports of shale gas.

About the ENVI report: "The moratorium amendment was rejected (for:262/against:391/abstain:37). For the rest VERY good outcome, all of the ENVI report was maintained. The ban in sensitive areas was confirmed by 568 votes in favour, including coal mining areas with 345 votes in favour (second part). Final vote was 562:86:43, Greens EFA in favour." (Greens quick debrief)

About the ITRE report: It was sadly adopted by a large majority (for:492/against:129/abstain:43) and contains many pro-industry elements that give a very positive approach to shale gas extraction in Europe. The good news is that some of the worst piece were taken out through the split and separate vote requests (notably paragraphs about the fact that shale gas would be needed for lowering GHG emissions, that shale gas has a critical role to play for energy security, that a high-level of shale gas production should be reached and that there should be support to build the necessary infrastructure. (Green quick debrief)

As promised as well, you can find all the Roll Call votes results in the attachment, **with the names of all the MEPs who took part to the votes of these two reports.**

You can find more details here:

<http://www.europarl.europa.eu/sed/votingResults.do>

Our general feeling here in Brussels is really mixed. Of course this is a good news that the one-third of the European Parliament decided to support that Amendment on a moratorium on fracking and that the ENVI report was almost unanimously approved but it seems to me that a moratorium on the extraction technique was the minimal action to be taken considering all the serious risks acknowledged by the two reports

(but more especially by the ENVI report). And the ITRE report still makes a worrying promotion of the energy and industrial benefits of the shale gas industry, which sends a very ambiguous message to the rest of the EU institutions and to the member states.

You can find enclosed the Press Release that FoEE published in reaction to these votes. It's quite critical but this is mainly because of the ambiguity generated by the cumulative vote of these two incompatible reports.

What we should keep in mind is that it is a first step. It was the first time the European Parliament was working on this issue and after 5 months of lively discussions, already one-third of the EP agreed on calling for a moratorium on fracking. That's not enough, but again, it's a first step.

I know that many groups on this listserve answered to our call to contact your MEPs and we received many positive feedback from you guys, but also directly from MEPs, I don't think we would have managed to keep the ENVI Report as it is and to convince a majority of the Plenary Assembly to support it without your crucial push.

So thanks again for all the good work. We will keep you informed of the next steps, wishing you will be willing to help us again as you just did for these two reports.

--

PRESS RELEASE FRIENDS OF THE EARTH EUROPE

For immediate release: Wednesday November 21, 2012

EUROPEAN PARLIAMENT TAKES WEAK STANCE ON RISKY FUEL
Missed opportunity to impose moratorium on 'fracking' for shale gas

Brussels, November 21, 2012 – In a vote on two parliamentary reports on shale gas, despite widespread recognition of the dangers of 'fracking', a split European Parliament did not impose a *de facto* moratorium, or ensure the highest possible environmental and health standards for an undeniably dangerous technology [1].

Antoine Simon, shale gas campaigner for Friends of the Earth Europe said: *"The European Parliament missed an opportunity to take decisive action today to prevent the further spread of shale gas in Europe. Some of the inherent risks of shale gas were recognised, but there's still a risk that the dangerous experiment played out on health and the environment in the US could be conducted in Europe."*

The reports prepared by the committees on Industry, Research and Energy (ITRE) and Environment and Public Health (ENVI) recognise the undeniably negative environmental, climate and health impacts of shale gas development [2], and call upon the European Commission to strengthen current environmental legislation related to shale gas, to be implemented by the member states.

Antoine Simon continued: *"Although still not enough, one-third of MEPs voted for a moratorium. The various risks of extreme energy like shale gas are recognised in the reports, urging the European Commission to act with strong legislation."*

"The dash for unconventional gas won't bring the economic and energy benefits touted by the industry –it will lock Europe into a future of dirty fossil fuel use, with all the associated negative environmental and social impacts."

Intense industry lobbying leaves an ambiguous position on shale gas and other unconventional fuels, according to Friends of the Earth Europe, with the inclusion in the reports of overly optimistic projections of the economic benefits of shale gas and its role as a transition fuel reliant upon unproven technologies.

Friends of the Earth Europe is campaigning for European member states to suspend on-going shale gas activities, retract permits, and place bans on any new projects, whether exploration or exploitation. Europe must embrace a low-carbon energy model, based on renewable energy and improved energy savings – the only genuine path towards an environmentally sustainable and healthy future.

For more information please contact:

Antoine Simon, shale gas campaigner for Friends of the Earth Europe,
Tel: +32 (0) 2 893 10 18, Mob: +32 (0) 486 685 664, email: antoine.simon@foeeurope.org

Sam Fleet, communications officer, Friends of the Earth Europe, (EN)
Tel: +32 (0) 2893 1012, Mob: +32 (0) 470 072 049, samuel.fleet@foeeurope.org

NOTES:

[1] The European Parliament voted today on reports from the committees working on Industry, Research and Energy (ITRE) and Environment and Public Health (ENVI). These reports outline the European Parliament's position on the impacts of shale gas development in Europe on its environment, industry, energy choices and population's health: <http://www.foeeurope.org/shale-gas-risks-side-lined-by-industry-interests-180912>

Results of vote: <http://www.europarl.europa.eu/sed/votingResults.do>

[2] Read Friends of the Earth Europe's report – Shale gas: unconventional and unwanted <http://www.foeeurope.org/shale-gas-unconventional-and-unwanted-200912>

Antoine Simon
Economic Justice Programme
Extractive Industries Campaigner

Friends of the Earth Europe
Rue d'Edimbourg, 26
1050 Brussels (Belgium)
TEL: +32 2 893 10 18
FAX: +32 2 893 10 35
antoine.simon@foeeurope.org
Skype: antoine.foee

www.foeeurope.org
www.facebook.com/FoEEurope
www.twitter.com/foeeurope

FOR IMMEDIATE RELEASE

Wednesday, November 21, 2012

**MEPs call for stricter environmental standards for fracking in Europe,
but fall short of endorsing a moratorium**

Food & Water Europe commends the 262 MEPs, who supported the moratorium

Brussels – Despite intense lobbying by the fossil fuel industry, today’s vote in European Parliament demonstrates that there is no consensus for allowing large-scale shale gas development in Europe. More than one third of MEPs voted in support of a moratorium on fracking in the Parliament’s first vote on shale gas. Although the moratorium amendment fell short of a majority, the final version of the Parliament’s reports on shale gas identified the climate, environmental and health risks associated with unconventional gas.

While it is disappointing that a majority of the Parliament did not agree that an appropriate response to the documented risks of fracking is a moratorium, the reports and moratorium vote were only the first skirmish in the long-term battle to permanently ban fracking from Europe. Food & Water Europe – together with civil society groups across Europe – will continue to work with MEPs to increase awareness of the risks and negative impacts associated with large-scale unconventional gas activities.

“The fact that one-third of MEPs, representing a diverse political spectrum, voted in favour of the moratorium, shows that there is wide spread concern about fracking. These members saw through the fossil fuel industry’s smokescreen about ‘sustainable fracking,’” said Food & Water Europe policy officer Geert De Cock. “These 262 MEPs recognised that forms of extreme energy like shale gas, will hinder, not facilitate, the transition to a much-needed low-carbon energy future.”

Food & Water Europe will make sure that the European Commission offers a swift follow-up to the Parliament’s call for “an EU-wide risk management framework for unconventional fossil fuels exploration and extraction”. Allowing the unconventional gas industry to be established detracts from the EU’s efforts to decarbonize its economy by 2050. We will continue to inform EU decision-makers about how importing extreme energy extraction methods will do little to reduce European gas prices or improve the EU’s energy security. A massive investment in shale gas will only lock Europe’s energy systems into a continued reliance on fossil fuels.

#####

Food & Water Europe works to ensure the food, water and fish we consume is safe, accessible and sustainable. So we can all enjoy and trust in what we eat and drink, we help people take charge of where their food comes from, keep clean, affordable, public tap water flowing freely to our homes, protect the environmental quality of oceans, force government to do its job protecting citizens, and educate about the importance of keeping shared resources under public control.

Contact: Geert De Cock tel. +32 (0)2 893 10 45, mobile +32 (0)484 629.491, [gdecock\(at\)fweurope.org](mailto:gdecock@fweurope.org)

PRO FRACKING....

Pro Fracking Exhibition in plenary room...

