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***Carbon Credit Markets
– The Domestic Option***

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Carbon Credit Markets - The Domestic Option

Abstract

The New Zealand Government has been proactive in the establishment of the Projects to Reduce Emissions Programme (PRE), under which carbon credits are awarded in return for greenhouse gas emissions abatement.

Through this programme 10 million carbon credits have now been awarded

For those projects developers who have been awarded carbon credits, the challenge is how best to realise the value for them. To date the opportunities have focussed on the international carbon credit markets but these can be burdensome for even the biggest firms.

We have studied the option of a domestic market for emission units with linkage into the Government's Negotiated Greenhouse Agreement (NGA) policy. Although likely to be small this market may be an ideal outlet for smaller PRE project developers and NGA firms.

Flexibility on minimum project size and lower transaction costs are likely features of trades in a domestic market

It is found that the domestic Climate Change Policy as implemented through PRE and NGA agreements creates potential barriers to establishing this domestic market. These include the Climate Change Office's interpretation of a Grey Market in the PRE agreement and its right to declare a Functioning Market in the NGA agreement.

It is concluded that a domestic market is required to provide a flexible trading option for many of the project developers awarded carbon credits. In the absence of such a market it should be expected that some or all of these "economically additional" projects will not be completed.

The Author:



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Stuart is a director of Frazer Lindstrom Limited.

He has more than 20 years international energy sector experience.

Past achievements include the negotiation of the first ever NZ Negotiated Greenhouse Agreement (NGA) on behalf of NZ Refining Co Ltd.

In the 2003 Projects Mechanism tender round he advised a successful wind farm developer and legal firms on policy & contractual matters.

He is currently providing strategic advice on NGAs and wider climate change policy to clients in the energy, manufacturing and legal sectors.

Introduction

NZ awards 10 million carbon credits

The New Zealand government has been proactive in the establishment of the Projects to Reduce Emissions Programme (PRE), under which carbon credits are awarded in return for greenhouse gas emissions abatement.

Through this programme 10 million carbon credits¹ have now been tendered (4 million in 2003 and 6 million in 2004)².

The award of credits is made through a tendering process, where bidders must provide information supporting the case that the project would not go ahead without the additional revenue that carbon credits would provide – the economic additionality test.

Getting value for them is complex

For those projects developers who have been awarded carbon credits, the next challenge is how best to realise value for them. To date the opportunities have focussed on the international carbon credit markets but these can be burdensome for even the biggest firms. Reasons for this are explored.

This paper presents the case for an alternative; a domestic market with linkage into the Government's Negotiated Greenhouse Agreement policy.

In exploring this alternative, the domestic Climate Change Policy is reviewed and potential barriers to establishing a domestic market are identified.

The International Market

To date much of the focus in New Zealand has been on tapping into the international carbon credit markets.

The Government's Role

Government promotes sales to international markets

The New Zealand Climate Change Office (CCO) has been proactive in promoting sale of New Zealand carbon credits internationally. Examples include:

- Signing of emission trading co-operation agreements with Dutch and Austrian Governments; and
- Acting as a portal for information on international buyers seeking Carbon Credits:
 - ABN-AMRO bank;
 - Carbon Market Solutions (acting for a UK Buyer) Joint Implementation (JI);
 - Dutch Government : ERUPT JI tender scheme;
 - J-Power Electric Power Development Co Ltd seeking JI co-operation opportunities;
 - KfW Bank Group Carbon Fund Project (Germany) JI/CDM; and
 - KommunalKredit (Austrian Government) JI/CDM tender.

But how available and suitable are international markets for New Zealand projects?

¹ One carbon credit is equivalent to 1 tonne of CO₂. The carbon credits available are Assigned Amount Units (AAUs) or Emission Reduction Units (ERUs).

² In April 2003, ahead of PRE being established, Trustpower and Meridian were awarded carbon credits for wind farms which would "deliver up to 1 million tonnes of CO₂ savings" over 5 years.

Suitability of NZ projects to International Markets

Many NZ projects are not suited to International markets

For many of the New Zealand project developers awarded carbon credits under PRE international markets may be unsuitable or even unavailable. This is due to the following factors:

1. Project Size

Project Size is a key factor with a clear mismatch between the PRE policy and international buyer requirements:

- In the PRE 2003 and 2004 tender rounds a minimum size criteria of 10,000 tonnes CO₂ abatement over the 5 year period 2008-12 (Kyoto Protocol Commitment Period 1; CP1) was set; however
- The minimum project size required by the Dutch ERUPT JI Tender and Carbon Market Solutions' UK buyer is 250,000 tonnes CO₂ over CP1. KFW Bank indicates that it also would usually not accept projects below this size.

