

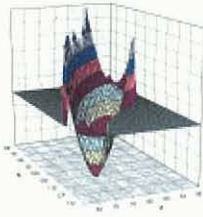
**Submission  
No 678**

## **INQUIRY INTO COAL SEAM GAS**

**Organisation:** Gerbilnow

**Date received:** 7/09/2011

---



Gerbilnow  
7 September 2011  
[www.gerbilnow.com](http://www.gerbilnow.com)  
[Askgerbil@gerbilnow.com](mailto:Askgerbil@gerbilnow.com)

Gerbilnow welcomes the opportunity to make this submission to the New South Wales Legislative Council's General Purpose Standing Committee No. 5 INQUIRY INTO COAL SEAM GAS.

Gerbilnow and its technical research writers have made valuable contributions to the energy policies of the New South Wales, Australian Capital Territory and Australian Governments over a number of years. The Terms of Reference for this present inquiry provide the necessary scope to build on these previous submissions:

1. Submission on the New South Wales Government's "2004 Energy Directions Green Paper", February 2005.
2. Submission to the Australian Government: "Energy Generation and Distribution", August 2007.
3. Submission on the Australian Capital Territory Government's "Draft Sustainable Energy Policy 2010–2020", March 2010
4. Submission on the Australian Government's "Clean Energy Legislative Package", August 2011.

This Inquiry's Terms of Reference grouped under the headings "The economic and social implications of CSG activities" and "The role of CSG in meeting the future energy needs of NSW" are explored and developed within each of the above-listed submissions.

The change from coal to natural gas / bio-methane / coal gasification products as the major energy resource is recommended in each.

However, there are two factors that mitigate against the development of coal seam gas resources at this time:

The above-listed August 2007 submission refers to the social and economic impact of a policy shift from coal to gas:

"The move to gas and away from coal is likely to reduce confidence and optimism amongst investors, workers and communities dependent on the coal industry. This can influence people's current purchasing and investment decisions, with adverse economic consequences. Announcing a preliminary feasibility study into synthetic natural gas plants will help lift the confidence levels of people whose livelihoods are linked to the coal industry."

The August 2011 submission touches on the financial vulnerability of the natural gas industry identified by AGL in 2010, and some of the technology now available that exposes the coal seam gas industry to these commercial risks such that it may be severely limited in its ability to secure investment for sustained growth:

"At a practical level the lowest cost technology available to meet baseload electricity demand is coal-fired power stations.

Ironically, investors today are also unable to secure project finance for baseload and intermediate thermal [power generation] alternatives to coal (e.g [Combined-Cycle Gas Turbine] CCGT) while policy settings explicitly allow coal [power stations] to be built. While all reasoned logic dictates that coal would not be built under current conditions, nobody can guarantee this. So while a CCGT plant would have a substantially lower emissions intensity than coal at 0.4 tonnes per MWh [sic, 0.33 tonnes], the absence of an explicit carbon price creates unacceptable risks for investors in CCGT plant as the higher cost structure of CCGT plant would be undermined should new coal plant be financed and constructed.” (From AGL submission to the Senate Select Committee on the Scrutiny of New Taxes’ inquiry into Carbon Pricing. “Delayed carbon policy certainty and electricity prices in Australia” March 2010. sub19, at page 7.)

The August 2011 submission by Gerbilnow observed that the AGL submission to the 2010 Australian Senate inquiry was based on out-of-date information and as a result its conclusions were in doubt:

The AGL submission contained a figure titled “...Thermal Technologies”. It omits coal gasification thermal technologies; an important option that invalidates two assumptions in those submissions.

The analysis using the up-to-date information shows that coal gasification with pre-combustion separation of 50% of the carbon dioxide:

1. The cost of end-use energy is unlikely to increase further following the introduction of a carbon price.
2. At a practical level the lowest cost technology available to meet baseload electricity demand is combined cycle gas turbine power stations fuelled with gasified coal.

AGL has noted in 2010 that investment in natural gas cannot be secured when there is a risk that lower-cost technology will be built in competition with it. The present enthusiasm for coal seam gas is consistent with this 2010 analysis by AGL that leads to the erroneous conclusion that the Australian Government's planned carbon tax will give natural gas a clear market advantage over coal.

This enthusiasm is misplaced and as a result is very likely to be short-lived.

In addition to the commercial availability of large-scale coal gasification technologies that are at present installed and being installed in China, the US and elsewhere, there is important research into concentrated solar thermal gasification of coal that is ready for commercial deployment.

See, for example:

1. SUNgas: Thermochemical gasification of biomass using concentrated solar energy, University of Minnesota, Minneapolis, MN
2. Solar Gasification of Biomass: Kinetics of Pyrolysis and Steam Gasification in Molten Salt, J. Sol. Energy Eng. -- May 2011 -- Volume 133, Issue 2, 021011 (9 pages)
3. The solar thermal gasification of coal — energy conversion efficiency and CO2 mitigation potential
4. SolarGas: super solar charged natural gas. SolarGas™ technology has generated considerable interest because it combines two large resources – sun and gas. CSIRO



has developed Solar reforming (SolarGas™) well beyond the research stage and it is now ready for commercial application.

The development of a coal / biomass gasification industry in preference to the growth of coal seam gas resources at this time has important social, economic and environmental benefits:

1. The continuing economic well-being and prosperity of communities that depend on the coal industry can be assured,
2. The environmental impact of coal as an energy resource can be enormously reduced while its value to the economy is increased, and
3. The environmental risks occasioned by the coal seam gas industry simply do not arise.

## **Conclusion**

The investment at present planned for the exploitation of coal seam gas resources will be most beneficial to the people, industry and environment of New South Wales if it is directed instead to the extension of the existing coal mining industry by the development of an integrated gasified coal / biomass energy industry.

Sokka Dunstan

CEO

Gerbilnow

### **Attachments:**

1. Submission on the New South Wales Government's "2004 Energy Directions Green Paper", February 2005.
2. Submission to the Australian Government: "Energy Generation and Distribution", August 2007.
3. Submission on the Australian Capital Territory Government's "Draft Sustainable Energy Policy 2010–2020", March 2010
4. Submission on the Australian Government's "Clean Energy Legislative Package", August 2011.