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aluminium
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Alcoa World Alumina Australia is the global leader in alumina production and Australia's sixth largest resources sector exporter. Alcoa is an integrated business comprised of bauxite mining, alumina refining, aluminium smelting, rolling and canned sheet products, with operations in Victoria, Western Australia and New South Wales.

PRIME MINISTER'S TASK GROUP ON EMISSIONS TRADING

**Submission by Alcoa of Australia on the Issues Paper
prepared by the Task Group on Emissions Trading**

7 March 2007

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1. OVERVIEW

Alcoa has been a major Australian exporter and employer for over 40 years. Alcoa's operations in Victoria, Western Australia and New South Wales form an integrated aluminium industry which produces about 47% of Australia's alumina and 30% of the national aluminium output. These operations include bauxite mines, refineries, smelters, rolling mills and aluminium recycling facilities adding value to Australian resources throughout the manufacturing process.

Alcoa of Australia Limited is 60% owned by Alcoa Inc and 40% by Alumina Limited. Alumina Limited was established in 2002, following the de-merger of WMC Limited which partnered with Alcoa in the 1950s to build Australia's aluminium industry.

Alcoa directly employs over 6,000 people in Australia at facilities in regional areas of Western Australia and Victoria. Thousands more are employed as contractors across Alcoa's operations. Alcoa produces one third of Australia's aluminium, about half of its alumina and is the country's largest recycler of aluminium. Alcoa is Victoria's largest exporter. The smelting process is energy intensive, however its product – aluminium – is an Australian example of resource value-adding and Alcoa's products that are produced in Australia are sold into a competitive global market.

Alcoa of Australia welcomes the release of the issues paper from the Prime Minister's Task Group on Emissions Trading. The Issues Paper provides a broad overview of a very complex issue and is an important contribution to the national debate.

Climate Change is one of the key issues of our time. As Alcoa recognised over a decade ago, the public debate has moved from whether climate change is occurring to what can we do to address it.

Alcoa supports the introduction of a properly designed emissions trading scheme that includes all major emitters and sectors, and which allows Australian industry to grow and thrive. Such a scheme can deliver real environmental outcomes at the global level by promoting production and investment in greenhouse efficient industries and locations. In the absence of a global greenhouse management scheme, Alcoa supports a national scheme, particularly one that:

- Includes as many sectors as possible;
- Recognises and encourages early action;
- Recognises the role of technology solutions;
- Allows linkages to other national schemes; and,
- Appropriately deals with the realities of the international market place.

Such a scheme would be complex. Considerable thought, consultation and planning will need to be undertaken to facilitate implementation of such a scheme. As such, Alcoa would also support the introduction of a transitional program prior to the introduction of an emissions trading scheme.

Alcoa in Australia has over the past decade significantly reduced its greenhouse emissions. For example, Alcoa's Victorian smelters have reduced greenhouse gas emissions per tonne of aluminium by 20 per cent since 1990. At Alcoa's alumina

refineries in Western Australia, emissions have been reduced by 6 per cent from an already very efficient base.

Alcoa – A Global View

Alcoa took a voluntary global leadership position in addressing climate change and reducing greenhouse gas emissions. It set an ambitious target to reduce its 1990 global direct greenhouse gas emissions by 25 per cent by 2010. This was achieved in 2003. Alcoa is now working to maintain that reduction as the company expands.

USCAP – Alcoa is a Member

The recent call by the United States Climate Action Partnership (of which Alcoa is a member) for the introduction of mandatory and flexible climate programme in the United States reflects Alcoa's long standing position of promoting realistic and effective policy responses to climate change.

USCAP recognises that effective climate change policy should address the global dimension of the problem. Further, it must recognise the importance of technology, create economic opportunity, be fair to sectors disproportionately impacted and encourage early action.

As part of this, USCAP has called for the introduction of a cap-and-trade program. In addition, USCAP calls for a national program to accelerate the development and deployment of technology along with approaches to encourage action by other countries, including those in the developing world.

Many of the actions called for in the USCAP paper are already being undertaken in Australia, with the full support of Alcoa. Australia already has mandatory reporting of greenhouse emissions, a clear focus on technology through the AP6 process, investment in clean coal technologies, significant energy efficiency measures at the Federal and State levels, and a leading role in the post-2012 international framework discussions.

