Coal seam gas mining comes to the Clarence Valley

Seismic testing by the gas miner, Metgasco, at Coaldale late last year, was totally unheralded, and shocked landowners into the realisation of what this move meant for them.

A subsequent residents' meeting was held at the Coaldale Hall, where Janet Cavanagh and I were invited to speak, Janet for the Greens and I as a representative of the Clarence Environment Centre. Residents learned that, while landowners do have some rights, they have no power to prevent mining going ahead on their properties.

Residents meeting at Coaldale Hall, March 12, 2011

The American documentary, Gasland, has exposed the extreme effects of what this type of mining can have on the environment and the societies where the mining occurs. That film has now been screened in Australian cinemas, and has been followed by local current affairs programs showing communities up in arms in Queensland after their water supplies have been degraded, and their rural properties turned into a checkerboard of pipelines, roads, and well-heads.

Protest meetings have taken place across Queensland and NSW, culminating in over 2,500 people marching through the streets of Murwillumbah, as levels of concern over the potential environmental and social impacts escalate.

It was clear the community needed a clearer vision of the effects of coal seam gas mining, and their rights as landowners, so the Environment Centre, in partnership with the Clarence Valley Conservation Coalition (CVCC), asked the Environmental Defenders Office (EDO) to address a meeting in South Grafton on May 19.

The seminar, which doubled as the CVCC's bimonthly 'Earth Matters' series, attracted about 75 attendees, and the Centre's film production team undertook to record the proceedings.

The Environmental Defenders Office's coal seam gas seminar on May 19

The message was not all that encouraging. Firstly, nobody has any idea how the new NSW coalition government plans to control the industry. A 'coal and gas scoping paper' was placed on public exhibition in April, to which the Environment Centre made a submission, but that 'Paper' was part of a previous Labor Party strategy, so what impact it will have in terms of regulating the industry, is currently an unknown. However, nobody expects the current Government to risk losing the lucrative royalties that gas mining will pour into its coffers.

The EDO explained that gas exploration licences have been granted across almost all the Clarence Valley, which allows the mining companies to 'explore' for gas without presenting any environmental impact assessment, which will only be required after a viable resource has been found and the mining company applies for an extraction licence. At the same time, the granting of an exploration licence virtually guarantees that miners will be allowed to mine any resources they happen to find.
Before extraction can begin however, the company must present a Development Application under the Environmental Planning and Assessment Act, which brings the Native Vegetation, Threatened Species, and Fisheries Acts into play.

As well, the EDO informed the meeting that Federal legislation may also be triggered if the proposed operation impacts on “matters of national significance”. As well, the EDO is now involved in a Land and Environment Court challenge to the approval of an enormous gas mining operation in the Pilliga State Conservation Area in the central west of NSW.

