

# **AUSTRALIAN ENVIRONMENT BUSINESS NETWORK**

**Submission on**

## **Early Abatement Incentives Discussion Paper**

**December 2007**



**AUSTRALIAN  
ENVIRONMENT  
BUSINESS  
NETWORK**

**Sydney & Melbourne**

<b>Table of Contents</b>	<b>Page</b>
<b>EXECUTIVE SUMMARY</b>	iii
<b>RECOMMENDATIONS</b>	iv
<b>1. INTRODUCTION</b>	<b>1</b>
<b>2. MAIN ISSUES</b>	<b>3</b>
2.1 Abandoning of no disadvantage promises	3
2.2 Previous attempts to support early action abandoned	4
2.3 Why early abatement companies are disadvantaged under this approach	5
2.4 Possible solutions	6
<b>3. SPECIFIC QUESTIONS IN THE DISCUSSION PAPER</b>	<b>7</b>
3.1 Allocation rules	7
3.2 Credit allocation	8
3.3 Offsets and sinks	8
3.4 Protocols and scheme details	11
<b>4. COST OF MEASUREMENT AND AUDITING</b>	<b>12</b>
4.1 Undervaluing these costs	12
4.2 Reducing the measurement and audit burden	14
4.3 Scale to reflect measurement costs	15
4.4 Expert panel for measurement	16
<b>5. CONCLUSION</b>	<b>18</b>

## EXECUTIVE SUMMARY

The Australian Environment Business Network (AEBN) welcomes the opportunity to comment on the *Early Abatement Incentives Discussion Paper*.

The main issue here is that for those companies which undertook early action to abate greenhouse emissions, many through the Federal Government's own Greenhouse Challenge program, will not be entitled to claim credits under the proposed scheme. This is disappointing as the government has repeatedly stated that *no company taking early action would be disadvantaged* and also that these companies should be *rewarded* for such early action.

Companies that took early action and cannot claim credits – due to the 3 June 2007 earliest credit allocation date – are at a disadvantage. Such companies will now have much higher marginal costs for further abatement compared to companies that undertook no action. Perversely, such companies that lagged behind are now in a better position to claim credits due to their lower marginal costs of abatement.

AEBN recommends the government offer alternative rewards to these early-action companies, such as via a grant program.

One of the difficulties in providing credits for early action is the data quality required for claiming credits. By contrast, a grant scheme can provide a far more flexible and simpler means in which these early action companies can be rewarded as promised.

AEBN has also considered the specific questions for stakeholders identified in the discussion paper.

AEBN again raised the issue of the cost of measurement, accounting and verification, which together are becoming an increasingly difficult issues, not just from the price perspective, but also from the supply of skilled energy and greenhouse experts in industry and the service supply industry.

Should the contents of this submission require further clarification, please contact Andrew Doig at AEBN on (02) 9453 3348.

## **RECOMMENDATIONS**

- R1 AEBN recommends the Federal Government develop mechanisms to provide credits or rewards for all companies that have substantiated early action greenhouse reductions in any jurisdiction in which no credits have been issued and will otherwise miss out on the early action credits being considered.
- R2 AEBN recommends that a multi-scale measurement/audit system be developed to enable measurement accounting and verification costs to be kept to a relatively low proportion of the total emission permit costs.
- R3 AEBN recommends that the government develop special energy-intensive trade-exposed credits for specific industry sectors, based on appropriate research and input from those industry sectors and other appropriate stakeholders.
- R4 AEBN recommends that an emissions-trading scheme establish an independent panel to assess different greenhouse measurement, assessment and auditing methods.

## 1. INTRODUCTION

AEBN welcomes the opportunity to comment on the Federal Government's *Early Abatement Incentives Discussion Paper* (discussion paper).

AEBN is an industry and business representative body specialising in environmental issues that affect its members. The AEBN membership collectively has a turnover in excess of \$50 billion and employs well over 50,000 employees. Further information about AEBN can be found on its web site at [www.aebn.com.au](http://www.aebn.com.au).

AEBN recognises the need to protect our environment and future prosperity. Climate change has the potential to not only damage the world's environment, but to also adversely affect business and industry directly. Industry and business has as much to lose if the environment is harmed. However, AEBN will always call for maximising the environmental benefits at minimal cost; in particular, the cost impact of regulation and reducing its burden on industry.

Many of our members recognise the need to act on reducing greenhouse emissions and have taken actions to become partially or fully carbon neutral. A number of our members are participants in Greenhouse Challenge programs and many state-based programs. As a result, they have improved their energy efficiency and reduced their carbon footprints. Members also report that they are being, in part, driven by their customers to reduce their carbon intensity. It is not uncommon for customers to ask Australian suppliers for their carbon footprint.

