



An Taisce The National Trust for Ireland

Energy Unit Newsletter

Volume 3 Issue 2

Summer 2011

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Summer Interview: Dr Tony Bazley, Irish Manager, Tamboran Resources

Dr Tony Bazley is a respected geologist and editor of Earth Science Ireland which according to its tag-line raises,

“...awareness of Earth science across Ireland”.

Recently, he was invited to act as the Irish Manager of Australian company Tamboran Resources one of the companies with an option in the North West Carboniferous Basin. Posts he has held in the past include Head of Geological Survey, Wales.



Dr Bazley is not at all what would be expected of an international oil and gas exploration firm's national manager. He is unassuming, down to earth and most importantly – an environmentalist. This seems to be a strange dichotomy given the dreadful environmental experiences associated with hydraulic fracturing in the past. He acknowledges this:

“Yes, however the chemicals used in the States are banned in Australia and probably here too. This is something that would be agreed with the regulator and/or the EPA.”

Tony describes, from a geological point of view, the processes involved with the initial stage of exploration for shale gas. He comments on the different layers we see in geological diagrams all the time that are simply presented horizontally. “They aren't perfect layers!”. Drawing a diagram shaped like a bell curve, he indicates valleys and highlands and explains how ‘outcrops’ can occur where deep layers undulate close to the surface and it is here that it is possible to ascertain whether or not there is gas present in an area. This is done, he says with, “...seismic work using sound waves to pick up signals to work out subterranean structures.”

In the case of the North West Carboniferous Basin option, the first year of work will include this seismic analysis along with a review of past work – that is other studies carried out in the 70s and 80s. In approximately 18 months, drilling may be conducted but by virtue of the licence option Tamboran and two other companies hold, this drilling can only be to a depth of 200 meters and it won't be hydraulic fracturing.

The initial investment by Tamboran into the project is going to be between £500,000 and £1 million. In 2–3 years time if there is a reasonable chance of gas being present that investment will increase to £10 million. At that stage a trial hole with a diameter of approximately 10cm – 20cm would be drilled which would involve hydraulic fracturing but it would not be producing gas it would still be an exploratory process. Depending on the outcome of that, it would be approximately 5 years from now before a decision to go into production would be made.

He explains that when the hole is drilled concrete can be poured in to the pipe, allowed to set and then drilled through to get to the gas. However, this is only one way of carrying out the process. Tony accepts that the water requirement for the process is high but as yet it seems that the source of that water is not under consideration.

Tony points out that some of the world's best drilling teams hail from Leitrim and Donegal. They have drilled globally and have an excellent reputation. It is possible that if they are available they would be used. The drills themselves are made in Ireland and it might be remembered that the drill that bored the hole to free the trapped Chilean miners was manufactured here.

If production was to take place there would be a re-fracking process every six months or so. This ‘re-fracking’ is something that was raised in the Tyndall Centre's report on hydraulic fracturing, where they stated that the combination of emissions from processes such as horizontal drilling, fracturing, water transportation and waste water treatment could be approximately 400 tonnes CO₂e and to quote them, “This figure will increase if the well is refractured...”

Whether or not fracturing is a good idea is not at issue in this column. What is at issue is the man representing Tamboran Resources in Ireland and it can be said that he is a gentleman and is the only person to date who has been forthright with information about the process.

It is a great pity that the Minister is not following suit!



Summer Technology Review: Hydraulic Fracturing (Fracking)

What is Hydraulic Fracturing?

The US EPA defines hydraulic fracturing as follows:

“Hydraulic Fracturing (HF) is a well-stimulation process used to maximise the extraction of underground resources; including oil, natural gas, geothermal energy and even water.”

This process is carried out in an injection well so-called because it inserts fluids into porous rock deep underground.

It is further defined as follows by the Oregon Dept. of Environmental Quality: “Injection systems are any man-made design, structure or activity which discharges below the ground or subsurface. Common uses include storm water discharge, waste water disposal, ...”

Why Frack?

“Gas shales are formations of organic-rich shale, a sedimentary rock formed from deposits of mud, silt, clay, and organic matter. In the past these have been regarded merely as relatively impermeable source rocks and seals for gas that migrates to other deposits such as permeable sandstone and carbonate reservoirs that are the target of conventional commercial gas production.

