

EMISSIONS TRADING SCHEME REVIEW 2011

Submission to: ETS Review 2011 Consultation
Ministry for the Environment
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1 Overview

- 1.1 Solid Energy is New Zealand's largest natural resource producer, including coal, renewable (biofuels, biomass and solar) and new energy developments, and is one of New Zealand's major exporters. We are also a major energy user, primarily of transport fuels and electricity, in our production and distribution operations. We are directly responsible, through our own and our contractors' staff, for close to 2,000 direct jobs, and we support around 10,000 indirect jobs through our suppliers and communities.
- 1.2 Solid Energy submitted on the Climate Change Response Act 2002 (CCRA) throughout all its phases and continues to have a keen interest in the architecture of the Emissions Trading Scheme (**ETS**) as well as its practical implementation.
- 1.3 The Consultation Document sets out 18 separate questions. While this may make it easier for officials to collate responses received, it makes a holistic response disjointed. Accordingly Solid Energy wishes to respond by addressing first the architecture of the ETS and then fugitive emissions of methane from coal mining.

2 Transitional Phase of the ETS

- 2.1 The government moderated the proposed ETS in 2008 by introducing a transitional phase for the first commitment period and delaying the entry dates into the scheme for various sectors. During the transitional phase there is a two for one surrender obligation and a cap on the price of NZUs at \$25 per tonne.
- 2.2 Allocation to trade exposed industries was also addressed to provide for allocation on an intensity basis and to achieve alignment with what was thought

to be the Australian approach at that time.

2.3 The terms of reference for the 2008 Select Committee that examined the need to moderate the ETS were:

- hear views from trade and diplomatic experts on the international relations aspects of this issue
- consider the prospects for an international agreement on climate change post Kyoto 1, and the form such an agreement might take
- require a high quality, quantified regulatory impact analysis to be produced to identify the net benefits or costs to New Zealand of any policy action, including international relations and commercial benefits and costs
- identify the central/benchmark projections which are being used as the motivation for international agreements to combat climate change; and consider the uncertainties and risks surrounding these projections
- consider the impact on the New Zealand economy and New Zealand households of any climate change policies, having regard to the weak state of the economy, the need to safeguard New Zealand's international competitiveness, the position of trade-exposed industries, and the actions of competing countries
- examine the relative merits of a mitigation or adaptation approach to climate change for New Zealand
- consider the case for increasing resources devoted to New Zealand-specific climate change research
- examine the relative merits of an emissions trading scheme or a tax on carbon or energy as a New Zealand response to climate change
- consider the need for any additional regulatory interventions to combat climate change if a price mechanism (an ETS or a tax) is introduced
- consider the timing of introduction of any New Zealand measures, with particular reference to the outcome of the December 2009 Copenhagen meeting, the position of the United States, and the timetable for decisions and their implementation of the Australian government
- and report to the House accordingly.

2.4 In reviewing the ETS the progress, or lack thereof, in the international arena, and the state of the New Zealand economy remain particularly relevant.

3 International Progress

Kyoto Protocol

3.1 It now appears unlikely since Copenhagen that a binding second commitment period will eventuate, and certainly not by the end of 2012.

Other Treaty

3.2 While countries have indicated possible future targets through the Copenhagen Accord, that document is not legally binding and it is unclear when those aspirations will be converted into binding legal obligations.

3.3 New Zealand's position has been clearly enunciated with respect to future commitments as follows:

"New Zealand is prepared to take on a responsibility target for greenhouse gas emissions reductions of between 10 per cent and 20 per cent below 1990 levels by 2020, if there is a comprehensive global agreement. This means:

- the global agreement sets the world on a pathway to limit temperature rise to not more than 2°C;
- developed countries make comparable efforts to those of New Zealand;
- advanced and major emitting developing countries take action fully commensurate with their respective capabilities;

- there is an effective set of rules for land use, land-use change and forestry (LULUCF); and
- there is full recourse to a broad and efficient international carbon market.”¹

3.4 This means, in summary, that come December 2012 it is unlikely there will be a binding second commitment period under the Kyoto Protocol nor any replacement international treaty in operation. It is unclear now as to when any successor treaty to the Kyoto Protocol would come into existence and as to the nature of the obligations of parties under any such treaty.