Development of the cap-and-trade emissions trading scheme will be a complex process and AEBN is willing to assist in providing industry input to assist the government in creating an efficient regulatory structure for greenhouse abatement. Ultimately, AEBN would prefer to see a centralised carbon-abatement scheme with emissions trading at its core as this promises to be a more economically efficient model.

There are a number of issues that AEBN has that may affect the creation of a regulatory framework for greenhouse gas abatement. These include:

- Ability of small, medium and even large companies to effectively trade on the emissions trading scheme, especially the ability to claim credits for effective abatement.
- Means to encourage 'smaller' scale abatement programs that are not of a large enough scale to justify claiming credits, as the cost of proof<sup>1</sup> is higher than any windfall from credits.
- Mechanisms that governments will develop to go beyond the blunt price increases on carbon-based energy supplies.
- The Federal Government needs to clearly delineate the types of greenhouse gas abatement programs that state governments should pursue.

Over time, the ability of credits from both abatement actions and offsets should be available to all organisations across Australia. The current cap-and-trade scheme, especially in its first five years, will limit the availability of credits to only the very large energy users. This due to the threshold

---

<sup>1</sup> Such cost of proof is the costs associated with measurement, accounting and verification of abatement programs.

for mandatory market entry, which is initially limited at the smallest scale to facilities that emit 25 kilotonnes per annum or more of greenhouse gas. While this threshold is to be lowered over future years, it will take many years for the mandatory capture component to include medium-size sites.

Market entry cost will limit any organisation claiming abatements to qualify for the trading of their earned credits. This market-entry cost will, for example, limit the ability electricity providers to gain demand side abatements or carbon offsets on behalf of their customers. Not only does the high cost of measurement, accounting and verification limit the ability of smaller abatement actions and offsets to be recognised, it also flags difficulties that many companies will have in proving they have trade-exposed energy intensive operations (TEEI).

AEBN believes this is the case from the feedback our members have given on the costs associated with measurement, meeting accounting standards and having this data verified. Details on these market-entry costs are provided in Section 4 of this submission.

This is not to say that such schemes should not progress, but that the government should recognise the high cost of market entry, which will affect the ability of many to access credits, directly from the market or indirectly from incentives from their energy supplier. AEBN strongly recommends the government consider strategies to reduce the market-entry costs. Some suggested actions are identified in this submission.

## 2. MAIN ISSUES

### 2.1 Abandoning of no disadvantage promises

A major issue with the proposed early action proposal is the lack of credits and any other support for companies that had already undertaken additional abatement prior to 3 June 2007. This is especially the case for the Greenhouse Challenge companies, a scheme introduced back in 1995. The Federal Government has always promised signatories to the Greenhouse Challenge that their early action will not be disadvantaged. AEBN considers that the proposal in the discussion paper will only benefit the companies and organisations that have so far done the least in greenhouse abatement. Unfortunately under this discussion paper, issuing any greenhouse credits for early action is to be delayed until post 3 June 2007. The discussion paper states:

*The government has already given an assurance that firms will not be disadvantaged in their permit allocations as a result of abatement they undertake in the lead up to emissions trading and this paper proposes administrative arrangements to give effect to this commitment.*

It appears that former Prime Minister John Howard's statement provided justification to ignore the prior promises of the Federal Government.

*"... firms which undertake abatement between now [announcement of the emissions trading scheme on 3 June 2007] and the start of emissions trading will not be disadvantaged."*

This promise not to disadvantage early action dates back to 1995 when Paul Keating, under the last Labor government, launched the Greenhouse Challenge program. Overall this new discussion paper delays the promise to prevent disadvantages to early abatement actions of the Greenhouse Challenge Program in 1995 and other programs to post 3 June 2007.

Many of the companies that signed up to the Greenhouse Challenge programs as early as 1995 have achieved considerable reductions in greenhouse emissions and spent considerable resources to do so. The Federal Government at the time supported such actions by promising that no company undertaking such action would be at a disadvantage. This, however, has not been the case and many companies are now questioning their early action initiatives. An extract from our previous [Submission on the Emissions Trading Scheme](#) identifies similar but prior concerns:

*The Greenhouse Challenge Scheme attracted many companies prior to 2003. Signatories spent resources and undertook efficiency drives, for many of which the costs far outweighed the savings from the initiatives' undertaken. This was done in part on the basis that there would be credit provided for companies which undertook such initiatives. In 2003 NSW introduced its NSW Greenhouse Gas Abatement Scheme (GGAS), where credits for energy efficiency gains could be claimed. The problem was that any gains made prior to the schemes start in 2003 would not be recognised. Hence, companies that took early action under the Greenhouse Challenge Scheme prior to the commencement of the NSW scheme were set at a disadvantage. Competitors that had not undertaken energy-efficiency drives had an advantage of potentially having less energy-efficient processes.*