With advances in drilling and well stimulation technology... ‘unconventional’ production of gas from these, less permeable, shale formations can be achieved.” (Tyndall Centre report 2011). Because the deposits are layered horizontally, it is necessary to drill in that way to release the gas. The area where the well is drilled is called a ‘pad’. When drilling for shale gas, pads can contain more than

one well – on average eight. “The activities associated with the preparation of a well pad ... consist primarily of clearing and levelling an area ... staking, grading, stripping, and stockpiling of topsoil reserves, then placing a layer of crushed stone, gravel, or cobbles over geotextile fabric ... establishing erosion and sediment control structures around the site and constructing pits for the retention of drilling fluid and, possibly, fresh water...the average size of a multi-well pad for the drilling and fracturing phase of operations [is] 3.5 acres.” (NY State SGEIS on Hydraulic Fracturing, July 2011)

Water Requirements & Pollution

Aside from sand and chemicals, the process uses phenomenal amounts of water forced at high pressure into the wells. This part of the process, even if all else is proven safe, will be difficult to justify in Ireland – a country with water shortages which with global climate change will likely increase.

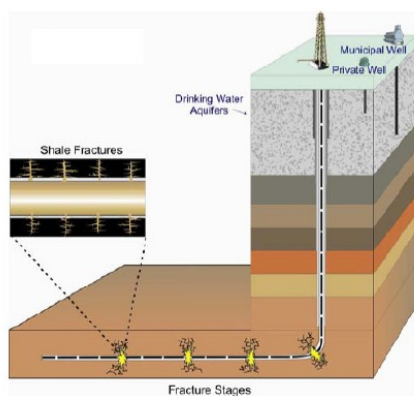


Diagram from the Tyndall Report

Pollution risks to water have been high due to fracking in the past but the majority of problems arose as a result of shoddy work practices at construction stages. This is corroborated by the Tyndall report (see below) authors who state

that, “...high standards of hazard management will need to be maintained...”.

Monitoring

In the US, injection wells are monitored and regulated by State agencies or regional EPA offices. However, given the disastrous impacts of some sites of fracking, the EPA is undertaking a study to examine impacts on

local water resources.

Impacts on Global Climate Change

Apart from NY State research and the above mentioned EPA study, the Tyndall Centre for Climate Change Research produced a report in January of this year. Their estimated CO₂ emissions per well is an average of 400 tonnes CO₂e – about 1.5% of gas combustion emissions. They go on to state: “These relatively low levels of additional emissions suggest that there would be benefits in terms of reduced carbon emissions if shale gas were to substitute for coal...it has not been possible to assess fugitive emissions that may be associated with shale gas extraction. The benefits increase when the higher efficiencies of gas fired power stations compared to coal fired power stations are considered.”

However, they also examine impacts on total emissions and conclude that, “without a meaningful cap on carbon emissions that utilisation of shale gas will increase carbon emissions by potentially considerable amounts... [but if] carbon caps are strictly adhered to then shale gas would make no difference...”