Citizens coalition or industry frontgroup? Covert lobby for shale gas enters European Parliament

On Wednesday 21 November all members of the European Parliament were due in the plenary room of the Strasbourg Parliament headquarters to vote on two reports¹ on shale gas. **The day before an exhibition was set up across from the plenary room to convince MEPs that shale gas has no environmental risks and needs no further regulation.** What was not visible was that the group co-organising the exhibition and subsequent reception, the Responsible Energy Citizens Coalition (RECC), is a front group for big companies with commercial interest in shale gas development, such as Polish PGNiG.

<http://corporateeurope.org/blog/citizens-coalition-or-industry-frontgroup-covert-lobby-shale-gas-enters-european-parliament>

Environment commissioner Potocnik's press release on the vote today, while wrapped up in diplomatic language, also sounds quite positive for the future:

http://europa.eu/rapid/press-release_MEMO-12-885_en.htm

Shale Gas Europe welcomes European Parliament's support for sustainable shale gas development in Europe

Brussels, 21 November 2012 - Safe and responsible shale gas development will attract investments, create jobs, increase our competitiveness and generate substantial tax revenues. Shale Gas Europe welcomes the outcome of today's votes in the European Parliament on the industrial aspects and environmental impacts of shale gas development in Europe. Through both votes, the European Parliament has voiced its support for exploring Europe's domestic natural gas resources. Mónica Cristina, spokesperson of Shale Gas Europe stated: "The endorsement of the two reports calls for both exploring the potential of shale gas and ensuring its development is done in a sustainable way for both the economy and the environment. Shale Gas Europe fully supports those goals and will keep engaging with citizens and decision-makers by listening to and addressing concerns relating to shale gas." Europe is at a real energy, economic and environmental crossroads. Today's votes demonstrate that there is a growing understanding amongst European decision-makers that shale gas development can take place within an adequate and responsible regulatory regime.

About Shale Gas Europe: Shale Gas Europe is a platform for all actors involved in the exploration and development of shale gas, tight gas and coalbed methane. It aims to promote a dialogue and provide first-hand, up-to-date information to citizens, policy-makers and the media on all the key issues surrounding the development of shale gas in Europe. Shale Gas Europe is supported by Chevron, Cuadrilla Resources, Halliburton, Royal Dutch Shell, Statoil, Vermilion Energy and Total Gas Shale Europe. For further information: www.shalegas-europe.eu/ Media contact: Mónica Cristina +32 2 289 08 73 [info\(at\)shalegas-europe.eu](mailto:info@shalegas-europe.eu) Follow us @shalegaseurope

<http://www.shalegas-europe.eu/en/index.php/news-room/press-releases/107-shale-gas-europe-welcomes-european-parliament-s-support-for-sustainable-shale-gas-development-in-europe>

SUNDAY,



Search...

HOME

ABOUT US ▾

NEWS ROOM ▾

RESOURCES ▾

EXPERTS' VIEW ▾

CONTACT US

ABOUT SHALE GAS EUROPE

The shale gas debate in Europe is extremely important for the **future of our energy supply**. It is therefore essential that the debate is balanced, informative and engaging to allow the public to come to their own conclusions on the issue.

As a result, the industry decided to set-up a dedicated resource centre that is open to anyone who wants to understand more about **shale gas and coalbed methane**.

Launched in 2012, this platform will bring together industry, **experts** and academics to collect, share and communicate the interesting science and technology involved in shale gas exploration. It will also show the facts about the **potential** of responsibly developing Europe's onshore energy reserves of shale gas.

So please explore our website's **factsheets**, videos, articles and links to the most up-to-date **research, facts and figures**.

About Shale Gas Europe

The shale gas debate in Europe is extremely important for the future of our energy supply. It is therefore essential that the debate is balanced, informative and engaging to allow the public to come to their own conclusions on the issue. As a result, the industry decided to set-up a dedicated resource centre that is open to anyone who wants to understand more about shale gas, tight gas and coalbed methane.

Launched in 2012, this platform will bring together industry, experts and academics to collect, share and communicate the interesting science and technology involved in shale gas exploration. It will also show the facts about the potential of responsibly developing Europe's onshore energy reserves of shale gas. So please explore our website's factsheets, videos, articles and links to the most up-to-date research, facts and figures. Please feel free to contact us. We would like to hear from you and welcome your questions and suggestions.

Shale Gas Europe is supported by: Chevron is one of the world's leading integrated energy companies, with subsidiaries that conduct business worldwide. The company's success is driven by the ingenuity and commitment of its employees and their application of the most innovative technologies in the world.

Chevron is involved in virtually every facet of the energy industry. The company explores for, produces and transports crude oil and natural gas; refines, markets and distributes transportation fuels and other energy products; manufactures and sells petrochemical products; generates power and produces geothermal energy; provides energy efficiency solutions; and develops the energy resources of the future, including biofuels. Chevron is based in San Ramon, Calif.

Cuadrilla is a UK company based in Staffordshire. Formed in 2007 as a privately owned

exploration and production company, our focus is on bringing together experts to recover natural resources, such as those found in Lancashire. Members of Cuadrilla's management team have each played leading roles in the drilling and/or hydraulic fracturing of more than 3,000 natural gas and oil wells across the world. Cuadrilla is aiming to be a "model company" for unconventional exploration in the UK. It is acutely aware of the responsibilities this brings, particularly with regard to safety, environmental protection and working with local communities. The company has some 70 staff in the UK both directly employed and through contractors, mostly based at the well sites. Founded in 1919, Halliburton is one of the world's largest providers of products and services to the energy industry. With nearly 70,000 employees in approximately 80 countries, the company serves the upstream oil and gas industry throughout the lifecycle of the reservoir – from locating hydrocarbons and managing geological data, to drilling and formation evaluation, well construction and completion, and optimizing production through the life of the field.

Royal Dutch Shell plc is incorporated in England and Wales, has its headquarters in The Hague and is listed on the London, Amsterdam, and New York stock exchanges. Shell companies have operations in more than 90 countries and territories with businesses including oil and gas exploration and production; production and marketing of liquefied natural gas and gas to liquids; manufacturing, marketing and shipping of oil products and chemicals and renewable energy projects.

Statoil is an international energy company with operations in 36 countries. Building on 40 years of experience from oil and gas production on the Norwegian continental shelf, we are committed to accommodating the world's energy needs in a responsible manner, applying technology and creating innovative business solutions. We are headquartered in Norway with approx. 21,000 employees worldwide, and are listed on the New York and Oslo stock exchanges.

Total Gas Shale Europe (TGSE) is a 100% affiliate of Total SA the fifth largest publicly-traded integrated international oil and gas company who operates in more than 130 countries. Total is committed to meeting growing energy demand while consistently acting as a responsible corporate citizen. Total Gas Shale Europe (TGSE) carries out activities related to exploration and production of shale gas for the Group in Europe. In this perspective, the objective for TGSE is to participate to the ongoing exploration phase for shale gas and bring its contribution to their potential development in the most sustainable and acceptable way possible. Today, its activities are concentrated on Denmark and Poland, under the licenses held by the Group.

Vermilion Energy Inc. (Vermilion) is an oil-leveraged producer that adheres to a value creation strategy through the execution of full cycle exploration and production programs focused on the acquisition, exploration, development and optimization of producing properties in Western Canada, the broader European region and Australia. Vermilion is targeting annual growth in production primarily through the exploitation of both conventional and unconventional resource plays in Western Canada, including Cardium light oil and liquids rich natural gas, the exploration and development of high impact natural gas opportunities in the Netherlands and through drilling and workover programs in France and Australia. Vermilion also holds an 18.5% working interest in the **Corrib gas field in Ireland**.

<http://www.shalegas-europe.eu/en/index.php/about-us/about-shale-gas-europe>

POLAND

<http://www.nasdaq.com/article/cuadrilla-resources-gets-poland-shale-exploration-license-20121121-00393#.UK48OIezJ8E>

Cuadrilla Resources Gets Poland Shale Exploration License

By Ben Winkley

LONDON--Cuadrilla Resources said Wednesday it has won a contract to explore for shale gas in a pocket of east-central Poland, the country at the center of European efforts to rival the success of the U.S. shale boom.

The closely-held explorer, which in 2011 found itself in the spotlight when environmental concerns forced it to suspend its U.K. operations, said it will undertake seismic work in the first quarter of 2013.

The Pionki Exploration License covers some 827 square kilometers of east-central Poland. In a statement, Cuadrilla said the shale appears similar in age and potential to that at its U.K. license.

Poland wants to exploit its shale gas reserves to reduce its reliance on natural gas imported from Russia, and to build gas-fired power plants to diversify away from coal as the primary source of its electricity. In the U.S., shale gas accounts for 10% of the overall U.S. supply and is expected to save the U.S. from spending \$100 billion a year on imported liquefied natural gas.

