



Submission to Parliamentary Joint Committee on Corporations and Financial Services

Corporations Legislation Amendment (Financial derivative Transactions) Bill 2012

3rd October 2012

About d-cyphaTrade

d-cyphaTrade is the official product sponsor of the d-cyphaTrade ASX Australian Electricity Futures and Options market. d-cyphaTrade possesses extensive financial derivatives market experience dating back to 1987, including trading in Australian and European OTC and exchange traded electricity markets, and a variety of other energy, environmental, fixed interest and equity derivatives markets. Since 2002, d-cyphaTrade has been dedicated exclusively to building liquidity and transparency in the Australian electricity derivatives markets and is a renowned Australian electricity derivative market expert, training hundreds of wholesale electricity market participants. For further information regarding this submission, please contact Mr. Dean Price (E: dean.price@d-cypha.com.au).

Executive Summary: an "Enron Loophole" should be avoided

d-cyphaTrade appreciates the opportunity to provide comment to the Parliamentary Joint Committee on Corporations and Financial Services regarding the Corporations Legislation Amendment (Financial derivative Transactions) Bill 2012 (The Bill) and commends the decision by the Australian Government to adhere to its G 20 commitment to implement the following three key OTC financial derivative reforms:

1. The reporting of all OTC financial derivatives to trade repositories;
2. The clearing of all standardised OTC financial derivatives through central counterparties; and
3. The execution of all standardised OTC financial derivatives on exchanges or electronic trading platforms.

The passage of the Bill in its current form and subsequent specific ASIC regulations to reform the multibillion dollar electricity OTC financial derivative market, will enable the Australian government to immediately achieve the following key efficiency gains for the financial electricity systems:

1. Substantially reduce the risk to tax-payers of a government bailout of systemically important electricity companies and the associated moral hazard for excessive risk taking using OTC financial derivatives;
2. Dramatically improve liquidity in the regulated, centrally cleared electricity futures market which will reduce hedging costs for electricity market participants and should result in lower electricity prices paid by consumers; and
3. Improve electricity hedge price transparency, critical to
 - a. Signalling investment in new sources of power supply;
 - b. Increasing competition in the supply of electricity to consumers; and
 - c. Allowing regulators to detect and respond to market misconduct or potential systemic market failure in OTC electricity derivative transactions, currently dealt off-market and away from the scrutiny of regulators.



Electricity is an essential service which d-cyphaTrade submits is in the public interest to protect from systemic failure caused from unregulated OTC financial derivative defaults between systemically significant hedge counterparties, as has occurred in overseas electricity markets. Electricity prices can affect Australian manufacturing companies and critical energy intensive sectors of the Australian economy arguably more directly and materially than interest rate markets.

Australia is in the early stages of creating a national CO2 emissions trading market. d-cyphaTrade submit that the operation of electricity markets and CO2 emission markets must be closely aligned to ensure risk management and reduce arbitrage in order to ensure that public policy outcomes are achieved. To achieve fair and efficient markets with high degrees of transparency required for trading of public assets and related derivatives, both the CO2 emissions markets and electricity markets should be centrally cleared and traded on an authorised public exchange. The lack of mandatory central clearing or market transparency and generally light-regulation of OTC electricity trading has already resulted in the OTC electricity derivative market creating an embedded "OTC shadow market" for CO2 emissions derivatives away from the oversight of Australian regulators. This light-touch regulation is now likely to result in: (i) electricity consumers incurring large but avoidable CPM-linked electricity cost increases¹; and (ii) a decrease in the ability for CFR agencies and the ACCC to monitor and prevent undesirable situations in the Australian CO2 emissions trading market even before Australia transitions to an emissions trading scheme.

An essential learning outcome of the GFC is that there is a public and policy interest to manage the contagion and other risks of essential service and public asset markets well before there is a market failure. The "break – fix" approach is inappropriate for the foreseeable risks of the Australian electricity market and should be mitigated through inclusion in these reforms.