Irish Energy Policy Questions

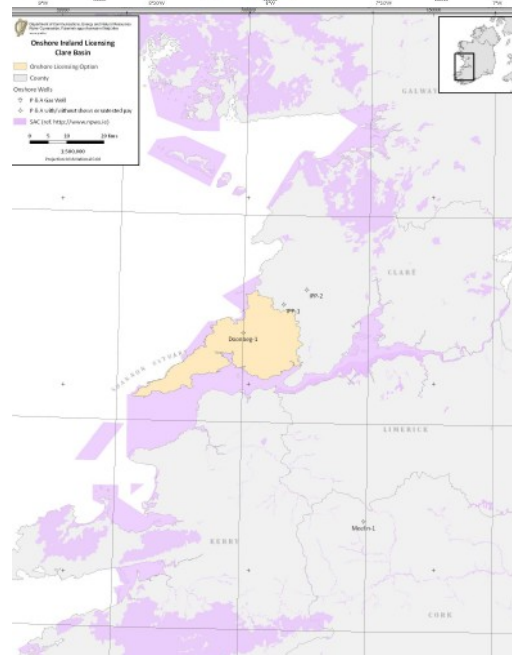
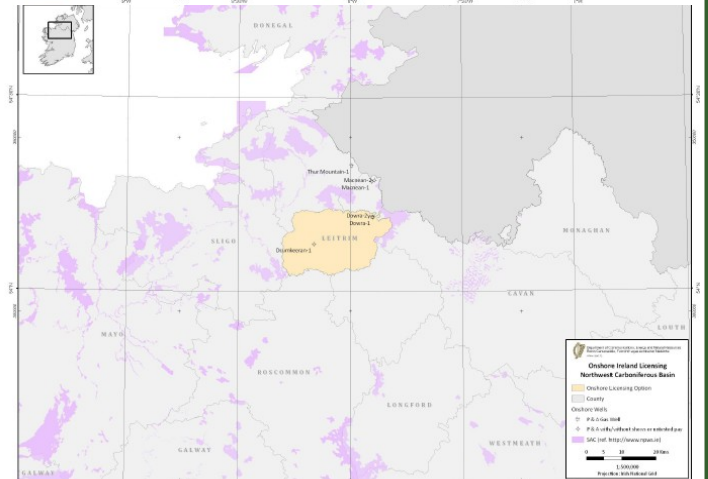
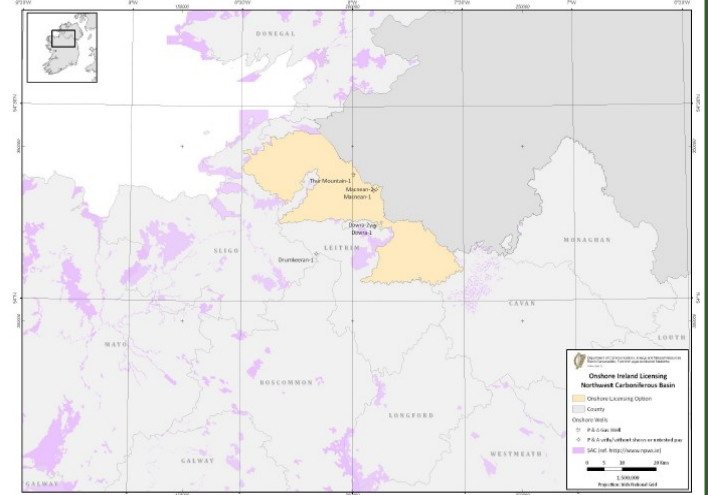
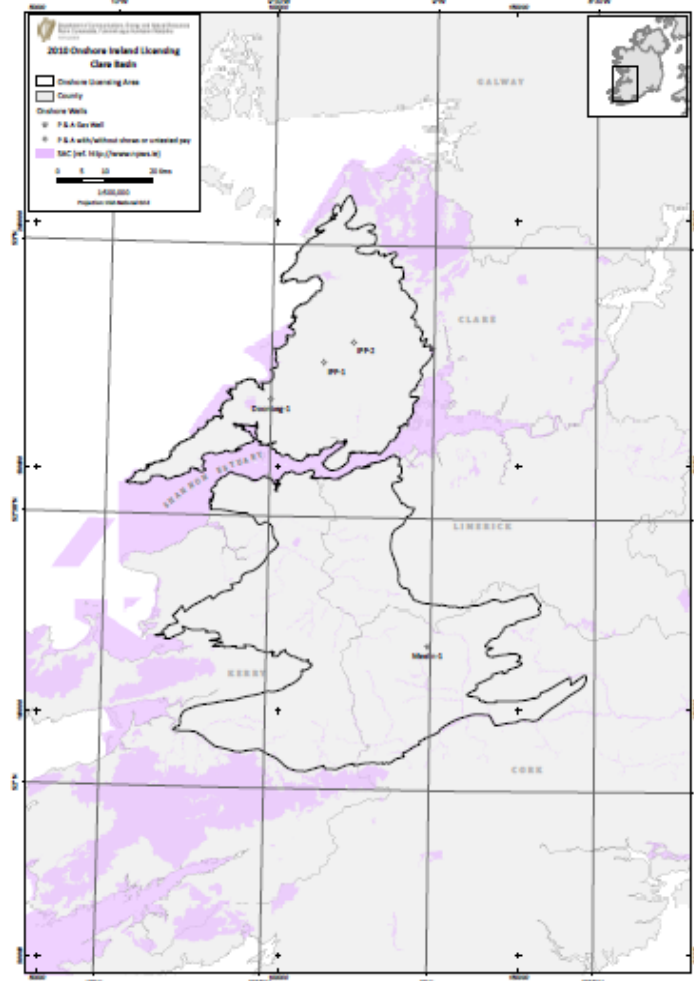
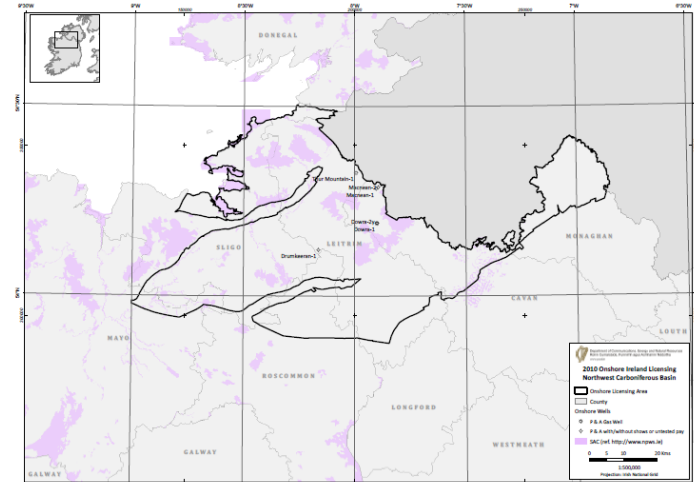
- Where is shale gas provided for in Irish energy policy?
- Why is it important to extract shale gas in Ireland?
- Will it be used to replace coal?
- Will it be used to replace peat?
- Will it be used to replace imported gas?
- Is it, in fact, contrary to Ireland’s energy policy and our target of 40% RES-e by 2020?
- Will it increase or decrease Ireland’s already high CO₂ emissions per capita thus flying in the face of our commitment to address climate change?