Aluminium – Part of the Solution

Australia's aluminium industry is one of the most energy efficient in the world. Every kilogram of alumina produced by Alcoa in Australia produces less than half the greenhouse emissions compared to Chinese refineries.

More broadly, aluminium has the potential to be part of the climate change solution through the increased use of aluminium in transport and aluminium recycling. Every kilogram used in a car potentially saves 20 kilograms of greenhouse gas emissions over the life of the vehicle - this includes the emissions generated in producing the aluminium.

Aluminium is almost endlessly recyclable and recycling saves 95 per cent of the energy it would take to make new metal. Two thirds of aluminium produced since 1886 is still in use today.

Recycling and the use of aluminium in transport are expected to make aluminium climate-neutral by 2020. The greenhouse gas emissions from aluminium production

will be fully offset by the amount of carbon dioxide emissions saved by the use of aluminium in the transportation industry and recycling.

2. BACKGROUND

2.1 Alcoa in Australia

Alcoa has driven the development of Australia's aluminium industry for over 40 years. In Australia, Alcoa operates:

- bauxite mines and alumina refineries in Western Australia
- aluminium smelters in Victoria
- aluminium rolling mills and recycling plants in Victoria and NSW
- dedicated port facilities in WA and Victoria; and
- the Anglesea power station in Victoria

These operations produce over 21 million tonnes of bauxite, 8 million tonnes of alumina or 13 per cent of world demand, 540,000 tonnes of aluminium and 180,000 tonnes of aluminium rolled product.

Alcoa is a leading exporter with around \$3.5 billion of product exported each year. It is Victoria's largest exporter and also accounts for 8 per cent of Western Australia's exports. Alcoa Australia exports to the world's fastest growing economies including Asia.

The aluminium industry makes a significant contribution to local communities. Around 80 cents in every export dollar earned by Alcoa Australia stays in Australia, including through wages, spending on local suppliers, community sponsorships, royalties, taxes and dividends.

Alcoa is a major employer and provides jobs for 6000 employees and contractors, predominantly in regional Australia. Alcoa also supports local businesses and employment through local spending.

Alcoa is investing to expand its operations in Australia. It has completed a major upgrade of its Pinjarra refinery and has proposed an expansion of its Wagerup refinery. Together these projects could generate \$23 billion in additional exports for Australia and thousands of new jobs.

Alcoa provides around \$6 million each year in community sponsorships and partnerships. A further \$8 million is invested to support community-based apprentices and trainees. Over 1500 tradespeople have been trained by Alcoa through its apprentice program.

2.2 Alcoa on Climate Change

A defining feature of the aluminium industry is its stability and longevity. The industry operates long life assets with high capital and replacement costs. Sustainability is therefore critical to the aluminium industry and underpins its decisions, actions and products.

Alcoa has taken a global leadership role on climate change policy, and will continue to do so. Alcoa's record is one of substantial emission reductions.

At a global level Alcoa has already reduced direct emissions by 25% compared to 1990 levels. This was achieved in 2003.

In Australia, Alcoa has reduced the emissions intensity of aluminium smelting by 20% compared to 1990 levels.

2.3 Deployment of new technology to reduce greenhouse emissions

Alcoa's greenhouse improvements have been underpinned by innovation and new technology. As Australia addresses climate change, Alcoa will continue to take a leading role through its application of technologies that reduce greenhouse emissions.

2.3.1 New smelting technology

Alcoa is developing new aluminium smelting technology that will further improve greenhouse performance.

The technology will eliminate all consumable carbon anodes and related CO₂ emissions. It will also eliminate all perfluorocarbon (PFC) emissions which are a potent greenhouse gas.

2.3.2 Gas-fired cogeneration

Alcoa and Alinta Limited are partnering to build greenhouse friendly cogeneration power plants at our refineries in Western Australia. The plants produce electricity and steam from natural gas, delivering substantial greenhouse efficiency benefits.

Cogeneration plants at Alcoa's Pinjarra and Wagerup refineries could save over 1.8 million tonnes of greenhouse emissions each year compared to conventional plants. This is equivalent to taking 450,000 cars off the road in Australia – a significant greenhouse benefit.