3.5 There are two immediate implications of this for the ETS. First the main purpose of the ETS (section 3(1) of the CCRA) is to enable New Zealand to meet its international obligations under the Convention and Kyoto Protocol. The second is how the ETS can function without the backing of international AAUs issued under the Kyoto Protocol. The NZUs created by the CCRA are dependent on a one to one backing with AAUs issued to the New Zealand government. Without a second commitment period under the Kyoto Protocol the legal underpinning of the NZETS falls away. This is an issue that must be addressed regardless of the outcome of this Review.

Domestic Actions by USA, Canada, Japan, Australia and Europe

3.6 Little real progress has occurred in either the USA or Canada with respect to the introduction of a national cap and trade system and little progress is expected during the term of this administration. Through the economic linkages between Canada and the USA it is unlikely that Canada will move ahead of the USA.

3.7 In late December 2010, Japan postponed consideration of the start of an emissions trading scheme until after 2013.

3.8 Domestic climate change policies have been subject to a number of major changes in Australia over the past few years. The latest announced initiative is a carbon tax. The final form it would take is very much dependent on what is politically palatable. Certainty around commencement date, cap on price, relief for trade exposed companies and sectors of coverage are unknown at this stage.

3.9 The only other functioning national emissions trading scheme in the world is the EUETS where Europe remains committed and is now finalising its plans for Phase 3 (2013-2020). There are many significant points of difference in the architecture of the EUETS and the NZETS including in particular the limited coverage of sectors under the EUETS, the level of free allocation of units to trade exposed industries and the decisions being made by the EU as to what international units are acceptable within its scheme.

3.10 The disparities between the two schemes would mean that if New Zealand were to link with the EUETS (which may appear superficially as a simple way of increasing the liquidity of the New Zealand market) the price of units in New Zealand would be distorted by the demand and coverage of the EUETS

¹ Statement by Dr Adrian Macey, New Zealand Ambassador for Climate Change, Bonn 10 August 2009

scheme leading to inevitably higher prices in New Zealand.

- 3.11 In real terms since 2008 little has changed with respect to the development of a genuine liquid international market and New Zealand remains as the only country to have legislated for an all sectors all gases emissions trading scheme.

4 New Zealand Economy

- 4.1 The current fragile state of the New Zealand economy is generally understood and accepted. New Zealand has taken a leadership role in enacting an ETS which has not been followed by other countries. Care needs to be taken that doing “our fair share” does not become excessively burdensome for New Zealand.

Recommendations on Architecture of ETS

- 4.2 For the reasons set out above, Solid Energy recommends:
- (a) The transitional phase of the ETS, with a two for one surrender obligations and a capped price of \$25 per unit should be extended to at least 2015 and should remain the default position;
 - (b) The phase-out of allocation to eligible companies should be delayed until at least 2015;
 - (c) The entry of agriculture into the ETS should be similarly delayed and pushed back to at least 2020;
 - (d) The CCRA should be amended so that it operates as a self-contained domestic scheme based solely on NZUs issued by the government after 31 December 2012; and
 - (e) There should be no linkage with the EUETS.

5 Fugitive Emissions of Methane

- 5.1 Solid Energy has submitted extensively before on the reasons why fugitive emissions of methane from coal mining should not be included within the ETS. For easy reference we attach the appendix from our submission on the 2009 Bill which moderated the ETS. The Review is an appropriate time for this issue to be revisited.
- 5.2 Extracting methane should be a deliberate and controlled process to ensure mine safety. We remain very concerned that subjecting these emissions to an emissions charge is, effectively, putting a charge on safe practices. Therefore the only currently available way to reduce the charge is to reduce efforts to vent methane, which is contrary to good safety practice and if taken to an extreme would impact on miner safety.
- 5.3 We wish to expressly draw officials and the Review group’s attention to the very strong and clear safety-related concerns we expressed in our submission on the 2009 Bill (Appendix). We wish in particular to highlight comments made by officials about Pike River Coal Ltd’s views on fugitive emissions of methane, which were unsupported and unsupportable yet were used by officials as justification for opposing our recommendations. We objected strongly to those comments. Given subsequent events it is clearly extremely unfortunate that officials chose to present those views as more reliable than ours.

