

Andrew Smith

The Big Picture

The Quantum Field

At the quantum Field each moment is a myriad of possibilities not comparable with a yes no response. The adversarial approach is not productive and wastes peoples time and energy, ie "That point is wrong and my point is right". What then are the major themes. When one has a point of view, an opinion, the first thing that APPEA or Santos does is to try and present alternative facts which purport to show this to be futile. Only a week or so ago, a fellow at the APPEA stand at the Katherine Show, with an evangelical zeal and an shiny countenance told me that there had never been a well failure in 50 years. How do the people of the Porong subdistrict of Sidoarjo, Indonesia, feel about this. Santos had an 18% stake in the operator, PT Lapindo Brantas. While, Santos denies any responsibility, significantly Lapindo has said it consulted Santos about all drilling procedures and provided it with regular reports. It appears reasonable that Santos would have taken reasonable steps to ensure a successful outcome. It apparently had at least one officer on the ground at the time, according to Australian Sidoarjo Assistance Project correspondence with Santos. Santos will deny liability for the incident and will tell you in the same breath that failures at the exploration stage are unheard of. While Santos will say it is the result of an "earthquake", it was the failure of Lapindo to install sufficient casing around its gas well, according to a 2007 report in the Geological Society of America's journal, *GSA Today*. Similarly, as the ATO says, the appearance of a company on the ATO's list for not paying tax, is not an indication of tax avoidance, however if we as a country wish to move forward collectively, how does giving a company such as Santos our resources, benefit us collectively when they pay no tax. What is the value proposition for the average punter?

My view on this is that, one can wait, to hear where Santos says I'm wrong, as I am drowning under a blizzard of numbers and creative interpretations. Deflecting responsibility by blaming someone else or seismic activity, is not helpful. For example for Santos to say that Non conventional hydraulic fracturing is completely different from Coal Seam Gas (CSG) misses the point that the people in CSG areas were told the same creative interpretations prior to commencement, that we are being told now: that CSG extraction is safe using only common chemicals one might find under the sink and only minimally impact upon the environment. Somehow we have to transcend this adversarial approach and see the main points for what they are,

- Accidents and mistakes will happen
- Drilling wells, any wells is a risky business with a long legacy tail.
- How many disasters are acceptable?
- Who will be liable in the future for screw ups that may take a decade or more to manifest?
- Hydraulic Fractured wells 2011, 2012 have failed in the NT, (Petrofrontier *3. 1 Shallow casing failure, 2 drilled into faults,

communicated with a highly permeable water source and produced biogenic hydrogen sulphide. All three have been abandoned.

- There has to be value for money for the taxpayer and owners of the resource
- Who will be liable for issues in the future.
- Can we stop the shifting of risk from companies onto the public?
- Are there benefits from giving companies our minerals, oil and gas, "the commonwealth" when they don't pay any tax at all or minimal tax?

Value for Money for economy and long suffering taxpayer.

Come in Spinner

The background to this is the control of the people through the resources. Allied with a shifting of risk from companies and on to the citizens and taxpayers of Australia

APPEA, a well oiled machine dispensing creative interpretations and relative truths. The truth is not an absolute. When we talk about CSG and nonconventional hydraulic fracturing: they say they're not comparable but it misses the point that prior to implementation people were told there were not going to be negative consequences just like they say to us. Santos says they haven't had a well failure in 50 years, however, they were involved in the mud volcano project in Java through an 18% stake.

They very nearly came unstuck recently with too much debt and other issues leading their then Chairman David Knox to resign. Hardly inspires confidence if one had watched the shareholder wealth destruction from about \$17.00 to a current price of \$3.40 what more simple mistakes can they make, can we trust them not to make major screw ups just on the form guide.

The Global Picture

After years of waffling Malaysia's state owned Petronas has thrown in the towel on its Canadian Pacific Northwest LNG project due to the dismal economics facing global LNG: a glut of world supplies and stagnant demand have driven prices well below break even price for construction and operating the enormous facilities required to process, liquefy and ship the gas.

