



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 scale² 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 foreseeability 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 foreseeable 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 important³. 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 competitiveness⁴. 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.

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 sector⁵. 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 NO_x, SO_x, 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 foreseeable 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 renewable 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 coal⁶

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 Columbia⁷ 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 risk⁸.

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 than 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 desalination 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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Appendices

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