2.3.3 Carbon capture

Alcoa has developed new carbon capture technology that uses waste CO₂ to treat bauxite residue.

Bauxite residue is produced by alumina refineries and currently requires long term storage.

This new process delivers significant greenhouse benefits by locking up CO₂ that is otherwise released into the atmosphere.

Alcoa's first residue carbonation plant is operating at Alcoa's Kwinana refinery in Western Australia and uses waste CO₂ from a nearby ammonia plant.

Alcoa plans to deploy this technology to all its Australian refineries over the next year. Deployment across Alcoa's operations in Australia alone could save 300,000 tonnes of CO₂ each year. The company will also deploy the technology to its refineries across the globe when practical.

2.4 Action at the grassroots level

Although climate change is a global issue, in Australia Alcoa is working with its workforce and the communities in which it operates to address climate change at a grassroots level.

In a first for Australian industry, Alcoa and Greening Australia have developed a greenhouse reduction program for Alcoa employees and communities called 'Make an Impact'

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The 'Make an Impact' program includes a greenhouse footprint calculator and tips to cut energy, water use and waste. Given that households generate almost one-fifth of Australia's greenhouse emissions, helping change everyday activities and habits can have a real impact. This Australian initiative will subsequently be implemented to Alcoa staff across the world.

Alcoa employees also participate in voluntary tree planting, and the company is supporting this through the global 'Ten Million Trees' program. The program aims to plant 10 million new trees worldwide by 2020 which will absorb more than 250,000 tonnes of carbon dioxide each year.

Alcoa has been consistently recognised in the Dow Jones Sustainability Index and by the World Economic Forum as one of the most sustainable companies in the world.

2.5 Asia-Pacific Partnership on Clean Development and Climate.

Alcoa supports and has been actively involved in the work of the Asia-Pacific Partnership on Clean Development and Climate (AP6).

The Australian aluminium industry is actively supporting the work of the Partnership through the Aluminium Taskforce chaired by Australia. The Taskforce is examining opportunities to share best practice and technology to reduce greenhouse emissions. This includes Alcoa's new carbon capture technology.

Importantly, the Partnership includes the world's major greenhouse emitting countries, including the United States, India and China. For example, China has over

80 aluminium smelters - compared to Australia's six smelters - and accounts for over a quarter of global aluminium production. Sharing best practices and technology will have a significant impact in reducing greenhouse emissions.

Alcoa Australia is an active participant in the work of the AP6 sub forums, including those associated with technology development.

3. RESPONSE TO SPECIFIC ISSUES RAISED IN THE ISSUES PAPER

Alcoa welcomes the release of the Prime Minister's Task Group on Emissions Trading Issues Paper.

The Issues Paper provides a broad overview of a very complex issue and is an important contribution to the national debate. Alcoa supports the introduction of a properly designed emissions trading scheme.

3.1 Overview

Alcoa's Australian operations mine bauxite, refine alumina and smelt and recycle aluminium. Together they represent the complete value chain for aluminium production. Alcoa produces one third of Australia's aluminium, about half of its alumina and is the country's largest recycler of aluminium. Importantly, Alcoa of Australia is an example of resource value-adding before export to the international market place.

Across its operations in Australia, Alcoa directly employs over 6,000 people at facilities in regional areas of Western Australia and Victoria, with thousands more employed as contractors. As with other resource and commodity companies, the true value of Alcoa's operations is significantly greater than its direct benefits.

For instance, while 20 per cent of the workforce in Portland Victoria is employed by the Portland Aluminium smelter, Alcoa's contribution to the communities in which it operates is more than simple statistics – Alcoa is an integral part of those communities.

Alcoa's end product – aluminium – is energy intensive. Accordingly, Alcoa has long understood that energy efficiency and greenhouse performance go hand-in-hand and both have been targets for technology improvement for many years with substantial advances and goals already achieved.

Aluminium is a global commodity. Factors that increase the cost of energy will impact on the sustainability and growth of Australian produced aluminium. Ideally tackling the issue of climate change needs to be by way of a global scheme.

However, given the importance of addressing climate change, and the uncertainty of the development of a truly global scheme, Alcoa supports the implementation of transitional measures, in particular, the introduction of a properly designed national emission trading scheme that encompasses:

- The inclusion of as many sectors as possible;
- Recognition of early action;
- The important role of technology solutions;
- Linkages to other national schemes; and
- The importance of the international market place.