*The initial energy savings actions almost always provide the largest energy savings for the capital spent. Savings undertaken after the easy abatement area face diminishing returns. As a consequence, companies that took no early action are at an advantage as their cost to gain energy savings is much lower than early action companies. So companies with poor energy efficiency are at an advantage needing to spend less capital than early action companies to claim credits under the NSW GGAS. NETS is the only apparent mechanism which could recognise and provide credit to the companies that took early actions on energy efficiency.*

## **2.2 Previous attempts to support early action abandoned**

The paper *Encouraging Early Greenhouse Abatement Action* issued in November 2000 discussed providing incentives or recognition for early abatement action that date back to the launch of the Greenhouse Challenge. Some extracts from this 2000 document include:

*Several industry participants have sought more tangible assurances from government that their abatement actions will not count against them and would, in fact, be recognised under any future emissions trading arrangements. They have expressed a reluctance to adopt additional abatement action until a system is in place that provides 'credit' for the emission savings they achieve.*

The Federal Government hence recognised in 2000 that many companies were entering in the Greenhouse Challenge because they considered they would not be disadvantaged.

*The desire for an arrangement that recognises and rewards abatement action taken prior to the commencement of any future emissions trading system has been echoed in various public submissions received by the Australian Greenhouse Office in response to its discussion paper series.*

*Such an arrangement could offer benefits in terms of underlining acceptance of the 'no disadvantage' principle by offering a tangible reward for early abatement action.*

These extracts from the 2000 document not only suggest a no disadvantage position for early action, but that such companies undertaking this action should be rewarded. It also recognises that prior to 2000 companies were calling for rewards. However, such rewards now appear to have evaporated when it comes to issuing credits. While it can be argued that in many cases not enough data is available, nor is it appropriately verified, the 2000 document identified that some signatories of the Greenhouse Challenge can possibly be allocated credits back to 1990, based on the following quote:

*Emissions and abatement data for 1990 are available under the Greenhouse Challenge Program for 64 businesses and, for 1995, estimates for 182 firms can be obtained.*

However, the above statement from the 2000 document appears to be somewhat contradicted by the following comment under the current paper:



*Unfortunately, verified emissions data will not be available for many firms until after the first mandatory reporting period under the new National Greenhouse and Energy Reporting System (NGERS) (s2.1).*

Joining the Greenhouse Challenge also exposed companies taking early action to increased measurement and verification costs as part of the program. While the level of accuracy of measurement and verification was not clearly known or implemented under the Greenhouse Challenge program, it was identified that this was a possibility for the companies that joined. Hence, Greenhouse Challenge program members were exposed to a cost of measurement and verification that they considered could also result in a reward, rather than something that was just there to prove they met the requirements of the program. A quote from the 2000 document suggests that Greenhouse Challenge program protocols could become a Federal Government recognised measurement and verification system, which will be able to convert into credits once a trading scheme, is implemented.

*Greenhouse Challenge could become a doorway to accessing abatement crediting arrangements. Challenge membership would remain open and voluntary, but those wishing to earn credits through the program would need to accept higher level reporting and verification processes than those currently demanded of mainstream participants.*

### **2.3 Why early abatement companies are disadvantaged under this approach**

Ignoring the early actions of companies from 1995 until 2007 places them at a commercial disadvantage, even though the implemented measures were, in most cases, cost effective at the time. Reasons for this include:

- Many of the abatement measures were undertaken at a longer rate of return time than for other capital projects.
- The high costs of measurement, verification and reporting to the Greenhouse Challenge Program. These actions were considered necessary to not only prove they were meeting their performance targets, but also so that such actions would result in future rewards such as credits.

The main disadvantage for taking unrewarded early action is realised when a trading scheme commences. Companies that have not undertaken early abatement are at an advantage in that they have less-efficient processes, so any abatement practices are available at a lower marginal costs compared to companies that have previously undertaken abatement programs and have much higher abatement marginal costs. The outcome for the companies that have lagged is that they may be rewarded once a trading scheme commences. If emissions permits are allocated on current emission levels, then the lagging companies are in a better position to reduce their emissions and sell the extra permits on the cap-and-trade scheme. An early abatement company will be issued with fewer permits than it would otherwise be allocated as its efficiency is based past the date of its implementation of the early credit abatement program.