The d-cyphaTrade ASX Electricity Futures and Options Market trades a multiple of the energy consumed in the National Electricity Market. This existing centrally cleared, transparent market (which trades greater volume than the OTC market²) could seamlessly and immediately absorb the migration of existing (and future) uncleared OTC financial derivatives onto exchange. This submission outlines the reasons why **the Bill should not accommodate an Australian version of the notorious "Enron Loophole"³ which exempted energy companies and energy derivatives from regulatory safeguards.**

¹ Jane Shaw, 2011, "Double Dipping on the Carbon Tax", ABC, <http://www.abc.net.au/unleashed/3718192.html>

² According to data from "AFMA Australian Financial Markets Report 2011", Australian Financial Markets Association, 2011.

³ The "Enron Loophole" included sections 2(h) and (g) of the Commodity Futures Modernization Act of 2000 which exempted OTC energy markets from regulation in the US, until the loophole was closed by the Food, Conservation, and Energy Act of 2008.

1. *Mandatory Central Clearing of electricity is essential because self-managed OTC credit risk controls have proven to be inadequate*

In the absence of daily margining and initial margins, internal OTC credit risk management techniques are recognised by G 20 financial regulators to be inadequate at curtailing OTC default risk. Such internally managed OTC credit default risk management techniques adopted by highly sophisticated banks (with higher credit ratings than energy companies) were grossly ineffective during the market volatility and OTC credit defaults of the GFC, forcing multibillion dollar taxpayer funded bailouts of bank and non-bank OTC trading entities. The inadequacy of such OTC risk management arrangements is precisely why Australia and the other G 20 nations have committed to regulating OTC markets, insisting instead on mandating (i) central clearing, (ii) daily margining and (iii) exchange trading (or trading via electronic platforms) of all standardised OTC financial derivatives. Please refer to appendix 1 for an excerpt from the CFTC explaining why regulation of OTC market counterparty risk is necessary to control the otherwise uncontrollable credit default risks inherent in uncleared OTC swap markets.

Credit default risks and interdependencies between participants in Australia's volatile multi-billion dollar OTC electricity derivative market are considerable and a contagion default event could be triggered from any one of numerous potential events. Government intervention and bailouts of energy companies in other jurisdictions have been significant and costly (e.g. The UK government bailout of British Energy and the California Government intervention in response to the California Power Crisis). **However these risks can be quarantined and substantially eliminated through Australia's implementation of the Bill in its current form, minimising the risk of government bailouts of "too big to let fail" electricity companies.**

2. *OTC Electricity market no longer protected by Government ownership*

The absence of a major credit default event in the Australian electricity financial systems to date should not lull Australian regulators into a false sense of security. The Australian OTC and spot electricity financial systems have been artificially supported by state government ownership, effectively providing an implicit taxpayer funded "OTC credit sleeve" for non-government counterparties. Until recently, the majority of electricity generation and many of the electricity retailers issuing OTC electricity financial derivatives had been government owned. Ongoing privatisation of energy trading businesses is removing government financial support from both the OTC financial derivative market and NEM spot market⁴. The reported \$600 million OTC electricity hedge losses⁵ of NSW government owned Pacific Power might have triggered a default event had it not been a government owned business. The June 2007 RoLR event and extremely large credit support posting to AEMO from NSW retailers due to high electricity pool prices, may have triggered

⁴ May 2012, Power sale bill passes NSW Upper House, ABC, <http://www.abc.net.au/news/2012-05-31/power-sale-bill-passes-nsw-upper-house/4043658>

