



SYDNEY
FUTURES
EXCHANGE

**Submission to the
House of Representatives Standing Committee on
Environment, Recreation and the Arts**

Inquiry into the

**Regulatory Arrangements For
Trading In
Greenhouse Gas Emissions**

April, 1998

Executive Summary

This submission is in response to a request from the Committee to comment on the scope for futures trading in relation to greenhouse gas emission permits. It is understood that this request, in turn, was prompted by support for such trading having been expressed in other submissions.

Governments do not need to concern themselves directly with ensuring that organisations like the SFE will provide facilities (a derivatives market) to facilitate the management of risks incurred by participants in the primary market (issuance of permits) or the secondary market (trading of permits) - when and if the only remaining constraint on participation in the secondary market is the absence of instruments to hedge those risks, those instruments are likely to emerge quite quickly if the secondary market exhibits most of the conditions which developers of derivative products would expect to see before a derivative market could complement the secondary market. Appropriate instruments will emerge either as the result of potential secondary market participants approaching potential developers of those derivative instruments or vice versa.

The more difficult issues facing Governments at this stage would appear to involve satisfying some of the other pre-conditions for a liquid secondary market. This includes resolving as many as possible of the uncertainties facing potential participants in deciding whether to actively participate in any domestic market before an international market is developed. There is also the uncertainty as to how easy it would be to eventually integrate the two markets.

Governments do, however, need to be aware of the features which developers of derivative market instruments look for in secondary markets before embarking on contract design and other product development work. If failure to bear these factors in mind reduced the likelihood of derivative products being made available, then any secondary market would miss out on the boost to liquidity which derivative markets can provide.

If a domestic market is to be established, the allocation of responsibility between regulatory agencies and self-regulating markets should be broadly consistent with the regulatory arrangements for other tradeable commodities for which derivative markets have been developed - whilst there may well be a need for a new regulatory authority to allocate permits, establish certification procedures for emissions etc, the functions of this agency should not cut across the regulatory arrangements governing secondary markets in financial instruments and all derivative markets. In essence this

means that the Australian Securities and Investments Commission (as the ASC will be renamed upon the passage of legislation currently before the Parliament) would have primary responsibility for oversight of participants in any secondary and derivative emission trading markets as to the fairness and efficiency of those markets.

The Sydney Futures Exchange and Emissions Trading

The Sydney Futures Exchange has not made any decisions to offer facilities to support a market in greenhouse gas emissions. It is, however, in a very good position to provide a range of execution and clearing facilities to support such a market in the event of Governments issuing permits.

From its origins in 1960 as the Sydney Greasy Wool Futures Exchange through to its current position as the leading financial futures exchange in the Asia Pacific region, the SFE has remained the only centralised commodity derivatives market in Australia.

Without the availability of facilities such as those which the SFE provides, any secondary market in emission permits will not achieve optimal efficiency, with adverse consequences for the ease with which Australia meets its international obligations.

Primary, Secondary and Derivatives Markets

One of the lessons learnt in providing trading and clearing facilities for agricultural, precious metal and energy derivatives alongside its interest rate and equity derivatives is that issues facing Governments involving the development of new markets are much easier to address if the universality of the distinction between primary, secondary and derivative markets is appreciated.

By classifying activities in this way, the risks of “re-invention of the wheel” in the development of regulatory arrangements for new markets can be significantly reduced.

In the case of greenhouse gas emissions the primary, secondary and derivative markets are represented by the following activities:

- primary market - issue of permits by the Government (or a regulatory agency created by it);
- secondary market - buying and selling of those permits;
- derivative market - buying and selling of contracts which facilitate the management of risks incurred in primary or secondary market activity.

Examples of the counterparts to these activities involving different underlying assets, commodities, rates or indexes include:

	Primary	Secondary	Derivative
Equities	Initial Public Offering	ASX Equities Market	Futures and options on individual shares and share indexes; warrants; equity swaps etc.
Interest Rates	Government Bond Tender	Bond Market	Interest rate futures, options, swaps etc.
Electricity	Generators supplying to pools	Spot electricity pool market	Electricity futures, swaps etc.

