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Exchange Based Trading and Carbon Emissions: Is It All Really Just Hot Air?

Graeme Dennis* and Mina Guli**

SUMMARY

This paper examines some of the issues associated with trading in emissions, and particularly emissions of carbon dioxide and other "greenhouse gases", in Australia. The paper considers the potential for "exchange-based" or "on-exchange" markets, and compares them with "over the counter" (OTC) bilateral contracting arrangements. The discussion also focuses on the legal issues associated with developing an exchange market in carbon based emissions.

The article commences with an examination of those provisions of the "Kyoto Protocol" which relate to the trading of emission permits or credits, and how trading is contemplated to be a means by which countries bound by the Kyoto Protocol can meet their obligations under the protocol.

The article then proposes some fundamental features which are necessary for the successful development of a market, and examines how these may or may not be met in relation to carbon emissions trading. The applicability of Corporations Law provisions relating to securities and futures are discussed, and the proposals of the Sydney Futures Exchange contemplating the development of an emissions market are used as a case study to highlight some of the issues.

INTRODUCTION

Historically, the opportunity for economic growth and development has not co-existed peacefully with concepts of environmental preservation.

However, the last 10 years have seen a rapid shift away from the mutually exclusive positions traditionally held by environmentalists and developers, towards solutions which recognise the importance

* BA LLB; Corrs Chambers Westgarth, Lawyers.
** BSc, LLB (Mon), LLM (Melb); Corrs Chambers Westgarth, Lawyers.

of the role of the environment in facilitating ongoing growth, and permit development in an environmentally sustainable manner.

The movement towards sustainable development is reflected in the growth of "green markets". Colloquially used to refer to the purchase and sale of environmental derivatives, the notion of "green markets" covers a broad range of products including water, salinity and emissions. As a method of driving social change, the green markets operate by attaching an economic value to environmental issues via the financial markets. That is, in a similar way to securities and futures valuations, a monetary (and therefore also economic) value can be attributed to the environment. In a very real sense, this impacts upon the commercial bottom line and has led to some larger corporations implementing "triple bottom line" accounting.

"Green market" trading in emissions already exists in some jurisdictions outside Australia, most prominently in relation to sulphur, nitrous oxide and ozone emissions in some areas of the United States. However, in recent times attention has turned to the potential for trading as an economically efficient means of delivering reductions in emissions of carbon dioxide and other greenhouse gases. This is particularly so in Australia, where the country's existing high per capita levels of carbon emissions represents a difficulty in addressing climate change concerns.

BACKGROUND

The framework for emissions trading in Australia can be found in the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC). An international agreement to reduce the emission of greenhouse gases (GHGs) into the environment, the UNFCCC provides the fundamental building blocks on which the Kyoto Protocol (Protocol) is based. From a legal perspective this is important.

According to the UNFCCC, each party (including Australia) commits to adopt national policies and:

> "take corresponding measures on the mitigation of climate change by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs."[1]

Although the federal Government has not yet committed to ratifying the Protocol,[2] the Prime Minister has made several

[1] UNFCCC Art 4.2.

[2] Senator Hill has indicated publicly that Australia will ratify the Protocol once it has the support of the United States of America (address to the Joint Business Council of Australia and World Business Council for Sustainable Development Forum 2000 on 4 May 2000). Until the Kyoto Protocol is ratified, by at least the United States of America, it is unlikely that the other large emitters such as the USSR, and the EU will agree to reduce their emissions in the manner contemplated by the Kyoto Protocol.

statements outlining Australia's position on climate change[3] in pursuance of the objectives of the UNFCCC.

The consequence of the increasing importance given to climate change and emission reduction is that corporations such as Shell and BP Amoco, are investigating opportunities not only to reduce emissions, but also to generate additional income. Within this environment, the SFE and other organisations, including the International Energy Agency, have been closely examining the feasibility of setting up an exchange based market in GHG emissions.

Support for trading in GHG emissions is found not only in the provisions of the Protocol, which outlines the bones for the development of a carbon emissions trading scheme, but in the rapidly increasing number of OTC bilateral arrangements for the transfer of emission reduction benefits between parties within Australia and overseas.[4]

For the purposes of this paper, discussion will be limited to the development of market based systems in Australia for the trade in carbon.