These are just the tip of the iceberg of questions crying out for answers from the DCENR, the CER, and Minister for Energy, Pat Rabbitte.



The North West Carboniferous & Clare Basins: Maps

The areas outlined in black in this column are the Basins. The orange shaded areas in the opposite column are those with licence options. Three different companies hold licence options. Maps from DCENR.





Summer Book Review: Unconventional Gas Shales: Development, Technology, and Policy Issues

"In the past, the oil and gas industry considered gas locked in tight, impermeable shale uneconomic to produce. However, advances in directional well drilling and reservoir stimulation have dramatically increased gas production from unconventional shales. The United States Geological Survey estimates that 200 trillion cubic feet of natural gas may be technically recoverable from these shales. Recent high natural gas prices have also stimulated interest in developing gas shales. Although natural gas prices fell dramatically in 2009, there is an expectation that the demand for natural gas will increase. Developing these shales comes with some controversy though."

Thus reads the cover blurb of *Unconventional Gas Shales: Development, Technology, and Policy Issues*. The book/report is authored by Anthony Andrews, Peter Folger and Marc Humphries of the United States Congressional Research Service. As a result it dwells entirely on American issues but for the fledgling industry in Ireland it holds numerous lessons both environmental and policy in nature.

Technology & Infrastructure

The publication addresses technological aspects of the practice of hydraulic fracturing along with well casing, fluids used and provides an outline of horizontal drilling. Also reviewed is the requirement for increased gas infrastructure:

"Although a gas-transmission pipeline-network is in place to supply the north east United States, gas producers would need to construct an extensive network of gathering pipelines and supporting infrastructure to move the gas from the well fields to the transmission pipelines, as is the case for developing any new well field."

Policy & Regulation

Policy issues and regulation of the industry in the United States have prompted a rethink there and Irish policy makers, the regulator, and the EPA would do well to read this publication in advance of any further policy development in the sector. The main element

upon which they dwell is that of water. They examine the regulations in each of the States in which shale gas has been exploited. Surface water, ground water, and drinking water acts are all examined as well as water quality laws and State water supply management.

Irish Policy Development Opportunity

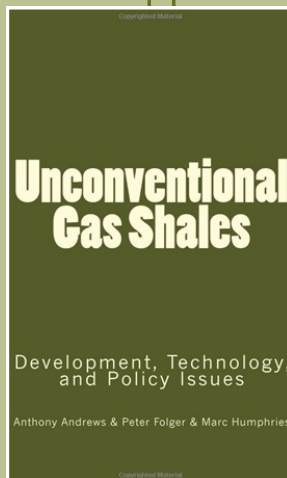
To ensure that water is not impacted upon, local authorities here along with central government, the EPA must implement stringent rules and mitigation measures in advance of any drilling process beginning. The Commission for Energy Regulation within its new role of safety authority for all energy projects would be well-advised to set up a communications liaison team with the expressed intention and remit to learn from the experiences of the United States. Many of the disastrous impacts on the environment and communities in the States could have been easily avoided with the introduction of rigorous codes of practice and equally robust penalties for

breaches that occur.

