***Environment Business Australia***

***Submission to the National Productivity Commission***
*regarding the*
***Discussion Draft Review of National Competition Policy Reforms***
January 2005

Environment Business Australia (EBA) congratulates the National Productivity Commission on the draft discussion document *Review of National Competition Policy Reforms* and especially for highlighting how fundamental the natural environment is to Australia's wealth and competitiveness. It is this aspect of the Competition Policy Reforms that our submission focuses on.

In addition to addressing the draft proposals we have highlighted additional aspects which we recommend for consideration.

## *Executive Summary*

Current projections indicate that the global economy will increase by 80% by 2020, and quadruple by 2050. If environmental externalities increase in line with this level of economic expansion we will see fundamental and irreversible impacts on global climate, freshwater resources, and biodiversity.

It is therefore vital that competitiveness become increasingly linked to the ability to decouple growth from environmental impact. Competition policy must therefore ensure that environmental impacts are internalised in the cost of goods and services sold in the economy.

The goal should be an economy that has little or no net impact on the environment. And, that Australian exports assist other countries reduce negative externality impacts on the global commons.

EBA believes that competition reform is an opportunity to:

- Protect Australia's natural capital
- Boost the country's international competitiveness by adopting a leadership role in advancing the 'industrial revolution' that is based on sustainability.

EBA's role is to help drive change that enhances Australian prosperity while protecting the natural capital which underpins our wealth, competitiveness and lifestyle.

In competition policy terms we emphasise that there are five critical and synergistic reform elements required:

- Internalising the costs of negative externalities with flow-on effects of reducing "collateral damage" and its drain on consolidated revenue
- Full cost recovery pricing creating equity balance where market leaders in sustainability are not undermined by competitors who are poor performers
- An enabling Government framework that encourages innovation and its commercialisation
- Providing markets with timely and meaningful intelligence and signals

- Public enterprises and operations to operate to the same standards as are demanded of the private sector

*Internalising the cost of negative externalities*
Action is needed to significantly reduce, eliminate, or mitigate against the unpriced economic cost of climate change, degradation of water resources, dryland salinity, desertification, pollution, waste, endocrine disrupters, and biodiversity loss.

Obviously, these are not just cumulative economic costs - many negative externalities also have severe environmental, health and quality of life impacts. But by putting them in the economic context we believe it is easier to gauge the benefits of action, and to plan and build the roadmap to change that will be in the national interest.

There are numerous opportunities to create commercial benefit from:

- Making mainstream business more efficient
- 'Public good' prevention of harm
- Reducing waste in all its forms
- Reducing the need for high cost clean-up, repair, mitigation or adaptation
- Enhancing Australia's reputation as a supplier of sustainable goods and services.

*Full cost recovery pricing*
Discounting future costs and risks hides the accumulation of environmental debt and is inconsistent with the principles of sustainability and intergenerational equity.

Therefore, full cost recovery pricing should include the cost of preventing or mitigating negative externalities, and it should also include the cost of R&D, demonstration and commercialisation of innovation. This would help to create a feedback loop where innovation leaders are rewarded for their efforts - encouraging further investment in new technologies and systems.

EBA recommends an approach of capital gains tax relief or re-investment tax concessions where funds can be used to further develop a company and its operations. Accelerated depreciation+ should be encouraged as a way to replace outdated plant and equipment that is contributing to environmental debt. If at any future stage a carbon tax were to be introduced we would recommend in the strongest possible terms that it be hypothecated to R&D and its commercialisation, and to enabling upgrade or write-off and replacement of infrastructure.

*An enabling framework*
Industry can lead with innovation, demonstration and commercialisation of next generation technologies and systems, but governments have the most important role - only they can provide the "enabling framework" and necessary flexibility to overcome short-term approaches and to galvanise action that will lead to desired outcomes.

Transition to the *future we want* will require innovation. The technology and systems aspects of innovation have to be operationally tested and showcased and this is only likely to occur to a meaningful extent if there is a whole of Government reform at the institutional level of:

- Competition policy that ensures competitive neutrality
- The things that facilitate change - such as broader regulation based on best practicable technology and systems; standards; rating systems; eco-labelling; education; economic studies of externalities; export (both trade and aid); and demonstration of appropriate technologies
- Economic instruments to address unfair competition and unsatisfactory outcomes based on unpriced environmental outcomes, and here we recommend an urgent focus on taxation (penalty and incentive based), tradable permits or units, and an overhaul

of direct and indirect subsidies to avoid perverse outcomes and to provide positive offsets
- Government (at all levels) using their procurement and investment funds to provide 'friendly markets'[1]

This enabling framework would help to overcome the short-term, rigid silo approach and would make the tools that are at governments' disposal far more effective.

Some examples of an enabling framework are offered later in this paper.

*Providing markets with timely and meaningful intelligence and signals*
Significantly, the enabling framework will help markets to operate more efficiently by providing timely and meaningful signals on opportunity and risk. Many current market failures occur because of the belief that markets will automatically seek out benchmark technologies, infrastructure or operating systems. This is far from the truth. If the market does not have adequate intelligence about opportunity, risk, and long-term versus short-term cost, then the market will defer adoption of new benchmarks in favour of 'tried and tested' and short-term low cost.

The market's current lack of intelligence (as opposed to the profusion of data) tends to stifle rather than encourage R&D, commercialisation, exploration, and certainly masks the need for major institutional overhaul.

*Public sector competing with private sector*
There is a major equity issue in relation to the private sector having to compete against the constraints put in place by the public sector for the provision of infrastructure, systems and services. The short-term lowest capex cost approach of government tenders, combined with the demands for technology that are tried and tested at equivalent scale[2] is stifling innovation and limiting export potential (other countries want to see Australian innovation operating in Australia before they consider investing). The role of governments at all levels should be one of leadership by example and tenders should be based on desired outcomes (not process or prescriptive technology) and should call for best practicable technology with full life-cycle costing evaluation and should stipulate zero environmental debt accumulation.

One of the most important aspects that Competition Policy Reforms should deal with is that public enterprises and operations must be required to operate to the same high standards as are demanded of the private sector. Anything less delivers a short term subsidy to the public sector which may continue negative externality impacts that the community and taxpayers have to bear.

Full cost recovery pricing is not just an issue for the private sector, in the public sector the cash flow from utilities and Government owned enterprises is relied on by consolidated revenue (at all three levels of government). This creates a reluctance to change regulations that would have longer term social and environmental benefit. Much needed funding to address infrastructure upgrades, or to replace or retrofit technology or infrastructure is simply not being made available.

[1] Bjorn Stigson, President, World Business Council for Sustainable Development (WBCSD) speaking at the CoP10 on climate change in Buenos Aires, December 04
[2] The classic example is the Memtech water filtration technology.

## *Background*

*Environment Business Australia*
EBA is the peak body representing the Australian environment and sustainability industry. EBA's mission statement is "To develop the full commercial potential of the Australian environment industry in domestic and export markets".

The banking, investment, insurance, utilities, manufacturing, forestry, consultancy, engineering, natural resource management, water, energy, waste and recycling sectors are represented among our membership, alongside providers of research and technology solutions.

*Value of the environment industry*
In 2001 a study undertaken by Environment Australia (now the Department of Environment and Heritage), demonstrated that this industry sector had a turnover of nearly $17 billion per annum and employs 146,200 people in 5,640 private and public sector organisations. The broader impact of the industry has not yet been quantified.

*An emerging industry*
As with any sunrise industry, the environment and sustainability industry not only has to forge new markets, but it has to do this by demonstrating strong return on investment and proving that new technologies, infrastructure, and operating systems have significant efficiency, productivity, waste avoidance, and resiliency benefits over traditional approaches.

This can sometimes create conflict with more established enterprises who see:

- The potential erosion of their existing market
- Prices that have been artificially deflated for decades starting to rise for goods and services (such as water and electricity)
- Costs (such as pollution prevention) that have been 'outsourced' onto the environment must now be brought in-house

*Issue of equity in the marketplace*
There is a highly complex equity issue at stake. Companies which are sustainability leaders incorporate in their business practices the cost of reducing pollution or waste in any of its forms. In a truly 'free' market this leadership role would be rewarded. However, the competitiveness of these leaders is currently undermined by poor performers who get a 'free ride' by outsourcing unwanted costs onto the environment and/or onto public health, and can therefore provide goods and services at a perceived lower cost.

We understand the corollary - Australia's traditional industries have been the backbone upon which much of today's wealth has been created and until relatively recently were not called upon to address environmental and sustainability issues.

Nevertheless, the single most important aspect of competition reform is to provide industry and investors with the surety of a legal framework which ensures that the equity they put into national interest transition will not be undermined by lower - and less costly - performance from competitors.

*Forseeability - markets and trade rules will change*
Markets are already undergoing change. Part of this is because of consumer attitudes, and investors' and insurers' risk assessments of latent liabilities. But part of the change is the forseeability that at some point the overload stresses being placed on the environment may reach a tipping point where natural capital devolves into chaos and economic capital is unable to rectify the situation.