The Polish government has encouraged state-controlled firms, led by gas firm PGNiG SA (PGN.WA), to do exploration drilling, mostly in Poland's north and east, after Exxon Mobil Corp. (XOM) pulled the plug on its efforts there in June.

Progress has been frustratingly slow, however, with shale gas-focused companies learning to navigate a bureaucracy that hasn't shaken off the cumbersome legacy of its communist past.

But Wednesday, the Polish government confirmed its commitment to the search for shale, saying it will continue to drill despite objections raised by some members of the European Parliament and calls for a European Union-wide moratorium on the rock fracturing technology used in production. Some would like to see the hydraulic fracturing technology, known as fracking, banned on environmental grounds.

THE NETHERLANDS

please find below info from the newsletter from our colleagues in the Netherlands.
Open the links, you do not have to be able to read Dutch:)

A good movie about the risks of HF.
<http://www.youtube.com/watch?v=Jr2q6ToN1bs&feature=plcp>

-
Results EU ENVI/ITRE voting
[http://www.europarl.europa.eu/sed/doc/votingResult/P7_PV\(2012\)11-21\(RCV\)_en.pdf](http://www.europarl.europa.eu/sed/doc/votingResult/P7_PV(2012)11-21(RCV)_en.pdf)

Interview with Sonik and Rivasi about shale gas
<http://europartv.europa.eu/en/player.aspx?pid=8a445c0e-962d-4252-817a-a10a012668e2>

Is Sonic a bit drunk?
(http://www.eva-lichtenberger.eu/news/schiefergas_im_europaeischen_parlament-_lobbying_bis_zum_letzten_atemzug#.UK0_CiE7OSp) According to MEP Bütikofer champagne was available. The reporter on the environment is badly informed, he dares to say that in America are not legal case against shale gas companies(approx.1:40)...

American gp's
<http://www.nejm.org/doi/full/10.1056/NEJMs1209858>

Canada fears that Amerika will not buy their tarsand, because America started to frack for shale gas
<http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/in-us-energy-renaissance-flares-of-fear-for-albertas-oil-patch/article5398644/>

study about the influence of ground water extraction on water streams

<http://pubs.usgs.gov/circ/1376/>

Recycling of tarsand, : used for fracking

<http://www.desmogblog.com/2012/11/20/second-us-tar-sands-mine-owned-former-exxonmobil-and-chevron-exec-approved-utah>

Fracking is bad for employers (in Dutch)

<http://www.360magazine.nl/in-het-nieuws/1393-fracking-is-gevaarlijk-voor-werknemers>

Report about radio activity from Grassroots Environmental Education

Gaz de schiste : la contamination radioactive refait surface

www.ddmagazine.com

anti-fracksong,
Op 4.11 : Cuadrilla

`<!--[if !vml]--><!--` **THE END.wmv When are they gonna learn. (Fracking Hell)**
`[endif]-->` **www.youtube.com**

THE END. A rock band from Southport UK, Helping REAF with their Struggle against Fracking.

40 cities and towns are now shale gas free and two provences

Mirjam

Burgerinitiatief Schaliegasvrij Boxtel

GLOBAL NEWS

NBC: Animals quietly falling sick and dying near oil & gas drilling – Cows tails dropping off

[...] Earlier this year, Michelle Bamberger, an Ithaca veterinarian, and Robert Oswald, a professor of molecular medicine at Cornell's College of Veterinary Medicine, published the first (and, so far, only) peer-reviewed report to suggest a link between fracking and illness in food animals. The authors compiled case studies of twenty-four farmers in six shale-gas states whose livestock experienced neurological, reproductive and acute gastrointestinal problems. Exposed either accidentally or incidentally to fracking chemicals in the water or air, scores of animals have died. The death toll is insignificant when measured against the nation's livestock population (some 97 million beef cattle go to market each year), but environmental advocates believe these animals constitute an early warning. [...]

<http://enews.com/nbc-animals-quietly-falling-sick-and-dying-near-oil-gas-drilling-cows-tails-dropping-off-photo>

One of our campaigners reports:

Here's something interesting that my friend in **Pennsylvania** told me about: Harrisburg, the capital of the state, filed for bankruptcy. She

said "if Pennsylvania is making so much money from fracking, how come the capital is bankrupt?"

It seems the city filed for bankruptcy in October, and then the state challenged it and got it overturned. In any case, Pennsylvania does not seem to be floating in money...

Here are a few links...

<http://www.nytimes.com/2011/10/13/us/harrisburg-pennsylvania-files-for-bankruptcy.html>

<http://www.reuters.com/article/2011/11/23/us-harrisburg-bankruptcy-idUSTRE7AM2IL20111123>

Fracking in America

For years now, the United States has tried to lower its dependence on foreign oil for its energy needs.

With stability in the Middle East in question, drilling at home has never been more attractive. But it often comes at a cost.

Natural gas extraction - fracking - is being touted as the answer. But questions are being asked about the process and its implications.

<http://www.aljazeera.com/programmes/faultlines/2012/11/201211211093664397.html>

From Jessica Ernst

[a family adversely impacted by encana/cenovus in saskatchewan sent these comments on this news:](#)

It was just announced on BNN, that Peter Kent has rejected Cenovus's shallow gas wells on the Suffield wildlife reserve. Finally, a Minister with "BALLS" – but then again it is Christmas!!!

Our wildlife has more rights than humans, but is a start for us at the bottom of the food chain.

[comment from citizen in quebec:](#)

If there's already more than a 1,000 wells there, why stop now? To protect the fauna and flora or the soldiers?

So regular folks in Rosebud are less at risk than soldiers?

[here's my post w a bit of history, singalong and current news:](#)

<http://www.ernstversusencana.ca/environment-minister-turns-down-cenovus-encana-energy-project-over-wildlife-risk>



Woodstock Earth is an artist cooperative in Woodstock, NY. Besides Peace, Love and Rock&Roll, we are concerned with the health of our children, our people and our planet. We do not pretend to be academics or experts, but wish to raise issues of human health, the safety of our food supply, and the welfare of Mother Earth.

woodstockearth.blogspot.com

Email us: WoodstockEarthBlog@gmail.com

Visit us: WoodstockEarth.net

Dear Friends,

We wanted to be sure to get this one out before the recent presidential elections. It's about how they don't dare mention the dirty word, even when, that's all they talk about. The title is MORE FRACKING INSANITY TELEVISION ADS TO POLITICS THE 800 POUND GORILLA IN THE ROOM.

This post is the 4th in our series on Fracking Insanity, the 3rd is on The Oil Boom, that few of us know much about, and the 2nd about Radon in the Pipelines / A Dirty Bomb for Every Kitchen. The 1st article you may have already read is Fracking Insane, a comprehensive Fracking 101.

Please feel free to use this content in any way, including excerpting, and if you prefer not to link to us, please feel free to consider us a guest columnist for your blog. Our intention is to get these stories out, whichever way we can. This is a non-commercial website. Our interest is education.

Please help us get the message out. Time is short. To the benefit of Halliburton and Multinational Oil and Gas corporations, the US is willing to export this technology anywhere it can, regardless of consequence.

All stories can be accessed through woodstockearth.blogspot.com.

Thanks,

Mikethemikeman

<http://woodstockearth.blogspot.com/2012/10/more-fracking-insanity-part-four-of.html>

PS If you have any contacts in any other international anti fracking groups, and you could get the word out to them, these articles could be an excellent resource for them as well. We certainly would appreciate your efforts in this regard. Social networking is not our strong point, so we need all the distribution help we can get. We've gotten over 2,800 pageviews since we started our website in March 2012, from over 40 countries, including Ireland and the UK.

Fracking and cancer

On Thanksgiving day a 19 year old boy died in upstate New York of acute lymphoblastic leukemia. Diagnosed with ALL when he was 9, his disease returned with a vengeance when he was 17.* He is the only child of a divorced mother who participated in Cure, a support group for families of children with cancer. When Cure's members learned that the boy lived on a farm where land was leased for gas wells when he

was young, they urged her to talk with Judy Braiman, a Rochester activist who has worked for 30 years on environmental protections. Judy was instrumental in removing arsenic from playground structures, toxics from children's toys, and is now very concerned about the impact on children of gas extraction, including fracking.

The boy's mother was determined to find out if the gas wells were responsible. She felt that there were too many cases of childhood cancer in the area, a concern shared by others at Cure. She also knew that benzene, a chemical that can cause leukemia, was recently found in nearby wells. She responded to dozens of questions posed by Dr. Kathleen Burns, a toxicologist who works on the genesis of cancer and specializes in petroleum hydrocarbons such as benzene. Dr. Burns didn't find any other cancer-causing factors in the family or child's history - no other explanation for the leukemia that was taking the boy's life. But there was also no clear information on exactly what was in and around the well where the boy lived.