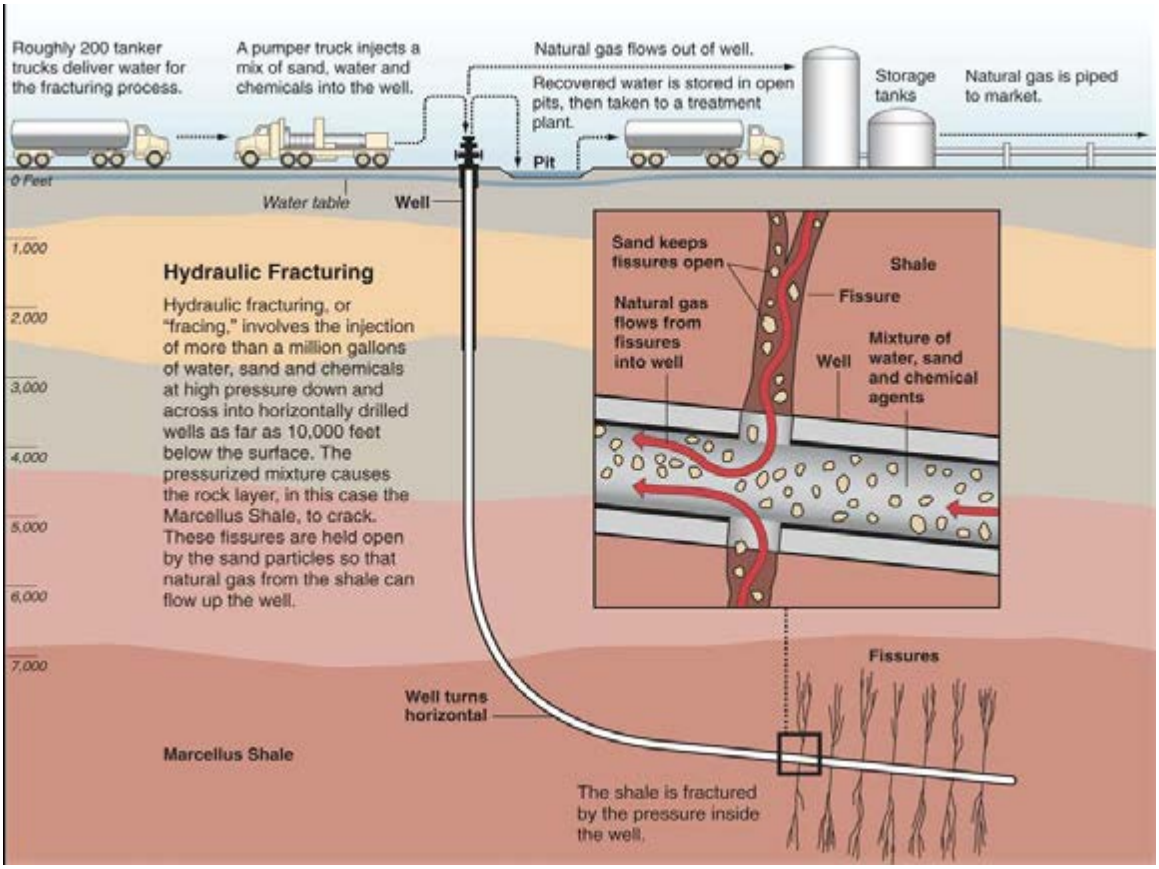
The “Lock the Gate” movement, which is gaining widespread support, has recommended placing a sign at the property entrance, withdrawing permission to enter which, if not followed, will result in a charge of trespass. The idea being that gas companies will not be able to serve their “Notice of Intent” to undertake exploration on the property.

The EDO believes this may encourage the miners to try a neighbouring property, but if 'push came to shove' all they have to do is send their Notice by registered post.

Their advice, if approached by a mining company, is to request time to discuss matters with your lawyer. “Reasonable' legal costs must be met by the mining company. Also, be prepared to evaluate all the impacts, especially financial, to ensure the greatest level of compensation possible. It is possible to negotiate new fences, roads and other useful infrastructure, as well as cash payments. Also be aware that wells, pipelines and holding ponds are not the only things that might impact on the landowner's lives; a steady stream of vehicles and machines will be tracking to and fro across the property for weeks, so ensure access routes don't pass close to residences.

However, the strongest message of all was that the legislation, from and environmental viewpoint, is just plain wrong! There is a paucity of information and research in relation to the potential environmental impacts of coal seam gas mining. Nobody can or will guarantee that mining, particularly the use of “fracking” (hydraulic fracturing) of underground rock strata, will not lead to pollution of groundwater, or that underground aquifers will not be drained or diverted.

Nor is there any guarantee that the wells will not leak before and after the extraction process. Already almost 10% of the wells drilled in the Casino – Lismore district have been reported as leaking, and required action by Metgasco to fix the problem. The worrying thing is that all leaks were apparently reported by third parties, so we have no real knowledge about how many wells are leaking methane, or how much of this damaging greenhouse gas is escaping into the atmosphere.



The hydraulic fracturing process, “fracking” (image courtesy EDO Lismore)

Another big concern is the disposal of what is known as “produced water”, the polluted water that results from the mining operation. Currently this is often pumped into holding ponds for disposal or treatment. However, in the recent Queensland floods, operators were forced to release, or were unable to prevent the release, of that poisonous water into the environment.

A number on affected councils in NSW have called for a moratorium on the granting of any further exploration licences until guarantees are in place that the proposed processes are safe, that they will not impact adversely on future generations, and will not breach the Precautionary Principle, which states that scientific uncertainty cannot be used as an excuse to proceed with this monstrosity.