⁵ See Pacific Power (Dissolution) Bill, Second Reading, 20 June 2003. <http://www.parliament.nsw.gov.au/prod/parlment/hansart.nsf/V3Key/LA20030620004>

significant instability of the electricity financial systems had the suspended retailer had more customers than Energy One or the RoLR retailers affected not been owned by the NSW government and capable of calling on NSW T-Corp (rather than banks) to meet their emergency collateral requirements. Historically, the financial shocks caused by periods of volatile and prolonged forward market rallies (and counterparty credit exposures) have been largely absorbed by government involvement in the OTC financial derivatives market and AEMO spot market. **This support of the OTC electricity derivatives market can no longer be relied upon, due to the privatisation of government owned electricity businesses.**

3. Size and concentration of OTC electricity derivative credit default risk.

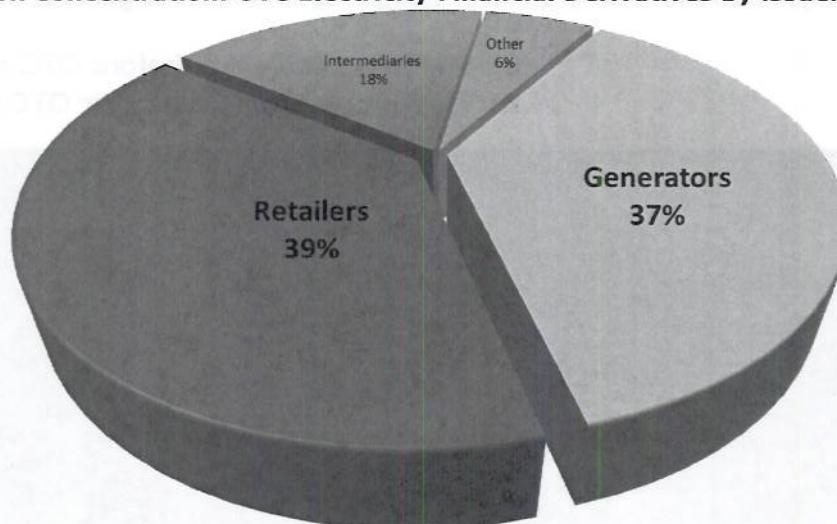
OTC credit default exposures in the Australian electricity market can be extremely large and the size of a potential government bailout of a systemically significant energy company could be immense. Counterparty credit risk exposures arising from electricity OTC hedges can grow extremely quickly due to the extreme volatility of underlying electricity pool prices (the reference price against which OTC financial derivatives are cash settled) ranging from $-\$1,000/\text{MWh}$ to $+\$12,900/\text{MWh}$ on a half hourly basis. Based on audited financial statements of listed Australian electricity retailers the net fair value of the electricity financial derivative portfolio of a single non-bank OTC electricity issuer has reached approximately $\$4$ billion⁶ in the past.

The substantial concentration risk, inter-dependency between counterparties and size of OTC financial derivative exposures between non-bank OTC issuers in the electricity OTC market, can be approximated from survey data provided in the AFMA Australian Financial Markets Report 2011. Unlike other OTC markets which are dominated by creditworthy banks that are subject to a high degree of prudential supervision, the AFMA data suggests that at least **76% of OTC electricity derivative volume was issued instead by electricity generators and retailers, not banks, and therefore issued by counterparties who are not subject to OTC-related collateral support requirements such as those to be applied to banks under Basel III.** The AFMA data also indicates an extremely high degree of OTC counterparty concentration. I.e. according to the AFMA data, **three counterparties were collectively responsible for issuing 64.5% of OTC electricity financial derivatives** during FY2011.⁷

⁶ AGL Annual Report 2007. p.89. Comprising electricity financial derivative assets of $\$6.16$ billion and electricity financial derivative liabilities of $\$2.2$ billion.

⁷ "AFMA Australian Financial Markets Report 2011", Australian Financial Markets Association, 2011. p.52.