The increasing awareness, based on sound science, of this forseeability has great significance for the future of trade. At present importing countries can apply sanctions if goods or services will have a negative environmental or health impact in their country. WTO regulations currently specify that importing countries cannot apply environmental sanctions if the harm is caused in the country of origin. However, we expect that this rule will change as negative impacts on the global commons demand a broad international approach to reduce externalities. It is highly likely that carbon emissions could be the test case in the WTO Appellate Court.

It is therefore incumbent to design competition policy that can deal with the forseeable changes which will affect tomorrow's markets.

Reform must help to effect the transition by taking the best of the old and the promise of the new to help build the next generation of competitive organisations while at the same time protecting jobs, resources, and the economy.

### *Internalising the economic costs of negative externalities*

The biggest challenge is monetising tomorrow's value to galvanise action today, and this is why an enabling framework is so important[3]. It does not 'pick winners' per se, but it does create better opportunities for winners to emerge by rewarding high performance in any sector.

While capital markets have the critical role of identifying financial risk and liability and then changing investment, lending and insurance patterns, the marketplace cannot operate efficiently without timely intelligence translated into meaningful signals. At present the market does not receive adequate information about the collateral damage costs of externalities; the value of maintaining eco-system services; or the role that individual companies and technologies play in enhancing, maintaining, (or destroying) national wealth. It is interesting to note the increasing stipulations by fund managers (following the Equator Principles) demanding that sustainability aspects be considered in analyses of companies. This is leading to refusals to consider the merits of financial requirements until the investors are convinced that a project is sustainable. This is not just affecting the private sector, the recent Hazleton ruling highlights that risk assessments will increasingly be based on environmental criteria and that governments too need to plan and invest sustainably. The long-term management of infrastructure is likely to be affected by this - will there be access to capital for expansion that does not have sustainability woven into its business case?

New technologies, systems, or infrastructure will only be guaranteed of competitive neutrality when the market is capable of rewarding long-term action and benefits, and when the market fully comprehends that short term spend can avert deep financial, environmental or quality of life losses. This is not currently the case, and while some new technologies will work their way through the maze, many more will be discarded because of perceived initial high cost or because they do not 'fit' a current tender specification or standard. The business case for action is often long-term and cannot be delineated in the short-term, but failure to act is creating an exponential growth curve of cost. This is not only a legacy to future generations - the accumulation of those costs and the irrevocability of some land and waterway degradation are decimating our own options.

[3] The need for an enabling framework became patently clear at the CoP10 climate change talks in Buenos Aires. All were agreed that technology is required for greenhouse gas abatement and mitigation and for the inevitable adaptation to climate change. However, while governments worldwide called for "technology", examples of economic or institutional support or 'friendly markets' were scant.

As an example, on the global scale there is much talk about high cost imposts of greenhouse gas abatement and mitigation, yet the market has largely not attempted to quantify the costs of adaptation to climate change.

Or another example perhaps better understood in Australia, dryland salinity and encroaching desertification has been known about for over a century, yet our current crisis has accumulated over decades because of a refusal to deal with the necessary short-term action.

With estimates that salinity costs the country between $2.6 billion and $6 billion per annum (and we challenge the former figure believing that it grossly understates the cost to the nation), there is no national benefit currency to be gained from deferring action.

On a global scale eco-system services (clean air, drinking water, pollination, stable climate and weather conditions, agricultural productivity, inter alia) have been put at the equivalent of global GDP by some economists. The value of our eco-system services is part of Australia's natural competitive advantage and must therefore be protected. While the competition aspect is important it should not be allowed to deflect attention away from the main issue - we could not afford, nor would we have the technology, to replace ecological services if the natural system went into chaos and delivery of services ceased. This is the only cost that the planet or any individual country cannot afford.

EBA's recommendation is to use the major tools available to effect change - firstly at the national level and secondly at the international level - to strengthen competitiveness, resilience and future prosperity.

## ***Enabling framework - why is it needed?***

Many technology solutions are already potentially available - even to some seemingly intractable problems - but many applicable technologies are not reaching the market. This is because the market either doesn't understand the immediate need for action, or, the technologies in question have a higher short-term cost than the market is used to.

Not only does this stifle existing technology but it also stifles R&D into next generation technologies that will be required.

As stated earlier in this submission, industry can supply the ingenuity and innovation but requires Government to provide the enabling framework. As mentioned above there are three main elements to this - the change agents, the market instruments, and the friendly market.

*Change agents*

*Regulation, standards and rating systems*

The first priority should be to set regulation that can help deliver on clearly defined desired outcomes. Regulation has often driven competitiveness by defining the standards which must be achieved and the penalties which will apply if they are not achieved. The mining and chemical industries have benefited in this way from regulation. For example, occupational health and safety regulations have increased efficiency and productivity as well as health and well-being in the workplace.

Industry can adapt to even very stringent regulations as long as they are set against rational time frames. Indeed regulation frequently drives innovation and competitiveness[4]. What

[4] For example the Province of British Columbia in Canada mandating zero emissions of furans and dioxins from pulp mills within a two year time frame. All companies bar one complied and exceeded international sales and

business does not want is a plethora of conflicting regulations and guidelines that are frequently changed. Investment in plant and infrastructure takes a significant time to amortise therefore regulation must clearly define the goals that are to be achieved and the standards that must be met and allow sufficient time to recover investment and encourage further R&D investment.

One of the most important aspects of competition reform should be to harmonise rules, regulations and guidelines across all Federal departments and throughout the three levels of government. This should be seen as a priority of Competition Policy Reforms.[5]

At present the States are doing a great deal of work on the development and application of standards and industry and are to be applauded for their work.

An important aspect of standards is the complex and difficult system for getting new standards adopted in Australia. No less difficult is the task of overhauling outdated and sometimes perverse standards. Companies are willing to devote time and resources to assist but find the process overly bureaucratic and drawn out (in some cases being out of date in a commercial sense even before the new standard comes into force). Some of our member companies report that the committees they have had dealings have demonstrated 'stacking' by vested interests. Standards Australia is therefore one of the institutions in need of change if it is to keep pace with international ratings agencies and financial indices. Australia should aspire to setting new international standards.

There is much work being done on eco-labelling by various Australian (primarily the Australian Environmental Labelling Association (AELA)) and international organisations and this is indicative of the changes in the marketplace where consumers and investors demand to know the credentials of a company or a product.

While it is understandable in the relatively early days of eco-labelling and reputational/sustainability indices that there is a profusion of agencies requesting information, companies are being inundated with demands for information. As with regulation - harmonisation is desperately needed.

In this regard, the concept of Environmental Technology Verification (ETV) is a sound process to scientifically peer review a manufacturer's claims. Canada and the USA have reciprocal systems and EBA has recommended a system of mutual recognition that includes Australia, and that could be extended to our trading partners, particularly in the Region. It is an onerous and expensive task to have technologies tested for each State and Territory EPA and for many individual local councils.

There is another aspect of standards that needs to be investigated by the Competition Policy Reforms and this related to natural resource management. Standards that are applicable in the USA or Europe do not necessarily translate to the Australian context or to other countries in the Region where Australia does business. For example, EU water standards have limited relevance here or in tropical zones.

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market share expectations. The one that failed to comply with the targets lost reputation, orders and rapidly went out of business. British Columbia became a sought-after source for 'green' pulp and paper.

[5] Where stronger regulation is required assistance with compliance should be encouraged at all levels of government especially for SMEs and the small enterprise commercial sector[5]. An excellent example is the Santa Monica Bay, California, pollution prevention legislation. From a 'no go zone' to safe swimming within two years. Santa Monica achieved their objectives by setting zero pollution targets within twenty four months. EPA and local environment inspectors became education officers for two years and there was a moratorium on any pollution fines (unless deliberate spills/releases were found). Once the two year grace period was up, crash repairers to dry cleaners had to have 100% compliance.

*Education*
The different layers of education have synergistic outcomes. Today's schoolchildren are well versed in the importance of the environment, often advising their parents - many senior corporate managers are forced into more sustainable action not because of the market, regulation, or pricing, but because of pressure from their children.

But at other levels education on the importance of sustainability has a long way to go. Firstly, it should be thoroughly indoctrinated throughout every high school, TAFE and university course. Business students need to know as much about their future environmental impacts as do science students.

One of the most immediate steps needed is a requirement that all Boards of Directors include at least one Director with knowledge of sustainability and environmental protection as it relates to all aspects of their company's direct or indirect activities. This is important for risk management, reputational development, competitiveness building and export potential.

We agree with the comment in section 5.12 *Investment reform to satisfy the twin tests of 'economic viability' and 'ecological sustainability'* and see this reaching far beyond water infrastructure with capital markets keen to avoid risk while wanting to take advantage of developing new markets.

The Australian Stock Exchange's principles include good initial guidance and we would encourage the ASX to revise these on a regular basis to take advantage of new knowledge and emerging solutions that can reduce negative externalities and liability.

*Economic instruments*
*Taxation*
Applying taxation more creatively should be an objective of the Competition Policy Reforms. By rewarding what we want, penalising what we don't want, and providing incentives for what we need, the system can reward early movers and help to avoid corporate cognitive dissonance.