How often do we hear vested interests claim **“there is no credible evidence to suggest our proposal will have any adverse impacts”**? The point that needs to be made is we must consider the Precautionary Principle, and receive credible evidence that there will be no adverse impacts. There must be intergenerational equity, and not only must our most precious resource, water, be protected for future generations, but those future generations should be able to share in the benefits of natural gas which, by all reports, will be exhausted within a single generation.

Our President, Jim Knight, asked that the meeting draft a resolution. Unfortunately, I have to admit to being a bit slack, and we probably should have drafted a resolution earlier. However, on the night we had already overrun our time, and we felt that more time was needed to properly word such a resolution.

In post-meeting discussions Councillor McKenna offered to put a resolution to Clarence Valley Council, that it call on the State and Federal governments to impose a moratorium on all coal seam gas exploration until such time as firm guarantees are in place that the mining will not contaminate ground water, will not destroy aquifers, will not add to atmospheric pollution through leaking wells and other infrastructure, and that poisonous “produced water” will not be released into the environment as happened recently in the Queensland floods.

Resolution:

"Currently, there are no guarantees in place that coal seam gas mining will not pollute ground water, will not destroy aquifers, will not add to atmospheric pollution through leaking wells and other infrastructure, and that poisonous "produced water" will not be released into the environment as happened recently in the Queensland floods.

Given these facts, will Council lobby the NSW Government to place an immediate moratorium on all new coal seam gas exploration, until such time as those guarantees are provided?

On receipt of those scientifically supported guarantees, Council should also require Government to introduce an effective, independent, industry funded, compliance monitoring process, and impose heavy penalties for any pollution, or environmental damage caused directly, or indirectly, by the exploration or mining of coal seam gas".

The big lie

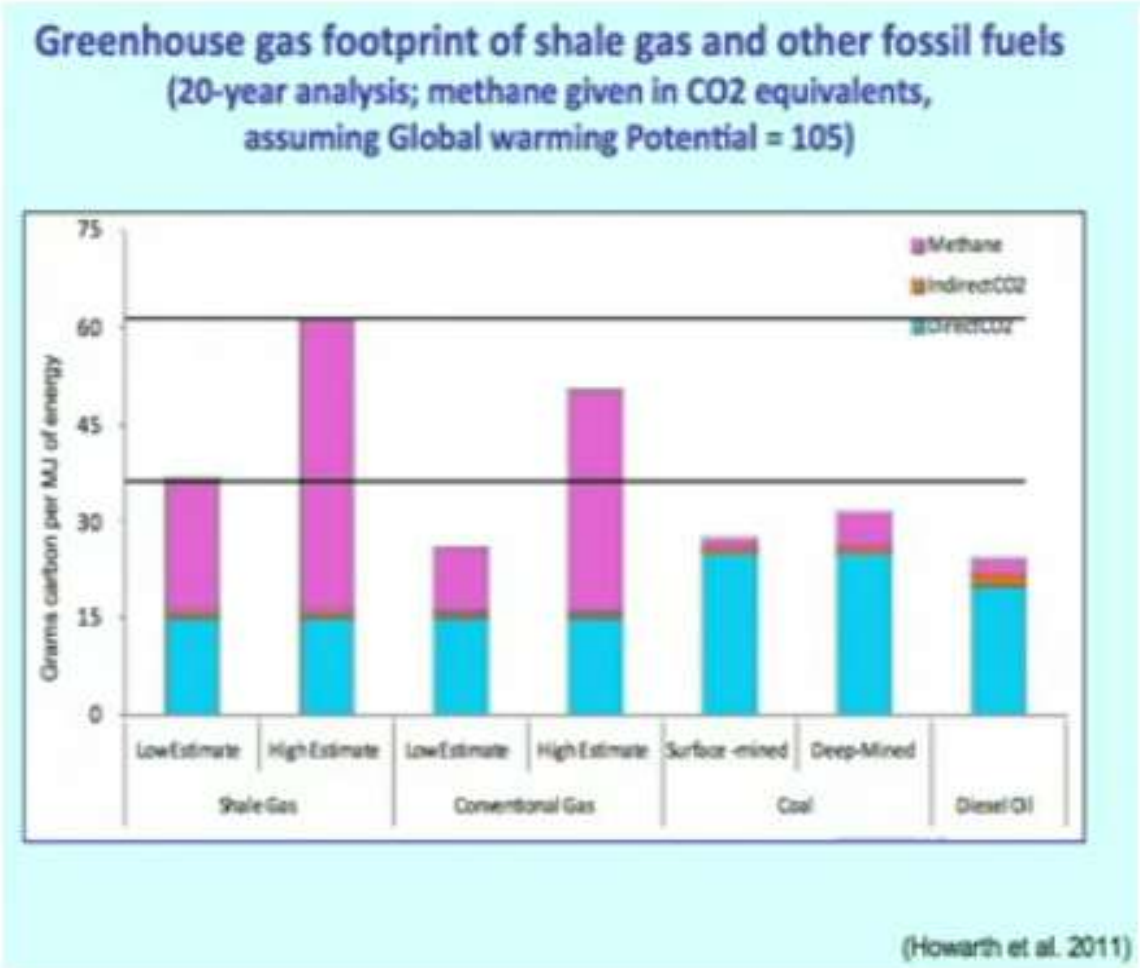
So is there an urgent need to mine coal seam gas?