Diagram 2. Risk Concentration: OTC Electricity Financial Derivatives by issuer type

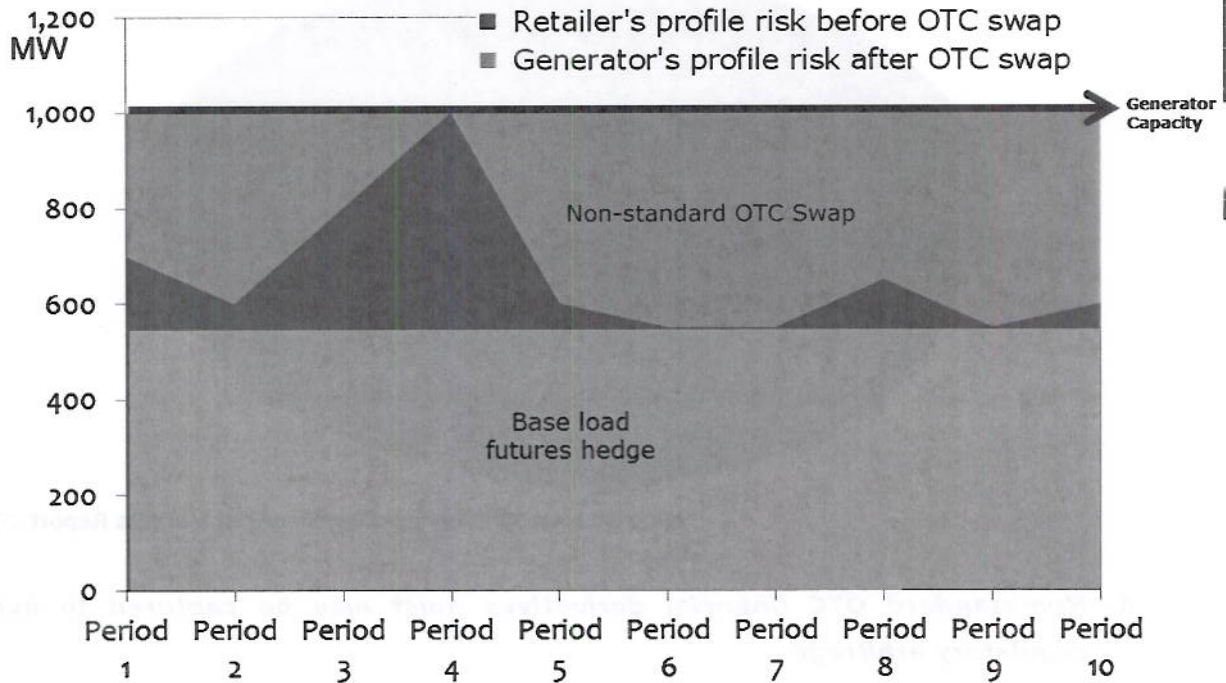


Data source: AFMA Australian Financial Markets Report 2011

4. *Non-standard OTC financial derivatives must also be captured to avoid regulatory arbitrage*

The Bill does not prohibit trading in customised, non-cleared OTC financial derivatives but merely allows ASIC to ensure that trading in such financial derivatives should require commensurate collateral support between systemically-important non-financial entities, to reduce their risk. The Bill should accommodate appropriate regulations being introduced to ensure that such risk-reduction is achieved, and substantially reduce the risk of a generator defaulting on a non-standard OTC product issued to a retailer (or vice versa) triggering a cascading default crisis across the Australian electricity sector. Prudentially regulated bank intermediaries are at least as well placed as unregulated energy companies to facilitate non-standard OTC hedges to electricity retailers and generators. In other financial markets, such bank intermediaries typically manage their client-related OTC positions using standardised centrally cleared products or non-standard products issued by other regulated financial intermediaries. There is no symbiotic efficiency or exact counterbalance between the non-standard component of a retailer's unhedged electricity pool price risk and that of a generator that makes either a more efficient issuer of OTC financial derivative hedges in comparison to a bank intermediary. For example, a sculptured load swap sought by a retailer may suit the *marginal* load profile of the retailer, but does not suit the unhedged pool market volume exposure of a generator – which effectively has base load capacity availability. A generator's volume availability does not increase during the same hours that a retailer's short volume risk exposure increases. In effect by selling a non-standard load swap covering increased volume during high demand, typically higher priced periods to a retailer, a generator *creates* a non-standard profile risk for itself. All else being equal, the generator is left long (i.e. with idle unhedged capacity) across the low demand (typically low priced) hours of its base load availability, incurring reduced revenue during those periods.