Taxation should be used to reward commercial success, rather than to increase R&D and then penalise commercialisation. The success of reinvestment tax concessions in Silicon Valley provides a useful model.

On the other hand, taxation can effectively be used to penalise consistent poor performance. Data such as from the National Pollutant Inventory can be applied to raise tax levels to a sufficient level to pay for mitigation and clean up work. Taxing emissions may prove to be a more effective pollution deterrent than pollution fines applied by State EPAs. An excellent example is the NSW load-based licensing system where the cost of a licence rises and falls dependent on a company's own efforts to limit pollution.

The taxation system could also provide incentives for institutional investment in technology R&D, sustainable projects, infrastructure, etc.

There are also some irrational government taxation programs currently in place which lead to resources being underpriced. For example the tax deductions available for woodchip plantations which would be better allocated to reforestation of salinity prone areas.

*Market based instruments*
EBA is very strongly supportive of market based mechanisms. This approach works in tandem with technology and regulatory approaches and can help to break down silos while educating the marketplace, providing offsets, and catalysing beneficial change.

Our one note of caution is that when levies or taxes are used to change behaviour the monies should be hypothecated back to provide a positive incentive (e.g. recycled tax concessions, accelerated depreciation) that speeds up the desired outcome.

EBA is in the process of preparing a paper on carbon trading for the Minister of the Environment, in the meantime our recommendations regarding an Australian emissions trading system are attached in Appendix 3.

Our commentary regarding the Mandated Renewable Energy Target (MRET) is also attached in Appendix 4.

We are very supportive of mandated targets for energy efficiency and clean fuels and believe that the initial success of the MRET could be replicated with a Mandated Energy Efficiency Target and a Mandated Clean Fuels Target.

Trading of assets other than monetary units will increase - markets for NOx, SOx, salinity, carbon, biodiversity and water are developing rapidly. While this may add a layer of complexity to competitiveness issues we believe that Australia should become experts in environmental trading.

We strongly recommend that Australia take advantage of market based instruments to enhance performance criteria, provide offsets where necessary, catalyse innovation, and provide informed choice to business, investors, and consumers.

*Creating the friendly market*
*Government procurement and investment*
A critical reform is needed in the area of government procurement. As outlined above, tender specifications are responsible for a number of barriers to innovation and competitiveness and there are cases where government enterprises are still competing directly with the private sector at the expense of best applicable technology and systems being implemented.

However, government spend - both procurement and investment funds - can be used to far-reaching effect. For example with the need to curb carbon emissions by 60% by 2050 there are some excellent opportunities to demonstrate international leadership in emissions reductions while creating markets for next generation technologies and systems, for example:

- Energy retrofits to the household and commercial sectors - with energy retailers, governments, and banks providing 'lease-financing' or mortgage extension financing for 5 star appliances, solar energy, insulation, double glazing, retrofit to energy efficient lighting/heating/cooling systems
- All levels of government committing to purchase/lease benchmark fuel efficient and low/zero emission automobiles (with benchmarks being reviewed annually). The impact on the marketplace would lower the unit cost for the consumer and provide a sustainable second hand market.

Technology fast-tracking not only requires R&D, demonstration sites are critical to showcase capacity and capability and to allow for operational research and refinement. For major infrastructure and their requisite technologies governments are often the only client. This is another reason why tender guidelines should be re-evaluated - to enable Australia to showcase Australian expertise in Australia.

Re-allocation of a portion of defence spend used to alleviate tensions in certain regional hot spots could potentially avert 'water hot spots' due to water shortages, pollution, or diversion resulting in lack of clean drinking water, sanitation systems breakdown, or agricultural productivity failures. Australia's expertise in dealing with natural resource management in

arid zones and desertification would, for example, be applicable to many areas in our immediate Region. Australia's own need for new water solutions for urban areas would have immense application in Asia.

***Energy and climate change***

It has often been said that climate change is a bigger threat to global peace than terrorism or disease. Rising sea levels, salinisation of agricultural land and groundwater, and resultant food shortages may well, as the US Pentagon's Abrupt Climate Change Report (2003) intimated, lead to mass migration. Prevention of cause is considerably less expensive than the forseeable outcome.

EBA has a number of recommendations regarding climate change and the reduction of greenhouse gas emissions and these appear in the attached 'Toolbox' paper which was released in December during the CoP10 climate change talks in Buenos Aires (Appendix 2).

For the purposes of the competition policy reforms, the four specific recommendations that EBA makes in the energy area are:

1. Emissions trading should be used to fast-track greenhouse gas emissions in Australia and to enable Australian companies to participate in the new carbon commodity market
2. The difficult/hostile marketplace for renewable energy should be eased with an increase and extension of the Mandated Renewable Energy Target (MRET) until such time as renewables can compete fairly in a marketplace where externality costs are internalised
3. Indirect or perverse subsidies that permit pollution from energy resource extraction or combustion should be re-allocated to support energy efficiency, emissions abatement, and renewable energy R&D, demonstration and commercialisation
4. Barriers to grid access for renewable energy should be removed.

EBA is particularly concerned that energy costs are artificially deflated because negative externalities (GHG emissions, pollution, ill-health) are left to consolidated revenue to cover, or the environment and/or the community to bear, and are not included in economic analysis of the overall costs.

These artificially low energy costs should not be permitted to dictate competition policy, *especially* where the commercial beneficiaries are receiving preferential contract pricing, and are in a position to export financial profit and Australian grown carbon credits because of multinational status.

We agree with the findings in section 5.4 *Coal-fired generators ..... are costly to build*. The amortisation periods for gas-fired power plants, and for next generation renewably energy plants are significantly shorter. In addition to the issue of including the cost of externalities in the pricing of electricity, we recommend that the competition policy reforms also look at where demand will be coming from and what type of energy it will be for (either direct electricity or goods and services provided by electricity). Investments which take more than 20 years to amortise could prove to be very expensive redundancies.

There is a need to vision the future we want, backcast in order to put in place appropriate milestones, and develop the strategic pathway along that route, rather than continuing the reliance on coal "because there are virtually inexhaustible supplies".

This is obviously a situation where competitiveness interests between the emerging and traditional industries clash. Although we recognise the extensive work being undertaken into

clean coal by some of the more far-sighted companies, we question whether the market will want to support coal as the energy source of choice when:

- Other cleaner energy sources are reducing in cost
- Fully accounting for, or removing the externality costs, are likely to see a doubling in the price of coal[6]

Regarding GHG emissions trading EBA wishes to see a national approach that would allow Australian companies to participate in the EU Trading Scheme. However, failing this a State based approach which would facilitate trading with those USA States which operate a carbon trading scheme is the second best option. EBA strongly recommends that a national system would be preferable but we will support a State-based program in the absence of a national one.

EBA has submitted policy recommendations to the Government recommending that a long term (50 year) energy strategy be developed. This strategy should, in our view, focus on the need to move rapidly to significant energy efficiency gains and cleaner fuel sources including renewable energy. While fossil fuels will continue to have the most significant share of the market for the next 40-50 years, the transition to zero GHG energy sources is well underway and renewable energy technologies such as deep hot dry rock geothermal appear to have greater potential than gas (because of limited supply) and coal (because of the high cost of achieving zero GHG emissions). Initial demonstration plants will be expensive but it is anticipated that the cost of this source of energy will fall dramatically and will be highly competitive within a decade. Hydrogen technologies may take 15 to 25 years to become fully integrated into the market but again, offer a significant clean energy and clean fuel source (providing the catalyst energy source is a zero carbon emitter).

The renewable energy sector is sometimes criticised for not providing a "reliable" (24/7) and competitively priced energy source. However, many energy requirements do not require a 24 hour supply for example:

- Drinking water treatment, or sewerage plants
- Peak energy demands such as for air conditioning, coincide with solar energy availability
- Energy recycling options can effectively make renewable energy constant, for example, integrating hydro back-pumping with wind or solar energy generation

In addition much research is being done on energy storage and conversion technologies and this should be a national priority for R&D and commercialisation. Simply ensuring grid access is the best possible storage technology at this stage.

The benefits of clean fuels for transportation, especially in urban areas, and for home heating, cooking and hot water are evident. While Australia largely has 'clean' home energy the same cannot be said of many of the countries that we export to; there are significant opportunities in supplying renewable energy sources or bottled gas, especially to remote and rural locations in developing countries.

On the transportation side initial costs may be higher but health, productivity and quality of life improvements are significant. It is interesting to note that the USA Clean Air Act, which received immense initial criticism from American industry, cost billions of dollars over the past 25 years - however, savings and competitiveness gains have been in the order of trillions of dollars.

[6] EU ExternE Study

A study by the University of British Columbia[7] demonstrated that public transport users were subsidised to an approximate amount of $100 per annum, whereas each car on the road was subsidised to an amount of between $400 and $900 (high pollution areas) per annum. Notwithstanding the operating costs of public transport, for urban areas public transportation should be seen as an operational centre that makes other centres profitable - it is a classic case of where subsidies can make an entire system work more efficiently. Of course, improving the passenger transport experience would greatly add to the demand and economic efficiency of public transport - "clean, safe, frequent, and on time" are hugely important. And, in a nation that is fond of gambling - a lottery ticket with each trip ticket would probably increase user levels.