Monitoring & Human Resources

Of course in order to ensure that breaches do not occur, a team of CER monitors would need to be trained and brought up to speed on all elements of shale gas and hydraulic fracturing. This would entail on-the-job training and up-skilling in current sites in the US and likely the use of experienced people from the US. In order to be properly prepared for the possibility of shale gas exploitation in Ireland, this training programme would need to begin now but with the moratorium on public body staff increases, it is very hard to see how this can happen. Nonetheless, this is of vital import to the Irish environment and society and economy so the Department of Finance, the DCENR, the CER, the EPA, the Dept. of the Environment must consider what budget would be necessary to implement a best practice series of regulations and monitoring and the associated human resources necessary to carry this through to fruition.

This publication is available on amazon.com at a price of \$16.99 and can be recommended to regulatory, engineering and policy makers alike as well as anyone interested in shale gas and hydraulic fracturing.





Decision in New York on Hydraulic Fracturing

Late last year based on concerns brought to the New York State Government in Albany, NY, Governor Andrew M. Cuomo placed a moratorium on gas drilling using hydraulic fracturing techniques in the State of New York. This was done in order to facilitate an environmental study, the results of which would determine the future of the shale gas industry in that State. On Thursday last, June 30th, a reversal of the original HF environmental 2009 report was announced. The main points of the reversal are outlined below. The entire 2011 report will be available on the NY Department of Environmental Conservation from July 8th 2011. In researching the 2011 report visits to ‘incident’ sites in Pennsylvania were made and over 13,000 public comments were reviewed. The current report is open to public consultation for 60 days from publication. The recommendations contain these major revisions:

- High-volume fracturing would be prohibited in the New York City and Syracuse watersheds, including a buffer zone;
- Drilling would be prohibited within primary aquifers and within 500 feet of their boundaries;
- Surface drilling would be prohibited on state-owned land including parks, forest areas and wildlife management areas;
- High-volume fracturing will be permitted on privately held lands under rigorous and effective controls; and
- DEC will issue regulations to codify these recommendations into state law.

These recommendations, if adopted in final form, would protect the state's environmentally sensitive areas while realizing the economic development and energy benefits of the state's natural gas resources. Approximately 85 percent of the Marcellus Shale would be accessible to natural gas extraction under these recommendations. The ban on high-volume fracturing in the New York City and Syracuse watersheds represents a reversal of the Department's 2009 draft report, which would have permitted drilling in those watersheds. The New York and Syracuse watersheds are unique in that they are the only unfiltered supplies of municipal water in the state and deserve special protection. The prior report also would have allowed high-volume fracturing surface drilling in primary aquifers and on public forests, wildlife areas and parkland; the 2011 report reverses these recommendations. DEC enforcement and oversight of high-volume fracturing will be rigorous and effective. No permits will be issued until DEC has the proper enforcement capacity in place to monitor all fracturing activities. Controls include the following:



In Reversal of 2009 Report, High-Volume Fracturing will be Prohibited in NYC and Syracuse Watersheds

- Drilling Banned Within All Primary Aquifers and on State-Owned Land Including State Forest and Wildlife Management Areas
- Drilling Permitted on Other Private Land with Rigorous and Effective Protections
- Advisory Panel on Implementation to Be Appointed

Well water protection and other water protection:

No permits would be issued for sites within 500 feet of a private water well or domestic use spring. No permits

may be issued for a proposed site within 2,000 feet of a public drinking water supply well or reservoir at least until three years of experience

elsewhere have been evaluated. No permits will be issued for well pads sited within a 100-year floodplain.

Additional Well Casing to Prevent Gas Migration: In

most cases, an additional third, cemented well casing is required around each well to prevent the migration of gas. The three required casings are the surface casing, the new intermediate casing and the production casing. The depths of both surface and intermediate casings will be

determined by site-specific conditions.

Local Government Notification:

DEC would notify local governments of each well permit application for high-volume fracturing.

Local Land Use & Zoning: Applicant must certify that a proposed activity is consistent with local land use and zoning laws. Failure to certify or a challenge by a locality would trigger additional DEC review before a permit could be issued.