Diagram 3. Asymmetrical "non-standard" hedge requirements of generators and retailers



Similarly retailers are not liable to pay the carbon tax, so by purchasing a "carbon-pass-through" OTC electricity swap, a retailer *effectively* agrees to pay the generator's CO2 tax liability, creating a new financial risk and additional cost for the retailer rather than hedging an existing risk of the retailer.

This asymmetry of hedge requirements between retailers and generators means that bank intermediaries are at least as well suited as electricity companies to provide non-standard financial derivative hedges to utility companies, albeit with much lower default risk due to regulatory requirements on banks including the incoming Basel III collateral obligations for OTC counterparty exposures. Adoption of the G 20 commitments for non-standard OTC financial derivatives would level the playing field by reducing the incentive for systemically significant hedgers (generators and retailers) to issue high risk unmargined OTC financial derivatives to each other rather than seeking a lower risk bank issued hedge product or centrally cleared hedge product.

The lack of liquidity, increased price volatility, lack of daily margining and difficulty in reversing out of non-standardised OTC swaps create significant risk which is why US regulators have committed to ensuring that non-standardised OTC swaps will be subject to at least the same level of initial margins and mark-to-market variation margining as centrally cleared, exchange traded financial derivatives.⁸

The other intention of the G 20 commitment that non-cleared swaps attract a commensurate level of margining is to:

- a. Encourage greater use of standardised, centrally cleared exchange traded swaps;**
- and**

⁸ COMMODITY FUTURES TRADING COMMISSION, 17 CFR Part 23, RIN 3038-AC97, "Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants". April 28 2011;

See also a summary of US legislation and rules relevant to energy swaps in appendix 3.

b. Discourage deliberate trading of non-standardised swaps to avoid regulatory capture.⁹

5. AFSL requirements for OTC electricity derivatives are insufficient to address credit default risk

The proposed amendments to AFSL requirements of issuers of OTC electricity financial derivatives are not intended to guarantee the performance of OTC exposures and are not a substitute for mandatory central clearing. The proposed net tangible asset test of \$150,000 or 10% of the AFSL holder's annual revenue is insignificant in comparison to the inherent volatility and credit default risk exposures in OTC electricity markets. For example, a base load generator's annual revenue can be roughly approximated using the face value of one year of base load swap (or futures) contracts in the relevant NEM region. From January 2007 to October 2007, QLD base load futures covering 2008 rallied 169%, i.e. 169% of a QLD generator's expected annual revenue or \$491 million for every 1,000 MW of OTC swap – a credit default risk exposure that is materially in excess of the 10% AFSL buffer.¹⁰

6. Cost savings created by regulating OTC electricity financial derivatives

Improved regulation of OTC electricity derivative markets will benefit retailers and generators through increased liquidity on the centrally cleared market resulting from a transfer and centralisation of liquidity from riskier non-cleared OTC swap dealings. With more liquidity on the central exchange traded market, bid-offer price spreads will be tighter thereby lowering hedge costs and transparent markets will be deeper, enabling NEM participants to manage their portfolios with improved efficiency. Monthly futures, financial year options and quarterly average rate (Asian) options are expected to be launched on the ASX24 centrally cleared futures market within 6 months pending regulatory approval, further increasing centrally cleared electricity hedge alternatives for NEM participants. At present, the ASX24 has approximately 1,600 centrally cleared Australian electricity futures and options contracts available for trading, listed out to 4 years ahead.