*Off-shore 'leakage'*
The issue of increases in energy prices has stirred up fierce debate regarding the potential for companies to either relocate from Australia or to place new investments in countries where there are limited greenhouse gas abatement regulations.

Our research has not revealed one company willing to say publicly that they would leave Australia for this reason. There may well be some, but relatively few reputable companies will seek a 'licence to pollute' from their shareholders, insurers and bankers, and abandon sunk assets in the process of relocating to a less stable economic and political regime in order to seek marginal reductions in energy costs for an indeterminate period.

Especially, in the Australian context in light of the James Hardie asbestos case, or in the USA the Enron situation.

The selection of which country will receive new investments will take many factors into account and the shadow cost of carbon is unlikely to be a predominant factor when issues such as labour costs, availability of skilled workforce, good infrastructure, and taxation are taken into account.

## ***Natural Resource Management***

EBA strongly recommends that Australia's natural resources receive better protection in line with the fundamental capital and non-costed services that they provide. Of all the challenges ahead we suggest that ecological sustainability will be core to any country's economic wellbeing and competitiveness and the quality of life it can offer.

*Ocean outfalls*
Government spend in infrastructure system approaches and upgrades is important, for example ending ocean outfalls where there is a double benefit - coastal pollution is avoided and the nutrients and minerals can be recycling and returned to the soils where they are needed.

*Environmental degradation - a trade subsidy*
As environmental degradation is increasingly seen as a form of production subsidy (albeit indirect) there are growing trade implications. Lack of action that responds to the increasing international as well as national pressures to improve environmental outcomes has the potential to lead to latent liability litigation - especially in the climate change area where investors are moving away from even the *perception* of risk[8].

[7] Professor Setty Pendakur
[8] E.g. Carbon Disclosure Project - over 90 prominent institutional investors with over US$10 trillion of funds under management as at May 2005

*Soils*
Climate change research also suggests that we have insufficient knowledge about the connectivity between river systems, groundwater, soil moisture content and soil moisture retention capacity. While dryland salinity has received much attention and is costing the nation billions per annum in lost productivity and remediation, there is still much work that needs to be done on acid sulphate soils and soil erosion and the cumulative impact of soil degradation on Australian agricultural productivity and competitiveness.

*Coasts*
The issue of Australia's coasts and their productivity also needs rapid investigation in light of predictions of sea level rises, likely coral reef losses and the impacts of these on fisheries and even on coastal development for communities and for the tourism industry.

## ***Water***

EBA strongly recommends the fast-tracking of agreed CoAG reforms. However, we believe that although the CoAG water reforms are a good first step they are unlikely to establish the basis for the release of sufficient water to the environment to ensure ecological viability - again the natural resource base for much of Australian competitiveness. We strongly encourage all levels of government to engage in the National Water Initiative.

In the lead up to the development of the National Water Initiative EBA submitted a discussion document "A National Reserve Bank of Water" where the ability of governments to purchase water for the public good was recommended.

In terms of Australia's agricultural productivity and competitiveness water will be a significant determinant of our future success. In this regard the population debate has not fully explored the nexus between water availability and soil viability. If Australia is to continue as a major exporter of agricultural produce this must be fully investigated - and with rising populations worldwide it will become increasingly important that some countries do maintain the capacity to be net food exporters.

On the urban front, we have referred earlier to the competitive issues between the public and private sectors, and nowhere is this more evident that in water infrastructure.

The major overhaul steps that are needed for water supply and treatment cannot be achieved without private sector technology and financing - but equally they cannot be achieved without the 'friendly market' that only governments can provide. We would urge particularly urgent attention to greywater and sewerage recycling, stormwater capture and use, and the desalinisation of seawater using renewable energy technologies to minimise the carbon footprint of this energy intensive process.

Full cost recovery pricing is critically important to cover the value-adding, treatment, delivery, and disposal of water. In the urban setting this can be addressed by providing households with a quota of water for basic daily needs at low cost and then substantially increasing the price by increments.

## ***Conclusion***

To date the National Competition Policy Reforms have achieved a great deal. However, there is much work to be done and it will require a degree of political bravery to develop the culture change necessary to ensure tomorrow's competitiveness and national interest

As highlighted in the Productivity Commissions's discussion draft, countries need to be able to respond efficiently, flexibly and innovatively to changing patterns of demand, technological change, shifts in underlying comparative advantage, and the increasing mobility (and selectivity) of global capital.

A sustainable and competitive Australia will have high levels of resource use efficiency, high rates of technology development and implementation, zero waste being outsourced onto the environment if the environment cannot make good use of it, and a culture of national infrastructure where life-cycle returns and impacts are factored into the initial planning and design.

Therefore if there is one over-arching recommendation from this paper that we would repeat in this conclusion it is that we need to create the vision of the future we want, and then backcast in order to put in place appropriate milestones that will guide a strategic pathway from our starting point today.

At the risk of being repetitive, industry can provide the innovation, Government should commit to providing the enabling framework that focuses on real outcomes. And if there is any one policy which should be adopted on a whole of Government basis it is that negative environmental, health and economic externalities be internalised in the cost of goods and services sold in the economy.

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24 January 2005

***Appendices***

1. *Externalities*
2. *Climate change 'toolbox'*
3. *Emissions trading*
4. *Mandated Renewable Energy Target*

*Appendix 1*

***The real cost and implications of collateral damage.***

Environment Business Australia calls on the Federal Government to commission the Productivity Commission to undertake an in-depth analysis of the economic impacts of negative externalities

May 2004

***Introduction***

Negative impacts on the environment may appear to be slow and insidious, but they are often cumulative and synergistic and have significant impacts on health, quality of life, regional stability and security, and economic wellbeing and competitiveness.

Some well known externalities that are affecting Australia include dryland salinity, acid-sulphate soils, soil erosion, landscape and river system degradation, climate change, coral reef bleaching, disease migration, drought, bush fires, eutrophication, exotic weed infestations, ozone depletion, and pollution.

Many other countries face similar challenges and 'hot spots' caused by natural water shortages, as well as the diversion and pollution of water systems, and these have been highlighted as likely causes of future international tension, potentially leading to mass migration.

The economic costs of these externalities need to be quantified and **Environment Business Australia (EBA) has therefore requested the Federal Government to commission the Productivity Commission[9] to undertake an in-depth study into the costs of externalities.**

Such a study would provide the data necessary to give the market timely and meaningful intelligence relating to risks, latent liabilities, and costs on one hand, and the benefits of new technologies and new opportunities that become available on the other hand.

***Technology fixes all***

There is a school of thought which promotes the concept that human intellect will invent new technologies to avert disaster. But human ingenuity relies on market demand, and markets fail the system completely when they cannot respond quickly to threats that are *perceived* as slow and insidious.

In order for technology to provide solutions to environmental challenges two things must happen:

- The market must receive signals that relate to current challenges; the need for change; and the value of innovation
- The market must then pull that innovation through by championing its value; this in turn attracts investment and creates the longer term framework for amortisation and profit which in their turn encourage further R&D and benchmarking.

The current absence of data shields the market from knowledge about:

- The cost of negative externalities to:
    - consolidated revenue

[9] EBA believes that the Productivity Commission is the organisation best placed to undertake this complex study. Neither EBA, nor to the best of our knowledge, any of our member companies have any financial interest in this recommendation.

    - the irreplaceable eco-system services, currently treated as a 'free' commodities[10]
- Lower than optimum efficiency, productivity and competitiveness
- The waste of resources, energy, human intellect and time
- The exponential growth curve of cost – today's legacy to future generations
- The real cost basis which will determine the competitiveness of technologies

Without full intelligence the market cannot operate at full efficiency. And, while true costs are not factored into the supply chain there are inadequate rewards and penalties to catalyse change and the uptake of innovation. Three current examples clearly demonstrate this:

- The tension between fossil fuel and renewable energy sectors. Renewable energy sources are often cited as being "too expensive". However, recent findings from the EU ExternE study have found that the cost of producing electricity from coal or oil would double and the cost of electricity production from gas would increase by 30% if external costs such as damage to the environment and to health were taken into account. It is estimated that these costs amount up to 1-2% of the EU's Gross Domestic Product (GDP), and this does not include the cost of global warming (in other words once the cost of climate change impacts are included these costs and percentages are expected to rise). These costs have to be covered by society at large, since they are not included in the bills which electricity consumers pay. Renewable energy costs on the other hand are likely to decrease with market demand, increased research, and operational refining.

- The conservative and risk averse approach to new water infrastructure. Demand side management and water use efficiency will deliver gains but major infrastructure projects such as sewerage recycling, stormwater use, or desalination plants fuelled by renewable energy sources could make urban centres independent of river drawdown.

- Soil nutrients and carbon being exported to the oceans through the food and sewerage chains. Sewerage recycling would capture water for reuse, and sewerage and putrescible food waste recycling would capture the vital nutrients and minerals needed for Australian soils to help retain the level of productivity we demand of them.