Company spin says it was because of Canada's anti-business policy climate, high taxes, carbon taxes, interminable environmental reviews, and Indigenous land claims. Surprisingly, a left wing government in power for only a week was a major contributor as well.

We should be collectively grateful for an opportunity to reflect on the circumstances, which lead to this point. Australia has far less onerous regulatory constraints. When gas moved past \$15 per MMbtu, in 2009 and 2012 Australian companies moved quickly. Several huge LNG projects were built, Gorgon, Curtis Island (Gladstone), Icthus and so on, almost simultaneously, aiming to cash in on the premium Asian prices. Environmental and fiscal hurdles were modest; and Indigenous populations in Australia have little leverage to negotiate depending

on where they are.. A new right wing government sweetened the pot by cancelling a modest carbon tax in 2014.

So it was a hammer and tongs, madcap adventure where almost \$200 billion was spent on LNG projects over the next few years. In Queensland 3 massive plants were built at the same time and on the same island. The impact of this hijinx on construction costs was enormous and could have been reasonably foreseen. Chevrons Gorgon plant cost over \$72 billion and almost 50% over budget. Imagine the recriminations if it were the NT Department of Housing or the Commonwealth Government that had an over run like this. A triumph for free market efficiency?

After construction started Asian gas prices fell by two thirds. Haemorrhaging red ink, writedowns already exceed \$10 billion for the Queensland LNG plants. Former boom towns suffer a major hangover including collapsed housing prices.

Every Australian consumer pays for this miscalculation. Unlike Canada gas exporters don't have to prove that gas exports are surplus to domestic needs. The cost of domestic gas more than doubled with the diversion of so much gas to export. Electricity prices have gone ballistic, due to the use of gas for quick response times for peak times in electricity production.

The Government and Australian people are not reaping any benefit, since the royalty deals inked to accelerate LNG projects mean there will be no royalty income until capital investments are paid off. That will more than likely never happen, therefore we have given this gas away to Asians many of whom pay less for it than we do.

An unseemly, headlong, helter skelter rush into these projects meant there was insufficient time for proper reflection, checks and balances. Clearly more time needs to be spent assessing costs and benefits of these projects. This resources will still be there in the future, what is the benefit of haste for the Australian citizen and taxpayer in this. Nothing plus high potential for an environmental disaster. Act in haste repent at leisure.

It appears that Canada has dodged a bullet, Australia hasn't and all these companies are asking us to approve them having another swing at it.

How Gas Projects are taxed

The petroleum resource rent tax is a profits based tax levied over a specified threshold, and generated from the sale of petroleum commodities such as natural gas and oil but excludes LNG. From 2012 it was extended to include all onshore and offshore oil and gas projects including the Northwest Shelf and Coal seam gas (CSG).

All business profits (taxable income), including those from LNG projects in Australia, are subject to company taxation. However petroleum (oil and gas) is also subject to resource taxes , which vary depending on whether the resource is

located in fields onshore or offshore. The accepted justification for additional resource tax is that extraction can only occur once.

The petroleum resource rent tax was introduced in 1987. There are various ways in which resource taxes are applied. As a result, only petroleum projects offshore in the west (and some in the north) of Australia are subject to petroleum resource rent tax. Examples include Chevron's Gorgon and Wheatstone projects, and Inpex's Ichthys project.

Coal seam gas projects in the east are subject to both royalties and the petroleum resource rent tax.

How much does the government collect?

The Commonwealth collected \$1.2 billion in petroleum resource rent tax in 2014-15, but the 2016-17 budget forecast shows a decrease to \$800 million per annum from 2015 until 2020 at the same time as Qatar's income from gas hits \$26 billion.

By contrast Australian Tax Office statistics shown below that \$6 billion was collected in royalties in 2014-15. However only the North West shelf and the Darwin LNG projects pay Commonwealth royalties and these are (in addition to state royalties) and are deductions from the petroleum resource rent tax.