There is therefore a need to recognise Australia's role in the international market place. Measures aimed at dealing with this issue should consider the trade exposed sector and should be in place only in the absence of an effective global scheme. In that context, there are two well recognised mechanisms that may have merit.

1. Allocation of emissions credits to trade exposed sectors to cover the increased costs of production; or,
2. Allowing trade exposed energy intensive sectors to obtain a rebate on that part of the production that is exported.

The equal treatment and consistent application of such measures across all trade exposed, energy intensive industries would be important.

3.2 Key factors likely to affect the cost of reducing emissions over time

Underpinning the effort to reduce emissions is the desire to ensure that carbon is appropriately priced. Issues that are likely to affect the cost of reducing emissions include a broad range of factors such as:

1. A country's factor endowments. Australia's economy is carbon intensive. For the Australian economy to reduce its carbon intensity there will be an economic cost.
2. Existing energy technologies and incentives for research and development. If Australia is to introduce new technologies, there is a need for appropriate incentives to be put in place to encourage research and development.
3. Design of an emissions trading scheme. In designing a scheme some of the key issues to be considered include:
 - The range of sectors included,
 - Offset availability,
 - Recognition of early action,
 - International linkages (and fungibility),
 - Technology incentives/facilitation,
 - Transaction costs; and
 - Penalty/price caps.
4. Complementary measures that are aimed at reducing emissions, but are not included in an emission trading scheme. The extent and design of these could impact on the cost of decreasing emissions.

Reducing emissions will involve a cost. No single, simple solution will be cost-free. Any scheme to reduce emissions must be developed in way that minimises these cost and allows industry to adjust and continue to grow.

For that reason, Alcoa supports the introduction of a properly designed emissions trading scheme as the most cost-effective means of achieving emission reductions in the long term.

Such schemes are inherently complex and cannot be introduced without considerable thought, consultation and planning. As such, there may be a need to introduce a transitional program in a sustainable manner that will enable such a scheme to be introduced.

3.3 Design features of a workable global (and associated Australian) emissions trading scheme.

A workable global (and associated Australian) emissions trading scheme needs to include the following:

1. **It must adequately address climate change.** There needs to be agreement on long term targets and timelines.
2. **Agreement on broad sectoral coverage.** Ideally all major emitting sectors of the economy would be included (agriculture, transport, stationary energy, land use change/forest and industrial processes).
3. **Inclusion of all major international emitters.** A global trading scheme would need by definition to include countries of the developed world in addition to key developing economies.
4. **Investment certainty.** Emissions credits should be long term and be fungible with other international schemes. This is to allow the development of secondary markets and is aimed at achieving least cost outcomes and providing investment certainty.
5. **Recognise the importance of technology.** Encourage research and development into, and implementation of, low emissions technologies.
6. **Provide for investment back into the scheme.** Revenues from any permit auctions could be used for research and development of greenhouse gas reduction initiatives.

A global emissions trading scheme is currently considered to be the ideal means of achieving long term emissions abatement.

3.4 Design features of a workable Australian emissions trading scheme in the absence of a global scheme.

As with the design of a global emissions trading scheme, there are a number of key attributes that need to be included in an Australian emissions trading scheme. Given that the scheme could be introduced prior to the establishment of a global emissions trading scheme, there would be the need for additional design requirements. The design features for a workable Australian emissions trading scheme include:

1. **Adequately addressing the issue of climate change.** There needs to be agreement on long term targets and timelines.
2. **Investment certainty.** Emissions credits should be long term and fungible with other international schemes.
3. **Inclusion of all sectors.** All sectors such as agriculture, transport, stationary energy, industrial processes and land use/forestry must be included
4. **Offsets.** Allowance for a broad range of offsets domestically and internationally.
5. **Recognition of early action** - especially investment in greenhouse reducing technologies.
6. **Incentives for technology development.** Encourage and provide appropriate incentives for the early development and implementation of emission reduction technology, carbon capture, offsets and production efficiency.
7. **Equal treatment for all trade exposed and energy intensive sectors.**

As the Prime Minister foreshadows in the terms of reference to the Emissions Trading Task Group, the introduction of a national emissions trading scheme prior to the establishment of a global system could lead to the trade exposed energy intensive sectors being vulnerable to cost pressures not being faced by Australia's competitors. This is an issue that requires very careful consideration in policy development and scheme design phases.