We may never know with 100% certainty whether there was a connection between the boy's death and local water contamination. We may not know the source of benzene and other contaminants in the local water supplies. But we do know a great deal about many chemicals that can cause cancer, birth defects and other types of harm to our children. We know that many children live with these in their water supplies, food, and in the air of many polluted communities. Too many children are exposed to chemicals that will rob them of their health and longevity.

We have an unequivocal obligation to protect children from these chemicals and the harm they cause, to the degree possible. That doesn't mean to the degree that it is economically pleasing. It means we must place the health of our children above economic interests. Until people are willing to make difficult trade-offs and tell companies and government agencies to halt processes that involve toxic chemicals until safety can be guaranteed, we will continue to bury our sons and daughters. That is a trade-off that no parent should ever have to make.

Judy Braiman, Director, Empire State Consumer Project, Rochester NY

Kathleen Burns, Director, Sciencecorps, Lexington MA www.sciencecorps.org

REPORTS - RESEARCH

NOVEMBER 2012 UNEP- GEAS November

Thematic Focus: Resource Efficiency, Harmful Substances and Hazardous Waste
Gas fracking: can we safely squeeze the rocks?

Hydrological fracturing techniques have made accessible vast unconventional gas reserves. However, observed impacts on the environment and human health raise legitimate public concerns. The potential climate benefits of coal-to-gas substitution are both less clear and more limited than initially claimed. The question of whether to allow or ban gas fracking needs to be carefully assessed by relevant authorities. A review of current related policies and regulations is critically needed.

Why is this issue important?

Fossil fuels are the world's main source of energy, accounting for 81% of global primary energy use in 2010 (IEA, 2011). However, as conventional reserves are depleted (IEA, 2010) and demand for energy rises, there is increasing pressure to exploit unconventional energy sources (UNEP, 2011a; UNEP, 2011b). Hydraulic fracturing (or fracking) is a gas extraction technique used in low permeable rocks. This is referred to as unconventional gas (UG) production. UG has triggered both strong opposition and heightened economic interest.

Figure 1: Technically recoverable shale gas reserves in trillion cubic metres (tcm) in the top 18 countries. Data source: Royal Society, 2012; cartography by UNEP/GRID-Geneva. <http://na.unep.net/geas/articleImages/Nov-12-figure-1.png>

There is enough UG world-wide to increase gas from 13% of global energy resource base in 2009 to 25 % in 2035 (IEA, 2011; IEA, 2012), ranking gas as the second most important source of exploitable energy after oil (IEA, 2012). As the geographic distribution of UG differs from that of conventional fossil energy resources, it changes the dynamics of the international geopolitics of energy (Milosevic and Markovic, 2012). Countries which are largely dependent on foreign imports to meet their energy supply might look at local UG as one way to decrease their dependency. In several cases, the development of UG would enable certain countries to achieve greater energy independence, making the exploitation of UG reserves highly attractive to some governments.

While offering economic and energy security benefits, UG production presents considerable environmental risks. These range from potential water and soil contamination from surface leaks or from improperly designed well-casing, to spills of improperly treated water, increased competition for water usage, and fugitive emissions of gas with implications for the global climate. A number of other issues, related to environmental degradation, can also occur including air pollution from volatile contaminants, noise pollution, negative impacts on ecosystems, biodiversity losses and landscape disruption.

Proponents of UG development present it as a cleaner alternative to coal that could reduce greenhouse gas (GHG) emissions (Burnham et al., 2011). However, this assertion has been increasingly challenged by a number of recent studies showing both less clear and more limited benefits than initially claimed (Wigley, 2011; Hultman et al., 2011a; Howarth et al., 2011b). Ultimately the question of coal-to-gas substitution is a misguided debate, as none of the scenarios leads to satisfying results to limit global warming. Comparisons should be made with other alternative energy such as hydro, solar and wind.

What is unconventional gas?

Both conventional and unconventional gas are natural gas - what differentiates the two are their geophysical locations and how they are extracted. While conventional gas (CG) is located in permeable rocks and can escape freely after drilling, UG is trapped in insufficiently permeable rock formations, such as shale, tight sands and coal beds (also called coal seam gas in Australia), that need to be fractured in order to release gas in commercial quantities. Hydraulic fracturing, often shortened to fracking (or fraccing), is a process that injects a large amount of fluids (water with chemicals and sand) at high pressures into rock formations to fracture them, enabling compounds such as gas that are held tightly inside to be released (IEA, 2012). These techniques have generally only been economically viable since the mid-1990s, but have recently become even more appealing (Arthur et al., 2008). A combination of factors, including technological advance, desire to decrease dependence from foreign energy, new geopolitical realities (Milosevic and Markovic, 2012) and high oil prices, have made unconventional gas and subsequently hydraulic fracturing particularly attractive.

Most of UG is trapped deep inside of shale formations (shale gas) at depths between 1500 to 3000 metres (Boyer et al., 2006). A typical horizontal well has an average lateral extension of

1400 m (maximum of 3000 m) (Santoro et al., 2011). The rock is hydraulically fractured multiple times every 100 metres along this horizontal extent (Figure 4). These fractures can extend between 150 and 250 metres perpendicularly from the horizontal well and should, in theory, not propagate vertically more than the thickness of the gas-producing layer. Several horizontal lateral bores can extend from a vertical well (Santoro et al., 2011).

Coalbed methane (CBM), also known as coal seam gas, coalbed gas, or coal mine methane, is methane held within the solid matrix of coal seams, usually located in shallow geological settings in comparison with shale. Depths of 800 to 1200 metres are typical, but CBM can also be found at as little as 100 metres below the surface. In such shallow settings, it is more economical to drill using several vertical wells rather than horizontal wells, resulting in multiplying the number of wells and thus having a larger footprint on land. Exploitation of CBM may lead to higher venting (gas freely released into the atmosphere) of methane as compared with shale gas and being at shallower depth, requires higher caution to avoid infiltrations in the water table (IEA, 2012). Water is also often present in CBM and needs to be removed. This "produced" water must be properly treated and disposed of, so as to prevent spills and land or soil contamination.

World reserves

As of 2010, world production of UG was about 472 billion cubic metres (bcm), 89% of which is produced in North America (USA: 76%; Canada 13%) (IEA, 2012). However, this resource is widely available globally (see Figure 1) – estimated total technically recoverable reserves amount to 420 trillion cubic metres (tcm), with shale gas estimated at 208 tcm, tight gas at 76 tcm and CBM at 47 tcm.

Unconventional gas accounts for 44% of total possible gas production with existing technologies, shale gas representing two-thirds of UG sources or 28% of total technically recoverable gas (IEA, 2012). While Eastern Europe, Eurasia (incl. Russia) and the Middle East are estimated to hold 61% of CG, these regions account for only 16.6% of UG; all the other regions have a larger proportion of UG as compared with CG (Figure 2). Due to this distribution, growing development of UG reserves will create a shift in global energy supply.

Due to population growth, increase in individual demand, new demand from emerging economies and depletion of oil reserves, global demand for gas may grow by 45% to 50% by 2035 (IEA, 2012; Howarth et al., 2011a), and according to IEA, the production of UG could more than triple to reach 1600 bcm per year, with the new largest developments expected in Australia, China, India, Indonesia and Poland. UG could rise from 14% in 2010 to 32% of gas production by 2035 (IEA, 2012). Despite these prospects, UG faces an uphill struggle in gaining public acceptance and, given public health and environmental concerns, UG's future potential may be limited and thus only increase marginally (IEA, 2012).

Figure 2: <http://na.unep.net/geas/articleImages/Nov-12-figure-2.png>

UG effects on the global climate

The evaluation of GHG emissions linked to UG production is a major point of contention and is the subject of a number of conflicting studies (Wang et al., 2011, Ridley, 2011 and Howarth et al., 2011a). Proponents highlight UG's lower GHG emissions in comparison with coal (IEA, 2012; Burnham et al., 2011). However, this assumption is being challenged by other research scientists who are stating UG may be on par or may even exceed the impacts of coal emissions on climate, mostly due to larger fugitive methane emissions (Wigley, 2011; Hultman et al., 2011; Howarth et al., 2011b).

Comparisons between UG and coal may be misleading, as new sources of energy, such as UG, would better be compared with other non-conventional sources of energy such as wind or solar. UG life-cycle GHG emissions are much higher than wind power: 500 g-CO₂ per kWh, compared to 30 g-CO₂ per kWh (McCubbin and Sovacool, 2011).