THE KYOTO PROTOCOL

Although the position of the federal Government is that the Kyoto Protocol has not been ratified and therefore does not impose binding emission reduction targets on Australia or on Australian businesses, commercial organisations are examining ways in which they can mitigate the risk that this will change, and that they will be forced to reduce their emissions or face penalties. Most of these organisations look to the terms and conditions of the Protocol itself for guidance on the development of an emissions trading system.

The Kyoto Protocol is the dominant international instrument on emission reductions, and one of the most likely options for the provision of a worldwide emission reduction strategy. To develop an emissions trading system outside its framework would be difficult, and risk alienating those organisations who have already altered their position on the basis of the Protocol guidelines. On this basis, it is highly likely any emissions trading will occur in accordance with the Protocol.

What are the Relevant Provisions of the Protocol?

Article 3 of the Protocol imposes an obligation on the developed countries listed in Annex B to reduce their "anthropogenic carbon

[3] See specifically "Safeguarding the Future – Australia's Response to Climate Change".

[4] Two examples of this are Macquarie Generation's Green Warrants and Pacific Power's carbon credits.

dioxide equivalent emissions" of GHGs to the amounts specified in the Annexure. In the majority of cases, the specified targets are 8 percent below the 1990 base levels of emissions. Australia is the notable exception, with a target set at 108 percent.[5]

Because the Protocol provides for the calculation of a country's actual emission levels on the basis of its total *net* emissions, countries can meet their emission targets either by:

- an outright reduction in emissions; or
- offsetting emissions with:
  - activities deemed by the Protocol to constitute emission reductions (for example, the sequestration of atmospheric carbon into forest sinks); or
  - "credits" or "permits" purchased on market or OTC.

The flexibility of countries to design their own strategies for meeting emission targets is underscored by the emissions trading contemplated by the Protocol. According to Art 17: "Parties may participate in emissions trading for the purpose of fulfilling their commitments under Article 3."

Core components of Art 3 are:

- the obligation to meet determined emission reduction targets (set in the annexure);
- the capacity to offset emissions against removals of emissions by sinks, where the sinks eligible to be used as offsets result from direct human induced land use change and forestry activities (limited to afforestation, reforestation and deforestation); and
- the assessment of performance against emission targets to be made on the basis of net accrual of emissions and emission offsets.

Joint efforts to reduce GHG emissions can occur in several ways. Other than via trading, the Kyoto Protocol contemplates two methods of formal co-operation strategies for the generation of carbon "credits". These are Joint Implementation and Clean Development Mechanisms.

Article 6 of the Protocol enables developed countries to invest in emission reduction projects in other Annex B countries, and claim credit against those projects. These "credits" can then be used by the investing country to offset their own emissions and assist them in

[5] It is worth noting that Australia is widely recognised as having a large proportion of high emission intensive industries. Consequently the rate of emission reductions to be met by Australia is equal to or greater than those demanded of other Annex B countries.

meeting their own assigned target amounts. Colloquially these Joint Implementation "credits" are referred to as "JIs".

In addition to arrangements between two developed countries, Art 12 of the Protocol enables developed countries to invest in emission reduction projects in developing countries, obtaining "credit" for the reductions elsewhere and using those credits to meet their own reduction targets. These projects are referred to as Clean Development Mechanisms (CDMs).

Although many of the details of the JI and CDM schemes have yet to be fully developed,[6] some conditions have already been imposed on their use. In particular, these include:

- certification of emission reduction units (referred to as "ERUs") by operational entities designated by the Conference of Parties (CoP);[7]
- voluntary participation in JI or CDM schemes;
- all changes in emission profiles resulting from the project are to be "real, measurable and long term beneftis related to the mitigation of climate change"; and
- emission reductions must be "additional to any which would occur in the absence of the certified project activity".[8]

Participation in CDM and JI schemes can be by private or public entities.[9]

Trading under the Protocol

Trading in GHG emissions and offsets is clearly contemplated by the Kyoto Protocol. According to Art 17: "Parties may participate in emissions trading for the purpose of fulfilling their commitments under Article 3."

The core component of Art 3 is the obligation to meet determined emission reductions calculated on the basis of net accrual of emissions and emission offsets, including:

- the subtraction of any emission reduction units or any part of an assigned amount transferred between parties from the assigned amount of the transferring party under a JI project;
- the addition of any acquired CDM emission reductions to the assigned amount of the acquiring party; and

[6] AGO, *Greenhouse Sinks and the Kyoto Protocol*, Commonwealth Government, 2000.
[7] The UNFCCC provides for an annual Conference of Parties to discuss the implementation of the provisions of the UNFCCC.
[8] Article 12.5.
[9] Article 12.9.