One thing which emerges clearly when this classification is adopted is that Governments are:

- *sometimes* the key participant in the primary market, most notably in the issuance of currency and Government bonds;
- *occasionally* get involved in structuring new secondary markets, a notable current example being the operation of spot electricity pool markets;
- but only get involved in issues concerned with the structure of derivative markets to the extent that they assume a regulatory oversight role directed

at market integrity, prudential supervision, enhancing competition or reducing systemic risk ie. roles in respect of which a regulatory agency already exists that is equipped to deal with any derivatives trading in emissions on the same basis as any other derivatives trading.

How Markets Develop

The first observation we would make of direct relevance to the Committee's terms of reference is that Governments do not need to concern themselves directly with ensuring that organisations like the SFE or other market participants will provide facilities (a derivatives market) to facilitate the management of risks incurred by participants in the primary market (issuance of permits) or in the secondary market (trading of permits) - when and if the only remaining constraint on participation in the secondary market is the absence of instruments to hedge those risks, those instruments are likely to emerge quite quickly if the secondary market exhibits most of the conditions which developers of derivative products would expect to see before a derivative market could complement the secondary market. Those instruments will emerge either as the result of potential secondary market participants approaching potential developers of those instruments or vice versa.

Furthermore, in pursuing their environmental objectives, Governments do not need to concern themselves with the mix of derivative instruments that will become available. Separate initiatives are already underway, following earlier inquiries, to refine the current regulatory arrangements relating to both the provision of facilities for centralised markets (exchanges) in derivatives and the conduct of over the counter derivative transactions. One of the features of those initiatives is the removal of any suggestion (from the legislative provisions administered by the Australian Securities Commission) that the underlying regulatory objectives relevant to derivatives trading differ depending on the nature of the underlying product.

The mix of derivative instruments that may become available - as between exchange-traded and OTC products, for example - will, however, reflect changes which have been occurring in the pattern of derivatives market development. Traditionally, futures markets were only developed after a forward market was well-established. Nowadays, derivatives exchanges sometimes develop products to help establish the forward market. A few years ago, for example, the SFE started developing an electricity swaps facility involving "blind matching" of participants with the idea that it would be a pre-cursor to a standardised futures contract to be cleared in the traditional way.

However, market participants quickly determined that they wanted a standardised contract available immediately to complement both the spot market (the secondary market represented by trading in the Government administered pool markets) and other derivative market products which they could negotiate bi-laterally (the OTC derivatives products). As a result, instead of proceeding with its proposed swaps facility, the Exchange responded to these market demands with the launch, on 29 September 1997, of two standardised futures contracts, one relating to the NSW pool price and one relating to the Victorian pool price.

This experience is put forward simply to reinforce the point that any regulatory arrangements directed at facilitating environmental objectives must leave sufficient flexibility for market participants to drive the decisions for which they are best equipped. These include the decisions as to which derivative market instruments and mechanisms would best assist in developing a liquid secondary market.

It has been our experience in witnessing Government involvement in creation of spot markets in some other commodities that some participants initially assume that their underlying product is so different from other products upon which free market pricing has been imposed that the principles governing those other markets have no application.

Whilst differences between industries certainly need to be taken into account, in contract design, there are very few differences which cannot be accommodated one way or another. In the case of electricity, for example, since it can't be stored, a simple forward price for electricity (ie today's price plus storage cost plus financial holding cost) can't be derived. But this has not prevented the development of a forward market or of a futures market. It has simply meant that more complex probability models have had to be developed and that those who put the resources into understanding those models have first mover advantages until others catch up.

Similarly, in the case of emissions trading there will no doubt be a series of issues to contend with stemming from things like the intangible nature of the permit and the Government's involvement. But not all of these issues will require new solutions. Many will be amenable to the same approaches as are used in, say, trading of derivatives over other intangibles (such as indexes) and the trading of wheat and electricity (which each have considerable Government involvement, albeit arguably more involvement than necessary for optimal efficiency).