Appendix A - Specific Answers

Context Setting

1. *What are the implications for Australia of a carbon constrained future?*

The implications of a carbon constrained future for Australia will inevitably lead to higher energy costs for all consumers. This, in absence of a global emissions trading scheme would mean a shift in focus for Australian industry in terms of economic and competitive advantage.

Furthermore the absence of a global carbon constraint needs to be carefully considered. Some sectors of the economy will be more impacted than others. How this is managed will require careful consideration, consultation and policy formulation by Government.

2. *What are the elements likely to affect the cost of reducing emissions over time and how might these develop?*

The key to reducing emissions over time will be technology development. Alcoa's experience is one of continual technical innovation, and this has directly contributed to Alcoa being able to reduce its greenhouse emissions.

In the long term, the best way to reduce this cost is through a well designed scheme that encourages and recognises the role of technology solutions. A central element of this is the need for long term certainty to ensure the appropriate investment environment.

In the short term, there may be a need for other measures that provide appropriate incentives to encourage research and development of low emissions technology.

3. *To what extent is Australian industry currently factoring a carbon price into investment decisions? How can longer term investment certainty be improved?*

Energy costs and factors that can influence them, are of critical importance to business planning decisions. A carbon price is one such factor and certainty for industry is required to encourage investment.

A workable global emissions trading scheme

1. *What would constitute a workable global emissions trading scheme from Australia's perspective? It would be useful if respondents could reflect on the key principles, design elements and objectives underlying such a scheme:*

a. *How to best protect Australia's economic competitiveness?*

The fundamental challenge confronting policy makers is dealing with the potential exposure faced by energy intensive, trade exposed industries if a domestic carbon price is introduced in the absence of a similar cost for our international competitors.

Section 3.3 of this submission provides further information relevant to the above question.

b. How encompassing? What constitutes an effective definition of "global" (ie does this include all countries, major emitters only, Australia's major trading partners or competitors in key sectors)?

Ideally any global scheme should include all countries and therefore be truly global.

However in the shorter term a more pragmatic approach may need to be taken. In this instance for a scheme to be environmental effective it must enable linkages to other national schemes and ideally facilitate the development of comparable schemes in major emitting countries such as China and India.

c. What scope? which greenhouse gases should be included and which sectors (or industries) covered?

If a scheme is to be environmentally effective all six greenhouse gases should be included. Also, the scheme should have broad sectoral coverage including agriculture, transport, stationary energy, industrial processes and land use/forestry.

d. How should permits be issued or allocated and offset creation be administered?

Permits should establish a property right. The issuing and administration of permits would be the responsibility of the Federal Government or its agency.

Offsets should be administered with the twin aims of environmental effectiveness and minimised transaction costs

e. How to ensure market transparency through registry and information systems, monitoring and compliance?

For a registry to be effectual it should provide real time information for market participants, similar to a stock exchange model. Monitoring and compliance systems should be least cost.

f. What financial market support structures need to be established?

Financial markets will form the basis of an effective emissions trading scheme. The market should be encouraged to develop secondary markets that will help establish long term certainty for industry.

g. What other key design elements are required?

See sections 3.3 and 3.4.

2. How have existing emissions trading schemes delivered against key desirable design elements? What problems have emerged?

Several reviews of existing schemes such as that in the European Union (EU) have identified key design limitations and factors that effect market durability. A key issue is the initial allocation process, and the length of the scheme.

The main lesson from other market experiences is that emissions trading schemes are inherently complex. Considerable thought, consultation and planning needs to be undertaken prior to the implementation of such a scheme.

3. Does the inclusion and design of a global emissions trading scheme have implications for the broader international climate change framework?

Yes, a key component will be feedback mechanisms that evaluate the environmental effectiveness of any global (or linked national) scheme.

4. What would be the best way to design a workable global scheme to encourage maximum participation at the outset? In particular, would an accession mechanism, an incentive, or flexibility in the form of commitments, be needed to allow additional countries to be brought into the system more fully over time? If yes, what are the key design elements?