- the offset of emissions against emission reduction via sinks (note that the eligible sinks are those resulting from direct human induced land use change and forestry activities (limited to afforestation, reforestation and deforestation).

Pursuant to Art 3, it is widely accepted that markets can, and will, be established to enable the transfer of emission reduction units (ERUs), CDM or JI credits, or emission permits (EPs) between corporations and between countries. In fact, in an effort to hedge against the potential liability should the Protocol actually come into force, a variety of organisations are trading OTC contracts in ERUs, CDMs and JIs.

The SFE and other participants in the financial services industry publicly acknowledge the importance of early emissions trading in offsetting the risk that emission targets are set and enforced, and identify the financial and economic opportunity these markets offer. Around the globe, simulated markets are already being trialed as countries and private corporations endeavour to find methods to meet market demand.

Establishing the Market

There are several basic attributes which contribute to the success of any exchange based market:

- high volume;
- high liquidity;
- price transparency;
- maximal return for a given risk; and
- low transaction costs.[10]

Although many of the attributes listed are a factor of market behaviour, the reality of the establishment of any market is that without a solid foundation, there will be no interest from either side of the market, and the market will fail. That is, the market must be constructed to reflect the needs of both the buyers and the sellers.

So – what does the market want?

According to the emissions simulations tested around the world, there are several critical factors which are essential to the development of the framework for exchange based emissions trading:

[10] H Outhred, et al, *Greenhouse Gas Emissions Trading Energy Market Reform, End Use Energy Efficiency and Financial Market Operation – a Discussion Paper*, 1999 at 20.

- government involvement should be minimal. Although required for the purposes of setting quotas, allocating capped emissions via permits or other mechanisms and providing regulatory monitoring and compliance services, government intervention should be kept to a minimum;[11]
- trading systems should be simple and designed to facilitate participation amongst a large number and broad range of market participants (this will also help create liquidity and volume); and
- appropriate monitoring and verification programmes should be implemented to ensure market confidence.[12]

The latter is emerging as one of the most critical issues in encouraging support for the market. Since a significant amount of the risk associated with emissions trading is concerned with the continued existence of the product, and the capacity of the promisor to make good on the promise, verification and compliance programmes will form the foundation of any successful trading regime.

Before assessing the options for the development of the mechanisms to support the market, it is important to identify what the market will trade.

The Product

Without the certainty of national or international legislative regimes, identifying a "right" capable of being traded is difficult. The immediate response of some commentators is to create rights in the form of real property. While this may be suitable for OTC trades, trading in real property would inhibit liquidity and volume in the market by imposing high administrative burdens on the transferor and transferee,[13] increasing transaction costs, and limiting the volume of product available in the marketplace.

Two of the critical aspects of any product to be traded on a market are fungibility and homogeneity.[14] Constraints imposed by onerous transfer provisions or jurisdictionally based legislation impinge upon a product's capacity to fulfil these requirements.

[11] This was a significant lesson learnt from the failed trades in the UK's Sulphur Dioxide trading regime where independent developments in the energy market resulted in decreasing sulphur dioxide emissions, alternative energy sources became much more economical, and the value of the product in the market rapidly decreased: S Sorrell, *Why Sulphur Trading Failed in the UK*, Science Policy Research Unit, Brighton, UK, 1998.

[12] C Sonneborn, *Overview of GHG Emissions Trading Pilot Schemes and Activities*, Australian CRC For Renewable Energy, Perth, 1999.

[13] Due largely to the need for registration of transfer in the relevant land titles offices.

[14] These two criteria assist in the differentiation between exchange based trades and OTC trades.

Real property rights differ between the state based jurisdictions on which they are based. Gearing a market around rights dependent on state legislation for their existence will split the national market into its component states and fragment market volume. The additional problems associated with the lack of fungibility and high costs of transaction are likely to inhibit the efficient function of a market in real property rights.

Although the creation of a product based on real property rights has the advantage of a high degree of certainty that the rights do in fact, exist, there is no point in having a strong product, if there is no market in which to trade it.

One alternative to the development of these rights as real property rights, is to create them in the form of a commodity. In a similar way to the markets established in wheat, wool, gold, oil, and even shares, can an emissions based instrument be created in the form of a commodity?