Ultimately, the overall effects of UG developments on the global climate may be limited (Wigley, 2011), and are contingent on several factors (See Box 1). To have a small to medium chance of achieving the +2°C global temperature target, CO₂ emissions from energy and industry must be reduced on average by 3.2 to 3.6% per year between 2020 and 2050 (i.e. -48 or -54% reduction in CO₂ equivalent emissions) (UNEP, 2010). Even with large investments and developments and under best practices, UG production may lead to only 1.3% reduction of GHG emissions by 2035 (IEA, 2012). Investments in UG development are facing large and increasing public opposition. Hence, the development of UG production globally may remain much lower and have even smaller impacts on the GHG emissions (IEA, 2011).

Box 1: Specific questions regarding possible UG effects on global climate

Whether UG will induce a decrease or an increase in GHG emissions is contingent to several conditions.

Short or long-term view?

The 100-year horizon is commonly used for impacts on climate change; however, given the need to reduce GHG emissions in the coming decades, it is also critical to assess the 20-year horizon (Howarth et al., 2011 b). Methane (CH₄) is a more potent GHG than CO₂ - albeit over a shorter lifetime. When methane is released in the atmosphere (venting), its Global Warming Potential (GWP) is up to 72 times higher than CO₂ over a 20 year period, but then gradually decreases so that over a 100 year horizon its GWP is 25 times higher than CO₂ (IPCC, 2007). Recent studies found that emissions from UG could initially lead to an increase in climate warming in a 20-year horizon and would only be comparable to coal over a 100-year time horizon (Wigley, 2011; Hultman et al., 2011; Burnham et al., 2011; Hayhoe et al., 2002).

What are the average emissions of methane from UG production?

Methane leakage (venting) can significantly reduce the life-cycle benefit of gas compared to coal or petroleum (Burnham et al., 2011). The production of UG without methane venting is technically feasible (IEA, 2012), however in practice, compilation of data revealed a high level of methane vented (Wigley, 2011; Hultman et al., 2011; Howard, 2011).

The advantage of UG GHG emissions versus coal highly depends on the percentage of methane vented and the time horizon considered. A theoretical value of 2-3% of methane emissions (IPCC, 2007) and a 100-year time period are typically used (blue point in Figure 3); however, observed emissions ranged between 3.6 to 7.9% (Howarth et al., 2011 b).

Such levels of GHG bring UG emissions to a par with coal over a 100-year time horizon (range a) and largely exceed them if a 20-year time horizon is considered (range b).

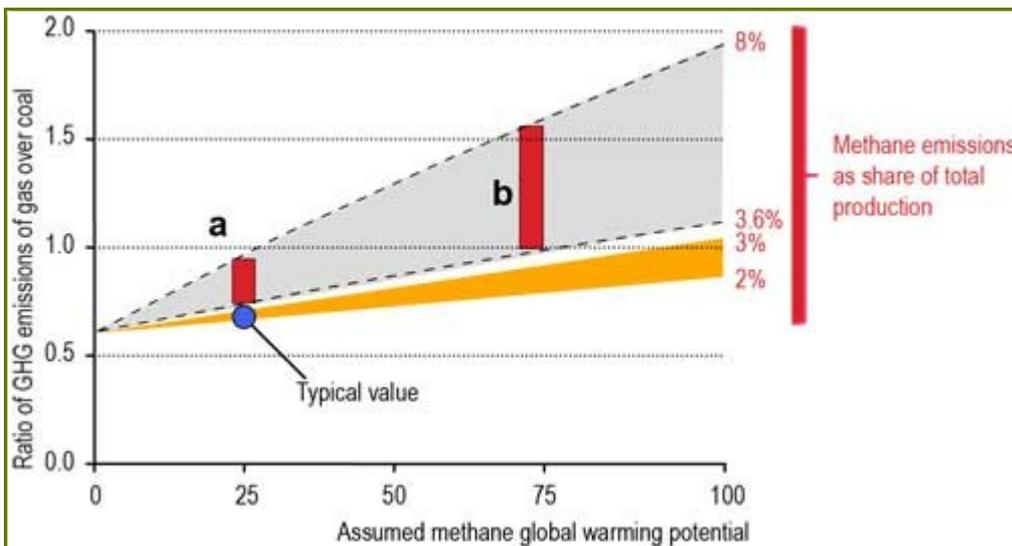


Figure 3: Comparative of UG versus coal under different time horizons and different levels of methane venting.

[Full Size Image](#)

Would UG be a substitute or be used in addition to energy from coal?

Given the increase in energy demand and in absence of pressure to reduce the use of all forms of fossil fuel, UG might not be a substitute but may add to the energy produced from coal (Wood et al., 2011).

Do investments in UG development compete with greener energy development?

IEA foresees a possible US\$ 6.9 trillion investment to develop UG by 2035. Effects on climate of this investment in UG should be compared with effects of similar level of investments in cleaner energy. Indirect impacts on the climate should also be studied. UG opponents fear that large investments in UG will come at the expense of more environmentally-friendly alternative energies, such as solar, wind, tidal, geothermal and secondary biomass energy sources, all of which carry high up-front investment costs.

Whether UG will induce a decrease or an increase in GHG emissions is contingent to several conditions.

Short or long-term view?

The 100-year horizon is commonly used for impacts on climate change; however, given the need to reduce GHG emissions in the coming decades, it is also critical to assess the 20-year horizon (Howarth et al., 2011 b). Methane (CH₄) is a more potent GHG than CO₂ - albeit over a shorter lifetime. When methane is released in the atmosphere (venting), its Global Warming Potential (GWP) is up to 72 times higher than CO₂ over a 20 year period, but then gradually decreases so that over a 100 year horizon its GWP is 25 times higher than CO₂ (IPCC, 2007). Recent studies found that emissions from UG could initially lead to an increase in climate warming in a 20-year horizon and would only be comparable to coal over a 100-year time horizon (Wigley, 2011; Hultman et al., 2011; Burnham et al., 2011; Hayhoe et al., 2002).

What are the average emissions of methane from UG production?

Methane leakage (venting) can significantly reduce the life-cycle benefit of gas compared to

coal or petroleum (Burnham et al., 2011). The production of UG without methane venting is technically feasible (IEA, 2012), however in practice, compilation of data revealed a high level of methane vented (Wigley, 2011; Hultman et al., 2011; Howard, 2011).

The advantage of UG GHG emissions versus coal highly depends on the percentage of methane vented and the time horizon considered. A theoretical value of 2-3% of methane emissions (IPCC, 2007) and a 100-year time period are typically used (blue point in Figure 3); however, observed emissions ranged between 3.6 to 7.9% (Howarth et al., 2011 b).

Such levels of GHG bring UG emissions to a par with coal over a 100-year time horizon (range a) and largely exceed them if a 20-year time horizon is considered (range b).

Would UG be a substitute or be used in addition to energy from coal?

Given the increase in energy demand and in absence of pressure to reduce the use of all forms of fossil fuel, UG might not be a substitute but may add to the energy produced from coal (Wood et al., 2011).

Do investments in UG development compete with greener energy development?

IEA foresees a possible US\$ 6.9 trillion investment to develop UG by 2035. Effects on climate of this investment in UG should be compared with effects of similar level of investments in cleaner energy. Indirect impacts on the climate should also be studied. UG opponents fear that large investments in UG will come at the expense of more environmentally-friendly alternative energies, such as solar, wind, tidal, geothermal and secondary biomass energy sources, all of which carry high up-front investment costs.

Environmental and health concerns

Impact of unconventional gas extraction on the landscape.

UG exploitation and production may have unavoidable environmental impacts (see Figure 4). Some risks result if the technology is not used adequately, but others will occur despite proper use of technology (EU, 2011). UG production has the potential to generate considerable GHG emissions, can strain water resources, result in water contamination, may have negative impacts on public health (through air and soil contaminants; noise pollution), on biodiversity (through land clearance), food supply (through competition for land and water resources), as well as on soil (pollution, crusting). The sections below further outline the potential environmental and health impacts.

Figure 4 <http://na.unep.net/geas/articleImages/Nov-12-figure-4.png>

Risk on public health

Pools of Fracking fluid located few miles away from residential area.

When occurring in densely populated areas, UG production raises several specific threats to well-being. The most direct concern is the risk of explosion from the construction of new pipelines (Rahm, 2011). Other consequences have a slower onset, such as release of toxic substances into air, soil and water. In Texas, emissions from shale gas operations are being checked for contaminants after blood and urine samples taken from household residents near shale wells revealed that toluene was present in 65% of those tested and xylene present in 53% (Rahm 2011). Both of these chemicals are commonly present in fracking fluid and known for being toxic. The biocide substances which are also contained in fracking fluid, and may be released during surface water leaks, can lead to serious damage to the surrounding habitat (IEA, 2012).

