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Attention: Garnaut Review Secretariat

Re: Financial Services for Managing Risk: Climate Change and Carbon Trading (Issues Paper 2)

Further to its earlier submission and participation at the Garnaut Climate Change Review Public Forum on 31 October 2007, the Australian Securities Exchange (ASX) welcomes the opportunity to respond to the above referenced Issues Paper

ASX's submission focuses on the role of Australia's financial markets in facilitating the management of risks and opportunities associated with climate change and carbon trading.

At the core of ASX's submission is the premise, supported by the successful precedent set in the European Union ETS, that the introduction of a forward market on emission permits at the earliest opportunity will generate the 'carbon signal' needed to facilitate informed decision-making throughout the Australian economy.

The prerequisites for the establishment of a forward market are the provision of legislative certainty for the key design features of Australia's Emissions Trading Scheme (ETS) and the setting of emission reduction targets - ie the supply constraint. Given the significance of these prerequisites, ASX welcomes the recent speech by the Minister for Climate Change and Water¹ confirming a 2010 commencement for Australia's ETS and that the detail of the scheme and an exposure draft of legislation will be finalised by the end of 2008.

The attachment to this submission outlines the existing ASX trading, clearing and settlement infrastructure that will be used to facilitate emissions trading.

We look forward to providing any further support or feedback required as you complete your review.

Yours faithfully

A handwritten signature in black ink that reads 'Anthony Collins'. The signature is written in a cursive style and is positioned over a light grey, dotted rectangular background.

Anthony Collins
General Manager – Emerging Markets
ASX Ltd

¹ Senator the Hon Penny Wong, Minister for Climate Change and Water, 'Climate Change: A Responsibility Agenda', speech to the Australian Industry Group Luncheon, Park Hyatt, Melbourne, 6 February 2008.

Australian Securities Exchange

Australian Stock Exchange
Sydney Futures Exchange

Australian Clearing House
SFE Clearing Corporation

ASX Settlement and Transfer Corporation
Austraclear

General Comments

The establishment of a forward market on emission permits and any fungible credits at the earliest opportunity will provide the most efficient means for firms to factor future carbon prices into their decision-making – including important decisions relating to abatement and offset mechanisms prior to the formal commencement of Australia's Emissions Trading Scheme (ETS).

Firms will not be able to make informed decisions about pursuing abatement prior to the commencement of emissions trading in the absence of robust forward prices and the ability to transfer risk using financial market infrastructure, including clearing and settlement to minimise their counter-party and settlement risks. Specifically, in the absence of a robust forward market, firms will not know the marginal cost at which to cease investment in abatement or offset mechanisms.

Price signals and the immediacy of liquidity from the forward market for emission permits and fungible credits is likely to have greater significance for investment decisions relating to abatement and offsets prior to and during the ETS, than the periodic auctioning of emission permits. For example, the value of trading (risk transfer) in the forward market for Australian electricity in 2007 was approximately three times the value of system demand in the underlying National Electricity Market (NEM).

The prerequisites, at least those under the control of policy makers, for the forward market to commence are the:

1. setting of short-term emission reduction targets - the supply constraint; and,
2. provision of legislative certainty on the design of the scheme, including sufficient detail of the proposed registry for the forward markets to specify a delivery mechanism.

The above prerequisites should be met as soon as is practicable as uncertainty is already impacting upon decision-making not limited to investment within the electricity sector and liquidity in the forward market for electricity in 2010 and beyond.

An electronic interface to the national registry for emission permits and any fungible credits would assist the efficiency and integrity of settlement service providers (such as ASX Austraclear).

Building Effective Carbon Trading Markets

Question for consideration

Are there any institutional inhibitors to the emergence of an Australian ETS?

Once the Australia Government has finalised the design of the forthcoming ETS and provided legislative certainty and emission reduction targets, there are no institutional inhibitors to the emergence of an Australian ETS.

It will be important that the Kyoto compliant national registry for emission permits and any fungible credits is operational prior to the formal commencement of the ETS, and that the mechanism for access is more efficient than the web-based key stroke title transfer mechanisms that currently support the much smaller NSW Greenhouse Gas Abatement Certificate Scheme (NGACS) and the Mandatory Renewable Energy Target (MRET) scheme.

The design of Australia's ETS is well placed to benefit from the experience of the EU ETS and other environmental product schemes in relation to the:

- over-allocation which would lead to inequity, an inefficient forward market and the lack of a robust carbon price signal;
- delayed or inefficient company reporting of actual emission levels;
- use of auctioning to some degree to facilitate early price discovery and enable market participants that do not have liabilities under the scheme to better manage their exposure in the forward market; and
- delayed development of stand-alone registries which will impede title transfer pursuant to trades in spot and forward markets.

In relation to the first three points above, the forthcoming Greenhouse and Energy Reporting System (NGRS) alone is unlikely to provide sufficient insight to the marginal cost of abatement within the economy or the magnitude of very low abatement cost opportunities. For this reason a critical mass of emission permits should be auctioned to a diverse range of market participants at the earliest opportunity. The auction process, and more so the continuity of liquidity in the forward markets, will determine a robust and credible carbon price. In relation to the late development of registries in the European ETS, the provision of an interface to the register for settlement service providers (such as ASX Austraclear) is critical.