Reviewing PRE 2003 tender round results (refer Table 1 below), only 5 of the 15 projects would meet this minimum size criterion. Indeed 4 projects of the 15 were awarded fewer than 20,000 carbon credits, less than one tenth of the typical international market requirement.

Table 1: 2003 Projects to Reduce Emissions tender round - Successful Projects

Project Owner	Project	Emission Units Awarded
New Zealand Refining Company Ltd	Electricity and steam co-generation project	1,225,545
Mighty River Power Ltd	Rotokawa geothermal electricity generation project	790,923
New Zealand Windfarms Ltd	Te Rere Hau wind farm project	519,000
Wainui Hills Wind Farm Ltd	Wainui Hills wind farm project	378,000
Genesis Power Ltd	Awhitu Peninsula wind farm project	279,864
TrustPower Ltd	Landfill gas to electricity project	233,743
Palmerston North City Council	Awapuni landfill project	149,006
Genesis Power Ltd	Hydro scheme enhancement on the Tongariro Power Development	107,013
TrustPower Ltd	Waipori hydro project	103,800
Southern Paprika Ltd	Bio-energy plant project	58,824
Genesis Power Ltd	Extension to the Hau Nui wind farm	50,550
Fire-Logs (NZ) Ltd	Manufacture and sale of wood pellets	19,818
Esk Hydro Power Ltd	Toronui mini hydro scheme	12,000
Watercare Services Ltd	Mini hydro-electricity generation projects	10,829
TrustPower Ltd	Taranaki hydro project	10,458
Total Emission Units Awarded		3,949,373

source: NZ Climate Change Office

NZ Projects can be only 10,000 tCO₂ but many International buyers seek 250,000 tCO₂

In the PRE 2004 tender round, 6 million carbon credits divided over 24 projects have been awarded; a mean size of 250,000 tonnes CO₂ per project. Based on the media statement that "the successful projects include large and small organisations in both the private and the public sectors", it is probable that there will be a significant variation in project size with many again falling below the size threshold commonly applied in international trades.

This size threshold is typically driven by high transaction costs, which are largely independent of carbon credit volume.

2. Counterparty Risk

International buyers assess the financial and technical standing of the seller. In many cases these requirements will rule out small and/or recently established sellers.

3. Transaction Costs

The transaction costs of selling carbon credits internationally can be very significant. Elements include:

- External baseline validation (JI requirement as most buyers are seeking ERUs.)³ ;
- Bid document preparation including Project Design Document (if tendering)⁴ ;
- Legal Advice on contract documents; and
- Brokerage Fees (where a broker is used fees are based on a percentage of total value i.e. price*volume). Brokers are often engaged on direct trades. JI documentation requirement costs remain with the seller.

4. Internal Resource Availability

Even if some activities are outsourced, the resource requirement to manage the sale of carbon credits internationally is substantial.

5. Penalties

Some international buyers place punitive penalties on non delivery of carbon credits. For projects at an early stage in development, forward sale of carbon credits would be ill advised.

6. Legal Issues

The agreement will typically be under the buyer's legal jurisdiction. In some cases international arbitration is provided for. As a result the risk exposure for small firms may be too high.

In summary these factors mean that for many PRE awarded projects, the international market as it currently exists is inappropriate for all but the biggest projects and/or the biggest firms.

A domestic market may meet the needs of those remaining.

³ On top of the project developers own costs of preparation of baseline and external validation, the PRE contract clause 10.1 states that the Participant (Project Developer) must reimburse any costs the Crown incurs to meet its Kyoto Protocol Article 6 verification requirements.

⁴ As an indication of the cost of preparing a proposal, under ERUPT-5 a lump sum of €37,500 is reimbursed if the bid passes the 1st stage of the selection process. This is intended to be only a partial contribution to the overall cost.

The Basis for a Domestic Market

Trading is a future option but focus is on an emissions charge

The New Zealand Government confirmed its Climate Change policies in October 2002. Among these is the introduction of an emissions charge that will be in place for the first Kyoto commitment period (2008-2012) at a level that will approximate the international price of carbon but capped at NZ\$25 per tonne of CO₂.