The actual substance being traded here is a relatively nebulous concept – a gaseous product, or more particularly, either the reduction in emissions of gaseous product (if the product being traded is an ERU generated via a JI or a CDM) or the absorption of gas from the atmosphere via sequestration. This by its nature, is differentiated from the other more traditional commodities currently being traded within Australia and around the world, because it is incapable of being delivered. In fact, delivery in some respects (particularly sequestration) violates the basis on which the product is created.[15]

Other options for the creation of this product, are to create the rights in the form of either a security or a futures product.

A Security

Without national or international legislation to provide an indication of the rights which will be capable of being traded, a final definition of the product is impossible. Instead, an assessment must be made on the basis of the current regulatory regime, with the specific definition of the product to remain as broad as possible to enable the inclusion of future rights, should they be created.

Until the Draft Financial Services Reform Bill (CLERP 6) is enacted, the relevant legislation for the purposes of assessing whether or not this product is a security, is the *Corporations Law*.

[15] Sequestration is the process of absorbing carbon from the atmosphere into trees. By harvesting the forest for "delivery", the carbon is released into the atmosphere again and no benefit is achieved.

According to s 92 of the *Corporations Law*, a security is basically a debenture, stock or bond issued or proposed to be issued by a government, shares in a body, or interests in a managed investment scheme.

The emission rights are clearly not interests or shares in any body, or in a managed investment scheme. If the right is either the right to emit a certain quantity of carbon, or to benefit from particular activities of a person or corporation in reducing their own emissions, then the rights have no resemblance to shares, debentures, stocks or bonds. They therefore fall outside this definition.

Section 92A of the *Corporations Law* operates to make those agreements which would not otherwise be securities into securities. It does this by providing that certain parts of the Law apply to particular relevant agreements traded on a stock market of a stock exchange. In order to fall within this provision, the agreements must be:

(a) entered into on a stock market of a securities exchange; and
(b) of a kind prescribed for the purposes of s 92A.

Prescription under point (b), is achieved via regulation. Applications must be made to the Australian Securities and Investments Commission (ASIC), and regulations drawn and drafted. Usually the exceptions provided under s 92A are reserved for agreements which are either of the same category as the securities defined in s 92, or are so close to them, as to be worth inclusion. At this stage, the exceptions prescribed in the regulations are limited to share ratio contracts. These do not bear any similarity to an emissions based product.

Futures

Like securities, the definition of futures contracts is found in the *Corporations Law*. Section 72 of the *Corporations Law* states that futures contracts include eligible commodity agreements, adjustment agreements, futures options and eligible exchange traded options.

Although these provide a relatively broad class of documents, the core difficulties arising when trying to create these products as futures contracts are:

- there is no index on which the value of the product is based. It cannot therefore constitute an adjustment agreement;
- there is no underlying product to provide a price indicator for this product, or to enable options to be granted. This means that the product cannot be an eligible exchange traded option, nor a futures option; and

- there is no delivery, nor potential delivery of the product itself. While this is not prima facie a problem for futures contracts since the vast majority of them are cash settled prior to delivery, the *Corporations Law* requires that delivery must at least be within the contemplation of the parties entering into the contract.[16] This causes problems in defining the product as an eligible commodity agreement.

There is an opportunity for the product to be defined as a futures contract if it can be construed to be delivered and settled at a future time, and if there can be some indication as to its value via either the development of an index, or an underlying market in the product. A strict interpretation of s 72 of the *Corporations Law*, as was afforded in the well known *Sydney Futures Exchange Ltd v Australian Stock Exchange Ltd & Australian Securities Commission* (LEPO) case,[17] suggests that the second limb of the definition of "commodity" includes an instrument evidencing a thing in action. The reference to an instrument, according to the judges in the LEPO case, includes a document evidencing a transfer, but does not include the subject matter of the transfer (in the LEPO case, this was a share).

There is little law in this area, and no products currently trade on any futures exchange in reliance on this limb of the definition. A further discussion on this area is beyond the scope of this paper.

Other

The definition of the product as a futures or security may cause difficulties for non registered exchanges wishing to establish a trading market. According to the *Corporations Law*, any organisation wishing to trade in either securities or futures contracts must have a licence to do so.[18]

If, however, the product is defined as something other than a futures or a security, the *Corporations Law* imposes no such restriction on its trade. Note that the situation is likely to be different under the new CLERP 6 legislation.