Factors Conducive To Derivative Market Development

The second observation about regulatory structures is that when Governments are determining how to pursue environmental and other objectives in establishing a primary market and facilitating a secondary market, it is useful to keep in mind the factors which are taken into account by developers of derivative market instruments.

Many factors are taken into account in designing the terms, conditions and specifications of a commodity futures contract. Broadly the key factors include the following:

- The market must have a balance of diverse buyers and sellers, motivated to participate for a range of purposes.
- It must be possible to specify a standard tradeable grade for each commodity.
- There must be a high degree of price transparency in the cash market.
- The commodity must have high levels of price volatility.

The biggest advantage of standardising a futures contract is that it can be traded in a centralised market, thus providing price transparency and liquidity. Standardisation also facilitates use of a clearing house to which trades can be novated, thereby allowing participants to deal freely with each other without credit risk constraints.

Conditions Of The Cash Market

The futures contract must complement the established cash market trading. The conditions that are listed below are the ones that developers of successful derivatives products would look for in the secondary market:

- A liquid cash market.
- A large market with a need for a risk management product.
- High price volatility.
- A high level of price transparency.

- Market growth.
- Multiple buyers and multiple sellers.
- The existence or potential existence of market makers/speculators/arbitraders.
- Concentration of buyers and concentration of sellers.
- Identifiable risk.
- A reliable and industry accepted contract settlement mechanism.
- A high level of available market information.
- Established trade language.
- High level of industry knowledge.
- An emerging or active forward and OTC market.
- A high degree of sophistication in the cash market.
- A low level of government regulation.
- A limited concentration of market power.
- A high level of local and/or international interest in the cash market.

Contract Design

Many questions need to be answered before the contract design is finalised. A few examples include:

- What will the contract size be?

The contract size that suits the majority of market participants is likely to be chosen.

- Where in the production chain of the commodity does the highest concentration of buyers and sellers exist?

A futures contract is likely to be listed where there is the highest concentration of market participants, as this will help to provide liquidity to the contract.

- How will the contract be settled? Will it be cash settled or physically delivered?

The contract settlement process depends on the nature of the underlying commodity and its industry.

- Is there a high level of vertical integration in the industry?

If there is a high level of vertical integration in the industry the need for risk management products for potential market users would be lessened.

- Is market information readily available?

There needs to be a high level of timely market price and volume information available to users. This information needs to include factors that will affect price volatility in the market.

- Is the underlying commodity easily definable?

The contract specifications must be quantitative and they must not be too wide or otherwise the specifications will be meaningless to the participants. The quality of the commodity must be easily definable in a measurable language. The commodity must be readily available to market participants.

- Is contract design standardised between futures contracts?

Contract design is not standardised from one industry to the next. Thus each futures contract must be assessed on an industry by industry basis. Different standards in contract design need to exist based on the underlying commodity, as the level of homogeneity between industries vary. Each industry on which the underlying commodity is based has different factors that influence its supply and demand fundamentals.

Both Government and bodies like the SFE have an interest in the relationship between the primary, secondary and derivative markets. The interests of the SFE

include determining whether there is likely to be sufficient profit-making potential for brokers and market makers in order to provide the level of immediacy and depth demanded by those trading emission permits.

This, in turn, involves having sufficient information to enable potential market makers or brokers to assess their costs (both the fixed costs of providing the service of acting as a principal or an intermediary and the risks of dealing in that particular market). Part of the information needed by these potential market participants is information from potential facility providers like the SFE eg information about contract terms, trading rules, clearing arrangements and regulatory oversight in the case of a centralised derivatives market. But another part of the information comes from understanding the needs of all the participants in the primary and secondary market.