The Government has also indicated that it will retain the option of introducing domestic emissions trading as an alternative to an emissions charge if the international carbon market is functional and the price is reliably below the NZ\$25 cap.

The present situation, based on the ongoing consultation between the CCO and industry, is that the Government is still focussing on the introduction of the emission charge.

Even with the emissions charge policy going ahead, the foundations for a limited domestic carbon trading system are in place through the Negotiated Greenhouse Agreement (NGA) Policy.

Negotiated Greenhouse Agreement (NGA) Policy Background

NGAs prevent carbon leakage

The Negotiated Greenhouse Agreements (NGA) policy was established to prevent the risk of economic production moving (or 'leaking') from New Zealand to countries with less stringent climate change policies. Such leakage could occur if the emissions charge reduced the international competitiveness of some firms or industries relative to producers in other countries, which do not face similar climate change requirements. This is often also referred to as "carbon leakage".

NGAs comprise a contractual commitment by the firm or industry to reduce emissions intensity to World's Best Practice (WBP) levels, in return for relief from all or part of the emissions charge.

The only NGA to date was concluded in April 2003 with The NZ Refining Company Limited (NZRC).

Applications to negotiate an NGA have been received from a dozen other firms. Those with confirmed eligibility to negotiate are Newmont Waihi Gold Mining Company, Norske Skog Tasman, OceanaGold, ACI Glass Packaging New Zealand, New Zealand Aluminium Smelter, Silicon Metal Industries, and Fletcher Building and Carter Holt Harvey's key manufacturing operations. Other eligibility decisions are under consideration and more applications for eligibility are anticipated.

It is estimated that some 20+ firms or industry bodies will seek NGAs⁵ with greenhouse gas emissions covered through NGAs exceeding 10 million tonnes CO₂-e per annum.

⁵ This number may be too low as it is understood that the number of initial expressions of interest to Government on NGAs was significantly greater.

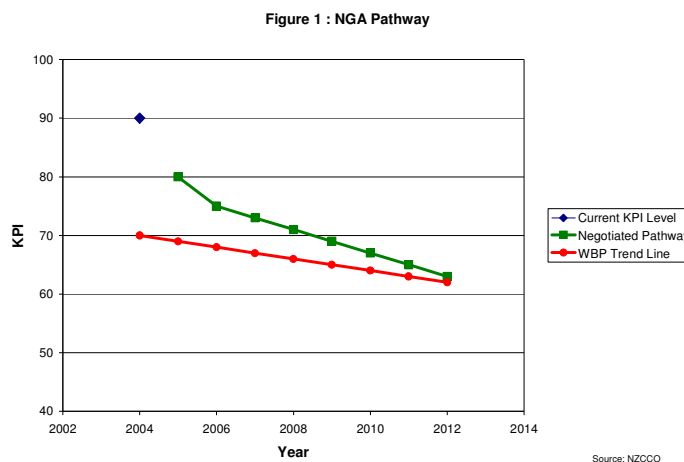
NGA firms make emissions management commitments

NGA Policy Specifics as they relate to Emissions Trading

In an NGA a firm commits to being on a pathway to Worlds Best Practice (WBP) in emissions management. At an early stage in the policy development it was recognised by the Government that so called “flexibility provisions” including “unders and overs” trading should be included. This provision was included in the Final Policy for NGAs and was signed off by Cabinet on the 9th of April 2003⁶. It was enacted in detail in the NZRC NGA⁷, and subsequently in the NGA Model Agreement⁸ released by the CCO.

The manner in which this flexibility provision operates is summarised below:

- A firm commits to a pathway towards WBP, typically expressed as a Key Performance Indicator (KPI) in energy intensity terms. This is illustrated in Figure 1 below:



- This pathway is then translated into emissions and assessed at a milestone date.
- If the firm has been above the pathway it will have excess emissions that it has to remedy.
- Similarly if it has operated below the pathway it will have a credit position for which value can be obtained.

Full details of how these flexibility provisions operate are detailed in Clause 7 of the CCO’s NGA Model Agreement.