- 5.4 We also note that we have been in subsequent discussions with officials during which we have presented further and detailed evidence on mitigation options currently available worldwide, the fact that they are still in their infancy, and the particular New Zealand related issues that preclude any substantive implementation here. We trust officials and the Review group will now accept our evidence based statements on this and do not wish to relitigate this. Should there be a desire to do so we expect this will also be taken to the Royal Commission on Pike River for proper discussion in the right context, including with expert evidence.
- 5.5 The drafting of the CCRA has produced the result that a trade exposed company that is entitled to allocation for the coal it uses does not also receive an allocation in respect of the fugitive emissions of methane associated with that coal. This makes no sense and leaves that entity at a disadvantage to its trade competitors.
- 5.6 Imported coal on the other hand is not subject to any impost in respect of the fugitive emissions of methane associated with its extraction and thus may well become more attractive to New Zealand users of coal with the obvious downside to the New Zealand economy.
- 5.7 With respect to coal that Solid Energy exports we cannot pass on the cost of the fugitive emissions of methane. In respect of our Spring Creek Mine alone we are currently bearing an additional impost, not borne by our trade competitors, of around \$4m per annum in respect of something we are not able to control or otherwise mitigate. This is inequitable and the sums will only grow over time.

Recommendations on FEM

- 5.8 Accordingly Solid Energy recommends that:
- (a) Fugitive emissions of methane either be zero-rated or exempted under the CCRA; and/or
 - (b) Trade exposed companies be entitled to receive allocation in respect of the fugitive emissions of methane associated with the coal that they purchase.

APPENDIX COMMENTARY ON CABINET BRIEFING PAPER 09-B-02448

Among the large number of background papers, Cabinet Briefing documents and Cabinet minutes released (all at one time) on 9 October 2009 is a Cabinet Briefing Paper on Fugitive Coal Seam Gas (FEM)² in the NZ ETS.

Given the very significant issues raised in the body of this submission around FEM we think it important that some serious errors of fact in that Briefing Paper be corrected.

In particular advice has been given to the Minister that it is quite practical for New Zealand miners to reduce their liability for FEM by 85%. It is baldly stated that:

“11. They argue that there are no practical ways to reduce emissions from FEM. This is not accurate. While coal miners must expel methane for health and safety purposes, if they capture and burn or oxidise this gas, the global warming potential and hence the associated financial liability can be reduced by 85% under the regulations. Although this practice is not currently in widespread use, it is feasible. Pike River Coal have told officials informally that should they find that more methane is emitted from their mine than currently estimated, they intend to capture and burn this gas.”

We could not disagree more strongly with these statements.

With respect to opencast mines there is no known technology, anywhere in the world, for capturing and utilising methane released during the activity of opencast coal mining. While in theory it may be possible to pre drain the methane in practice this is impractical given the low concentrations usual in opencast mines and this is particularly so in New Zealand conditions where open cast mining most frequently takes place in areas previously underground mined (e.g. our Rotowaro mine which is our main North Island mine). The low concentrations mean that there will be insufficient methane flows to achieve combustion and therefore no mitigation can be achieved.

This means that there is no realistic opportunity to reduce the estimated **\$1.8m per annum** cost (as the Briefing Paper itself records) for FEM from open cast mines.

With respect to New Zealand's underground mines, of which there are four in total (two operated by Solid Energy, one by Roa Mining Ltd and the other by Pike River Coal Ltd) there are no feasible technologies to capture and utilise the FEM directly vented from those mines through the mine ventilation systems.