***What is the problem?***

Australia, like other developed countries, has inadvertently developed over many generations, a system that has artificially deflated the cost (and hence the end price) of goods and services. Degradation rather than inter-generational wealth creation and the protection of our basic capital has happened because the price of averting problems has seemed high in the immediate and short-terms compared with continuing status quo activities.

However, as noted above, environmental degradation has a ripple effect with ensuing damage to health, eco-system services, agricultural productivity, and the economy. Indeed, the longer the problem exists, the more expensive it is to mitigate, reverse and prevent further damage. In some cases damage reversal may not be possible and adaptation is the only route possible. At face value this may not appear to be a problem – humans are highly adaptable. Unfortunately, we know very little about the adaptability of the eco-system services we rely on. As we are seeing unprecedented impacts on biodiversity and eco-systems it is likely that the services they render will not remain up to par for our needs. Humans have yet to design a replacement system.

[10] Eco-system services include clean air, fresh drinking water, irrigation water supplies, waste assimilation, fertilisation of crops, soil fertility, pest control, shade/shelter, building materials, raw materials, food, lifestyle amenities (clear skies, unpolluted beaches and rivers, forests). Basis of tourism and agriculture industries

There is a fundamental disconnect between the consumer wishing to pay lowest possible prices for goods and services, and the taxpayer wishing to have the lowest possible taxes – yet this split personality wants all the amenities of a robust environment that has long-term integrity.

It is Government's role to facilitate the path to the future that we want (and need). Unfortunately, in Australia, as elsewhere, electoral pressures and cycles, and a short-term approach that rewards primarily the status quo, have inhibited the ability to think and act strategically.

***What is the solution?***

There is no one solution, but a portfolio of many solutions can be created with the development of a strategic framework of transition. To build a strategic framework we must first have relevant information about externalities we cannot afford. The framework for development would then reward resource efficient performance that delivers the things we do want (housing, food, energy, transportation) and would provide a suite of mechanisms to ensure that we avoid the things we don't want (pollution, ill-health, compromised quality of life).

Australia can pursue a course of action which would stimulate innovation in resource efficiency and maintenance of environmental integrity. As well as spurring on the growth of new industry sectors, this approach would also help to encourage the continued development of competitiveness by mainstream industry.

Full market intelligence would help to ensure resources being used to their highest value. Life-cycle cost-benefit analyses would then allow better pricing throughout the supply chain. This could lead to the transfer of funds from the product end to pay for the prevention, mitigation and/or reversal of environmental damage at the resource extraction and processing and manufacturing stages. Increased capital for R&D and accelerated depreciation to upgrade plant to benchmark environmental status would remove some of the financial pain for companies. For example, aluminium and magnesium smelting have considerable greenhouse gas emissions associated with them, however, the gains from lightweight metal vehicles using less fuel, and the ability of lightweight metals to be recycled, are positive offsets not currently sufficiently valued.

***Conclusion***

We strongly recommend to Government that it is in the nation's interests and the interests of future generations that we understand how to protect our natural capital. We urge Government to immediately commission a national externalities study.

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*Appendix 2*

***NEW TOOLS AND OLD MYTHS***
***Climate change action - a toolbox for transition***

A DISCUSSION PAPER issued by Environment Business Australia
at CoP10, Buenos Aires, December 2004

Climate change is the single biggest threat facing the world and there is no precedent in history for comparison to our current dilemma. This is the first time that a "living system has altered the planet's climate" [11] and it is the first time that mankind has had to face a natural weapon of mass destruction aimed at the entire global eco-system.

Scientific research is revealing previously unrecognised step changes in climate associated with anthropogenic greenhouse gas emissions. While climate variation is part of the planet's history, carbon dioxide concentrations in the atmosphere have increased in the last century to 380 parts per millions (ppm). This is 100 ppm more than at any stage in the past 800,000 years.[12]

There is international consensus on the need to stabilise atmospheric carbon to avoid crossing a 2 degrees centigrade rise in average global temperature. To achieve this 60% cuts in emissions need to be made by 2050 and 80% cuts in emissions by the end of the century.

This is an extremely tough call given that energy demand is predicted to rise by 70% by 2030 under a business as usual scenario. It is an exceptionally tough call for developing countries where over 1.5 billion people are still without electricity and without the basic survival services of clean drinking water and sanitation that electricity can help to provide. But without action to combat climate change the situation in many of the least developed nations will worsen, not improve. Climate change must therefore be recognised as one of the most important development challenges.

The international community's priority must now be to focus on rapid transition to a clean energy future that will significantly reduce carbon dioxide concentrations in the atmosphere.

A long term perspective of at least 50 years is required. A strategic pathway based on backcasted milestones, to ensure that outcomes are delivered on time, is needed - and work on these really deep cuts needs to begin immediately. There is no currency to be gained from deferring action to the future.

Certainty of approach and transitional support are both necessary. Economies, sectors of industry, and jobs are of concern in developed countries. Developing countries focus on basic survival, alleviation of poverty and the need to diversify and grow their economies.

Industry and investors require the surety of a legal framework to ensure that the equity they put into transition will not be undermined by lower - and less costly - performance from competitors. Artificially deflated energy costs, which do not take into account collateral damage (externalities) should no longer be permitted to dictate competition policy. Indirect or perverse subsidies that encourage energy pollution should be re-allocated to support energy efficiency, emissions abatement and renewable energy.

[11] Mark Lynas, author, High Tide
[12] Professor Sir David King, Chief Scientist, UK

The biggest challenge is monetising tomorrow's value to galvanise action today. This is where the environment industry, the finance and insurance sector, science, and governments must jointly take a lead position.

Cataclysmic climate change is a painful scenario of what may happen if we don't get our investment and our 'fundamental capital' protection choices right. But in terms of markets, those who do not perform to the new high standards are likely to lose reputation, market share, and future opportunities - and may also be held accountable for damage to the global commons, to health, and to the prosperity of nations.

It is clear that the Kyoto Protocol has been a wake up call and has created an initial stepping stone - a very basic framework for action. The Protocol now comes into full international force following Russia's ratification. This means that the Kyoto mechanisms - Clean Development Mechanism, Joint Implementation, and Carbon Emissions Trading become market instruments supported by the full weight of international law.

But "beyond Kyoto" is now on everyone's minds. With the need to achieve the deep cuts outlined above, and the necessity of adapting to climate change that is already underway, the world needs to undergo a serious structural overhaul of economic and productivity systems.

Meaningful action in some sectors will be very difficult to achieve, and yet in other areas there are many opportunities for energy efficiency, emissions reductions, and fuel switching to renewable energy sources (or at the very least less polluting sources of energy). For example energy retrofits to the household and commercial sectors - with energy retailers, governments, and banks providing 'lease-financing' or mortgage extension financing. Or, another example, all levels of government committing to purchase/lease benchmark efficiency automobiles, this impact on the marketplace in turn lowering the unit cost for the consumer and providing a sustainable second hand market.

The Carbon Disclosure Fund (CDF) which has foreshadowed litigation relating to latent liability has US$10 trillion of funds under management. The CDF seeks investment opportunities that do not carry a carbon exposure risk and this is starting a trend where risk, liability and long-term opportunity will be new investment signals.

The world needs a war council approach to tackling climate change. And, while it is logical to call for all countries to be involved, there are today's leaders and those of tomorrow. Current ability should be the criteria for some to act faster than others and show the way ahead that encourages others. It is also very important that all countries, sectors and organisations understand the economic cost that climate change could have on their economies. This is most important in relation to developing and least developed countries whose economies are largely based on one or two basic commodities - for example Ghana and cocoa production, or Kenya where coffee and tourism underpin the country, or Tanzania where 90% of energy is provided by hydro power that may disappear. The vulnerability to climate change for these countries is far more of a threat than terrorism, disease or poverty.[13]

### *A tool box for transition*

It is clear that much more needs to be done to implement abatement and mitigation solutions and that countries need to prepare much more rapidly for adaptation to inevitable climate change. Environment Business Australia, the peak organisation for the Australian environment and sustainability industry, suggests an easy-to-access global toolbox. In

[13] Representative of Tanzanian Government, intervention, opening plenary, CoP 10

essence the suggestion is that countries, states, cities, organisations, and companies can either put solutions into the toolbox or they can take them out and use them.

The toolbox should act like a clearing house and be able to provide answers to simple questions:

- What is needed?
- Where is it?
- How does a party access a solution and then implement it?

The toolbox would provide case studies showing the lessons learned (positive and negative).

The 'box' would include a portfolio of incentive and penalty tools such as:

- Investment (from micro-finance, to government and major institution investment in infrastructure projects)
- Technology fast-tracking - R&D, demonstration sites, commercialisation and dissemination (especially for emissions reduction, energy efficiency, renewable energy, and energy storage)
- Externality costing and a pricing restructure based on full cost recovery and a 'polluter pays' principle
- Market instruments such as emissions trading
- Regulations combined with education and voluntary programs
- Taxation changes
- Defence spend re-allocation
- Education programs for schools to universities; the gamut of government departments from national to local authority level; stock exchanges and company directors
- Product/systems/operational management certification programs and eco-labelling

There is nothing truly radical about any of the tools although some of them will undoubtedly challenge existing thinking about investment, trade, national and international security, resource valuation and management. Mostly though, the tools are simple and require little more than goodwill and common sense in order to be implemented.