Government also has to take account of the needs of all potential participants in the secondary market when devising the rules about issuance of permits. Those needs include confidence that the secondary market will be conducted fairly and efficiently. In part, this confidence can be assisted by having appropriate regulatory arrangements (discussed below). But this confidence is also heavily dependant on market participants having the information from which to assess the risks of the value of trading permits being affected by decisions of Governments. Those risks would include the risks associated with not knowing how any domestic emission permit trading might ultimately be affected by the development of international permit trading arrangements.

Responsibilities of Regulatory Agencies

The allocation of responsibility for regulation of the issuance and trading of emission permits should be broadly consistent with the regulatory arrangements for other tradeable commodities for which derivative markets have been developed - in essence this means that the Australian Securities and Investments Commission (as the ASC will be renamed upon the passage of legislation currently before the Parliament) would have primary responsibility for regulation of participants in the secondary and derivative markets whilst another regulatory body would govern the primary market. Merely because some organisations - such as electricity generators - would be participants in all three markets (as they are in primary, secondary and derivative markets in electricity) does not mean that a single regulatory regime can best address the many discrete objectives associated with the three markets.

The changes being introduced by the Government following the Financial System Inquiry (Wallis Committee) are based on identification of the discrete objectives of regulation being one of the main drivers of the allocation of responsibilities between financial market regulators. The same principle is applicable to emissions trading: there are three sets of regulatory objectives which, in our view, could be achieved with least disruption to the efficiency of any emission trading if the responsibility for their achievement were split between separate regulatory agencies.

The first set of objectives are those concerned with the contribution which emission trading would make to achievement of reductions in total emissions. These are highly relevant to the structure of the primary market, slightly less relevant to the secondary market and virtually irrelevant to any derivatives market. For example, the need to prevent the supply of emission permits in existence exceeding the level that will produce the desired environmental outcome exists independently of how much trading occurs in those permits or the price at which they trade.

A second set of regulatory objectives are those to which the label “market integrity” is sometimes attached. This refers to promoting and monitoring the fairness and efficiency of market structures and activities. This is the set of objectives for which the ASC has sole regulatory responsibility in relation to primary markets in securities.

In respect of secondary markets in securities and derivative markets in all products, responsibility is shared between the ASC and any exchange which has been authorised to provide markets on condition that they share in the task of regulating participants. (This is sometimes termed co-regulation, with the SFE and ASX being the ASC’s co-regulators.) The price at which permits are traded would assume relevance for the regulator charged with achieving this objective. For example, someone trading with insider knowledge about a particular generator’s capacity to meet its emission entitlement would be receiving the same type of unfair advantage to which insider trading prohibitions are directed, whatever the underlying instrument.

A third set of regulatory objectives which remains as relevant to emission trading as to any other area of commercial objectives is competition, for which the ACCC has regulatory responsibility.

We see no reason why the ASIC and ACCC should not exercise their respective market integrity and competition monitoring roles in relation to emission trading in the same way as they do in relation to other trading activities.

The regulatory functions of any new agency involved in monitoring compliance with the conditions attached to the issue of permits would not need to extend to monitoring of secondary trading. If the trading took the form of blind matching of bids and offers, then the provider of those facilities would require authorisation by ASIC as a market operator (under the regime foreshadowed by the Treasurer as part of the Corporate Law Economic Reform Program). Alternatively, if the trading took the form of bi-laterally negotiated OTC transactions, there would be scope for ASIC to pursue its function of monitoring market integrity through its licensing of those conducting a business of dealing in (emission permit) derivatives.

Instead, the new agency's primary involvement with the actual trading of permits would presumably revolve around satisfying itself as to the authenticity of whatever documents or procedures were used to evidence entitlement to produce greenhouse gases.

Without in any way downplaying the importance and potential difficulty of establishing confidence in the integrity of the verification procedures that need to be developed, it seems likely that any new regulatory agency would be able to adapt at least some of the procedures and safeguards adopted by other systems for transfer of property/registration of title.

The Exchange would be happy to elaborate upon these brief observations in discussion with the Committee.