The key elements of the NGA Policy as they relate to carbon credit trading are summarised below:

NGA firms not meeting commitments can buy and transfer carbon credits to the Crown

- For an NGA firm with excess emissions, it may remedy its position by acquiring and transferring Emission Units to the Crown for all or part of the quantum of excess emissions. The definition of Emissions Units includes Assigned Amount Units (AAUs) and Emissions Reduction Units (ERUs), the same types of carbon credits awarded under the PRE programme;
- Alternatives to remedying through acquiring and transferring emission units include payment of the equivalent emissions charge and/or carrying out offset activities; and
- Similarly if an NGA firm is in a credit position, it may require the Crown to issue or transfer emission units to it.

⁶ POL Min (03) 88 Paragraph 19.9

⁷ Negotiated Greenhouse Agreement between the Crown and NZRC – OIA version released by CCO June 2003

⁸ <http://www.climatechange.govt.nz/policy-initiatives/nga-model.pdf> - Model NGA (dated as at 7 April 2004)

On this basis it is apparent that the Government's NGA policy has created a domestic carbon trading market where NGA firms may seek to purchase emission units, either at the time of milestone assessments or on a forward basis.

Potential Domestic Market Size

The potential market for carbon credit sales will be determined by the offset between what NGA firms achieve in emissions reduction vs. pathway targets.

It is expected that all NGA firms will seek to negotiate a pathway that can be feasibly met. This in itself will restrict the market size. For some firms however, negotiation outcomes or subsequent events may lead to excess emissions requiring remedy.

*Market from
NGA firms
could be 2.5
million tCO₂*

In order to provide a very rough approximation of the potential NGA firm domestic market size, the following calculation is made:

Assuming all NGA firms' emissions total 10 million tonnes CO₂ per annum and all firms miss their pathway targets by 5%⁹, a market of 2.5 million tonnes CO₂ over the 2008-12 period would be created.

In some cases NGA firms which have performed better than their pathway commitments may also be sellers in the market.

Clearly the market is likely to be relatively small but it may be an ideal outlet for some project developers awarded carbon credits under PRE.

Benefits of Trading to Carbon Credits to Domestic NGA firms

1. Project Size

NGA firms are likely to be more flexible in setting minimum quantities in any trades, many seeking small parcels of emissions units.

2. Transaction Costs

Transaction costs of selling domestically should be significantly lower. AAUs could be sold directly, eliminating the need to meet JI requirements of external baseline validation etc. to provide ERUs.

As the CCO is the likely end recipient of the emission units purchased by the NGA firm as well as being the party which awarded the units through PRE, the need for preparation of extensive supporting documents should be removed.

3. Counterparty Risk

Although buyers will still need to assess the financial and technical standing of the project developer, NGA firms will have local knowledge which may mitigate some of the risk perceptions that international buyers would hold.

*Domestic
market would
be well
matched to
small projects*

⁹ The use of 5% is solely for illustrative purposes.

4. Penalties

It would seem logical that in the event of non delivery of emission units, the maximum liability for the seller would be to pay the equivalent domestic emissions charge value to the NGA firm. As the level of the charge will itself approximate the international price of carbon, this should not be punitive.

The above assumes that an NGA firm may remedy any excess emission by paying the emissions charge on these. Under the current NGA Model Agreement, such an outcome is only possible if there is no "Functioning Market". This is discussed further in the assessment of 'Potential Barriers' to the domestic market.

5. Legal Issues

Legal costs should be significantly reduced with both parties being NZ domiciled, and any agreement being covered by New Zealand law.

In summary, a domestic market as outlined would be advantageous to both buyers and sellers and should provide an outlet for carbon credits from smaller PRE projects.

Potential Barriers to a Domestic Market

Potential barriers to a domestic market as outlined being established can be divided into political, policy and specific agreement categories.

Political

The political risk is that the need for NGAs is linked to the introduction of an emissions charge. This is clearly the policy of the current Labour led Government however opposition parties have stated that they would not introduce the charge and would repeal any associated legislation.

Policy

The CCO is currently reviewing the NGA process and policy. It is to be hoped that the fundamental principles of flexibility provisions are not eroded through this review.

Specific Agreement Issues

Devil is in the detail

As with all contracts, the devil is in the detail and the existing PRE and NGA Agreements are no different. Each of these agreements gives some cause for concern:

PRE Agreement Clause 14. Grey Market

The standard PRE agreement issued by the CCO for both the 2003 and 2004 tender rounds contains the following clause:

14. GREY MARKET

The Participant must not deal in any way (except in accordance with this agreement) with the first •¹⁰ tCO₂-e of Emission Reductions that result from the Project during the Commitment Period.