### **2.4 Possible solutions**

It appears there is difficulty or complexity in establishing credits under a future cap-and-trade emissions trading scheme. Not all Greenhouse Challenge companies are in a position to claim credits as they lack quality data. In addition, there will be companies that have adequate data but it is in the wrong format and will have to be reformatted for their emissions and abatement achievements to meet a future set of rules – rules that have not yet been finalised. Such rules can be gleaned by looking at overseas trading schemes, but this is no guarantee that the past measurements have been accurate enough to determine the number of credits to be fairly allocated.

Another issue with the allocation of credits under any scheme is that it can undermine the ability of the cap-and-trade scheme to achieve its cap. In effect, if too many credits are allocated it raises the cap. Consequently, the 2000 document suggested restricting the maximum allocation of credits to 100 Mt CO<sub>2-e</sub>.

As an alternative, the Federal Government could offer a special grant scheme to those companies that took early action<sup>2</sup>. Advantages of using a grant scheme include setting a simpler entry provisions to claim such grants. For example, at the simplest to qualify for such grants the company merely has to demonstrate that it undertook abatement action under a recognised scheme.

The scale of the grant scheme can also be estimated from the suggested 100 Mt CO<sub>2-e</sub>. For example, using a carbon price of \$5 per tonne then the grant would be worth \$500 million. Such a grant scheme would only be offered over a limited time, for example, over a 5-year period. After which the scheme would become open to all meeting the criteria or end. Funding of this could be received from any auctioning of 'extra' permits under a cap-and-trade scheme. Alternatively funding other means.

While a grant scheme is a suggested alternative approach, it should not be considered a replacement of the early credit actions proposed in the discussion paper. Rather, it should supplement such a scheme. This will ensure that companies undertaking early action prior to the date of the credit scheme are not disadvantaged, and possibly even considered to be rewarded.

***R1 AEBN recommends the Federal Government develop mechanisms to provide credits or rewards for all companies that have substantiated early action greenhouse reductions in any jurisdiction in which no credits have been issued and will otherwise miss out in the early action credits being considered.***

---

<sup>2</sup> Other schemes under federal and state programs should be included under such a grant scheme.

### 3. SPECIFIC QUESTIONS IN THE DISCUSSION PAPER

#### 3.1 Allocation rules

- *It is proposed that the emissions trading scheme regulator use verified emissions data from the first mandatory reporting period under the National Greenhouse and Energy Reporting System [NGERS] as an input into permit allocations.*

Considering that the Energy Data Officer has not been appointed, the criteria and standards for measurement, accounting and verification for the cap-and-trade scheme have not been fully prepared. Also, given the time required for education the users service providers and regulators, there will be a considerable time lag before the NGERS can be effectively used. This will push forward the possible commencement date for allocating early credits to the end of 2008 – or even early 2009 – under this approach.

Clearly other approaches and methods are required to ensure that early action incentives are provided. Basing it solely on the NGERS has difficulties in recognising early action retrospectively and does nothing for early actions taken prior to its implementation date.

- *It is proposed that the regulator supplement this with verified abatement data from the previous year and draw on other relevant sources of data where this would assist in ensuring firms receive an appropriate allocation of permits. Firms are encouraged to report abatement through the National Greenhouse and Energy Reporting System along with other corporate emissions and energy data, and to keep high quality records of abatement activity in the meantime.*

This proposal would only work if the government can guarantee that other data sets can be substituted. But again it only fills in the gap between 3 June 2007 and the time when the NGERS is operational. AEBN specifically recommends that early actions prior to 3 June 2007 be fully recognised, either as credits or under other assistance packages.

- *Stakeholder advice is sought on relevant sources of data outside of NGERS that could be used for this purpose (eg, information from environmental approval processes or greenhouse or energy use programmes such as Energy Efficiency Opportunities).*

There are many systems, such as EEO, Greenhouse Challenge, the NSW Greenhouse Gas Abatement Scheme, internal company systems and many others. They will vary according to their accuracy and verification standards. How will they be treated is the question. There are two simple approaches:

1. Ignore any scheme not meeting the NGER System standards → administratively simple but unfair and damages the trust on assisting companies that have taken early action.
  2. Permit all schemes to qualify, but work out their level of accuracy and provide credits according to the lower error margins for that data when compared to the NGER system.
- *Stakeholder feedback is being sought in relation to the definition of an asset “in existence” at the cut-off date. Feedback is sought in relation to the guidance afforded by*

*the use of the National Electricity Market (NEM) definition and criteria for the electricity generation sector, and any necessary amendments to the criteria that may be necessary to give a similar outcome for other industries.*

The rule-off date is not an issue if all assets that resulted in additional abatement prior to 3 June 2007 back to, say, the beginning of the Greenhouse Challenge, can be used for claiming credits.