More common nuisances include noise pollution, primarily associated with drilling and fracking (which is a non-stop operation over several weeks), but also from truck transport (Rahm, 2011).

Fracturing fluid consists of large amounts of water mixed with chemicals and sand. In most countries the chemicals used in fracking fluid are considered trade secrets (Zoback et al., 2010). If companies are not required to publicly disclose the full list of chemicals used, assessing potential short- and long-term impacts on public health will be difficult. Colborn and others (2011) compiled a list of products (about 1000) used in fracking fluid. They carried out literature review on 353 chemicals and found that "more than 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40–50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations." (Colborn et al., 2011).

Nonylphenol, for example, which is commonly used in fracking fluid, mimics estrogen, and can cause the feminization of fish, even at concentrations not detected by normal monitoring of the fluid (NYS-WRI, 2011). The consequence of the feminization of fish is an imbalance between male and female populations, resulting in a deficit of fertilization and potentially leading to a rapid decline of these fish populations.

Footprint on land and natural environment

The connection between wells and seismic activity is a controversial issue (Sminchak et al., 2011). Although a link between injection wells (such as used in UG) and high-magnitude earthquakes is unlikely, it cannot be ruled out completely (Cuadrilla Resources, 2011; IEA, 2012). Fracking techniques, just like dam building and the injection of water for geothermal energy production, are known to have a potential to impact the local seismicity. In Oklahoma, seven hours after the first and deepest hydraulic fracturing stage in Eola field (Garvin County), 50 earthquakes of small magnitude (1 to 2.8 Md) occurred within 3.5 km from fracking sites. Changes in fluid pressure at well bottoms were sufficient to encourage seismicity. Correlation (in space and time) doesn't mean causality, but remains a "strong possibility" (Holland, 2011). As such, an in-depth assessment of faults and seismic activity should be conducted to avoid drilling in hazard-prone areas (IEA, 2012).

Figure 5: These two satellite images from 1984 and 2011 show the high density of wells where over 1000 UG well pads (small, white dots) were cut into the Louisiana landscape (USA), most of them in recent years, as use of hydraulic fracturing technology became widespread.

<http://na.unep.net/geas/articleImages/Nov-12-Figure-5-1.png>

<http://na.unep.net/geas/articleImages/Nov-12-Figure-5-1.png>

<http://na.unep.net/geas/articleImages/Nov-12-Figure-5-2.png>

The exploitation of UG has a significant footprint on the landscape (see Figure 5). As compared with CG, UG requires significantly more wells due to the limited area exploited per well (1 km²) and shorter life span (five to 15 years), with most of the production occurring over the first six months (IEA, 2012). Each well requires approximately one to two hectares (ha) of land plus road networks (Belvalkar and Oyewole, 2010). Drilling also requires the clearing of land, which has a negative impact on landscapes and biodiversity, and can lead to significant soil erosion and sediment disposition (Adams et al., 2011). Horizontal drilling allows multiple wells to be placed in one location and thus limits the impact on the surface environment (NPS, 2008). In shallower settings (e.g. on coalbed methane), vertical drilling is economically more profitable but has increased impact on land (IEA, 2012). The restoration of well sites after exploitation needs to consider soil salinity and acidity. Often restoration fails due to toxicity problems (Cook and Johnson, 2002).

Water scarcity and competition

Fracking is an extremely water-intensive practice. A single horizontal shale gas well will use between 11 and 34 million litres of water, roughly 360 – 1100 truckloads. The exact amount varies depending on the size of the area being exploited, the depth of the well and the geological characteristics of the formation (Harper, 2008; Brownell, 2008).

Electricity produced using UG uses substantially more water than solar or wind depending on the area in which the unconventional reserves are located. This could be a major limitation if drilling occurred in an area in which water resources are scarce (Sovacool and Sovacool, 2009).

Tight gas requires 100 times more water than CG and shale gas between 2000 - 10000 times compared with conventional gas exploitation (IEA, 2012). Although water can be recycled, excessive water usage can have broad and serious negative impacts (IEA, 2012) on biodiversity and local ecosystems, while lowering the water table, resulting in reduced availability of water for use by local communities and agriculture. The depletion of aquifers as a consequence of CBM production is well known; production of CBM also increases the amount of dissolved salts and other minerals in some areas (IEA, 2012).

The needs of water for exploitation and the depletion of aquifers has (and will) create conflicts in water usages. Notably, competition with agricultural users is likely to be a serious issue (IEA, 2012).

Produced water

Underground water often needs to be pumped from coalbed methane wells. This is referred to as "produced water". Produced water needs to be properly treated before it can be released, as it can contain high concentrations of sodium, calcium and magnesium. If spilled onto surrounding fields without appropriate treatment, produced water can cause severe damage. Saline water can inhibit germination and plant growth while excessive sodium can change the physical properties of soil and result in poor drainage, crusting and reduced crop yields (IEA, 2012).

Risk of water leakages

Leakage of fracturing fluids into the water table causing water contamination or explosions can occur if the cement columns around the well casings have an imperfect seal. Several examples of leaks in the casing leading to explosions or contamination of the water table have occurred in the USA (Myers, 2011 and Zoback et al., 2010). Discharge of improperly treated waste water could lead to seepage into ground water.

The leakage of hydrocarbons or chemicals from the UG producing zone into shallow aquifers is possible, however with low probability. This is an issue that may occur in CBM production due to relatively shallow depths of exploitation, but is less likely with shale and tight gas extraction. Evidence of water contamination by fracturing fluids and methane was found in Wyoming, where wells are shallower than average (EPA, 2011a).

In aquifers overlying the Marcellus and Utica shale formations of northeastern Pennsylvania and upstate New York, Osborn and others (2011) found systematic evidence of methane contamination of drinking water associated with shale gas extraction. For the 316000 wells analysed in Alberta, 4.6% had leaks (Watson and Bachu, 2007, in Nygaard, 2010). The main origin of groundwater contamination is as a result of accidental spills of fluids or solids at the surface. A review of publications on well leakage worldwide concluded that, "cased wells are more prone to leakage than drilled and abandoned wells, and injection wells are more prone to leakage than producing wells." (Nygaard, 2010). There is a risk that fracturing the rocks might ease the migration of naturally occurring toxic substances present in the subsurface, such as mercury, lead or arsenic (EPA, 2011b; EU, 2011).

Spills or leaks can also occur during the transport, mixing and storage of the water and flowback. Spills from pits have been widely reported due to a number of reasons, including improper lining of the pit or from storms. Between 2008 and 2010, Marcellus Shale gas drillers in Pennsylvania (USA) were cited for 1435 violations, 952 of which were considered "likely" to be detrimental to the environment (Gilliland, 2010).

None of these hazards are new risks or exclusively tied to unconventional extraction and production methods. However, given that the number of UG wells has increased, these problems are more likely to occur. Moreover, chemicals added to the fracturing fluid can add to the danger level of the leaks.

Flowback and fracking fluid storage in open air settings.

A proportion of the injected fluid returns to the surface through the well, in a process referred to as flowback. Flowback contains the fluids that were initially injected into the well, as well as naturally occurring substances within the fractured rock formations, such as minerals, salt, weakly radioactive material and potentially toxic substances such as arsenic, benzene, methane or mercury (Kargbo et al., 2010). Flowback must be collected, treated and properly disposed off, as concentrations of contaminants can be very high. To reduce transport requirements, flowback can be treated on site and re-injected into the well, but is often stocked on site, in tanks or in open evaporation pits (Manz, 2011). In the latter case, air pollution caused by the evaporation of chemicals can be severe (Madsen and Schneider, 2011).

What can be done?

Drilling requires the clearing of land which alters the landscape. Here, trees have been cleared to build a road to reach the drilling site.

Ultimately the best solution would be to lessen our dependency on fossil fuels. Given the uncertainty in terms of GHG emissions, public health, environmental issues and depletion of water resources, the continued development of UG reserves is an option which brings with it great responsibility. For governments that choose this path, there are recommendations which, if followed, would reduce the risk of environmental impacts, while resulting in just a small increase in production costs.

The actions needed for reducing environmental costs can be divided in technical and policy types.

Technical considerations:

Fracking should be avoided in areas of water scarcity, in close proximity to densely populated areas, and/or in areas where it can impact on agricultural production. Sites deep below the water table are safer (IEA, 2012).

Rigorous training and strict oversight can prevent (or contain) surface spills and leaks from wells and ensure that any waste fluids and solids are disposed off properly (IEA, 2012).