Chemical Identification:

The 2011 SGEIS identifies 322 chemicals proposed for use in New York and includes health hazard information for each as identified by the NYS Department of Health. Applicants must fully disclose to DEC all products utilized in the high-volume fracturing process. In addition, applicants must agree to publicly disclose the names of the additives, subject to appropriate protections for proprietary information.

(Continued on page 7)



Decision in New York on Hydraulic Fracturing (cont/d from p.6)

Chemical Alternatives:

Operators will be required to evaluate using alternative additives that pose less potential risk.

Private Forestland:

Disturbing the surface of the land is strictly restricted in forests Of 150 acres or more by requiring applicants to comply with best management practices.

Community Impacts

Impacts on the community are still being studied. The areas being examined are socio-economic conditions transport infrastructure and visual and noise impacts. The results of this study should be available July 31st. An advisory panel is to be established to advise on issues such as who will be the responsible body for monitoring and the source of funding to ensure such monitoring. Link to the NY Dept. of Environment is: <http://www.dec.ny.gov/press/75403.html>

Summer Global Media Watch: Hydraulic Fracturing

In the last year, the media has latched on to the fracking debate with great gusto. From Lancashire to New York, From France to Poland to Canada. Shale gas itself takes a back row seat and the method of getting at it take the headlines in one way or another. The latest of those headlines hail from New York State with the New York Times

and the Wall Street Journal leading the posse. Media reporting and reaction to that media reporting has be itself fractured. The Wall Street Journal article titled 'The Facts About Fracking' has had enormous feedback. It is however, the most balanced report in the mainstream media that could be found during research for this column. The comments about the article range from

'Frightfully one-sided and misinformed' to 'Excellent article'. To read the article go to the following link:

http://online.wsj.com/article/SB10001424052702303936704576398462932810874.html?mod=wsj_share_linkedin#articleTabs%3Darticle

Cuomo Seeking to Allow a Contentious Drilling Method

From Page A1
awaited study of the process, widely known as hydrofracking. The report will include recommendations about how to proceed, and then there will be a lengthy period for public comments before a final determination can be made.
The agency detailed its recommendations in a statement it released on Thursday afternoon.
"This report strikes the right balance between protecting our environment, watersheds and drinking water, and promoting economic development," said Joseph Martens, the commissioner of the department, a state agency controlled by the governor's office.
Hydrofracking has prompted intense protests from some environmental activists, who say it threatens the cleanliness of



Thursday, May 12, 2011
France lower house approves ban
Aman Kakar at 3:44 PM ET
[JURIST] France's low Bill No. 658, material fracturing (EPA back also requires license for oil and gas. A list three months if the b the Senate.
Hydraulic fracturing, also known as frac the world. Hydraulic fracturing is a prod fractures in rocks which allows trapped hydraulic fracturing include contain surface and the potential mishand

Saturday, June 25, 2011 As of 12:00 AM
THE WALL STREET JOURNAL. REVIEW & OUTLOOK
Europe Edition Home • Today's Paper • Video • Blogs • Journal Community • Mobile • Tablet
World • Europe • U.K. • U.S. • Business • Markets • Market Data • Tech • Life & S
Leisure & Arts Letters to the Editor Political Diary
TOP STORIES IN Opinion
Donald Rumsfeld: The Peril of Deep De...
The Jobless Summer
REVIEW & OUTLOOK | JUNE 25, 2011
The Facts About Fracking
The real risks of the shale gas revolution, and how to manage them.
UPDATE 1-Halliburton does hydraulic fracturing in Poland

Politics on the Hudson
Political news in the Lower Hudson Valley, New York state
Home | Headlines | About | LoHud.com
Martens: Hydrofracking can be done safely
Posted by...
The state's top environmental regulator extracted from New York's gas-rich shale that have intensely lobbied the issue for...
Department of Environmental Conservation debated technique of hydraulic fracturing the proper safeguards are in place.
Martens, at a news conference, outlined of a 900-page draft report meant to m newer technology using a mix of water...
"I believe it can be done safely," said M... Andrew Cuomo earlier this year. "With a... can be done safely."
The full draft is due to Cuomo's office to the DEC. Martens said he has not pre DEC's summary of recommendations so...
NEWS LANCASHIRE
A NEW SEASON ON THE BBC THIS MONTH
3 March 2011 Last updated at 16:27 GMT
'No risk' taken at shale gas site Lancashire
An MP has said he does not believe there are any unacceptable risks being taken at a site in Lancashire where a firm is drilling for shale gas.
Cuadrilla Resources has drilled on land near Kirkham and was due to start extracting gas, but the work was put on hold while an inquiry was carried out.