### **3.2 Credit allocation**

- *It is proposed that credits only be provided for activities that represent abatement that has actually occurred, is additional, permanent, measurable and verifiable.*

Acceptable. Again, keeping the costs of measurement and verification down will ensure that credits blocks of less than, for example, \$40,000<sup>3</sup>, will be economically claimable.

- *It is proposed that there be no restriction on the types of activities that can earn credits prior to 2011 for use in the emissions trading scheme, provided they represent abatement that is additional, has actually occurred, and is permanent, measurable, and verifiable.*

Scale of abatement will limit the types of offset schemes that qualify. Only larger projects will be able to justify the entry costs of proving they are a *bona fide* offset scheme that meets the government's standards. This high cost of measurement, accounting and verification is discussed in Chapter 3 of this submission.

- *It is proposed that early action credits be generated from eligible projects for abatement after 3 June 2007 until the commencement of the scheme due in 2011.*
- *Similarly, it is proposed that offset credits for use in the emissions trading scheme can be generated from eligible projects for abatement after 3 June 2007.*
- *To be eligible, it is proposed that projects would need to be established after 3 June 2007.*

Setting the commencement date may undermine early actions, which were encouraged by government and supported with claims of no disadvantage.

### **3.3 Offsets and sinks**

- *Abatement projects could only be approved following final decisions as to eligibility of activities for offsets or early action credits for use in a future emissions trading scheme.*
- *It is proposed that the Australian Government's Greenhouse Friendly program provide the initial administrative mechanism for approving offsets and early action credits for use in the emissions trading scheme.*

---

<sup>3</sup> The \$40,000 figure is a rough estimate of the typical costs of measurement, accounting and verification for a small-to medium-sized manufacturing facility. This is discussed in Section 4.

AEBN welcomes a one-stop-shop or standard that Australian offsets can be assessed against. However, difficulties may arise if Australian companies wish to purchase overseas offsets. While in Australia the Greenhouse Friendly is a good approach, international markets will also need to be recognised, but this is a logical action.

- *It is proposed that the existing Greenhouse Friendly protocol for new forest offsets be used to assess eligibility following any government decision, but be reviewed in 2008.*

The Greenhouse Friendly Protocol (GFP) should be the one-stop-shop or standard. But in stating this, the GFP also needs to be flexible. For example, innovative carbon sink and sequestration schemes are being developed. Such new approaches need to be considered and, where effective, encouraged. The GFP should also assist Australian innovations in seeking international recognition of a variety of new carbon-sink schemes.

For example, burying green waste in abandoned mines (see box below). An issue with such a scheme is the need for such an approach to be recognised at the international level. GFP will have a major role in negotiating acceptance of innovative solutions at the international level.

## **Sequestering green waste as a carbon sink**

The proposal is to bury (sequester) low-quality green waste by placing it into disused underground mines – especially coalmines.

Coalmines with over 200 metres of overburden are generally considered to offer gas-tight storage over geological time frames. Methane is being commercially extracted around a number of Australian capital cities from coal seams over 200 million years old and at depths of less than 150 metres.

Large quantities of green wastes are generated from parks, gardens and other community sources. Over 180,000 tonnes is collected for the Sydney area every year. Other vegetative-based wastes such as waste timbers are also collected. Most of this is composted into soil-conditioning materials or disposed of to landfill. Current recycling and disposal charges range from \$0 to \$64 per tonne in Sydney.

Under Kyoto protocols, carbon sinks are limited to trees that must live for about 100 years to ensure any carbon is not released back into the atmosphere. This limits the types of vegetation that can be grown as sinks as shorter-life plants cannot be guaranteed to sequester their carbon. An alternative, and similar to sequestration of liquid CO<sub>2</sub>, is to bury the material in order to sequester its carbon. As coal is essentially compressed and aged vegetation, it appears that using old coalmines has merit as a sequestration process.

Under such a scheme, green wastes and other organics, depending on the market signals from the price of CO<sub>2-e</sub>, are collected at a main coal-handling terminal, such as a coal loader. Green waste is back-loaded onto coalmine transport whenever there is available space. At the mine, the plant material is stockpiled and transported underground for final burying and sealing.

Currently only underground pillar and post coalmines and galley tunnels would be used. If the economics permit it over a longer timeframe, long wall mining systems could be modified to accommodate the insertion of green waste into the gove.

This is an innovative approach that will require further investigations into its feasibility and carbon-price trigger for it to be an economic activity.