Australia's financial markets are widely considered to be the most liquid and sophisticated in the Asia-Pacific. Australia's financial markets are well serviced by over-the-counter (OTC) trading infrastructure and exchange-based trading mechanisms, clearing houses and settlement services. Moreover, most of the global investment banks and brokerage houses have a physical presence in Australia. It is these firms together with the strength of Australia's banking, finance and advisory (legal, accounting, risk management advisory) sectors that will provide trading, finance and risk advisory services to the corporate sector in Australia and throughout the region. Given its time zone, Australia's financial markets (both OTC and exchange) are open 24 hours x 5.5 days a week to accommodate order flow from the Europe and North American time zones.

Additionally, the financial and energy sectors (the latter being the largest to be impacted by the forthcoming ETS), have now had extensive experience of the NGACS and MRET schemes.

Auctioning

Questions for consideration

Is permit price realisation and discovery best facilitated through the use of auctioning under an ETS?

To what extent, and on what basis, might it be desirable that permits are not allocated via an auction system?

For the sake of brevity and to avoid repetition, ASX has not summarised the key points outlined in the Stern Report and elsewhere on the relative merits and disadvantages of free allocation and auctioning of emission permits. The focus of the following points relate to how the use of auctioning, to complement some free allocation of permits, would better facilitate price realisation and discovery in the forward markets. Namely, some use of auctioning in the allocation process for emission permits would:

- focus the attention of firms on their marginal cost of abatement, and in turn the identification of early abatement and offset opportunities and use of the forward markets to manage the associated price, counter-party and settlement risks;
- reduce the risk of emission permits being over-allocated to any given firm or sector; and
- enable a diverse range of market participants without liabilities in the ETS to acquire permits to underpin their involvement in the forward market.

Prior to the auctioning and/or free allocation of emission permits, firms will manage their price, counterparty and settlement risks in the forward markets. For example, in the EU ETS the forward markets commenced well before the National Allocation Plans (NAPs) were finalised.

It is worth highlighting that not all firms with compliance obligations in the forthcoming Australian ETS will utilise the wholesale OTC and futures markets. Smaller firms and those with less sophisticated risk management and treasury functions are likely to utilise the risk management products and services of intermediaries such as banks to manage their compliance obligations under the Australian ETS. These intermediaries will in turn off-lay their risks to counterparties in the wholesale OTC and futures markets.

If auctions were used to allocate some emission permits, the forward market would help smooth supply and demand to the benefit of price discovery. An example of this in Australia's financial markets would be the use of futures contracts on baskets of Commonwealth Government Securities (CGS) by market participants when participating in auctions for State Government-issued securities, or book builds for corporate bond issuance. Highlighting the significance of the futures market, CGS traded in the secondary market are quoted at a basis to the CGS futures price.

The obvious basis for not fully allocating emission permits via an auction system would be for the emission intensive trade exposed sector. That is not to say that this sector should be exempt from pursuing cost effective abatement wherever possible and/or participating in any auction process.

Facilitating Forward Trading Markets – Banking and Borrowing of Permits

Questions for consideration

What features of an ETS might impede the emergence of forward markets?

Is it possible to have strong and efficient forward markets with restrictions on the use of permits, such as limited banking and borrowing?

The key prerequisites for the forward market to commence are legislative certainty and emission reduction targets. A stable policy environment over the medium to longer term is important as forward markets cannot efficiently 'price' regulatory risk. As far as possible, the market also needs clarity regarding linkages and the Kyoto trading mechanism beyond the Kyoto period. For this reason the financial markets supporting the EU ETS do not facilitate much carbon finance or forward market trading beyond the Kyoto period.

The theory on banking emission permits and borrowing from future commitment periods is well documented in the Stern Report and elsewhere. In existing ETS and other environmental product schemes there is much experience of banking but little of borrowing. Linkages between different national or regional cap and trade schemes is desirable on efficiency grounds, but to reap the efficiency benefits the schemes should be broadly similar in design. For example, a moral hazard would exist if firms can borrow and on-sell from future commitment periods in Australia (subject to the country commitment reserve) to meet liabilities in other countries.

At a practical level, it may also prove difficult for firms to 'price' forward contracts as borrowing may dilute the short-term 'supply constraint' and hence a reliable carbon price signal. The ability to borrow, and the likely lack of timely transparency in relation to the extent of borrowing, would also complicate the ability of firms to calculate 'fair value'.

A challenge for an ETS spanning a term of 10 years or possibly more will be the dilution of market liquidity across what will presumably be single-year dated emission permits. Most forward markets for commodities markets facilitate trades in contracts with the longest tenure of somewhere between 18 months and four years. The financial markets supporting the EU ETS trading (five years) is one exception. As would be expected, liquidity is mostly evident in futures contracts for the 'next' and subsequent compliance years².

² It is worth noting that there is a clearly defined and identifiable cost of carry relationship due to the ability to bank permits from one year to the next.