Worldwide, the technology for abating low concentrations of underground vented air methane (VAM) is in its infancy.

At the current time we are aware of five overseas underground mines that are trialling VAM. None of these trials attempts to mitigate all of the methane contained within the VAM and we are unaware of the technical and practical success of these projects. This appears to be an extremely limited track record on which to base a mitigation strategy.

In addition to investigating the international position, Solid Energy has conducted an assessment of the ability to apply the currently available (albeit as yet non commercial technology) at Spring Creek (our 'gassiest' mine). Our studies have concluded that the technical viability is too uncertain for any abatement to be feasible. Specific issues that our studies identified included:

² We keep the reference to fugitive emissions of methane from coal mining as being more correct and as used in the main body of our submission.

- That the average methane concentration from the air vented from the mine would be too low and too variable to provide the necessary continuous operation of the abatement equipment which cannot be operated intermittently (because of the need to maintain a high temperature) and the methane cannot be “stored” until a sufficient concentration has been arrived at;
- We would need to install heavy industrial equipment, with an operating temperature of 1200°C, on a slope outside the mine, in an earthquake prone area;
- As far as we are aware, there is no operating plant that abates all the methane from an underground coal mine so we have no reference points to base our studies on, especially in regards to the potential for interruptions to the ventilation system which is a mandatory health and safety requirement, and is operated primarily for those reasons.

On the basis of our work, the currently available (and very early stage international) processes would be useless in what is our ‘gassiest’ mine.

The comments made concerning Pike River mine also seem to be ill informed. A simple check would have revealed that the methane flows in VAM are not flammable and therefore cannot be burnt. Further it is not feasible to ‘capture’ methane in a mine ventilation flow even where occurring at a maximum 1.2% (by concentration), but which will most likely be at much lower volumes. If the methane levels in the mine ventilation flow are at a higher level then health and safety requirements would require the mine to shut down until the levels had returned to safe levels. It is also virtually impossible to concentrate methane (to make the gas flammable – which would be greater than 5% by concentration)

Another approach that is being adopted internationally is to pre drain the methane from the underground mining area ahead of mining. This is conducted in several locations world wide and is generally associated with coal seam gas extraction (for economic use of the gas) and to degasify the underground mine (for health and safety grounds). Whilst this process has potential opportunities, it is also difficult to successfully implement in New Zealand as:

- The overseas operations that have conducted pre mine drainage have been conducted in mines which have much higher gas contents that exist in our operations;
- The permeability of the coal needs to be sufficient to allow the methane to flow adequately on its own during the pre mine drainage operation. This rules out many of the options available to increase the gas flows from CSG extraction, as these introduce additional health and safety risks to underground mining operations;
- Importantly, whilst this approach will reduce the level of methane available in the coal resource, it will not eliminate it and there will still methane contained in the VAM. We are unable to quantify the potential difference (if any) that pre mine drainage will have on the quantum of methane contained within the VAM.

We also note that as a result of government policy it has been decided that is not legally permissible to utilise the FEM in this way under a coal licence or permit. Rather the use of the FEM can only take place under a petroleum permit.

Thus there is no realistic (or indeed legal) way for a coal miner to convert FEM from underground mines into CO₂ and thus reduce its liability by the claimed 85%. The officials’ estimate therefore of **\$16.2m per annum** for the 3 underground coal miners remains a real and unavoidable impost.

We also note to conclude our comments on this paper that:

- New Zealand has received 100% coverage, by way of free allocation at a country level, for New Zealand’s 1990 levels of FEM emissions under the Kyoto Protocol; and
- It is open to New Zealand to seek country specific emission factors for its FEM under the IPCC rules; and

- It is a policy choice for the government to force down obligations at an international level directly onto domestic producers. There is nothing in the Kyoto Protocol that directs how a country should arrange its own domestic affairs to meet its obligations under the Protocol.