To minimize climate impacts, developers should be encouraged to implement a zero-venting and minimal flaring policy. This is technically feasible by separating gas during the drilling process (IEA, 2012).

CO₂ can react with materials used to construct a well. For example, it is known to reduce cement's strength and increase its permeability. CO₂ can also corrode steel, and thus injection wells should be designed to minimize this risk (Nygaard, 2010).

Policy considerations:

Solutions to some of the issues that UG extraction presents are not only based on using better drilling techniques, but are also related to improving environmental governance such as setting rules for environmental, climate and health protection. Such regulations could include:

Mandating full disclosure of products used in the fracking process and banning substances

known to be harmful;

Implementing monitoring and enforcement procedures.

Robust regulations and adherence to industry best practices should be followed, particularly in the areas of well design and cementing, in order to completely isolate the well from other strata, and especially from freshwater aquifers.

Governments should also ensure that companies secure enough funds for restoration of land and mitigate any potential impacts on land and water, in order to avoid so-called "extract and run" practices (a company declares bankruptcy after large accidents or simply after the end of UG extraction to save on restoration costs).

Finally, if UG is used during a transition phase from carbon-based energy sources, governments should design a plan to achieve this transition. Laws, taxes or other incentives would need to be in place to assure that a certain level of UG-related profits are re-invested in research and development on alternative sources of energy, such as solar, wind, hydropower, geothermal, tidal, and on energy-saving policies.

Conclusions

Hydrologic fracking may result in unavoidable environmental impacts even if UG is extracted properly, and more so if done inadequately (EU, 2011). Even if risk can be reduced theoretically (IEA, 2011), in practise many accidents from leaky or malfunctioning equipment as well as from bad practises are regularly occurring. This may be due to high pressure to lower the costs or to improper staff training, or to undetected leaks leading to contamination of the ground water (EU, 2011).

Existing laws and regulations of the mining activities often do not address specific aspects of hydraulic fracturing. For governments who choose this path, UG will require dedicated regulations (EU, 2011).

The debate on UG exploitation cannot be disassociated from a "comeback" of fossil fuels. UG is and will be produced by the same actors. Although only very recent, the history of UG exploitation already includes instances of water contamination, leakages to soil, wide-scale land clearing and negative health impacts. Furthermore, increased extraction and use of UG is likely to be detrimental to efforts to curb climate change. Given the increased demand for fossil energy, the UG may be used in addition to coal, rather than being a substitute. Even under the optimistic assumption of the substitution of coal by UG, UG will likely have a limited reduction impact on 21st century global warming. The claim that UG can reduce GHG emissions is conditional on whether UG, over its entire life-cycle, is demonstrated to have a much lower GWP than coal (Howarth, 2011; Jiang, 2011; Hayhoe et al, 2002 ; Wigley, 2011; Hultman et al., 2011; Burnham et al.,2011; IEA, 2011; EU, 2011).

Given the ever-increasing demand for energy, UG use is likely to grow. With large gas reserves and the comparative advantage of using existing infrastructures, equipments and networks from the oil and gas industry (drilling equipment, pipelines, thermal power stations, etc) UG will remain a tempting power source for the industry and for some governments who want to decrease their foreign dependency on energy. However it will face strong opposition given low public acceptance in certain places. As a non-renewable source of energy, UG remains a stop-gap measure in the transition to a low carbon future. In order to develop energy plans that maximize benefits and minimize harm, other forms of energy will also be needed (McKay, 2008).

Finally, injecting toxic chemicals in underground restricts later use of the contaminated layer (e.g. for geothermal purposes) and long-term effects are not investigated (EU, 2011). New technologies and or energy supplies, such as biofuels or UG, are often greeted as a panacea, but under further investigation are revealed to be less ideal than originally thought. Further research and appropriate, transparent and well-enforced regulation are all critical to possible development of the unconventional gas industry.

Acknowledgement

Written by: Pascal Peduzzia and Ruth Hardinga.
Reviewed by: Ron Witta, Mark Radkab, Djaheezah Subrattyb, Zinta Zommeresc, Lindsey M Harrimand.
Production and Outreach Team: Arshia Chanderd, Erick Litswac, Kim Giesed, Michelle Anthonyd, Reza Hussaind, Theuri Mwangic.
(aUNEP/GRID-Geneva, b UNEP/DTIE, c UNEP/DEWA Nairobi, d UNEP/GRID-Sioux Falls)

References

Adams, M., Ford, W., Schuler, T. and Thomas-Van Gundy, M. (2011). Effects of Natural Gas Development on Forest Ecosystems, Proceedings of the 17th Central Hardwood Forest Conference, pp 219-226.

Arthur, J., Bohm, B. and Layne, M (2008). Hydraulic Fracturing Considerations for Natural Gas Wells of the Marcellus Shale, Paper presented at The Ground Water Protection Council 2008 Annual Forum Cincinnati, Ohio September 21-24, 2008.
http://www.dec.ny.gov/docs/materials_minerals_pdf/GWPCMarcellus.pdf (accessed on 25 Nov, 2012)

Belvalkar, R. and Oyewole, S. (2010). Development of Marcellus Shale in Pennsylvania, In the Proceedings of the 2010 SPE Annual Technical Conference and Exhibition (ATCE), Florence, Italy. September 20-22, 2010

Boyer, C., Kieschnick, K., Suarez-Rivera, R., Lewis, R.E., Waters, G. (2006) Producing gas from its source, Oilfield Review, 36-49.
http://geoworld.geoservices.com/~media/Files/resources/oilfield_review/ors06/aut06/producing_gas.pdf
(accessed on 25 Nov, 2012)

Brownell, M. (2008). Gas well drilling and development: Marcellus shale. Susquehanna River Basin Commission. <http://www.srbcc.net/whatsnew/docs/Marcellusshale61208ppt.PDF>
(accessed on 25 Nov, 2012)

Burnham, A., Han, J., Clark, C., Wang, M., Dunn, J. and Palou-Rivera, I. (2011). Life-Cycle Greenhouse Gas Emissions of Shale Gas, Natural Gas, Coal, and Petroleum, Environ. Sci. Technol., 46 (2), 619-627.

Colborn, T., Kwiatowski, C., Schultz, K. and Bachran, M. (2011). Natural Gas Operations from a Public Health Perspective Human and Ecological Risk Assessment: An International Journal, 17(5), 1039-1056

Cook, J. and Johnson, M. (2002). Ecological restoration of land with particular reference to mining metals and industrial minerals: A review of theory and practice, Environ. Rev., 10, 41-71.
EPA (2011b). Plan to study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources.
http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/FINAL-STUDY-PLAN-HF_Web_2.pdf
(accessed on 25 Nov, 2012)

EPA (2011a). Investigation of Ground Water Contaminatoin near Pavillion, Wyoming.
Http://www.epa.gov/region8/superfund/wy/pavillion/EPA_ReportOnPavillion_Dec-8-2011.pdf
(accessed on 25 Nov, 2012)

EU (2011). Impacts of shale gas and shale oil extraction on the environment and on human health, Environment, Public health and food Safety, Policy Department economic and scientific policy, Directorate-General for Internal Policies, Brussels, European Parliament, pp. 91.

Gilliland, D. (2010). Marcellus Shale gas drillers committed 1435 violations in 2.5 years, report

says, The Patriot-news, 2 August, 2010.

http://www.pennlive.com/midstate/index.ssf/2010/08/marcellus_shale_gas_drillers_c.html
(accessed on 25 Nov, 2012)

Harper, J. (2008). The Marcellus Shale- An Old "New" Gas Reservoir in Pennsylvania, Pennsylvania Geology, vol. 38, pp 2-12.

<http://www.dcnr.state.pa.us/topogeo/pub/pageolmag/pdfs/v38n1.pdf>

Hayhoe, K., Kheshgi, H., Jain, A., Wuebbles, D. (2002). Substitution of Natural Gas for Coal: Climatic Effects of Utility Sector Emissions, Climatic Change, 54(1-2), 107-139.

Holland, A. (2011). Examination of Possibly Induced Seismicity from Hydraulic Fracturing in the Eola Field, Garvin County, Oklahoma, Oklahoma Geological Survey Open-File Report OF1-2011.

Howarth, R., Ingraffea, A. and Engelder, T. (2011a). Natural gas: Should fracking stop? Nature, 477, 271-275.

Howarth, R., Santoro, R. and Ingraffea, A. (2011b). Methane and the greenhouse-gas footprint of natural gas from shale formations, Climatic Change, 106(4), 679-690.