The low petroleum resource rent tax collection suggests there are marginal benefits only from the current LNG boom for the wider community, as Commonwealth taxes are collected and redistributed Australia-wide. However Queensland royalties collected from coal seam gas projects are only distributed within the state

Expenditure-Resource Tax (royalties \$A)

Area	2012-13	2013-14	2014-15
Federal	5,798,614,359	5,969,124,060	4,464,555,904
State	443,363,048	921,886,175	1,478,334,718
Total	6,241,977,407	6,891,010,235	5,942,890,622

Source ATO

The Australian Tax Office statistics below reveal that in 2014-15, out of 149 returns, only 8 "profitable projects" are currently paying petroleum resource rent tax. It is not likely this will improve in the future due to generous tax concessions.

For example, expenditure that is in excess of sales (assessable) receipts, can be carried over year by year, plus interest, 18%. The table below depicts sales receipts of more that \$25 billion in 2014-15, but only \$1.2 billion was paid in resource rent tax.

Petroleum resource rent tax

Items	2012-13	2013-14	2014-15
Number of PRRT	155	147	149

returns			
Assessable receipts	26,326,014,667	29,645,345,000	25,524,431,343
Taxable profit (\$)	3,174,738,436	4,414,941,853	1,198,670,702
PRRT paid on taxable profits (\$)	1,269,895,368	1,765,976,736	1,198,970,702

Source ATO

The gas price plays a vital role in assessing a business's liability for petroleum resource rent tax. This is because gas value, minus expenditure, is subject to the petroleum resource rent tax. As there is no Australia wide hub for gas that can help determine a fair price, a "transfer price" needs to be calculated for the cost of gas that is used to make LNG.

Transfer pricing in the petroleum resource rent tax is covered by regulations that include a gas transfer price methodology. This is used to calculate the transfer price of gas, but the various creative interpretations by business of the method are seen as contentious. The fairness of the regulation process should be debated more openly, as it's currently debated only among companies, tax advisers and the ATO (Australian Taxation Office).

Chevron (a major oil and gas company failed to defend its profit shifting, which minimizes company tax, in the Australian courts.

Surely this lack of revenue from the petroleum resource rent tax raises a few questions for the government and the rest of the long suffering Australian tax payers and citizens? There has been recent commentary about a resource rent tax versus a royalty. Its time for a review of taxing LNG at a time when **Qatar enjoys a tax income of \$26 billion dollars for an equivalent amount of gas.**

In addition companies including Santos and Origin paid no tax at all in the 2014-15 year
Risk

The transfer of risk from private companies to the public.
The Anglo Irish Bank guaranteed by the Irish Government. Anglo Irish Bank transferred their risk to the Irish Public to the tune of Euro 23.3 billion who are still paying for it. The transfer of risk to the public in Australia through mining activities is an ongoing dynamic and evolving environment particularly in the NT where legacy mines and ongoing environmental damage continue.

The provision of resources to companies such as Santos today highlights the increased price we may get for those same resources in the future, we need to get the best price for these resources we can.

In addition companies including Santos and Origin paid no tax at all in the 2014-15 year.

ANDREW SMITH

**Scientific Inquiry into HYDRAULIC FRACTURING in the Northern Territory
In response to the Summary of the Interim Report
TERMS OF Reference**

* the nature and extent of the risks associated with hydraulic fracturing of onshore unconventional shale reservoirs and its associated activities on the environment (aquatic, terrestrial and atmospheric) social, cultural and economic conditions of the NT:

*whether these risks can be mitigated to an acceptable level

*if they can, by what methodology or methodologies these risks can be mitigated

*whether the existing regulatory framework is sufficient to implement these methodologies and if not, what changes need to be made.

Social License

I would like to address the panel through the TOR with what my understanding of the criteria is for the granting of a SOCIAL LICENSE .

Am I able to give consent? FREE, PRIOR and INFORMED to all activities associated with Hydraulic fracturing in the Northern Territory?