Refer to section 3.3

5. What are the possible advantages and disadvantages to Australia of being positioned within the first-wave of countries to adopt emissions trading as a step towards a workable global scheme?

Australia, along with other developed countries, has a key leadership role to play in addressing climate change.

The major challenge for Australia, being among the first wave of countries to adopt an emissions trading scheme, is to ensure energy intensive trade exposed industries remain sustainable and are able to expand and remain effective in the international marketplace.

As discussed earlier in the paper there are a range of ways this can be achieved, while also ensuring the environmental goals of a national emissions trading scheme are maintained.

The lessons learnt from the Australian experience will be important for other countries that make the transition to introducing a carbon price.

Domestic action to prepare for a workable global scheme

1. How is Australia positioned to respond to or influence any emerging workable global scheme? Respondents could reflect on whether:

a. The appropriate systems are available for greenhouse reporting and measurement?

Australia already has a robust greenhouse reporting mechanism.

The Australian Greenhouse Office's (AGO) on-line reporting system OSCAR currently plays an integral role in measuring and collating Australia's greenhouse inventory.

b. Financial markets are able to provide relevant instruments for trading?

Existing financial market instruments could be adapted for trading.

A significant issue is the creation of suitable market liquidity. As such, there is a need for a large number of market participants.

The establishment of liquid secondary markets will be an essential part of creating long term certainty and minimum cost abatement options for market participants.

A key issue is minimising transaction costs.

2. What are the pros and cons of Australia adopting a domestic emissions trading scheme in the absence of a universal, fully-developed international scheme? It would be useful if respondents could reflect on:

a. The impact on global abatement efforts:

For what is truly a global issue it is important that countries such as Australia who will be in a leadership position implement a properly designed national scheme that could serve as a workable example to other countries and which could allow them to link with comparable schemes elsewhere.

b. The implications for Australia's international competitiveness:

Australia's industry, with the introduction of an emissions trading scheme, would need to be sustainable and have the opportunity to continue to expand and grow.

To ensure the viability of Australian industry the following should be considered:

- Equal treatment for trade exposed and energy intensive sectors.
- Appropriate allocations for trade exposed industries and rebate for exports (similar to long established practices).
- A focus by Government on policy approaches that are environmentally effective and maintain sustainable and expanding industry.
- Design considerations as discussed in section 3.4.

c. The implications for industry performance;

Time will be required for industry to adjust to the introduction of an emissions trading scheme. For this reason the introduction of any scheme should include a transitional program that meets the operational and economic needs of the sectors.

d. The extent to which a domestic scheme would promote investment generally and in low emissions technologies in particular;

For a scheme to promote investment in low emissions technology, pricing will be all important and must be robust. It must also be recognised that the energy costs of all consumers will increase. Incentives for the development and deployment of new technology will also be important.

e. Whether transitional measures would be necessary to protect Australia's existing competitive advantages;

There is no doubt that the introduction of an emissions trading scheme will impact on the operations of the different sectors. For this reason any scheme must include a transitional program that meets the operational and economic needs of the sectors.

f. Whether the early introduction of a domestic trading scheme might promote the emergence of future competitive advantages for Australia;

Thought must be given in the development of any emissions trading scheme for the provision of sector relevant incentives.

A well designed scheme that incorporated incentives could see the emergence of future competitive advantages leading to new international opportunities.

Australia's current competitive advantages should be recognised and encouraged in any scheme design. Alcoa's Australian refineries produce less than 50% of the greenhouse gases per tonne of alumina produced by some refineries in China

g. The efficacy of a domestic emissions trading scheme in achieving policy objectives relative to alternative or complementary measures;

An emissions trading scheme should be the most efficient means of achieving substantial long term emission reductions.

h. The opportunity for Australia to design a flexible scheme which would allow the country to calibrate its commitments in response to international developments.

Refer to section 3.4.