Hultman, N., Rebois, D., Scholten, M. and Ramig, C. (2011). The greenhouse impact of unconventional gas for electricity generation, Environ. Res. Lett., 6 044008, 1-9.

IEA (2010). World Energy Outlook, International Energy Agency, 2010.

IEA (2011). World Energy Outlook, International Energy Agency, 2011.

IEA (2012). Golden rules of a golden age of gas, World Energy Outlook, Special Report on Unconventional Gas, International Energy Agency, pp. 143, Paris, France, 2012.

IPCC (2007). Solomon S, Qin D, Manning M, Chen Z, Marquis M, Averyt KB, Tignor M, and Miller HL(eds.), Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Jiang, M., Griffin, W., Hendrickson, C., Jaramillo, P., VanBriesen, J. and Venkatesh, A. (2011). Life cycle greenhouse gas emissions of Marcellus shale gas, Environ. Res. Lett. 6 034014, 1-9.

Kargbo, D., Wilhelm, R. and Campbell, D. (2010). Natural Gas Plays in the Marcellus Shale: Challenges and Potential Opportunities, Environ Sci. Technol., 44, 5679-5684.

Madsen, T., Schneider, J. and Staff, E. (2011). Vulnerable Pennsylvanians at Risk. How Shale Gas Extraction Puts Vulnerable Pennsylvanians at Risk. PennEnvironment Research and Policy Center. <http://www.pennenvironment.org/sites/environment/files/reports/In%20the%20Shadow%20of%20the%20Marcellus%20Boom.pdf>
(accessed on 25 Nov, 2012)

Manz, D. (2011). Treatment of Frac Flow-Back Water Oasis Filter International Ltd. <http://www.oasisfilter.com/FracJan2011.pdf>
(accessed on 25 Nov, 2012)

Milosevic, Z. and Markovic, S. (2012). The changing geopolitics of energy, J. Geogr. Inst. Cvijic, 62(1), 125-134.

McCubbin, D. and Sovacool, B. (2011). The hidden Factors That Make Wind Energy Cheaper than Natural Gas in the United States, The Electricity Journal, 24 (9), 84-95.

MacKay, D. (2008). Sustainable Energy-Without the Hot Air. Cambridge, United Kingdom: UIT Cambridge Ltd.

- Myers, R. (2011). The Environmental Dangers of Hydro-Fracturing the Marcellus Shale Lock Haven University Environmental Studies site. <http://www.lhup.edu/rmyers3/marcellus.htm> (accessed on 25 Nov, 2012)
- NPS (2008). Potential Development of the Natural Gas Resources in the Marcellus Shale, National Park Service, USA. http://www.nps.gov/frhi/parkmgmt/upload/GRD-M-Shale_12-11-2008_high_res.pdf (accessed on 25 Nov, 2012)
- NYS-WRI (2011). New York State Water Resources Institute Waste Management of Cuttings, Drilling Fluids, Hydrofrack Water and Produced Water http://wri.eas.cornell.edu/gas_wells_waste.html (accessed on 25 Nov, 2012)
- Nygaard, R. (2010). Well design and well integrity, Energy and Environmental Systems Group, Institute for sustainable energy, environment and economy, University of Calgary, pp. 39, Calgary, Canada. <http://www.ucalgary.ca/wasp/Well%20Integrity%20Analysis.pdf> (accessed on 25 Nov, 2012)
- Osborn, S., Vengosh, A., Warner, N. and Jackson, R. (2011). Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing. *Proc Natl Acad Sci USA*, 108(20), 8172–8176.
- Ridley, M. (2011). The Shale Gas Shock, Washington DC Global Warming Policy Foundation, Report 2, 2011.
- Rahm, D. (2011). Regulating hydraulic fracturing in shale gas plays: The case of Texas, *Energy Policy*, 39, 2974-2981.
- Royal Society (2012). Shale gas extraction in the UK: a review of hydraulic fracturing, Royal Academy of Engineering, The Royal Society, pp. 76, London, UK, 2012.
- Santoro, R., Howarth, R. and Ingraffea, R. (2011). Indirect Emissions of Carbon Dioxide from Marcellus Shale Gas Development. A Technical Report from the Agriculture, Energy, & Environment Program at Cornell University. June 30, 2011
- Sminchak, J., Gupta, N., Byrer, C. and Bergnab, P. (2011). Issues related to seismic activity induced by the injection of CO₂ in deep saline aquifers, National Energy Technology Laboratory, Battelle Memorial Institute, Columbus, Ohio, USA. http://netl.doe.gov/publications/proceedings/01/carbon_seq/p37.pdf (accessed on 25 Nov, 2012)
- Sovacool, B. and Sovacool, K. (2009). Identifying future electricity-water tradeoffs in the United States, *Energy Policy*, 37, 2763 - 2773.
- UNEP (2010). The emissions gap report, are the Copenhagen accord pledges sufficient to limit global warming to 2° C or 1.5 °C? a preliminary assessment, United Nations Environment Programme, pp 55.
- UNEP (2011a). Athabasca Oil Sands, Require Massive Investments and Energy and Produce Massive Amounts of Oil and CO₂ — Alberta (Canada), Global Environment Alert Service, 54, 1-5, United Nations Environment Programme, January 2011.
- UNEP (2011b). Oil palm plantations: threats and opportunities for tropical ecosystems, Global Environment Alert Service, 73, 1-10, United Nations Environment Programme, December 2011.
- UNEP (2012). The end to cheap oil: a threat to food security and an incentive to reduce fossil

fuels in agriculture, Global Environment Alert Service, 81, 1-11, United Nations Environment Programme, April 2012.

Wang, J., Ryan, D. and Anthony, E. (2011). Reducing the greenhouse gas footprint of shale gas, Energy Policy, 39 (12), 8196-8199.

Wigley, T. (2011). Coal to gas: the influence of methane leakage, Climatic change, 108, 601-608.

Wood, R., Gilbert, P., Sharmina, M., Anderson, K., Fottitt, A., Glynn, S., Nicholls, F. (2011). Shale gas: a provisional assessment of climate change and environmental impacts. Tyndall Center, University of Manchester, Manchester, England.

Zoback, M., Kitasei, S. and Copithorne, B. (2010). Addressing the Environmental Risks from Shale Gas Development Briefing Paper 1 Worldwatch Institute Natural Gas and Sustainable Energy Initiative.

If you no longer wish to receive this bulletin you can unsubscribe anytime. Information is regularly scanned, screened, filtered, carefully edited, and published for educational purposes. UNEP does not accept any liability or responsibility for the accuracy, completeness, or any other quality of information and data published or linked to the site. Please read our privacy policy and disclaimer for further information.



QUESTIONNAIRE

1- Have the EPA dealt with you Independently, having made a complaint in relation to a licenced facility near you

2-Are you concerned that its self reporting by licenced facilities themselves to the EPA should they pollute within their licence

3- Are you concerned that the EPA have immunity from prosecution under their EPA Act in 1992, meaning if they grant an IPPC licence, they will not be held accountable, if it causes you damage.

4- Are you concerned that the Minister for the Environment, has failed to remove this immunity, even though a Government review group found that it should be removed over 18 months ago.

5- Are you concerned for your safety, if the EPA licence a facility near you in the future

6- Are you concerned to hear from the Director General of the EPA, that the "EPA will not be racing to prosecute business for not complying with environmental licence and regulation"

7- Have you had dealings with the EPA in a public consultation process, and if so what were your views.

8- How have personal in the EPA dealt with your queries, especially in relation to a licenced facility or a facility waiting for an IPPC licence.

9- Have you taken a judicial review in relation to a licence been granted by the EPA, if so what were your views

10-Where a licence has been granted to a facility by the EPA and has not yet gone into production, what are your views on the granting of that licence by the EPA and how you were treated.

11-If this has been your first time in having dealings with the EPA, what were your first impressions.

12- If you had dealings with the European Commission or the Petition Committee or both in Europe, in relation to a facility that the EPA had licenced here in Ireland, what were they like to deal with

13-Does it concern you that the Minister for the Environment appoints the Director General of the EPA, when you report the EPA to the Minister, he is precluded from investigating the DG or EPA on any matter

14- Does it concern you that some of these appointees to the EPA Board comes originally from Industry

15 Please feel free to add your own views and points that have not been covered above in relation to the EPA

Once all comments have been received, by the 20th December 2012, they will be collated and a meeting will be held by the forum in January 2013, where the findings will be made available. Please send it to geogheganpat@eircom.net or address it to Irish Environmental Forum, Boolaglass,Askeaton, Co.Limerick

If you wish, you can leave your contact details, _____

Thank you for taking the time to complete this questionnaire