The comparative cost of dealing in more liquid centrally cleared markets versus the cost of dealing in uncleared OTC electricity markets is blurred because non-bank OTC electricity participants generally ignore the costs of OTC credit default risk (more OTC deals can get done that way). This hides the current true cost (embedded credit default risk) of dealing in uncleared OTC financial derivatives and deters electricity companies from paying more for lower-risk futures products or OTC hedge products issued by prudentially supervised banks. Furthermore by refusing to adjust financial derivative valuations in audited financial statements to account for embedded OTC credit default risks (despite AASB139 hedge accounting requirements), generators and retailers are rewarded for purchasing "junk" credit quality OTC electricity derivative contracts at any discount to centrally cleared contracts.

⁹ See excerpt from the Financial Stability Board report in Appendix 2.

¹⁰ The ASX24 daily settlement price of QLD base load 2008 futures rallied 169%, from \$33.05/MWh in Jan 2007 to settle at \$89.00/MWh in October 2007. Selling 1,000 MW of an OTC swap at \$33.05/MWh covering Calendar 2008 base load (24 hours x 366 days) would result in a OTC financial derivative liability of: (\$89/MWh - \$33.05/MWh) x 1,000 MW x 24 hours x 366 days = \$491 million.



I.e. sub-investment grade OTC financial derivative assets are valued and reported as if they had the credit backing of an AAA rated bank or centrally cleared futures contract.

Other significant cost savings that mandatory transparency and central clearing would deliver are more difficult to value but are likely to be substantial, including:

- a. Removing the current moral hazard whereby "too big to let fail" energy companies have an incentive to buy cheaper but higher-risk OTC financial derivatives expecting that the government will intervene via a bailout if their counterparty defaults;
- b. Reducing barriers to entry and growth constraints from independent and new entrant retailers and generators competing in the supply of electricity to consumers. Large incumbent retailers and generators are likely to have preferential or exclusive access to off-market OTC hedge dealings and are more likely to be "insiders" to off-market OTC deal flow information, providing them with an unfair information advantage over smaller electricity market competitors; and
- c. Bringing transparency to the opaque OTC electricity financial derivatives market to enable regulators and policy makers (including ASIC, Treasury and the AER) to detect and respond to electricity market misconduct, inefficiencies or systemic market failure in a timely manner. This would reduce the risk of a major default or market misconduct incident undermining confidence in the electricity financial systems and thereby undermining longer term investment in the sector.

7. Minimising hedge cash flows using centrally cleared electricity options

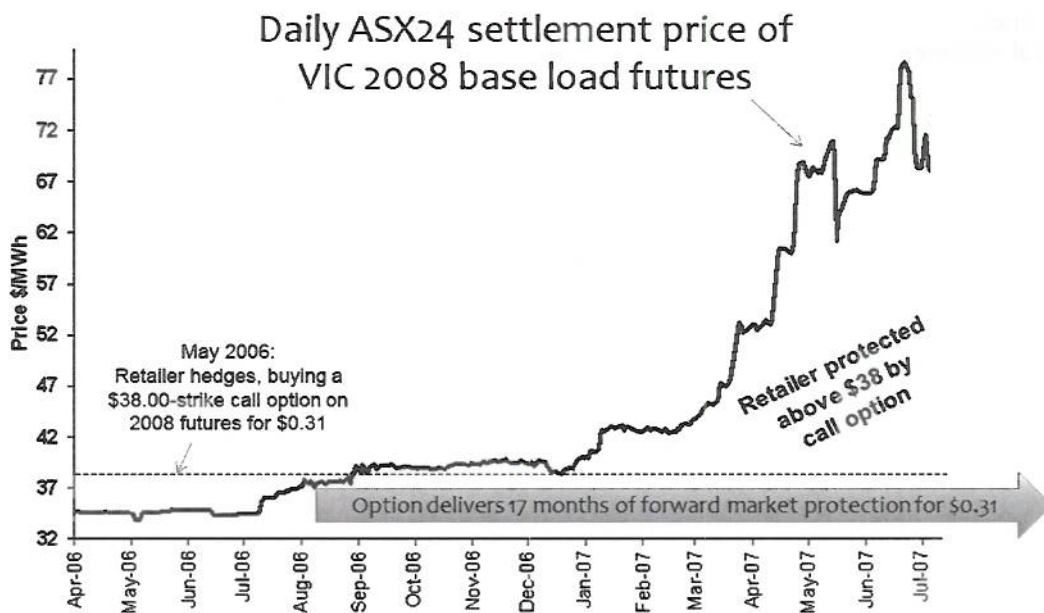
Centrally cleared option based hedge strategies can minimise potential (negative) cash flows and costs associated with variation margining on centrally cleared markets. For example, **retailers can buy call options and generators can buy put options (or related strategies) to hedge against a forward market move while limiting the size of potential negative cash flows arising from the centrally cleared hedge.**