### 3.4 Protocols and scheme details

- *It is proposed that streamlined protocols be developed for eligible early action and offset projects. Stakeholder feedback is sought on priority project activities for protocol development.*

As long as the streamlined protocols do not compromise the ability to gain and trade credits, this appears to be a worthwhile initiative.

- *The government proposes to develop, as soon as practical, a national offset register to track early action credits and offsets that could be recognised under the emissions trading scheme.*
- *It is proposed that the scheme regulator exchange early action credits for emissions permits dated for use in the first year of the scheme.*
- *It is proposed that there be no limits on the number of early action credits that would be recognised.*
- *It is proposed that early abatement be taken into consideration when setting the emissions caps in the initial phase of the scheme.*
- *It is proposed that participants in the voluntary market would have access to early action credits and offsets credited for use in the emissions trading scheme.*

Again, AEBN is not against the use of the early action credit scheme. Hence, recognising those companies that can gain credits for early action is welcomed. Nevertheless, the comments in Section 1 of this submission are also to be considered as favouring only new early action entrants, which disadvantages those who undertook such action prior to 3 June 2007.

## 4. COST OF MEASUREMENT AND AUDITING

### 4.1 Undervaluing these costs

Measurement, along with the cost of measurement, is an area of major concern for industry. A number of new schemes, such as the Commonwealth *Energy Efficiencies Opportunities Act* and the NSW Energy Savings Plans, have flagged the huge costs associated with measurement and auditing. Unfortunately a number of government papers such as the Coalition of Australian Government's *A national system for streamlined greenhouse and energy reporting by business Draft Regulation Impact Statement* undervalued the costs for greenhouse emissions measurement by a factor of at least 40.

Some of the reasons for the undervaluing include:

- **Costs were based on simpler carbon emissions measurement systems**  
Many of the current systems used for assessing greenhouse gas emissions are based on simple rules and do not require the level of accuracy required in emissions trading. There are two solutions. First, allow simpler measurements to be used where appropriate. Second, permit flexible measurement approaches wherever possible<sup>4</sup>.
- **Costs do not consider the high cost of verification**  
Verification to the *WRI/WBCSD GHG Protocol Corporate Accounting and Reporting Standard* is not required by most of the other state-based greenhouse gas reporting systems. Verification for emissions trading is likely to add substantial costs to NETS and to the NGRS.
- **Changes to market prices associated with undertaking energy measurements and auditing**  
AEBN members have identified considerable price increases for energy consultants. This has become particularly evident following the NSW Government Energy Savings initiative, which requires companies using over 10GWhrs (equivalent to >9 TJ) to prepare Energy Savings Plans. The requirements for measurement and verification are similar, if not simpler, to the NETS scheme. Due to the increased demand for energy consultants, their charge out rate has increased by 50 to 100% over the last 18 months.

AEBN has four examples from companies and one from government that have costed the measurement and verification of energy usage/auditing across some or all of their sites that are outlined in the case studies below.

---

<sup>4</sup> A flexible approach can be given by the example of a site with multiple-process heaters, which use 60% of the site's energy. Each heater is of the same or similar design and runs 24 hours a day most days of the year except for maintenance. Requiring, as some schemes do, is to measure each heater energy use separately which would incur considerable expense. In a more flexible approach, the energy use of all the heaters is measured, via fuel use and an estimation technique is then employed to identify the energy use of each heater. It is arguable as to what advantage there might be in estimating the energy consumption of each heater individually.



## Case Study 1

Large printing works. Cost for energy measurement and audit at \$50,000 per site. Total costs for all sites across Australia >\$400,000. (These are direct costs, not including internal costs such as staff time etc.)

## Case Study 2

Large food manufacturer. Average energy audit and measurement (once only) costs per site \$40,000. Total costs for all sites across Australia >\$700,000.

One of the above companies estimates the cost of measurement and auditing of greenhouse gases will be at least 25% of their cost of undertaking their national financial auditing. Unlike financial audit costs, the costs for undertaking energy audits is expected to rise substantially as there will be a substantial increase in the requirements for greenhouse and energy audits, but a considerable lack of available auditors.

## Case Study 3

A large energy supply company reported to AEBN that it spent over \$1 million dollars to accurately measure and verify its greenhouse emissions. A major reason for this high cost was the considered need to use international consultants. Australian-based energy consultants could not supply the necessary resources to complete the project, nor satisfy the company's standards, in terms of number of experienced consultants to undertake the work.

