

AETF *review*

Australasian Emissions Trading Forum

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EU Trading – the core of a global market?

A feature article in this issue is a report by Prof. Frank Convery on the Europe-wide emissions trading scheme that has recently been approved by the European Parliament.

An initial two year pilot phase will start in 2005 with full operation from 2008. Allowing for the expansion of the EU and links with non-Union countries in Europe, 30 countries could be directly involved by 2012 leaving only six Annex 1 (developed) countries outside the scheme.

Further market consolidation could occur through a provision that allows for the EU to conclude agreements with other developed countries that are parties to the Kyoto Protocol. This would involve mutual recognition of allowances between the EU scheme and other emissions trading schemes.

The scheme also allows possible linking with the Kyoto mechanisms, CDM and JI, providing added incentive for European companies and developing country partners to collaborate on emission abating projects.

This European development is significant for several reasons. It is by far the most extensive trans-national emissions trading scheme planned and as such will inevitably form the core of any global emissions market. While the scheme is designed to be fully Kyoto compatible it is not dependent on the Kyoto Protocol for its operation. An adapted version would proceed even if the Kyoto Protocol fails.

For Australia, with its diverse range of state and federal greenhouse policies and market instruments currently in place, the EU progress in moving multiple jurisdictions towards a common market solution could hold some useful lessons. TB

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AETF-CRCGA Seminar

How should Australia be positioning itself to remain competitive in the future when emission constraints seem inevitable. Both government policy and corporate strategy will be important. The next AETF seminar, organised in collaboration with the CRC for Greenhouse Accounting, will explore the way ahead. *page 8*

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EU Emissions Trading Developments

Frank Convery, University College Dublin

The Emissions Trading scheme to be implemented in the European Union from January 1 2005 will be the first trans-national greenhouse gas emissions trading scheme in the world.¹ With the participation of the European Economic Area [EEA] countries and with the forthcoming EU enlargement, 30 countries could be involved in this scheme by 2012.

Scope and competition

In the pilot phase (2005-2007) trading will be confined to carbon dioxide emissions from power station installations in excess of 20 MW (except incinerators), oil refineries, smelters, manufacture of cement (> 500 tonnes per day), ceramics including brick, glass, and pulp, paper and board (>20 tonnes per day). These sources will comprise 4000 to 5000 installations.

The sources to which the draft Directive applies will account approximately for 46 per cent of carbon dioxide emissions in 2010, and 38 per cent of total greenhouse gas emissions in that year. It is envisaged in subsequent periods that the range of activities included will be widened, and the other greenhouse gasses will be included.

The 'Opt Out' provision

Unfortunately, the scope has been potentially narrowed by two provisions. The first of these is the 'opt out' provision (Article 27). Although trading will start in 2005, individual installations or economic activities can be exempted from emissions trading during the first period of the scheme, to 2007. The potential damage of this provision is limited by two considerations - first it lapses in 3 years, and secondly, firms opting out have to meet the same performance requirements as participating firms.

The 'Pooling' provision

Member States may allow operators of installations carrying out one of the activities listed in Annex I to form a pool of installations from the same activity for the 2005-2007 period of the trading scheme and/or the first five-year period (Article 28). Operators wishing to form a pool shall apply to the competent authority, specifying the installations and the period for which they want to "pool". The running of the

pool shall be carried out by a trustee who will be nominated by the operators of the installations who wish to form a pool.

Depending on the extent to which this provision is taken up, and how it is implemented, it could be very damaging to competition and to the proper functioning the market. Given that this 'pooling' provision was 'driven' by the German representation on the Council of Ministers, and that it accounts for close to 25 per cent of the total market, this potential certainly exists. The fact that a pool does not automatically lapse after the first three years - it can continue for a further 5 years - is an additional cause for concern. However, the good news from an economic perspective is that the European Commission with support from the European Parliament fought successfully to ensure that individual companies could 'opt out' which means that it would be very difficult in practise to maintain a cartel where the price obtainable within the pool was different from the wider EU market price.



Expanding scope, and linking with other schemes

Of particular interest to Australia and New Zealand is the provision that the Community may conclude agreements with third countries listed in Annex B of the Kyoto Protocol that have ratified the Protocol. Such agreements would facilitate the mutual recognition of allowances between the Community trading scheme and other greenhouse gas emissions trading schemes. (Article 25).