A reward system for deposit and withdrawal of solutions would enhance the tool box's appeal and versatility. There should be the potential to link it with emissions trading. The toolbox should also be designed to work with the Clean Development Mechanism (CDM), Joint Implementation (JI) and not in competition. It should be emphasised therefore that the suggestions in this discussion paper are not put forward as an alternative to the Kyoto Protocol, they are put forward to help speed up necessary action.

The toolbox must be a simple system designed to encourage *immediate action that sets us on the correct trajectory to our long term targets.* The aim is to create outcomes - not to seek perfection of process. The objective is to use every means at our disposal to push and pull in order to make sure that C02e emissions plummet, and that C02 concentrations in the atmosphere stabilise early enough to avoid the 2 degree C temperature rise which scientists describe as ´´dangerous´´. Some tools will be geared towards long term action, others will facilitate shorter term goal-scoring.

Some tools will offer abatement, mitigation, or adaptation outcomes. But a suite of tools is also necessary to deal with emergencies caused by abrupt changes in climate such as chronic water shortages, groundwater contamination, disease spread, agricultural productivity fall off, fires, floods, sea level rises, cyclones, typhoons or hurricanes, and tsunamis that may require relocation on a massive migratory scale.

Some of the tools will be relevant only to developed countries, or to specific trade sectors or companies. Others tools, more applicable to developing countries, will need to be focussed on capacity building and response times.

***Who should lead?***

Fast-tracking major infrastructure decision making towards energy efficiency, renewable energy and zero emissions is a vital step - the lengthy amortisation periods mean that decisions made today and tomorrow will have impacts for the next 50 years and the carbon emitted to the atmosphere will be there for a further 80 years.

We need to get the planet on the right energy trajectory in the very near future and therefore call on all countries, states, organisations and companies to devote their time and resources to finding ways to implement solutions immediately. Time must not be wasted debating the difficulty of transition, competitive inequality, or the hope that the future will deliver a miracle cure. We must plan long term and we must seriously increase efforts in implementation and capacity building work right now.

There will need to be champions and above all there will need to be a willingness to keep all options open. Industry must lead with innovation, demonstration and commercialisation of next generation technologies and systems, but governments have the most important role - only they can provide the regulatory frameworks and necessary flexibility to overcome short term approaches and galvanise outcomes.

Providing intelligence on the specific types of challenges and the potential technological, infrastructure, systemic and operational solutions - and therefore the new opportunities for business - is part of the role of the environment and sustainability industry.

As stated later in this paper, the marketplace cannot operate efficiently without timely intelligence translated into meaningful signals. Awareness raising and thought leadership in the policy arena will help shape the marketplace for emerging innovation.

Capital markets have the critical role of identifying financial risk and liability and then changing investment, lending and insurance patterns.

In addition to needing all major emitters to be part of the solution, the key international institutions, especially the WTO, need to be involved. Environment, health, trade, defence, and finance can no longer operate as separate entities – all are integrated and solutions must be developed that address specific needs within this broad context.

## *Five big myths*

There are many misconceptions that need to be terminated and the toolbox will help to address these issues. Five very big myths are:

*1. New technologies will become available to solve the problem*

As the marketplace is skewed towards short term reward and payment, market failures are inevitable. The market does not currently receive adequate information about the costs of externalities (collateral damage) or the value of maintaining eco-system services. New technologies are only guaranteed of competitive neutrality when intelligence, translated into signals, is received and understood by the marketplace. This is not currently the case. While some new technologies will work their way through the maze, many more will be discarded because of perceived initial high cost or because they do not 'fit' a current tender specification or standard.

For example, foreseeable groundwater contamination, river system degradation and reduced rainfall and increased glacier melting will likely lead to severe water shortages in many areas. In some cases adaptation by using less water, increased recycling and capture of stormwater or relocation of people may be the answer. However, with correct pricing signals, coastal cities in predicted hot spot areas would be investing in desalination plants fuelled by combination renewable energy sources in spite of the high initial capital investment costs.

*2. Adaptation is the only cost effective way forward*
But compounding the issue of market signals is the fact that the market does not understand the likely costs of 'adaptation' to climate change, seeing it only as an alternative to payment today for something that hasn't had its business case delineated. In reality the cost of even basic adaptation will be extraordinarily high.

The value of eco-system services (clean air, drinking water, pollination, stable climate and weather conditions, agricultural productivity, inter alia) has been put at the equivalent of global GDP by some economists. This is an important aspect but cannot be allowed to deflect attention away from the main issue - **we could not afford, nor would we have the technology, to replace ecological services if the natural system went into chaos and delivery of services ceased. This is the only cost that the planet or any individual country cannot afford**.

*3. Existing stocks of fossil fuels must be used*
"The stone age did not end because of a shortage of stones and the oil age will end long before the world runs out of oil." Sheikh Zaki Yamani, Saudi Oil Minister (1962-1986). A clean energy trajectory is far more important than using up existing coal stocks. Renewable energy is NOT more expensive than fossil fuels when negative externalities and future adaptation are accounted for.

Achieving a clean energy future will not happen overnight, but proper planning can make sure that we achieve this objective by 2050.

4. *Action on climate change will send companies off-shore to less stringent regimes*
Few reputable companies will seek a 'licence to pollute' from their shareholders, insurers and bankers, and abandon sunk assets in the process of relocating to a less stable economic and political regime in order to seek marginal reductions in energy costs for an indeterminate period.

Especially, in the Australian context in light of the James Hardie asbestos case, or in the USA the Enron situation.

*5. Action on climate change will cause additional poverty in developing countries*
A healthy environment is the cornerstone of any economy as well as being the basis for human health, quality of life, or even survival. The impacts and associated costs of climate change could cripple economies by drying up/contaminating water supplies and destroying agricultural productivity. Disease, fires, floods, more frequent and severe storms, rising sea levels are fundamental threats to any economy but especially to those which are most impoverished. Developing countries cannot afford climate change. Many of the steps outlined in the Millennium Development Goals (MDG) work synergistically with plans to combat climate change therefore funds are being made to work harder to help alleviate poverty and grow economies based on a clean energy trajectory.

Some commentators have argued that without fossil fuels to provide energy, millions of people will die in developing countries. Yet, in spite of centuries of coal use, abject poverty and misery have not been averted in many developing countries and the inefficient burning of

fossil fuels and biomass has caused chronic and widespread health problems (and in some cases significant desertification), leading in turn to lower productivity.

Baseload generation is often not the same issue for providing electricity to remote and rural areas where distributed generation could be far more cost effective and efficient. Intermittent supply can be 100% effective at providing clean drinking water and sanitation - two of the key MDGs. Advances in energy storage technology and the next wave of renewables will be able to supply constant electricity generation. In addition, local supply offers greater security.

The solution is not to divert attention away from needed action on climate change in developing countries, rather it is to decide how to provide requisite financing, technology, infrastructure, land and waterway management. Transitional assistance is vital.

The complexity of the Clean Development Mechanism (CDM) needs to be urgently overcome and projects with the most potential for benefit given absolute priority to ensure implementation.

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*Appendix 3*

***The need for a national carbon emissions trading scheme for Australia***
Submission to the Prime Minister and Cabinet by Environment Business Australia
22 August 2003

***Introduction***
Environment Business Australia (EBA), representing the environment and sustainability industry, has been actively engaged in the debate on climate change and the need for greenhouse gas emissions (GHG) reduction. EBA strongly recommends that Australia develop a national emissions trading system as an integral part of a National Energy Policy.

Business certainty over infrastructure project cycles (15 years+) is critical for industry and investors. Uncertainty over our ability to compete globally will cost us more in both short and long terms than assertive action to cut GHG emissions. EBA has recommended that the Productivity Commission undertake an analysis of the impacts of climate change and actions to address climate change, across all sectors. This would be most effective if done in parallel with scenario planning of where we want Australia to be in 10, 20, 30 and 50 years' time.

Emissions trading, introduced in the short term, to match the timing of the EU trading scheme, will help to avoid bigger longer term market distortions. It will also help to de-politicise an issue that requires a concerted effort from all levels of Government, the community, and all sectors of industry. It is encouraging to see emissions trading being considered as a highly important part of a policy framework that would drive investment in transition, and provide the flexibility to meet community desires.

Increasingly more business leaders are agreeing that it is no longer in the national interest (or theirs) to continue protecting production status quo at all costs. EBA believes that Australia's next wave of competitiveness will come from harnessing the opportunities presented by sustainability. International markets are increasingly demanding sustainable production and consumption and we expect this trend to continue and to increase.

Former UN weapons inspector Hans Blix called climate change the biggest terrorist threat facing the world as did British Prime Minister Tony Blair. The former head of the UK's Meteorological Office, John Houghton, refers to climate change as the ultimate weapon of mass destruction.

The insurance and reinsurance sectors are keenly aware of the fact that they will face the initial brunt of climate change impact and that this could have the potential to close down insurance availability as we know it.