d-cyphaTrade ASX electricity options can provide hedging against forward curve moves up until the expiry of the option, out to 3 years ahead. During 2011, ASX electricity options traded the equivalent of 82% of annual underlying NEM system demand, illustrating the popularity and liquidity of this electricity hedge product. ASX electricity option premiums are marked-to-market rather than requiring the hedge purchaser to pay the option premium upfront.

The following example illustrates how in May 2006 a Victorian electricity retailer could have purchased a \$38-strike call option over 2008 futures for \$0.31/MWh plus transaction fees, providing a hedge against a forward market rally above \$38/MWh for the next 17 months (until the option expiry date). Despite holding this hedge protection, the retailer's worst case hedge cost and hedge cash flow exposure was limited to the \$0.31/MWh premium paid for the option. If the futures price as at the expiry date of the option was less than the \$38 option strike price, the retailer could abandon the option (forfeiting the option premium) and instead purchase futures from the futures market at the lower prevailing futures price.

For this reason centrally cleared electricity options are used as a hedge insurance product, protecting retailers and generators against adverse forward curve movements beyond the option strike price. Alternatively, the potential cost of an existing futures or OTC hedge position can also be limited (i.e. financially offset) by purchasing options. New option products such as cash settled base load average rate quarterly options and options over financial year futures will further increase the range and flexibility of option hedge alternatives with limited working capital draw down risk, for electricity market participants.

Diagram 4. Centrally cleared options can minimise (negative) hedge cash flows.



8. Conclusion and recommendation

It would be unfortunate if Australian policy makers permitted a breach of Australia's G 20 OTC reform commitments by providing an "Enron Loophole" exempting Australian electricity from prudent financial derivative regulation. Rather, **the Australian OTC electricity market is ideally suited with its pre-existing and dominant centrally cleared derivatives market to be the first Australian OTC market to be covered by ASIC OTC clearing and transparency regulations.** The Australian Government has the opportunity to substantially eliminate OTC credit default risk and related financial interdependencies between systemically significant non-bank issuers of Australian OTC electricity financial derivatives. The ongoing privatisation of electricity businesses has precipitated a withdrawal of government credit support from both the NEM spot market prudential arrangements and the systemically connected multi-billion dollar OTC electricity financial derivative market. Australian policy makers should not be complacent, particularly given the substantial historical evidence from offshore OTC electricity markets of the potential for a major OTC derivatives default by a generator or retailer to trigger a catastrophic cascading electricity market default crisis requiring taxpayer funded bailouts of major electricity companies. **The Bill provides an immediate and obvious solution to the**



significant systemic default risks which threaten the stability of Australia's financial electricity market systems.

Yours sincerely,

A handwritten signature in dark ink, appearing to be "D. Price". The signature is stylized and cursive.

Dean Price.
General Manager.



Appendix 1.

Why Central Clearing, Variation margins & Initial margins are being mandated by the G 20.