It has long been accepted that the burning of gas produces significantly less greenhouse gas emissions than coal. Also a gas-fired electricity generator requires a much shorter start-up time so is far more efficient. However, the big lie, based on these understandings, is that gas-fired electricity is a logical progression to a renewable energy future.

This claim completely ignores the total emissions created by coal seam gas mining. Machinery emissions during drilling (exploratory and production wells), and pipeline construction (including land clearing); and the energy used in the construction and running of the refining complexes. Transportation of materials and water (200 tanker loads per well); pumps, generators, and workers vehicles, all add huge quantities of greenhouse gas emissions to the atmosphere, but are completely ignored by proponents of gas as a clean green power source.

Until recently, there has been no studies to compare the overall carbon footprint of the various fossil fuels used in electricity production. However, scientists and mining experts at Cornell University in the USA have now done the maths, and released their findings in March 2011, **showing the total emissions from coal seam gas fired electricity production, are significantly greater than coal.**

Without doubt, the worst statistic to emerge in 2011 is the fact that almost 4% of the methane that comes from the ground is either "flared" (set alight and released as carbon dioxide), or "vented" directly into the atmosphere (flaring is illegal in some countries).



We apologise for the print quality of this graph, but it was prepared by the Cornell scientists and compares the greenhouse gas output of four power generating fuels, coal seam gas, conventional gas, coal, and diesel. To eliminate claims of bias, the bars show the range from lowest estimates of emissions to highest. The two columns from the left show the lowest and highest estimated levels of greenhouse gas emissions by coal seam gas, the next two show emissions from conventional gas; then two columns for coal burning, and finally a single column for diesel burning, where the level of emissions has been accurately recorded.

The chart clearly shows that shale gas produces by far the most greenhouse gas, to the point where even the most conservative estimates (lowest emissions) for shale gas is greater than the emissions from coal burning.

The mining industry's promotion of gas as the interim fuel for power generation as Australia moves to a renewable energy future (claiming it is 60% cleaner than current coal-fired electricity), is a 'line' which has been easy to sell to various Australian governments who are addicted to the lucrative royalties. However, the scientists involved are at pains to explain that their calculations, based on US Mining Department statistics, are conservative, and have found that collateral emissions from machinery used in coal seam operations are enormous.

For example it requires trucking in millions of litres of water, tonnes of sand, and a 10,000 horsepower engine is needed to drive the 'fracking' operation (fracturing of underground rock strata).

One interesting statistic was that, over the life of the project, between 3.6% and 7.9% of all gas mined becomes “fugitive methane”, either 'vented' or 'flared' directly into the atmosphere.

Venting is the release of methane that unavoidably leaks or overflows into the atmosphere during the process, much of it during drilling, where it accompanies 'flowback' waste or 'produced water'.

Flaring is the deliberate burning of surplus gas, a process that is banned in some countries. This is because the burning process changes the methane into carbon dioxide, and while the former is a more powerful greenhouse gas than CO^2, it does dissipate in about 10 years, while CO^2 remains in the atmosphere for up to 100 years.

The study's conclusion was, that rather than reducing greenhouse impacts, ***“developing gas from shale formations is likely to aggravate global warming”.***

This is a powerful argument to place a permanent hold on all gas mining, particularly coal seam gas, and move directly to renewable energy.

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