## Case Study 4

The NSW Greenhouse Gas Abatement Scheme quotes from its website:

*The cost of the audit depends upon the scope of the audit and the complexity of the project. However, a record keeping audit generally costs between \$5,000 and \$10,000.*

These audit costs (they do not include measurement) relate mainly to electricity retailers, making the audit process similar and more cost effective. Expansion of the measurement/audit process to other more complex industries tends to drive the costs higher as we can see above. This is further proof that the level around \$1,200 per site for 125Kt CO<sub>2-e</sub> as quoted by the COAG discussion paper is undervalued and, if used, will lead to considerable problems in the implementation of NETS.

The auditor shortage problem would be exacerbated by the verification approach spelt out in the discussion paper:

*Verification requirements:*

- *mandatory verification of monitoring systems and reports by accredited auditors*
- *verification procedures, including auditor accreditation processes*
- *appropriate penalties for obstructing auditors*
- *sanctions against auditors who breach their obligations.*

Given that the measurement / audit system requires establishment in less than one year<sup>5</sup>, AEBN is concerned that this process will be rushed, undertaken without expertise and result in poor outcomes. Even after five years there will be a shortage of energy experts who could be eligible to qualify for such a certification. In the longer run, this process will tend to create a closed shop for specialist government-approved NETS auditors, driving their costs to excessive levels. No doubt other state agencies will require use of the government-accredited energy auditors to review and approve many other activities. This could escalate to include the energy assessments and pre-audits on new planning developments, which will compete for these auditors' time beyond their original purpose<sup>6</sup>.

The system for ISO 9000, 14001 and 4800 auditors was achieved using an independent organisation, which certifies quality, environmental and safety auditors, but this took many years to establish. Government-run auditor certification schemes under legislation such as the contaminated site auditor's scheme have been operating in NSW and Victoria for many years. The result has been considerable costs for these certified auditors. In addition, unless they are legally required, the cost of using such auditors is so high they are avoided. Such a requirement to certify auditors is likely, from contaminated site clean-up experience by industry, to add at least another 100% increase to the cost of the already high-energy auditors.

AEBN acknowledges that at the commencement of the scheme there will not be a large number of sites requiring auditing for NETS alone. Currently, due to the creeping increase in additional energy and greenhouse emissions measurement and efficiency drives by virtually all governments, there is a considerable shortage of energy consultants available. However, this shortage will exacerbate with the introduction of NETS. It should be also noted that when the scheme is introduced, industries seeking offsets, and when industry stationary sources are added into the mix of permit holders, the demand for energy consultants and auditors will escalate further.

## 4.2 Reducing the measurement and audit burden

There are a number of ways to reduce the measurement and audit burden:

- **Increase the efficient use of energy auditors** Government use of energy auditors, such as the accredited auditors under NGER, will find there is currently limited expertise to fulfil these roles. To prevent over demand for these certified auditors, NGER should place a minimum energy-use threshold below which certified auditors are not required. The threshold can be reduced as more auditors are certified, but the threshold should also have a floor level. For example, accredited auditors are only required for sources where emissions exceed 30MW. Other auditors of various qualifications (to be determined) would be permitted to audit smaller sites.
- **Increase the number of energy consultants and auditors** The government to provide subsidised training for consultants of suitably related backgrounds to increase their skill set to include energy management. This will tend to relate to engineering and science areas, but could also extend to financial and accounting areas.

---

<sup>5</sup> The NGER Act requires the use of Government appointed auditors to assist the Energy Data Officer

<sup>6</sup> In NSW, the Land and Environment Court upheld a challenge that Anvil Hill Coal Mine should have taken climate change implications into consideration in its Environmental Impact Statement.

- **Government to set appropriate measurement/audit standards according to scale of the emissions** Large emitters will require more detailed measurement and auditing than smaller emitters. A range of steps of measurement accuracies and auditing protocols is used to enable the cost of measurement to be roughly in proportion to the level of the emissions. This is discussed below.
- **Provide a means to review measurement/audit standards** Use an independent panel to review cases for lowering the cost of measurement/auditing. This is discussed below.
- **Upgrading of OSCAR** to enable it to accommodate up loadable files such as csv files so companies with a large number of sites do not have to enter each site separately. Members have also noted that OSCAR is not flexible enough for some of the larger or more complex sites and can provide results too far removed from actual measurements or more accurate estimation methods. It is noted that OSCAR is limited in application for the trading system due to its inability to meet the accuracy and verification requirements under a proposed trading scheme.

### 4.3 Scale to reflect measurement costs

Scale of the emission is a key area in which the costs of measurement and accounting can be minimised.

For example, a major power station consuming thousands of tonnes of coal per day should measure or estimate emissions to a higher level of accuracy than a company that has a coal-fired boiler consuming hundreds of tonnes per day.