Without limitation, the Participant must not sell or otherwise dispose of any right to or interest in such Emission Reductions on any market that may exist for Greenhouse Gas emission reductions outside the emissions trading regime to be established under the Protocol.

Grey Market definition may block sales

¹⁰ Explanatory note: This will be the total number of Emission Reductions resulting from the Project during the Commitment Period as promised by the Participant in its tender.

Emissions trading is covered in Article 17 of the Kyoto Protocol and is clearly focussed on international trades between Annex B parties. Indeed it states that:

“Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article”

The Marrakesh Accords from COP 7 do not alter this position.

Would a domestic sale to an NGA firm be excluded on this basis?

Based on the assessment of the PRE and NGA policies presented, it is apparent that PRE firms should be able to sell emission units and that NGA firms should be able to purchase them. It would be a perverse outcome if Clause 14 forced NGA firms to make such purchases from overseas sellers.

A change to Clause 14 is required to enable trades with NGA firms or alternatively a declaration should be made that trading with an NGA firm is deemed to be an *“emissions trading regime established under the Protocol”*.

Clarity is also required on the stage at which an NGA firm can commence trading; post final agreement or at earlier stages in the NGA process?

NGA Agreement Clause 8. Functioning Market Assessment

The Model NGA Agreement released by the CCO links the flexibility provisions available to an NGA firm with the existence of a Functioning Market¹¹.

Clause 8 states:

8 FUNCTIONING MARKET ASSESSMENT

8.1 The Crown will determine whether there is a Functioning Market by 30 September 2010 or, if not already determined, on termination of this agreement.

8.2 The Crown’s determination under clause 8.1 will be final and binding on the parties.

8.3 If it is determined that there is a Functioning Market, clauses 7.5(d)(ii) and (iii) will have no effect.

The effect of clause 8.3 is to force an NGA firm with excess emissions to purchase and transfer emission units to the Crown or carry out an Offset Activity.

As the agreement is written, the option for NGA firms to remedy any excess emissions through paying the emissions charge is removed as soon as a Functioning Market is declared. Declaration of a Functioning Market will therefore have a major influence on demand for emissions units.

Bearing in mind the CCO’s current pro-activity in promoting international trades and with the establishment of the EU Emissions Trading Scheme, it seems likely that a functioning market could be deemed to exist sooner than 2010.

It may however still be advantageous to those selling carbon credits for NGA firms to retain the option of remedy through paying the emissions charge. As described previously under the “Benefits of Trading to NGA Firms” this would place an effective cap on the penalty for non delivery of units. For NGA firms such flexibility would also be welcomed.

It is understood that the CCO is reviewing the NGA Model Agreement as part of a wider NGA review of NGA policy implantation.

*When will a
Functioning
Market be
declared?*

¹¹ Definition: “Functioning Market means one or more markets for Trading Emission units as determined by the Crown pursuant to Clause 8.”

Conclusion

*Focus has
been on
international
markets*

The New Zealand Government's Projects to Reduce Emissions programme has now awarded 10 million emission units. Efforts to obtain value for these emissions units are currently focussed on international markets.

For many project developers however, these markets are either unavailable due to small project size or unsuitable due to high transaction costs.

*But smaller
projects need
a domestic
market*

The basis for a domestic market exists through the Government's Negotiated Greenhouse Agreement policy. Although likely to be small this market may be an ideal outlet for some PRE project developers. Flexibility on minimum project size and lower transaction costs are likely features of trades in this market.

Potential barriers to the creation of the domestic market as outlined include contractual clauses under both PRE and NGA policies. These need to be clarified to ensure a domestic market is possible.

*Action is
required to
address
potential
barriers*

In the absence of a domestic market, small project developers are faced with little opportunity to realise value for the carbon credits they have been awarded. Without revenue from carbon credits it should be expected that some or all of these "economically additional" projects will not be completed.

In summary, the Government is to be commended on its actions to encourage international market links; however action to facilitate a domestic market suitable for smaller projects is now required.

Information & Advice

Frazer Lindstrom Limited is an independent consultancy business which provides high quality strategic advice to firms on climate change and energy matters.

Our client list include some of the best known firms in New Zealand, covering major industrial energy users, energy infrastructure, and legal firms.

If you would like further information and advice on the Project to Reduce Emissions programme, NGAs or other climate change and energy sector matters, contact us at the details below.

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