Within the current 15 Member States, there is a broad balance between the amount of allowances that those countries that are over-shooting are likely to need, and the surpluses expected to be

¹ See draft Directive at <http://europa.eu.int/comm/environment/climat/030723provisionalttext.pdf>



generated by Germany and the UK. The Accession States – scheduled to become full members of the Union by mid 2004 - will on balance bring some ‘hot air’ to the market place, so there will be downward pressure on prices, very tentatively expected to reach an equilibrium in the range of €5-10 per tonne of CO₂e. The actual outcome will depend on how the various actors behave strategically, and whether and to what extent opt out and pooling are taken up.

If prices are low, this could encourage Australia to ratify, and then possibly link its trading scheme to the European one. New Zealand as a ratifier may also consider linkage.

Linking to Clean Development Mechanism and Joint Implementation

There is provision for an additional ‘amending’ Directive allowing linkage of project-based Kyoto mechanisms including Joint Implementation (JI) and the Clean Development Mechanism (CDM) with the Community trading scheme. Current (August 2003) indications are that there will be a cap on the proportion of such allowances, which can be integrated into the EU Trading scheme. This provision will be of interest to countries in Asia and elsewhere that have not accepted a cap, but have ratified and can avail themselves of JI and CDM provisions.

Administration and transaction costs

Excess emissions penalties—Where an operator does not surrender sufficient allowances to “cover” his emissions by 30 April of each year, he shall be liable for the payment of an excess emissions penalty. The excess emissions penalty shall be €100 for each tonne of CO₂e emitted by that installation for which the operator has not surrendered allowances. However, for the first three years of the scheme, beginning 1 January 2005, the penalty shall be lower. The penalty incurred during this period shall be €40 for each tonne of excess CO₂e emitted.

Payment of the excess emissions penalty shall not release the operator from the obligation to surrender an amount of allowances equal to those excess emissions when surrendering allowances in the following calendar year.

Banking and borrowing—Allowances shall be valid for emissions during the period for which they are issued, i.e. the first three-year phase (2005-2007) or the subsequent five-year periods. Banking within the relevant period is permitted, but not borrowing.

National Allocation Plans

Allowances will be free, although Member States may charge by auction or otherwise for up to 10 per cent in the pilot phase and 15 per cent in the next 5 year commitment period (2008-2012). Member states must notify the Commission as to the total quantity of allowances it intends to allocate, and how it proposes to allocate them, with the Plan to be published no later than March 31, 2004. According to Annex III (Criteria for National Allocation Plans) the allocation of allowances must be consistent with the technological potential of installations to reduce emissions, and the projected and actual assessment and progress towards fulfilling the Community’s commitments. No allowances should be allocated to cover emissions which would be reduced or eliminated as a consequence of Community legislation on renewable energy in electricity production. Also there should be no discrimination against or in favour of particular companies or sectors.

Review and further development

Based on the progress achieved in the monitoring of emissions of greenhouse gases, the Commission may make a proposal to the European Parliament and the Council by 31 December 2004 to amend Annex I to include other activities and emissions of other greenhouse gases listed in Annex II.

Conclusions

The European Emissions Trading Scheme is a very significant step in reducing the compliance costs within the EU of achieving the Kyoto targets, and in giving real institutional expression to a Europe-wide philosophy and practice as regards global warming. Its voluntary nature with ‘opt out’ and the ‘pooling’ provisions will weaken it somewhat, in that coverage and therefore range of marginal abatement cost opportunities will be reduced and possibly competitiveness will be damaged. However, the damage is limited by the ‘equivalent effort’ requirements, and particularly by the opt out provisions for individual firms re pooling. There will be significant additional administrative costs as a result of the need to allocate the free allowances. But overall it creates a framework and an opportunity for the development of global market opportunities.

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CDM and the Additionality Question

Frank Jotzo, CRES, ANU

The Kyoto Protocol's Clean Development Mechanism (CDM) rests on a straightforward principle: a CDM project can only earn emission offset credits if it results in lower greenhouse gas emissions than would otherwise have been the case – in other words, it has to be additional. But the concept of additionality can be interpreted in more ways than one, and project developers are questioning whether additionality should mean a project would not have come into existence without the CDM.

Additionality: a bone of contention

This is shaping up to be the biggest bone of contention as the first projects are submitted for approval. While some argue that strict additionality screening could kill the nascent CDM, others fear that without stringent checks the CDM could be used by free-riders to relabel business-as-usual activities as greenhouse projects, reducing the effectiveness of the Protocol. Potential host countries have doubts about the value of the CDM to them if it were to only subsidise projects that would have happened anyway.