The Chronicle
News Opinions Bu...
Hydraulic fracturing in Nova Scotia, says con
By BILL POWER Staff Reporter
Sun, Jun 26 - 11:56 AM
One of Canada hydraulic frac process and destroy Nova

Cuomo Moving To End a Freeze On Gas Drilling
By DANNY HAKIM and NICHOLAS CONFESSORE
The Cuomo administration is seeking to lift what has effectively been a moratorium in New York State on hydraulic fracturing, a controversial technique used to extract natural gas from shale, state environmental regulators said on Thursday.
The process would be allowed on private lands, opening New York to one of the fastest-growing — critics would say reckless — areas of the energy industry. It would be banned inside New York City's sprawling upstate watershed, as well as inside a watershed used by Syracuse, and in underground water sources used by other cities and towns. It would also be banned on state lands, like parks and wildlife preserves.



Application Process for Onshore Licensing Options

The following is a short summary of the licensing process for the Lough Allen and Clare Basins Gas.

Applications for Onshore Licensing Options were invited by the Dept. of Energy could be submitted up to 12 noon on Friday 11th June 2010.

In March 2011, two companies were awarded exploration licensing options for on-shore gas in the Lough Allen Basin. This geological area is also known as the North West Ireland Carboniferous basin.

The acreage on offer covered an area of approximately 8,000 square kilometres over parts of counties Cavan, Donegal, Leitrim, Mayo, Monaghan, Roscommon and Sligo in the North West Carboniferous Basin and parts of counties Clare, Cork, Limerick and Kerry in the Clare Basin.

Licensing Options granted on the basis of an application are subject to the Licensing Terms for Offshore Oil and Gas Exploration, Development and Production 2007 (“the Licensing Terms”) issued by the relevant Minister together with any other provisions detailed.

Any Licensing Options awarded are valid for a period of up to a maximum of 24 months and may not be extended. Subject to this maximum period the actual period of the Licensing Option will be determined by the work programme agreed with the Minister. Option-holders are required to hold a Petroleum Prospecting Licence for the full duration of the Licensing Option. This is a non exclusive licence giving the holder the right to search for petroleum in any part of the Irish Offshore which is not subject of a Petroleum Exploration Licence, Reserved Area Licence or Petroleum Lease granted to another party.

Exploration Obligations

Each Licensing Option shall be subject to the performance of a work programme agreed with the Minister, which shall include in respect of the area covered by the Option:-

- Procurement of all available and relevant technical data and studies.
- New geological/geophysical studies and data acquisition projects, as considered necessary. The work programmes will not include drilling, but may include shallow geological sampling where subsurface penetrations would typically not exceed 100-200m.
- The option-holders will submit, no later than three months prior to the expiry of the Option, an integrated assessment of the petroleum resource potential of the area together with strategies, scoping economics and costed plans for further exploration / exploitation.
- The option-holders will propose, no later than two months prior to the expiry of the Option, a detailed work programme for any follow-up authorisation(s) i.e. Petroleum Exploration Licence(s), for the approval of the Minister, which will include a drilling commitment/commitments.

Note: this will not happen until late 2012/early 2013.

Applications Review

In considering any application by an option-holder for a follow-up authorisation, the Minister will have particular regard to the work programme, the resources available to the applicant at that time and the quality and conclusions of the integrated assessment. It should not be interpreted that the award of an Option will automatically entitle the option-holder to an Exploration Licence without adequate technical and financial competence being displayed, or entitle the option-holder to a single Exploration Licence over the full area of the Option.

Each application included:

- A statement describing the area to which the application applies, outlined on a suitably scaled map, accompanied by a GIS shape file or digital listing of the coordinates and coordinate system used to define the ap-



plication outline, together with the calculated total area in square kilometres

- Information as to the geological, geophysical and other data upon which the application is based, accompanied by a comprehensive technical assessment of this data.
- A detailed description of the work programme which the applicant proposed to carry out including time-lines and a budget.
- Statements as to the applicant's organisational and operational structures, technical competence and financial competence for effecting the proposed work programme.
- A statement of the applicant's policies on health, safety and the environment.

