



# I've Got My Tickets for Australia!

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Going forward I believe that energy firms are exposed to a series of high impact events whose magnitude and frequency are likely to increase in the future. The global energy sector is now a volatile and punishing marketplace. Future energy prices are highly uncertain with commodity shortages likely. Australia is not immune from this. As LNG develops Australia will have an increasing role in the geopolitics of global energy. Also as soon as only 2015 the Chinese economy could be the size of the USA. Energy consumption of the Developing World is expected to surpass that of the Industrialized World. As energy leaders how do we prepare, defend and grow our businesses responsibly?

## **The World Scramble for Oil**

In July 2007 the International Energy Agency (IEA) clearly warned in the Financial Times that the world faces an oil shortfall by 2012 with the stirring headline:

*"World will face oil crunch in five years time."...  
"IEA says supply falling faster than expected...  
Dependence on OPEC to increase as prices rise".*

In its medium term report issued on July 9th, the IEA commented: "Net oilfield decline rates average 4.6% annually for Non OPEC and 3.2% for OPEC crude... All told the forecast suggests the industry needs to generate 3mn b/d of new supply each year just to offset the decline". The industry has projects underway to achieve this up to 2009/10; thereafter it is more problematic.

## **The Globalization Of Gas**

Geopolitics, finance and geography will determine future commodity flow. Russia and Iran have over 50% of the world's gas reserves and Russia, already the largest exporter, will continue to have the leading role for the next 40 years!

On the supply side, 78% of current global gas flow is through pipelines, the remainder as LNG. Pipeline investment is dominated by the politics for the sale of gas from places such as Turkmenistan. Russia is ahead of the game and is potentially uniquely placed to serve the markets of East and West.

On the demand side, the largest markets are Europe and USA whose supply options tighten as interim gas power generation grows. LNG is not only sourced to offset declining domestic

production but to increase security of supply. Soaring costs have currently stopped the development of new projects. This could lead to a short fall in global LNG as soon as 2012. When this happens it will bring chaos to the European energy markets. Gas will be substituted by an increase in global coal burn. As energy exporters; can you take advantage of this have you the financial resources and infrastructure to respond?

As we have seen with the credit contagion of the global financial markets; as global energy markets become more integrated, effects in one market can spread to all. Europe is entering a new era of energy insecurity and if we are honest we have not planned well for it.

If Australian companies invest optimally, then over the coming 2 decades Australia could have one of the strongest LNG plays with a higher market share than Iran and Russia combined.

Recently the IEA has turned its global gas focus to security of supply. The world does not have a "strategic store" of gas – our surplus exists in the LNG cargoes that transcend the globe: security of supply is inadequate and impossible to accumulate. This should create opportunities for Australia with bountiful reserves of commodities.

*As energy leaders and politicians how will you use your growing international influence?*



## Electric Shock –The Global Power Market

The global power market desperately needs timely investment from diversified fuel sources but we lack long term technology solutions and our supply concerns are compounded by increasing demand, aging generation units and tighter environmental controls. In the past 15 years alone there has been an increase of 685GW of new generation, unfortunately mostly gas fired.

Listed below are a number of statistics to support this position:

- Huge investment is required: The IEA predict that 872GW of capacity needs to be replaced by 2030;
- In OECD countries 27% of power plants are greater than 30 years old;
- 200GW of nuclear could be phased out by 2015;
- New European legislation states that by 2020, all new coal plant has to be "clean coal";
- 85% of coal capacity UK is more than 30 years old, 50% in Poland and 40% in Germany;
- USA plans 149GW of new build 90GW in coal. Since 1999 generation capacity has increased by 90% because of the dash for gas;
- Germany has plans for 18GW – 40GW of new generation. Initial investments are gas generation with a move to clean coal technology; and
- UK has 8GW of coal retrieval and 8GW of nuclear – for the first time in any market we have CCGT/wind at the margin! This will change future energy trading dynamics and change seasonal prices, possibly requiring a premium for base load generation. If this was not a challenge enough 20GW of new capacity is also required by 2020.