If offset schemes and other credit purchasing mechanisms are to become useful at a smaller scale, then even the larger emitters will need to have cost-effective measurement and auditing practices to enable their use. Smaller-scale energy efficiency actions are especially threatened by costly measurement/audits. AEBN notes there will be a level where the measurements will be more costly than the credits available for claim<sup>7</sup>. At this level, a simple tax concession is one way to encourage energy efficiency, based on total energy usage. Another way is to use industry-sector emissions savings estimations. This would be achieved by measuring an industry sector, then establishing the energy savings data and emissions from that sector. Auditing can be undertaken across the sector rather than on individual sites and savings and credits based on equipment installed and or energy use and intensity.

AEBN believes the level of accuracy required for emissions measurement should reflect the scale of the emission. Or to restate it another way, the error level permissible in the quantity of greenhouse gas emissions should be relatively consistent across all emitters. Currently, the Victorian Environment Protection Authority uses a three-tiered [\*Greenhouse Gas Emissions and Energy Efficiency in Industry\*](#) system to differentiate between large (> 7,000 GJ p.a. ), medium (500 to 7,000 GJ p.a.) and smaller sized (<500 GJ P.pa.) greenhouse emitters. This system also offers three tiers of measurement and auditing of increasing levels of accuracy depending on the scale of the emitter. It also calls up AS3598 energy audits, which provide three levels of energy audit details. While these differentiations are beneficial to reducing costs, the likely complexity of the NETS is likely to be far greater than the Victorian scheme. AEBN considers that perhaps four or even five levels of measurement and auditing will be

---

<sup>7</sup> AEBN roughly estimates this threshold to be about \$10,000 pa.

required to ensure measurement and audit costs remain a minor component of any trading scheme. Industry sector measurement and auditing could have its own set of standards under this approach.

***R2 AEBN recommends that a multi-scale measurement/audit system be developed to enable measurement accounting and verification costs to be kept to relatively low proportion of the total emission permit costs.***

For small to medium energy intensive companies<sup>8</sup>, the cost of measurement/audit and claiming credits for being trade exposed would still be cost prohibitive. It may be more efficient for government to consider certain sectors of industry as a whole and develop an industry sector specific credit system. Otherwise such companies will be exposed to unfair competition, both domestically and internationally, as the NETS will result in higher priced energy passed on by energy suppliers.

***R3 AEBN recommends that the government develop special energy-intensive trade-exposed credits for specific industry sectors, based on appropriate research and input from that industry sector and other appropriate stakeholders.***

#### **4.4 Expert panel for measurement**

The means to reduce the costs associated with measurement and auditing can be achieved via other mechanisms used on emissions measurements. Under the NSW Load Based Licensing scheme, a measurement protocol can be used where estimation techniques replace direct measurement. Even with the protocol there are limitations to the flexibility of published estimation techniques, which are not appropriate to each site. To improve flexibility the NSW government formed an independent panel to assess measurement issues. Experts from government, consultants and industry form the committee, which has approved many different measurement techniques that are legally permitted for use by many different organisations. The panel has proved popular with industry providing substantial flexibility, decreased costs and increased accuracy not otherwise seen before in measurement approaches.

***R4 AEBN recommends that an emissions trading scheme establish an independent panel to assess different greenhouse measurement, assessment and auditing methods.***

The panel will need to provide techniques that are:

- Internationally acceptable and provide flexibility to a variety of greenhouse emissions processes.
- Flexible and variable in complexity according to the scale of the emission.

For example, the panel system could work by organisations with particular emission issues applying through an appropriate government agency which acts as the secretariat to ensure that their scientific data and arguments are sound and make good use of the panel's time.

---

<sup>8</sup> For example, small to medium foundries.

## **5. CONCLUSION**

The development of credits for early action in greenhouse abatement is useful for the small set of companies and organisations that can claim them. However, the recognition of early action prior to the 3 June 2007 for many companies that undertook early action should be also rewarded as promised by the government on many occasions. Use of a grant scheme to assist further abatement for companies that took early action under schemes, such as the Greenhouse Challenge and other state-based schemes, is a means by which such early actions not covered by the proposal in the discussion paper can be recognised.

The cost of measurement/auditing and verification needs to be considered when developing an emissions trading scheme. Use of a range of techniques involving education, simplified measurement, accounting and verification processes and other ideas will be employed to reduce such market-entry costs for gaining credits. As a result, far more organisations will be encouraged to undertake abatement programs knowing that credits will be a potential outcome in addition to the savings achieved under higher-priced energy in a carbon constrained economy.

Energy intensive trade-exposed industries will need protection at all scales of production and innovative methods to ensure they are not placed at a disadvantage will need to be put in place by governments operating the scheme.