Australia has not been shielded from the impacts of climate change. In the past year we have suffered the worst and hottest drought recorded, severe bushfires, increased dust storms, cyclones, hail storms, and soil erosion, and we face the possibility of decreasing rainfall and river system breakdown. In Europe, there is a heat wave of unprecedented severity, and forest fires continue to rage there as well as in North America.

These devastating events are an insidious attack on our national security – specifically our health, quality of life, environment and economy. Carbon already emitted has a life span of 80 or more years in the atmosphere and the carbon concentration in the atmosphere will continue to grow. There is therefore real urgency in achieving significant reductions. We cannot afford to wait as Des Moore, former deputy secretary of the Federal Treasury, recently suggested. Future generations may have better and less expensive technologies to address

climate change but in the interim the carbon concentration continues to develop, and we hand our competitors in other countries our potential share in future markets.

Carbon constraints will not only reduce emissions they will also force us to look for more productive and efficient ways to do business. This may produce threats to some sectors of Australian industry but it may also provide opportunities. The environment and sustainability industry is keen to work with Government to help create the framework that will help all sectors go through the necessary transition to this carbon-constrained future. Our objective is to make *Australia a sustainability superpower* and we certainly do not want to stifle economic growth and competitiveness. Nevertheless, we do recognise that some sectors will have difficulties in this transitionary period. Ascertaining the risks and the risk management course is therefore highly important for individual companies, insurers and re-insurers, bankers, investors and institutional fund managers. The longer the transition time the greater the ability to make the necessary changes in an equitable manner.

It is significant to note that global frameworks of action can be successful. The Montreal Protocol to reduce the emissions of chemicals that damage the ozone layer appears to be showing signs of success - the 'ozone hole' is decreasing in size. Without a framework for global action this probably would not have happened and it is worth recalling that the Montreal Protocol was almost as contentious in its day as the Kyoto Protocol is today. However, there has been no meaningful damage to the chemical industry as a result of this far-reaching initiative.

Canada ratified the Kyoto Protocol over six months ago, and in spite of threats of company relocation or diversions to investment business is continuing to invest in that country.

Some industry associations have suggested that there is a risk of companies relocating overseas – carbon leakage – if Australia adopts emissions trading because the 'perceived' costs may add to companies' operating costs. However, an obvious question poses itself to those who suggest that export oriented, energy intensive companies may abandon Australia because of our commitment to share the global burden of addressing the atmospheric overload of carbon dioxide and other greenhouse gases. "Exactly which reputable companies are maintaining that they will seek a 'licence to pollute' from their shareholders, insurers and bankers, abandoning sunk assets in the process of relocating to a less stable economic and political regime in order to seek marginal reductions in energy costs for an indeterminate period?"

While debate over the economics of climate change is healthy, it is important that the financial impacts of the negative externalities are also considered. The arguments presented by some sectors are too simplistic and do not concern themselves with the wider-reaching economic ramifications of decreased rainfall, river system degradation, dryland salinity, eco-system services losses, decreased agricultural production, and increased dangers to health and livelihoods.

These negative side-effects are eventually paid for from consolidated revenue and EBA would argue most strongly that "preventing harm is far less expensive than trying to reverse or repair damage".

There has been much debate over recent weeks on the 'uncompetitive' short-term pricing of renewable energy. We recommend, in the strongest possible terms, that this be re-evaluated on a longer-term and whole-of-nation basis. As carbon, through GHG emissions, is increasingly seen as a liability on the balance sheet, the current short-term higher costs of renewable energy, energy efficiency and cleaner production may no longer appear so undesirable.

While greenhouse gas abatement and mitigation may appear to have high upfront costs this investment would be less expensive than adaptation to the irrevocable impacts of increased climate change. As Australia's leading climate change expert, Graeme Pearman said recently, Governments face "an enormous challenge" to reduce greenhouse gas emissions to levels that would stop the world getting hotter, sea levels rising and farmland drying up.

EBA is committed to working with all levels of Government and all sectors of industry to help identify solutions and opportunities that will deliver better energy security and economic resilience. We will be pleased to assist with an education program to bring home the relevance of temperature rises. A one degree rise in temperature seems small to most Australians used to rapidly fluctuating temperatures in summer. However, the impacts of just one degree include extremes of weather variability; changes in disease patterns and prevalence; and decreases in rainfall combined with hotter temperatures. The potential impacts on both river and groundwater water supply are likely to have negative effects on agricultural productivity and dryland salinity.

Expert advice that we have sought from international investors, lawyers, insurers and climate change experts suggests that the EU trading scheme will drive a current European $60 billion carbon reduction market to a vast $600 billion market. The value of trades alone is expected to be around US$1.8 billion per annum per annum between 2008 and 2012.

The 1999 PMSEIC report identified a $750 billion global market and recommended aggressive action to ensure Australia's participation. We concur with the PMSEIC recommendation that a framework is need to encourage Australian companies to compete for and access a fair share of the market. We are therefore most encouraged by development of the National Energy Policy.

The environment industry, currently worth $16.7 billion per annum to the Australian economy (and aiming for $40 billion by the end of the decade) sees significant growth opportunities from energy efficiency, greenhouse gas emissions (GHG) abatement, and mitigation efforts such as sequestration (both biological and geological). We further believe that renewable energy sources have much to offer Australia and our neighbours in the region. Emissions trading is an excellent way to galvanise research and development into this area of innovation and we believe this will benefit the international competitiveness of *all* sectors of industry.

Even if a grey new world is at the far end of the spectrum of scenarios - is it a risk we are prepared to take? The climate change litigation programs recently launched around the world demonstrate that markets are starting to take carbon obesity very seriously. Sustainability is the new driver of innovation and competitive advantage – and the markets are already there waiting for us. Investment, construction and amortisation cycles are in the order of 25-40 years for major infrastructure, therefore the energy choices we make now will decide our level of competitiveness for decades to come. The fact that we have a healthy and vibrant economy is all the more reason to invest in the future of our country by seriously addressing climate change and increasing our relevance, resilience and competitiveness in the process.

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*Appendix 4*

## *DEEP CUTS (in greenhouse gas emissions) and QUANTUM LEAPS (in renewable and sustainable energy)*

Environment Business Australia submission to the MRET Review Committee
5 May 2003

Environment Business Australia (EBA) is pleased to offer the following recommendations to the MRET Review Committee. EBA is also a contributor to the submission put forward by the Renewable and Sustainable Energy Roundtable and we endorse the findings of that paper.

We note also that the Business Council for Sustainable Energy's submission has dealt with many of the technical issues and financial analysis aspects and we have not attempted to reiterate these, preferring instead to give a more general overview of the issues we see facing the industry and the Australian environment and economy.

We would be pleased to elaborate on any of the points raised in this submission and would also draw your attention to the report submitted by EBA to the Parer Review (attached) as we believe that our comments relating to a national energy policy are relevant to this Inquiry.

### *Introduction*

EBA is the peak organisation for the environment and sustainability industry. The Association focuses on industry and market development. EBA and its National Advisory Group act as a leading think tank on sustainability and business issues. One of EBA's key roles is to champion the issues that we consider vital for sustainability and one of these is the development of Australia to *Sustainability Superpower* status.

We commend the Government's decision to develop a national energy framework and see the Mandated Renewable Energy Target (MRET) playing a critical role in the development of this national policy.

### *Executive Summary*

EBA's prime reason for making this submission is to emphasise that renewable and sustainable energy is an integral part of the overall environment/sustainability industry, and that the industry is currently disadvantaged by perverse subsidies which artificially inflate the importance of energy status quo in Australia.

EBA believes that the single most important consideration in the national energy framework policy is developing an approach based on the overall cost of energy to the nation and the resilience and security that need to be built in to protect the economy. Policy certainty and continuity are crucial. We believe that there are additional benefits such as:

- employment development, especially in rural and regional Australia
- increasing the competitiveness of Australian industry
- fast-tracking technology and infrastructure that can assist developing countries

EBA's main focus in relation to the MRET is the importance of Australia remaining competitive and developing new areas of competence as market trends differentiate in favour of sustainable production and consumption. We therefore believe it is of paramount importance to extend the 9,500 GWh to approximately 34,000 GWh by 2010.

Australia has a world class renewable energy resource base and is naturally endowed with multiple sources some of which are semi-developed and while others are in developmental infancy. EBA believes that this is a basis to build a long-term industry which will be competitive with the world's best. Furthermore, it will help underpin our energy-intensive production and the fact that we absorb, through our manufacturing and agricultural production, much of the energy and ecological footprint for other countries. This will become increasingly important in a carbon-constrained world and will be the basis for our on-going competitiveness but only if our current and potential markets accept our energy as environmentally benign.

Australia has shown great leadership in the establishment of the MRET and the formation of the Australian Greenhouse Office. Other countries have followed our example and are catching up. EBA believes that Australia needs to reinvest in its early leadership for national economic and competitiveness reasons and in order to be able to assist developing nations with the immense task ahead of them in growing their economies in a sustainable manner.