Developing the Market

In developing a market, one of the critical elements to consider is the identification and allocation of risk. Since risk impacts directly upon price, it is important that it is carefully assessed and allocated either to the seller or the buyer. The following discussion examines some of the

[16] Section 9 states that an eligible commodity agreement is a standardised agreement the effect of which is that a person is under an obligation to make or take delivery whether or not this delivery actually occurs.
[17] (Intervener) No NG807 of 1994 Fed No 86/95 Corporations (1995) 16 ACSR 148; 128 ALR 417.
[18] Section 767, *Corporations Law*.

risks associated with the development of an exchange based market and looks at the opportunities available to mitigate those risks.

Jurisdiction

One of the key criteria for the establishment of an efficient market identified above, is high liquidity and volume. Fungibility of product has a significant impact upon both of these, because unless the rights embodied in the product can be readily transferred between parties, sales stagnate, transaction costs increase and the market fails.

In order to be fully fungible, the product must be standardised. This means that there must be a common set of terms and obligations relating to the document which are capable of applying to the holder of the benefits of the product, regardless of their jurisdiction. As soon as the terms of the product change, the value alters and the size of the market varies. This impacts upon the integrity of, and demand for, the product.[19]

Within Australia, product standardisation has become an issue in respect of carbon sequestration. In New South Wales, the State Government recently passed the "Carbon Rights Legislation" – a State Act which makes carbon sequestration a form of real property right, capable of registration on land titles. Although the legislation clarifies the status of carbon sequestration in New South Wales, it differentiates the rights in that State, from those in any other. Trading only in the form of rights provided under the Carbon Rights Legislation would effectively limit the size of the market to New South Wales based participants.

The SFE is well aware of the adverse impact small numbers of market participants have on volume and liquidity. As a consequence, in the establishment of any market, including a market in carbon emissions/sequestration, every effort has been made to ensure that the product to be traded is not limited by jurisdiction – that is, that the product is not dependent upon State legislation for its existence, or its enforcement. In the case of exchange based products, fungibility is therefore achieved by creating a standardised contract, capable of transfer among a designated group of people – generally the members of the market. Any transfers outside this system, occur "off market" directly to another party under an OTC arrangement. The situation works well for most conventional products and removes the problem of having to make a promise to the world at large.

Therefore, providing the market is limited to a defined group of participants, there is certainty of contract. What then, if the market

[19] If the product has characteristics worth a particular value in one jurisdiction, but different ones in another, demand will vary across those jurisdictions, and the perceived worth of the product will alter.

intends to be expanded to the world at large? Under the Kyoto Protocol, carbon rights are ostensibly available to be traded amongst participants in a worldwide market. There are many advantages of expanding the market to be much broader than merely Australasian based. From a legal perspective however, the problems are numerous. In exchange based markets where fungibility of product is essential, different legislative regimes can wreak havoc with delivery and enforcement of contracts. In existing products such as currency, oil, or gold, internationally accepted standards create a legal platform for the creation of contracts.[20] If an international trading system is to be established in carbon, based upon a system similar to those existing for the current products, ratification of the Kyoto Protocol will be essential. Until then, early trades will realistically probably need to be limited to the national market.

Market access

There are many ways to restrict access to a market. These include legislation, market rules and threshold requirements.

Legislation

The *Corporations Law* restricts market access for the trade in futures contracts and securities, prohibiting the general public from trading onto either the SFE or the Australian Stock Exchange (ASX).[21] According to ASIC, this has the effect of ensuring both that the integrity of the market is maintained, and that those trading into the market are (ostensibly) fully informed by their brokers, of the risk they are being exposed to. This is particularly an issue in the Futures markets.

Since the carbon products discussed here fall outside the realms of the *Corporations Law*, these restrictions are unlikely to apply.

Market rules

Although the legislative restrictions on market access may be reduced, it is highly likely that commercial necessity will require the imposition of some market access thresholds, particularly to ensure integrity of the participants. In order to ensure participants have confidence in the market, it will be important that participants can show that they have the capacity to meet their commitments under the contracts they propose to buy and/or sell. In the Futures markets,

[20] See the United Nations Convention on International Bills of Exchange and International Promissory Notes (UNCITRAL) agreement for the recognition of bills of exchange and other financial arrangements.

[21] Although there is a substantial amount of advertising which suggests that end users trade directly onto the ASX, in fact all orders are routed through brokers.

exposure to the price fluctuations of open positions is pegged against credit lodged for margin exposure. As the price moves, so does the need for the participant to lodge more or less capital under the strict prudential requirements set by the SFE. Regular checks are made by the relevant compliance and enforcement departments of the SFE to ensure margin exposure is not greater than the financial guarantees.