CFTC excerpt: "During the recent financial crisis, financial derivatives clearing organizations ("DCOs") met all their obligations without any financial infusions from the government. By contrast, significant sums were expended as the result of losses incurred in connection with uncleared swaps, most notably at AIG. A key reason for this difference is that DCOs all use variation margin and initial margin as the centerpiece of their risk management programs while these tools were often not used in connection with uncleared swaps. Consequently, in designing the proposed margin rules for uncleared swaps, the Commission has built upon the sound practices for risk management employed by central counterparties for decades. Variation margin entails marking open positions to their current market value each day and transferring funds between the parties to reflect any change in value since the previous time the positions were marked. This process prevents losses from accumulating over time and thereby reduces both the chance of default and the size of any default should one occur. Initial margin serves as a performance bond against potential future losses. If a party fails to meet its obligation to pay variation margin, resulting in a default, the other party may use initial margin to cover most or all of any loss based on the need to replace the open position. Well-designed margin systems protect both parties to a trade as well as the overall financial system. They serve both as a check on risk-taking that might exceed a party's financial capacity and as a resource that can limit losses when there is a failure. The statutory provisions cited above reflect Congressional recognition that (i) margin is an essential risk-management tool and (ii) uncleared swaps pose greater risks than cleared swaps."

Source: COMMODITY FUTURES TRADING COMMISSION, 17 CFR Part 23, RIN 3038-AC97, "Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants". April 28 2011. p.2.

Appendix 2.

Why non-cleared swaps must be subject to variation margins and initial margins.

Financial Stability Board excerpt: "Margin requirements for non-centrally cleared OTC financial derivatives transactions are an important element of the reforms necessary for achieving the overall objective of mitigating systemic risk in the financial derivatives markets. Such requirements would ensure that minimum levels of collateral are collected to insulate against losses caused by the default of a counterparty to an OTC financial derivatives transaction. Margin requirements would also help align incentives between central and non-central clearing and, in particular, help to suppress incentives that might otherwise exist for market participants to customise contracts in order to avoid central clearing requirements. In this regard, they can also encourage increased standardisation and central clearing of financial derivatives."

Source: "OTC Financial derivatives Market Reforms, Third Progress Report on Implementation", Financial Stability Board, 15 June 2012, p.31 <http://www.bis.org/publ/bcbs206.pdf>.

Appendix 3

Summary of US OTC financial derivative reforms

The US Dodd Frank legislation and CFTC Rules provide a useful benchmark for Australian and other G 20 policy makers to consider in meeting their G 20 OTC reform commitments with regards to OTC electricity markets. Specifically, the US reforms include:

- a. The capture of commodity financial derivatives including energy swaps;
- b. The capture of non-bank "Major Swap Participants", defined as "A person whose outstanding swaps create substantial counterparty exposure that could have serious adverse effects on the financial stability of the United States banking system or financial markets."; and



- c. The de-risking of non-cleared OTC financial derivatives, using (i) regular mark-to-market margining, (ii) initial margins, and (iii) Net Tangible Asset requirements. The CFTC rules and FSB guidelines covering non-centrally cleared swaps provide precise margin calculation methodology for Major Swap Participants to adopt in accordance with potential ASIC regulations consistent with the Bill and the intention of G 20 policy makers.

Appendix 4

Glossary of Abbreviations

AEMC	Australian Electricity Market Commission;
AEMO	Australian Energy Market Operator (pool market operator);
AFSL	Australian Financial Services License;
ASIC	Australian Securities and Investment Commission;
CFTC	Commodity Futures Trading Commission (US);
CO2	Carbon dioxide
CPM	Carbon Pricing Mechanism;
FSB	Financial Stability Board;
GFC	Global Financial Crisis;
NEM	National Electricity Market (comprising electricity pool markets NSW, VIC, QLD, SA and TAS);
OTC	Over the Counter (financial derivative);
RoLR	Retailer of Last Resort.