We believe that Australia's environment and sustainability industry will be significantly enhanced by the rapid growth of renewable energy that:

- provides national energy security
- staples 'green credits' to traditional commodities
- enhances export of Australian technologies, infrastructure expertise and operational management knowhow

We also believe that a number of renewable energy sources can become cost competitive in their own right over the longer term but the national framework must be attractive to new investors and must recognise international market trends (procurement, investment, insurance, and operational management). The level of current uncertainty in the marketplace is jeopardising investment.

Renewable energy has an important role to play in building Australia's energy resilience and long lasting competitiveness. The growth of renewable and sustainable energy, the uptake of energy efficiency, and the significant reduction of greenhouse gas emissions, are all issues which will have a considerable impact on Australia's future competitiveness as markets differentiate in favour of sustainable production and consumption.

The MRET was developed to fast-track the emergence and competitiveness of Australia's renewable energy industry. The secondary impact of reducing greenhouse gas emissions is also important. To be effective in both areas it must be recognised that the 9500 GWh target is too low and has already taken the target to below the agreed 2% because of the overall market growth and demand for energy.

Our advice is that the MRET should be extended to a minimum of 10% by 2010 and increasing targets should be set to at least 2030. This is because of the need to give a clear signal to the market in order to attract sufficient investment in line with the long planning, development and amortisation periods associated with energy infrastructure.

***International competition***

We believe that a target of 10% by 2010 increasing to 25% by 2020 will see Australia in line with international competition and market demand for goods produced by clean and green energy. It is imperative for Australia's competitive position that demand be built for renewable energy and in this early formative stage Government assistance is necessary (as it

has been for the development of other majority of industry sectors that are successful in Australia today).

It is important to note that developing countries are already focusing on renewable energy sources, China in particular is undertaking R&D into hydrogen and geo-thermal energy sources. We believe this is partly because of a desire to have domestic energy security but also to provide clean energy in a rapidly growing economy where air pollution is a serious hazard to health, productivity and economic growth. We emphasise that smaller, localised renewable energy plants are less likely to be targets for sabotage and would have less impact on grid supply if damaged.

The EU is setting aggressive targets for renewable energy and emissions reductions and expects to increase their market share for many goods and services through these actions. The EU target is to have 20% of the overall energy supply provided by renewable energy sources by 2020.

Renewable energy provides the additional benefit of potentially providing carbon credits that can be stapled to commodity exports. EBA believes that this will become more important as the world moves beyond Kyoto Mark I, to an era of more substantial greenhouse gas emissions reductions which are necessary to stabilise the amount of carbon in the atmosphere.

Following the World Summit for Sustainable Development's core objectives of poverty alleviation by 2010 and sustainable production and consumption by 2050 – renewable energy has a critical role to play particularly in delivering the Millennium Development Goals of halving the number of people without access to clean drinking water and sanitation by 2015. Rural areas will be dependent on renewable energy to drive the infrastructure necessary to meet these objectives and EBA wishes to see Australian industry play an important and strategic role in this area.

The Australian environment and sustainability industry can provide combined energy and water treatment technologies and the expertise necessary for full-scale infrastructure.

### ***Subsidies***

EBA recommends that a national energy framework should clearly identify the current energy subsidies and/or preferential energy contracts that are currently in operation. Our advice would be to phase out perverse subsidies/contracts that do not support sustainability principles. These could either be phased out completely or, where in the national interest, replaced with subsidies/contracts that do not result in negative externalities.

It is important to note that renewable energy technologies are coming from a very low installed base and the industry has not benefited from decades of support which have taken many other industry sectors forward.

As an example of industry support which has (and continues to) developed economic activity, jobs and competitiveness we would cite:

- Up to $32 million per annum for Stuart Shale Oil project
- $100 million for Comalco's alumina refinery at Gladstone
- $50 million process technology support and guarantor for $100 million loan for the Australian Magnesium Corporation project
- $40 million for the Visy Pulp and Paper Mill at Tumut
- $35 million to Rio Tinto to run a foundation for a Sustainable Minerals Industry
- $84 million to Methanex for North West Shelf methanol project

### *Externalities*

Externalities associated with climate change and air pollution are having a significant impact on the Australian economy and environment and it is likely that there will be major impacts on Australian health and quality of life adding additional pressure to the economy.

EBA believes that the NCC and the ACCC have important future roles in levelling out 'sustainability versus competitiveness'. It is a dangerous subterfuge when goods or services such as the provision of energy, are marketed as being at a lesser cost than the competitor, when what is really happening is that our health, our environment, and our national economy are being asked to foot the bill for that price differential.

Currently we are faced with the ambiguity of consolidated revenue picking up the tab – the "taxpayer" rather than the "consumer" pays the bill because sensible pricing in not worked into the whole supply chain. EBA would argue that taxpayers' bill is larger than the consumers' bill would be because of the lack of efficiencies involved and the non-costing of externalities. We therefore recommend that the Productivity Commission be requested to analyse the potential tax saving possible from the reduction of externalities associated with fossil fuel energy.

### *Other sector benefits*

We have already alluded to the renewable energy sector being an integral part of the environment and sustainable industry sector. The fast-tracking of MRET and the ensuing uptake of RECs will do much to benefit industrial abatement of GHG emissions and in particular by advancing alternative waste management methods that reduce emissions, trap and reuse methane, recycle the organic fraction of waste for reuse as an organic fertiliser, allowing for the replacement of much chemical fertiliser with its adverse impacts on waterways (eutrophication) and its GHG emissions at manufacture. The additional benefits will offer odour reduction, air pollution reduction and opportunities to replace virgin materials with recycled materials.

### *Export development*

Australia's ability to export renewable energy technologies is significant but we are facing increasing competition particularly from companies in EU countries. This rather than being seen as a negative could be turned to our advantage. Australian companies have for many years worked closely with multinational water companies and a number of world benchmark plants for drinking water and wastewater treatment have been developed in Australia (e.g. Prospect and Noosa). We believe that a similar model could be developed for the renewable energy sector with Australian and overseas companies refining technology and setting up demonstration plants in Australia with the intention of export (technologies, skills, infrastructure development and operational management) particularly to Asia.

Australia is well-placed to assist the rapidly growing emerging economies in the Asian region. Indeed it is in our own self-interest to do so not only from export sales but to reduce GHG emissions that are predicted to grow rapidly in the region without intervention. The IPCC and CSIRO have both outlined the threats to Australia from global warming and we stand to be one of the most significantly impacted countries.

The ability to retrofit outdated plant, provide renewable and clean energy sources to developing countries and help modernise polluting economies will pay huge dividends for Australia.

However, at present we are not taking full advantage of being a natural 'stepping stone' to Asia and without immediate attention to this industry we risk losing exports to Spain (photovoltaics), wind (Denmark), tidal and wave (UK), hydrogen (USA, Iceland, inter alia). EBA believes that geo-thermal should also be a major focus of Australian R&D, demonstration and commercialisation.

### *Emissions trading*

Emissions trading is set to become a major international tool that will shape energy, commodity and services markets. EBA most strongly endorses the need for a national trading system but believes that this should act as an 'umbrella' that would facilitate and be assisted by other market mechanisms such as MRET. EBA suggests that MRET will be of fundamental importance to a successful national emissions trading system.

A national emissions trading system must also include all relevant sectors of the economy and we do not believe that the tradable goods sector should be quarantined.

### *Hypothecated carbon tax or levy*

While the concept of any new tax does not find much favour with the majority of industry, and while hypothecation is not currently a policy of Treasury, EBA nonetheless believes that there is significant merit in a system that taxes the elements we do not want (pollution, wastage, global warming) and rewards those sectors of industry investing in research, innovation and commercialisation of new technologies and systems. We believe that such a system would value-add to the MRET and would assist the renewable energy industry as well as mainstream industry seeking to meet environmental compliance and to build their next competitive edge. A hypothecated tax/levy could be used to support purchase of RECs, and fund accelerated depreciation (necessary for the take up of new technology and infrastructure) and tax concessions and re-investment tax concessions towards R&D. Funds could also be used to support a national lease-financing program for the commercial and household sector encouraging energy efficiency retrofits, the uptake of solar installations and a commitment to buy green electricity over a determined period.

### *Cost to consumer*

EBA is firmly of the conviction that the consumer should pay the full cost of the goods and services that they consume, this includes the cost of water and energy.

Having said that, we refer the MRET Review committee to the McLennan Magasanik Associates (MMA) report prepared for Origin Energy. This paper demonstrates the low cost to the national energy bill of a 10% MRET. The MMA report also very clearly demonstrates that the increased costs to cover the 10% real increase in market share would not alter the relative competitive electricity price position of Australian industrial customers.

The recommended MRET increase to 10% and any further increases in the percentage should be linked to the Consumer Price Index in order to maintain the effectiveness of the mechanism.

***Conclusion***

EBA recommends, in the strongest possible terms, that the MRET be extended to at least 2030 and to a minimum of 10% by 2010. EBA believes that this is in the national interest to protect competitiveness of mainstream industry needing to staple green energy and carbon credits to its production and will also benefit the environment and renewable energy industry in its emergence phase.

Renewable energy will be required to play an important role in significantly reducing electricity industry emissions if Australia is to meet its long term emission reduction targets.

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