ASX's own plans for a forward market are likely to involve futures contracts on single-year dated emission permits for up to the 'next' five years. To provide longer-term price discovery to underpin longer-term investment in emission reduction technologies and offset mechanisms, akin to the role of futures contracts on 10 and 30-year government bonds (the latter in the US) for long-term infrastructure projects, ASX could also list a futures contract on emission permits dated, say, 2020. Such a long-dated futures contract would not expire only in that year, rather it could expire every quarter similar to existing longer dated government bond futures contracts. Such a product design is necessary as no firm would allocate capital to trade over such a lengthy period. A quarterly (or bi-annual or annual) expiry would also generate liquidity by virtue of firms 'rolling' positions into the next quarterly futures contract.

As for government bond futures contracts, which globally underpin the risk-free yield curve, a futures contract on emission permits dated 2020 would require a critical mass of permits to have been issued into the market – ideally auctioned to a diverse range of market participants, including financial market participants who may not have liabilities under the ETS. A longer dated futures contract would also require market confidence in policy stability in the domestic and international framework for emissions trading.

Positioning Australia as a Regional Hub in the Asia Pacific Carbon Markets

Question for consideration

How can governments help facilitate Australia becoming a regional hub in the Asia-Pacific carbon markets?

Within the Government's control, the largest determinant as to what Australia facilitates as a 'regional' hub in the Asia-Pacific carbon markets will be the design of the ETS – particularly its linkages to the Clean Development Mechanism (CDM), the New Zealand (NZ) ETS and other Kyoto trading mechanisms.

From the perspective of becoming a regional hub for trading, investment, legal advice and risk advisory services, linkages to the CDM mechanism and the NZ ETS is desirable. There are only three countries in the Asia-Pacific region with emission reduction targets in the Kyoto Period (2008 – 2012), and linking Australian and New Zealand in a 'trading block' would create additional market liquidity and risk management opportunities for firms in both countries. The key to successfully linking with be for the domestically issued emission permits to be homogenous and fully fungible.

Over time, if separate ETSS link with each other, the international 'carbon market' will become more fungible, and those centres that attract an initial critical mass of liquidity in the first instance will be well placed to build on this liquidity in the post Kyoto period. For this reason, Australia (with a carbon footprint eight times that of NZ) is very well placed in the Asia-Pacific.

Notwithstanding that some sectors of New Zealand's economy will participate in the NZ ETS before 2010, all of the existing futures exchange and clearing infrastructure underpinning the financial markets in New Zealand currently reside in Australia, as do most of the interest rate, equity, commodity, energy and environmental product divisions of the major trading banks, investment banks and brokerage houses present in Australasia.

Further a field, Australia has no shortage of capital, in part thanks to a compulsory superannuation system, to invest in CDM projects and in companies developing lower emission technologies.

Attachment A - Summary of ASX Infrastructure for Emissions Trading

New market infrastructure is not needed to service the forthcoming emission trading schemes in Australia and New Zealand. On the contrary, these ETS would be best serviced by proven infrastructure with connectivity to all of the likely participants in the forthcoming scheme. For example, the success of the European Climate Exchange (ECX) can largely be attributed to its use of an existing futures exchange (ICE Futures Europe Exchange) and clearing house (LCH.clearnet) which together facilitate the majority of the emissions related energy markets (oil, gas, electricity, etc) in Europe. The use of existing and proven infrastructure will strengthen the position of firms in Australia (and New Zealand) to compete in the 'international carbon market'.

At the core of ASX's value proposition to support the forthcoming Australian ETS is the premise, supported by the successful precedent set in the European Union ETS, that the introduction of a forward market on emission permits and fungible credits at the earliest opportunity will generate the 'carbon signal' needed to facilitate informed decision-making throughout the economy.

As outlined in our Media Release of 4 June 2007, ASX anticipates that it will be able to introduce a futures market prior to the issuance of emission permits. ASX's futures market for emission permits and fungible credits will facilitate the forward price discovery and risk transfer necessary for firms to factor future carbon prices into their decision-making.

ASX's submissions to the Federal Government have also highlighted the importance of there being an interface to the Government registry for emission permits and fungible credits in order to efficiently facilitate clearing and settlement for the spot and forward markets.

It is imperative that a settlement service exists to support Australia's ETS. The late development of stand-alone registries in the EU ETS, without an interface to a settlement service for over-the-counter trading, has given rise to inefficiencies in the related spot and forward markets.

ASX intends to use its existing Austraclear infrastructure to provide Delivery vs Payment settlement services to support the settlement of spot and forward trades in emission permits and fungible credits. ASX Austraclear is already fully integrated into the back office processes and systems of almost all of the likely participants in Australia's ETS.

ASX (through its SFE subsidiary) first proposed to use its market infrastructure to facilitate emissions trading in 1999 but did not proceed at this time as the requisite legislation to underpin an ETS was not forthcoming.

Additional information, including briefing notes, discussion papers and previous submissions, are available on ASX's website – www.asx.com.au/investor/emissions_trading.