Executive Board interpretation

The CDM Executive Board (EB for short – the UNFCCC body charged with overseeing the CDM) applied a strict interpretation of additionality when it recently assessed the first batch of baseline methodologies submitted for prospective CDM projects. Based on technical assessments by the CDM Methodology Panel (Meth Panel), the EB so far has accepted only two of 16 methodologies submitted. Five were recommended for changes and resubmission, and nine were rejected (but may be resubmitted). Projects cannot get CDM accreditation unless they use an approved methodology, and the fate of some of the projects appears unclear.

Determining additionality

The Meth Panel at its July meeting identified two different interpretations of additionality used in the proposed methodologies:

Interpretation 1: *“Without the ability to register under the CDM, the proposed project activity would be, or would have been, unlikely to occur.”* The term ‘project additionality’ has been used in the broader debate for this concept.

Interpretation 2: *“If the proposed CDM project activity is not implemented, a less greenhouse gas friendly activity would have been initiated or be continued instead.”* This concept is often referred to as ‘environmental additionality’.

The crucial difference is whether or not CDM registration is necessary for achieving emissions reductions. For example, under the second interpretation a renewable energy project in a non-Annex B (developing) country might be accredited simply because it results in lower emissions than a fossil fuel based alternative. Under the first interpretation by contrast, the proponents have to demonstrate that without the CDM, the renewable option would be unlikely to go ahead.

The Meth Panel recommended that only the first interpretation be used. Consistent with this perspective, failure to show that the project activity is different from the baseline was an important reason why methodologies were rejected.

Rejections

The methodologies rejected by the EB in June 2003 were for the following projects (investors in brackets):

- ‘V&M’ fuel switch project in Brazil (Netherlands/Japan)
- ‘El Canada’ hydro project in Guatemala (World Bank Prototype Carbon Fund (PCF))
- ‘Penas Blancas’ hydro project in Costa Rica (Netherlands)
- Methanol plant in Trinidad and Tobago (Germany)
- Several aspects of a bioenergy project using rice husks in Thailand (Japan).

In all cases, failure to substantiate that the project activity is not the baseline scenario is among the reasons for rejection. Other reasons include problems with data, monitoring techniques and explanation of the methodologies.

A closer look at the ‘V&M do Brasil’ fuel switch project can shed light on the Meth Panel evaluation. V&M is the largest CDM project currently on the drawing board, aiming to generate emission offsets of 20.5 Mt CO₂e over



21 years to be sold to the Dutch government and the Toyota Tshusho Corporation of Japan for around €3/tCO₂e. The project aim is to avoid a switch to coking coal for the production of steel in a Brazilian plant, by continuing the current practice of using charcoal from tree plantations. Net direct emissions from charcoal are zero because any carbon released is subsequently re-sequestered in the steel mill's plantations.

The baseline methodology for the V&M project was rejected for several reasons, including doubts about whether the project activity (continued use of charcoal) is not indeed what would happen anyway, rather than the switch to imported coke claimed as the baseline. The reviewers pointed out a number of facts that contradict the project's claim to additionality and that were not adequately investigated as part of the baseline methodology: There has not been a convincing trend away from charcoal in Brazilian iron production; investment in charcoal-based steel plants in Brazil continues, with a large new plant to be built; and a recent exchange rate drop has made imported coke uncompetitive.

Depending on which standard is adopted for additionality, this type of CDM project may not get approval. This could also affect the largest project in the PCF's portfolio, Plantar, which also aims to support the continued use of charcoal in Brazilian iron production and uses the same baseline methodology.

Reactions and implications

Reactions have ranged from fears among project developers and validators that the decisions are 'killing the CDM softly' (PointCarbon) by delaying projects, increasing transaction costs and scaring away private investors, to satisfaction among the NGO community that 'the approval process will not be a rubber stamp' (CDMWatch).

Some experts have argued against project additionality tests because they believe the additionality issue cannot be resolved at the technical level, but should be resolved politically instead. Project developers are calling for practical tools and see the standards required by the Meth Panel as unrealistic. Meanwhile, NGOs and some academics have argued that determining additionality for each project is essential, because awarding tradable emission offset credits to business-as-usual projects means that some other abatement activity somewhere else will not take place – thus siphoning funds away from projects that need them and resulting in higher emissions globally.

Despite fears that a strict interpretation of additionality could stifle the CDM market, stringent standards may well be in the interest of CDM host countries. If credits are awarded to projects that would be implemented anyway, this can bring financial gains if host countries share in the proceeds from selling the emission offset credits, but there is no additional economic or environmental gain, nor extra transfer of technology. Chinese government officials recently stressed that additionality is at the heart of their concerns about the CDM. They voiced concern that opportunities for China to obtain financial support and new technologies could be spoiled and that the CDM market could collapse, if there are too many non-additional projects.