FREE, PRIOR and INFORMED

Thousands upon thousands of words have been written for and against unconventional shale gas Hydraulic Fracturing. From the most complex and extensive hydrogeological assessments through to those who are concerned about their children's children.

How can I give consent FREE ,PRIOR and INFORMED to a practice that is complex as it is secretive?

FREE INFORMED PRIOR

Social Licence field experts Ian Thomson and Robert Boutilier have identified three major components that a company must establish to achieve the highest level of social license : legitimacy, credibility and trust.

1. Legitimacy " requires that company spread awareness, listen to community concerns, and follow official and unofficial local norms, customs and practices"
2. Credibility. " When a company is regarded as credible, it is seen as following through on promises and dealing honestly with everyone. " Credibility can be achieved by transparency and consisting in decision making.
3. Trust. Is the degree to which the entire public holds collective trust towards an organization. Companies should strive to achieve "full trust" from the public in their organization. As has been said, "Trust is hard to earn, easy to lose, and very difficult to recover once lost"

The gaps in knowledge due to the limited development in Australia of onshore unconventional gas industry is of concern as is the lack of guarantees in any long term affects and including its enormous waste disposal .

Yet there is a rush to put thousands of wells in the Northern Territory.

Gaps in knowledge exist, for example concerning the mobility of organic compounds, heavy metals and radioactive elements during hydraulic stimulation . Similarly the microbiology occurring deep underground is still largely unknown.

Lets look at some statistics.

As a stakeholder I am asked to give consent on behalf of those who can not speak up and for those yet to be born.

I will be asked to consent to the removal of vegetation and the establishment of thousands of wells since unconventional shale reservoirs requires more wells in a shorter time frame all of which will be taking thousands of ML (megalitres) of top quality water. A slick water for extracting the gas which is comprised of lethal chemicals some of which if you breathe in will kill you .

Many of the chemicals are suspect in causing many illnesses. They can travel through your skin.

I will be asked to consent to tons of these chemicals in 7- 18 million litres of water per single fracking operation which will travel down a complex well with the hopes of mitigation where possible around aquifer and ground water contamination

Does the Hydrocarbon industry in Northern Territory have the resources, experience or expertise for monitoring and evaluation of the cement casings and strings needed for the wells for example? Are there overarching monitoring regulations in place through legislation in the NT?

I will suggest in fact that it is not possible to reliably predict the release of problematic substances, or prevent this by optimizing the Fracking processes, because of many unresolved problems, for example APPEA does not disclose a significant portion of chemicals used in fracking. While these chemicals may only make up 0.1 % of the total, has there been a decision secretly to not have to declare them? A sustainable development discourse the ways in which is specifically defined and maintained a social license has not been made explicit . It has been a massive effort on behalf of this industry to overlook criteria because among many issues , SELF interest has dominated.

Ethylene glycol

Origin's Energy Chemical Disclosure Submission – Amungee Well in the NT – disclosed the following compound among many.

J6o4W- Ethylene glyol a cross linker and is extremely toxic .

This chemical must never enter waterways-

Origin

This is the same company which had to stop their other operations of coal seam gas drilling after chemicals were found in the water in Queensland, at Miles near Brisbane. Origin admitted they had contaminated the water at the site. When contamination occurred in Queensland; the fracking fluid was supplied by Halliburton and it had come to Origin's manager Paul Zealand as a "*real surprise that BTEX chemicals had turned up*"

Origin says 20-60% of injected stimulation is recovered during flowback. Others say it mostly stays in the earth.

Contradictions on the most important aspects of potential water contamination, recycling, methane emissions and number of fracks per well. All of which are of a great concern in our times of rapid climate change.

Can I give consent to the Hydrocarbon extraction industry?

NO

Chemistryviews.org May 2014

SMH OCT 21 2010 Ben Cubby

Social License: Hydraulic Fracturing Challenging Facing the OIL & Gas Industry

Caroline A Keddy Linked in.

CAROL RANDALL