## The State We Are In

The publication of the recent Owen report recognized, the need for base load generation, the value of ultra-supercritical coal generation, the strategic position of Australia having its own gas reserves and the long task of establishing regulatory support for nuclear power. However unlike other countries that have either used their industrial supplies or failed to keep up investment; Australia could be more control of its own destiny but not immune from global energy market influences.



## Energy Risks - Uncertain But Not Unimaginable

Although energy risks may be uncertain, I firmly believe that they are not unimaginable or unmanageable – as energy risk professionals we cannot afford to make misguided assumptions regarding future trends and outcomes.

In challenging times, as energy leaders we must design and execute a forward-looking and comprehensive risk management process, tightly linked with the overall business strategy. By doing this we will be better positioned to make informed decisions under growingly uncertain conditions. At the heart of a sound risk management practice is a deep awareness of the qualitative and quantitative aspects of risks. In an ever increasing complex and punishing global market place it is the responsibility of the Board to ensure the quality and effectiveness of the firm's risk management program.

As Energy Leaders you should use all tools available to the company. Independent technical risk reviews by qualified and seasoned professionals can identify potential gaps in various building blocks of the risk process such as deficiencies in risk measurement models, inadequate stress testing programmes as well as problems in policy or delegation issues.

As Energy Leaders we need to find responsible outcomes. We need to communicate, plan, know where we are, where we need to be, document everything, resource appropriately and – above all – manage rigorously. Contingency planning will have an ever increasing focus in the Board room!

In 20 years time will we look back and say that we made the right decision, for the right capacity at the right time?

Leaving the Owen report aside, as energy leaders we can do what we can but we still need our Governments to take a special care in supporting investment: Reliance on market mechanisms alone; could make us all fossil fools.

Global investment will be inadequate and power shortages likely. Instead of an energy rich world, we will be energy poor. Australia is well positioned in natural resources; it is imperative that these are developed optimally. Think global, act global and protect your citizens from the chaos that is to come.

I have my tickets for Australia!

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## Global Energy Advisory

Global Energy Advisory is a specialist energy-sector think tank, supporting worldwide thought leadership with sophisticated stochastic modelling capabilities that apply financial consequence to future energy market uncertainty. We use real market data combined with expert industry and market views to value power stations, gas storage and structured deals. Additionally, we can provide modelling solutions and support in optimising future policy and strategy decisions. We do not give investment advice.



### Aily Armour-Biggs

Global Energy Advisory is led by Aily Armour-Biggs. With over 20 years' global energy and banking experience including key senior industry positions, she is one of the most respected figures in the industry. Previous roles have included both Head of Power &

Utilities UK and Europe for The Royal Bank of Scotland and Executive Director UBS International Corporate Finance. She is a former Chairman of the Electricity Forward Agreement Association in the UK and was a successful power and energy trader.

## Global Energy Advisory

Global Energy Advisory comprises seasoned experts in the global energy market: entry criteria are a minimum of 20 years' experience in related disciplines. At the core of our expertise is one of the most sophisticated middle offices, which offers proprietary modelling to enable us to unveil and quantify global commodity market uncertainty. We then draw on our team of senior advisors and consultants to complement and enhance our modelling scenarios, providing unrivalled clarity in an uncertain energy future.



## Enterprise Wide Risk and System Development

Our solutions company – Global Energy Solutions – works closely with Microgen plc, one of the City's leading business software companies, to offer clients a clean, efficient and fast track delivery. Microgen's Aptitude business process management and business rules framework enables us to advise on best practice price risk management, implementation and control, as well as fast, comprehensive and controlled deployment of company-wide risk systems.



## Global Energy Finance

Global Energy Finance is a Global Energy Advisory working relationship with Orbian Corp. The company has a proprietary finance structure evolved from a Supply Chain Finance (SCF) solution initially developed by Citibank and SAP. This solution combines trade financing provided by a financial institution, a third-party, or internal funds; and a technology solution that unites the buyer, supplier and the trade financing source electronically and provides financing triggers based on one or several supply chain events. In short this is a payment platform that serves as a gateway to the financial markets. The structure allows companies to monetize commodity contracts, raise finance or, if they are cash rich, invest in their own paper. It also allows the financial markets to invest in the credit/payment risk of companies every day trading; therefore importantly it can be a gateway to dissipate the credit risk in commodity trading in to the global financial markets.



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