The national authorities of host countries could set more stringent standards for project approval domestically, but they would risk cutting themselves off from the CDM market if lower standards apply in other countries.

Message to project developers

The rejection of methodologies, including for large projects by the funds of the Dutch government and the World Bank, sends a strong signal to investors and developers about the standards their projects have to live up to: they have to demonstrate that their projects are unlikely to be implemented if it were not for the CDM. Consequently, there will probably be little scope to use the CDM to top up the bottom line of projects that have positive greenhouse implications, but that would go ahead anyway.

This also has implications for Australian companies, who could conceivably build on their existing linkages in the Asia-Pacific region to engage in CDM project development, certification and monitoring, and capacity building even without (or before) Australian ratification of the Kyoto Protocol.

How the recent additionality rulings affect the overall viability of the CDM remains to be seen, and the EB may still change its approach. Strict screening for genuine greenhouse projects is certainly desirable on grounds of principle. However, demand for emission offset credits is likely to be weak in the first Kyoto commitment period, chiefly because of US (and Australian) refusal to ratify. This creates pressure to lower the bar for the CDM, in order not to choke early participation by developing countries.

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Lessons for Environmental Markets

Karel Nolles, Australian Financial Markets Association



Environmental markets have generally been implemented by different government agencies from those traditionally associated with the oversight and management of other markets. This has meant that some key lessons from the design and performance of major established markets have not been heeded in the design of many environmental markets.

This is particularly true in respect of the need for surveillance and regulation, and the importance of interactions between primary and secondary markets, and between spot and forward trading.

Surveillance & regulation

It is sometimes claimed that markets should be left alone in order to be efficient. In reality the author cannot identify a single major commodity or financial market in which that is the case, and for good reason. Consider these examples:

- Stock exchanges conduct rigorous market surveillance, and have complex trading and dealing regulations
- Foreign Exchange markets are subject to market interventions by global central banks
- Monetary Policy is implemented by Reserve Bank intervention in the money market
- Financial markets generally are subject to regulation – prudential and otherwise – by bodies such as APRA, ASIC and the RBA.

The theoretical benefits of using markets to implement environmental policy rest on the assumption that the market is efficient. This is also the bedrock upon which public and participant acceptance of market based schemes rests.

If an environmental market becomes characterised by abuse of market power, illiquidity, or predatory behaviour, then the environmental benefits may be lost, and even if they are maintained, the “good-will” of the public and of market participants will certainly be damaged. This may lead to public calls for the use of a market to be abandoned, in favour of returning to some other more “traditional” approach.

So, key lessons to be drawn include:

- Policy makers who are implementing environmental markets must consider who will monitor the market they create, how it will be monitored, what data should be collected, and how they will act if market manipulation or other market pathologies are identified.
- Markets are not “set and forget” exercises.

Primary & Secondary: Spot & Forward – a witch’s brew of interactions

The “market” is an interwoven set of transactions, not just physical trading of a defined environmental instrument.

To understand the inter-relationships, consider as an example the Commonwealth Government Securities (CGS) market. The issuance of Government Bonds and Treasury Notes is the main mechanism by which the Federal Government raises debt funds. These tenders are the *Primary Issuance Market* (or *Primary Market*).

Once issued the CGS are subsequently traded amongst banks and other investors – referred to as *Secondary Trading* – that is, trading of an existing instrument. Using 2001-02 data, on average each outstanding bond was traded 8.6 times in the secondary market.

As well as the secondary trading of existing CGS instruments, both *Futures* and *Forward* Contracts (and various other types of derivatives) based on CGS are also traded – the most liquid being the 90 day, 3 year and 10 year Bonds contracts. These contracts allow for CGS to be purchased for a known price at a future date.

Because of the highly liquid nature of the CGS secondary and derivatives markets, both the RBA and all market participants can be highly certain of the expected results that will be achieved in an upcoming primary issuance tender.

Impacts of the lack of viable secondary market on the primary issuance

As argued by Montgomery¹ (in one of the

¹ Montgomery, W.D. (1972), Markets in licenses and efficient pollution control programs, *Journal of Economic Theory*, 5: pp. 395-418.



seminal papers on the use of environmental markets), in a perfect market the initial allocation of environmental “credits” should make no difference to the final equilibrium achieved after secondary trading has occurred.

This provides an environmental market with a real political benefit compared to imposing taxes or standards to achieve a given environmental outcome, since it allows the “credit” allocation process to be tailored to attracting support to the trading scheme from potential “losers”, without impacting on the efficiency of environmental aspects of the policy.

However in real environmental markets, the initial allocation really does matter, since the secondary market is not generally sufficiently developed to achieve the equilibrium allocation in a reasonable period of time.