In the first instance, carbon trading is likely to differ from the current futures contracts. Until a deriviatives market is established, trading will occur at the same point in time. That is, at the time the contract is formed, the subject matter of the contract will be passed from seller to buyer, and financial compensation provided. Similar complex and onerous prudential requirements will not therefore, be as essential, particularly if there is a requirement that participants provide full up front funding for the value of the contract they propose to purchase.

Prudential requirements are an important issue on the supply side of the market. In the carbon trading market particularly, buyers need to be certain that the product they are purchasing actually exists, and that if something occurs which impacts upon the existence of that product, the supplier has the financial capacity either to buy out the contract, or to buy sufficient alternative product from the market to secure their obligations under their own contracts.

On the proposed SFE carbon sequestration market, the SFE proposes to require all suppliers of sequestration “credits” (CSCs) to enter into a carbon deed with the SFE. This carbon deed will impose obligations on CSC suppliers to ensure that they maintain stocks of sequestration at or equal to, the value of their exposure on the market, and that set procedures be maintained for the monitoring and insurance of stock. Strict compliance will be enforced by ongoing monitoring and verification.

In addition to contractual obligations imposed on CSC suppliers, the SFE proposes to set specific rules for market access. On the supply side, there will be an obligation on suppliers to comply with the terms and conditions of the SFE market. Such a requirement gives market administrators a far greater degree of flexibility to respond to market demands as it evolves.

Regulation

The regulations which will need to be developed to cater for a carbon trading market in Australia are extremely widespread and beyond the scope of this paper. Suffice to say that it is essential that any exchange is governed by a specific set of criteria which provide certainty in the trading mechanisms and boundaries. Any regulatory

risk or uncertainty impacts negatively on the price the market will obtain for its products.

Compliance and verification

Independent verification is a crucial component of carbon trading. Since the product being sold is really the right to benefit from a process the seller promises they will perform, the purchaser must be confident that this process is being or has been carried out, or that the seller is capable of performing it.

Several organisations have been investigating the various verification alternatives. At this stage, there is no consensus on the preferred model, only that there are several key criteria which are required in any verification process. These include: independence of the verifier, capacity to have ongoing verification of the suppliers, monitoring and compliance processes for the verifiers, some background and understanding of the issues of measurement and supply of carbon from the verifiers. This is an issue which will need to be resolved before the carbon trading market progresses too much further.

Other

There are many other legal issues associated with the development of an exchange based market in carbon trading. These include the specific nature of the product, including the legal rights to it, the processes to be implemented to ensure the registration requirements of the Kyoto Protocol are fulfilled, tracking and transfer of legal title in the product, and capacity to enforce ongoing obligations.[22] Space limitations here do not permit further discussion of these issues, but all will need to be finalised prior to the commencement of a market in carbon trading.

CONCLUSION

Carbon trading is a new, innovative market which provides enormous opportunity for market participants to create value in, and benefit from, current assets or activities.

In order to set up a strong and active market, issues impacting upon the volume, size and liquidity of the market need to be

[22] It is still unclear whether trees over which carbon sequestration credits are to be claimed will need to remain in the ground for 50, or 100 years. This obviously has implications for trading and particularly, for the ongoing enforcement of obligations (IPCC Report on Climate Change and Carbon accounting).

considered and resolved. A large number of these issues concern legal and regulatory risks.

The SFE has recognised the importance of resolving these issues, and has already covered significant ground through its investigations into the options for establishing an early trade in carbon sequestration. There are many more legal and regulatory issues however which remain outstanding, particularly in relation to CDM's and JI's – both of which require the involvement of extra jurisdictional organisations for their existence.

Issues of jurisdiction and continued existence of product pose a challenge for anyone intending to establish a market in carbon emissions or carbon related products. Their resolution is essential prior to the creation of any exchange based market because market, regulatory and legal uncertainty pose an increased risk for market participants. Since the perception of risk is integrally related to the price purchasers are willing to pay for a product, any additional risk will cause a drop in the value of the product being traded, with the end result that the market will fail.

By taking proactive steps to identify and resolve the issues identified prior to the establishment of an exchange operated market, participants will be provided with the maximum opportunity to benefit from the type of market liquidity, price transparency and higher volume characteristic of exchange based trading in the carbon emission market.

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