An application must provide (in the case of an application made by a group of companies, in respect of each participant):

- The full company name, registered address, billing address, and contact details of the applicant including details of the person who will serve as liaison with the Irish authorities;
- A copy of the charter or constitution of the applicant;
- Information concerning the applicant's place of registration, its principal place of business, its board of directors, its share capital and shareholdings;
- Information as to the form of the organisation, including, details of parent, subsidiary and group companies;
- A statement describing the area to which the application applies, outlined on a suitably scaled map, accompanied by a GIS shape file or digital listing of the coordinates and coordinate system used to define the application outline, together with the calculated total area in square kilometres
- Information as to the geological, geophysical and other data upon which the application is based, ac-

companied by a comprehensive technical assessment of this data.

- A detailed description of the work programme which the applicant proposed to carry out including time-lines and a budget.
- Statements as to the applicant's organisational and operational structures, technical competence and financial competence for effecting the proposed work programme.
- A statement of the applicant's policies on health, safety and the environment.
- Annual reports for the past two years together with copies of annual accounts including balance sheets and the profit and loss accounts for the same period;
- Information as to the manner in which exploration and development activities are to be financed and performance guaranteed;
- Confirmation that the applicant is chargeable, in accordance with the laws of Ireland, to tax in respect of profits and gains arising from, or connected with, exploration or exploitation activities carried out in a designated area or from exploration or exploitation rights;
- Information concerning the applicant's previous experience in exploration for and exploitation of petroleum, including experience relevant to any non-conventional plays (e.g. shale gas, tight gas sand) which may be the subject of the application;
- Information concerning any authorisation previously issued by the Minister to the applicant or to which the applicant was a party;
- A statement detailing the applicant's policy towards health and safety;
- A statement detailing the applicant's policy towards the environment

The applicants had to pay a non-refundable fee of €1,520.



Editorial

The editorial in the Summer Issue of the Energy Unit Newsletter is written by Charles Stanley Smith, Chairman of An Taisce.

Can Fracking ever be successfully regulated in Ireland so as to provide an environmentally, socially and economically safe source of indigenous energy?

Given the serious environmental problems caused by the extraction of Shale Gas in the USA, it is important that we pose questions about the ability of the Authorities to create and police the set of regulations that need to be applied to the entire extraction process of 'Shale Gas' on the Island of Ireland.

There are three phases to the exploitation of Shale Gas in Ireland.

The first phase is the application to and issuing On-shore Licensing Options, which are meant to produce information. By late 2012 or early 2013, an assessment of the petroleum resource potential for the area must be provided along with costed plans for further exploration or exploitation. This phase will not include fracking but may include 'shallow geological sampling' (drilling to 200 metres). We question why this phase does not require Planning Permission and the usual EIA's etc.

The second phase is the application for an Exploration License, which does involve drilling and may involve test fracking. We take it will require Planning Permission for each drilling site - which will according to Minister Rabbitte, require an Environmental Impact Assessment.

The third phase is the exploitation stage, which will

not only require a number of wells and associated fracking infrastructure but also a system of gathering pipelines and infrastructure to deliver the gas to the grid. All of which will require Planning Permission.

The current licences are for phase one and we therefore have 12 to 18 months in which to ensure that a full and rigorous set of regulations is put in place before there is any drilling or fracking under exploration licences. The process of creating these regulations must include full public participation and must take into account a realistic view of the authorities' ability to police the regulations. We also need to determine if there are specific requirements in the Environmental Impact Assessment.



An Taisce Chairman, Charles Stanley Smith calls on the Minister for Communications, Energy & Natural Resources, Labour Party's Pat Rabbitte, to organise public consultation to explain the current situation and possible future scenarios of hydraulic fracturing.

We should follow the State of New York and ensure that no licences for fracking (exploration or exploitation) are issued until the state adequately examines all the risks and ensures that appropriate, *enforceable* safeguards are in place. A good place for Ireland to start would be the examination to be undertaken by the State of New York and the safeguards it derives along with the studies of the USEPA results of which are due late 2012 or early 2013.

The threats to the environment from leaking gas and the chemicals used in fracking are real. The people are entitled the information on this and to participation in the decision making to ensure that any exploration or extraction of Shale Gas is environmentally, socially and economically safe. If we cannot show that the safety of the people and the environment can be safeguarded, then fracking should be banned.

Meanwhile, we are calling on Minister Pat Rabbitte to organise public consultation to explain the current situation and possible future scenarios.