The absence of a well functioning secondary market also presents a number of problems in terms of the primary market design. In particular:

- If there is a “thin” secondary market it is very difficult to quantify what a “market price” for the commodity may be. This then makes it difficult for the bidders in a primary issuance market to calculate their bids.
- Knowing this, at least some bidders tend to under-reveal their genuine valuation of the good, because of the uncertainty surrounding that valuation.
- If the primary issuance is in the form of an auction (as is often proposed for various carbon emissions trading schemes), this under-revelation means that the allocation achieved leaves “gains of trade” unachieved (i.e.: The credits aren’t sold to those who really valued them the most).

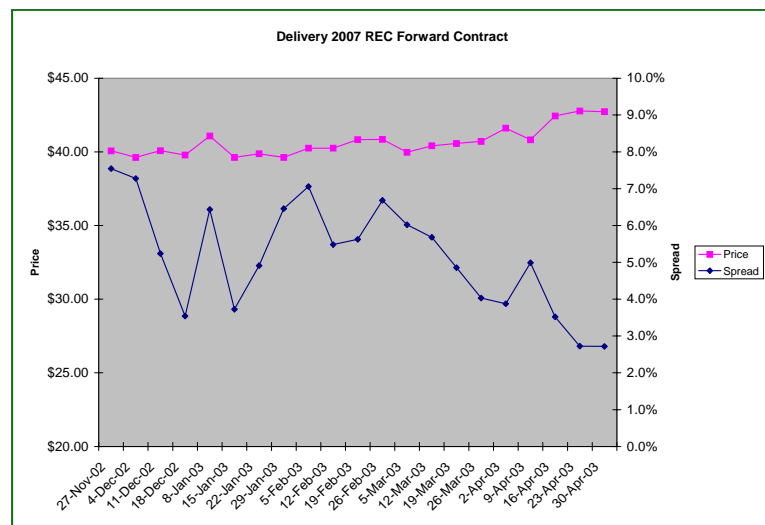
This implies that, where the environmental market design is such as to involve some kind of primary issuance (such as for example, issuance of “emissions permits”), the design of that issuance process must take close account of the volume and type of secondary and forward trading that is occurring.

Primary, secondary and forward trading in the MRET

Let’s briefly consider the performance of the MRET market. Turnover in both the secondary

market and the forward trading of RECs, currently totalling about twice primary issuance, would have to increase considerably to approach the derivative to physical turnover ratios seen in other more developed markets.

However there are a number of reasons to believe that, from a low base, a viable forward market for RECs is developing. The following graph shows the Mid-Price and Bid-Offer spread² (as a percentage) for a forward contract for settlement in 2007 on a weekly basis since the AFMA Environmental Products Revaluation Curve commenced in late 2002.



It is clear that while the price has been relatively stable on a week to week basis, the spread has decreased. As a general rule a lower spread is an indicator of a better-informed and more liquid market. (Spreads in large financial markets, such as foreign exchange, are typically fractions of a percent, so the MRET market has a long way to go before it can be described as “liquid”.)

It is interesting to note that longer-term contracts are significantly less liquid than those for shorter periods. The author would suggest that at least part of the reason is that Regulatory Risk is impacting negatively on participants’ willingness to enter long-term contracts.

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² The difference between the price at which a market participant is prepared to buy and that at which they are prepared to sell.





AETF—CRC GA Seminar

“Positioning Australia for the Emission Constrained Future”

How should Australia position itself to remain competitive under the greenhouse gas emission constraints that seem inevitable in the medium and long term? Both government policy and business strategy will be critical.

The AETF is collaborating with the Cooperative Research Centre for Greenhouse Accounting (CRCGA) to present this seminar to be held in Melbourne on 9 September 2003. The seminar will assess directions for Australian greenhouse policy and corporate strategy in the context of medium term international policy and market developments.

Key presenters include:

- **Mr Roger Beale**, Secretary of Environment Australia
- **Mr Chris Langman**, Australia’s Ambassador for the Environment
- **Mr John Buttle**, Senior Partner, Ernst & Young
- **Ms Tricia Caswell**, Executive Director of the Global Sustainability Centre at RMIT
- **Dr Harry Schaap**, Assistant Director, Electricity Supply Assoc. of Australia
- **Dr Chris Mitchell**, Chief Executive of the CRC for Greenhouse Accounting
- **Dr Tony Beck and Mr Malcolm Gray**, from the Aust. Emissions Trading Forum
- **Mr Tony Wood**, GM Govt. and Public Affairs, Origin Energy

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