3. What are the key design features (such as permit allocation, offsets and coverage) of a workable domestic scheme?

As with the design of a global emissions trading scheme, there are a number of key attributes that need to be included in an Australian emissions trading scheme. Given that the scheme could be introduced prior to the establishment of a global emissions trading scheme, there would be the need for additional design requirements. The design features for a workable Australian emissions trading scheme include:

- Adequately addressing the issue of climate change. There needs to be agreement on long term targets and timelines.
- Investment certainty. Emissions credits should be long term and able to interact with other international schemes.
- Inclusion of all sectors. All sectors such as agriculture, transport, stationary energy, industrial processes and land use/forestry should be included
- Offsets. Allowance for a broad range of offsets domestically and internationally.
- Recognition of early action - especially investment in greenhouse reducing technologies.
- Incentives for early development. Encourage and provide appropriate incentives for the early development and implementation of emission reduction technology, carbon capture, offsets and production efficiency.
- Certainty and equal treatment of trade exposed and energy intensive sectors.

As the Prime Minister foreshadows in the terms of reference to the Emissions Trading Task Group, the introduction of a national emissions trading scheme prior to the establishment of a global system could lead to the trade exposed energy intensive sectors being vulnerable to cost pressures not being faced by Australia's competitors.

Therefore any measures aimed at dealing with this issue should consider to the trade exposed sector and be in place in the absence of global scheme. In that context, there are two main ways this might be dealt with.

- (i) Allocation of emissions credits to trade exposed sectors to cover the increased costs of production; or,
- (ii) Allowing trade exposed energy intensive sectors to obtain a rebate on that part of the production that is exported.

4. What other steps could Australia take:

a. To prepare for any workable global scheme?

Alcoa encourages both federal and state initiatives to consult widely with stakeholders in the development of policy initiatives.

b. To improve energy efficiency in end uses, including through better demand management and the facilitation of future technological improvements?

Incentives for the early implementation of low emissions technology is a key consideration.

c. To encourage the commercial deployment, in Australia and overseas, of low emissions technology?

Research, development and deployment of new emission reducing technologies will be a critical aspect of reducing emissions. Through the AP6 process, the Federal Government, along with Alcoa and the Australian aluminium industry, is taking a leading international role in encouraging the formulation and implementation of policies that enable the sharing of newly developed low emission technology.

5. Are the proposals put forward in 4(a)-(c) best considered as complements to a domestic trading scheme or as an alternative?

The establishment of a domestic Emissions Trading Scheme and associated technological improvements should be the primary means of reducing greenhouse emissions.

Other proposals and existing schemes need to be consolidated and in some cases incorporated into a domestic scheme. This is imperative to avoid duplication of policies and reporting requirements.

In particular, the many and varied of State-based schemes need to be rationalised.

Other Measures

1. Were Australia to adopt an emissions trading scheme what would be the implications for the current suite of measures to address climate change?

a. Would emissions trading further encourage the research and development of low emission technologies?

Research, development and deployment of new emission reducing technologies will be a critical aspect of reducing emissions. Incentives must be built into the scheme for early development and implementation. The scheme must encourage and provide appropriate incentives for the early development and implementation for not just emission reduction technology but also carbon capture, offsets and production.

b. Would emissions trading have an impact on the commercial deployment of other low emissions technologies?

An emissions trading scheme should have a facilitative impact on the deployment of low emissions technology. It is difficult to assess at this stage just what that impact might be.

c. Would emissions trading have an impact on the take-up of low cost abatement options such as energy efficiency measures?

As above.

d. Would there be scope to abolish other, more costly, interventions without affecting the overall abatement effort?

The establishment of an Australian Emissions Trading Scheme should be the primary means of reducing greenhouse emissions. The current suite of State-based measures could be incorporated into a national scheme. This is imperative to avoid duplication of policies and reporting requirements.

e. What other policies would most effectively complement a possible future emissions trading system?

Continued Government and Industry focus on research and development of low emissions technology. Refer to section 3.4.

2. What low cost abatement options are available now? How technically feasible is it that existing infrastructure, plant and equipment can be modified to reduce emissions?

Alcoa has already applied available low cost technologies at a site level which has led to significant reductions in greenhouse gas emissions and emission intensity. This highlights the potential for reducing emissions from existing plants. Future large scale reductions are likely to come from technology development and deployment. This highlights the importance of encouraging technology solutions.

3. To what extent would emissions trading facilitate such abatement or modification activities?

An effective Emissions Trading Scheme should facilitate long term emission reductions, especially when coupled with incentives for technology development and implementation. In the short term, there may be a need for additional incentives or other measures, especially where carbon emissions could be significantly reduced and the "lock in" of future emissions avoided.