



# GAP FORUM ON ECOLOGICAL SUSTAINABILITY

Sydney • Australia • June 2004

**“Moving Beyond the Rhetoric:  
Practical Outcomes for Australian  
Business and Government”**

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## EXECUTIVE SUMMARY

On 29 and 30 June 2004, Global Access Partners (GAP) brought together a number of business entrepreneurs, utilities representatives, architects, planners, infrastructure investors, scientists and regulators in the environmental arena and building industry, to address future directions and emerging opportunities in the core area of the 'Sustainable Built Environment'. Supported by Australian Government and Business, the **GAP Forum on Ecological Sustainability 2004** launched a practical 'Year of the Built Environment' initiative - the formation of an **Australian National Committee on Business Building Sustainable Cities**.

The Forum was co-chaired by **Prof Peter Fritz AM**, Managing Director of TCG Group of Companies, and **Mr Roger Beale AM**, Senior Associate, Allen Consulting Group, and former Secretary of the Department of Environment and Heritage. Keynote presentations were made by **Mr Bjorn Stigson**, President of the World Business Council on Sustainable Development (WBCSD), **the Hon. Bob Debus MP**, Minister for the Environment, New South Wales, and **the Hon. Dr Sharman Stone MP**, Parliamentary Secretary to the Minister for the Environment and Heritage. **Ms Anthea Tinney**, Deputy Secretary, Australian Government Department of the Environment and Heritage, addressed the Forum on Day One, and **the Hon. Bob Carr MP**, Premier of New South Wales, attended the Forum's closing dinner on Day Two.

The discussion at the Forum focused around business opportunities in Energy (from both a greenhouse and reliability of supply viewpoint), Water (from the household scale to the bigger infrastructure issues), and Waste (particularly minimising construction waste). A background theme was the pace and nature of Australia's adaptation to increased climate variability with implications and opportunities from systems design to individual dwelling units.

- ! The outcomes of the GAP Forum on Ecological Sustainability 2004 form the basis of the agenda for the **Australian National Committee on Business Building Sustainable Cities** - a newly formed entity, comprising members from business, industry, research and governments, and chaired by Mr Roger Beale.

The roles of the Committee are, among others, to interact with Australian Government in facilitating environmental policy and standards' development; identify and deepen commercial opportunities presented by sustainability issues and introduce them to the business community; enhance awareness of the positive aspects of sustainability and understanding of issues at each of the individual jurisdictional levels; pull together a cohesive approach for those disparate systems that already exist; be a catalyst in developing new, 'eco-friendly' management techniques for private and public enterprises; foster links between Australian SMEs and multinational building companies for joint ventures; undertake a number of projects, including feasibility studies, and call for the very best information to be available to the Australian communities regarding the effects and consequences of global and local climate change.

- ! Premier Carr has asked the Committee to consider a number of issues, including **green waste** and **sustainable energy**, application of new technologies for **stormwater management**, possible technology demonstrations in **water recycling**, and **smart regulation** to promote sustainability while preserving health, amenity and economic efficiency.

Other initiatives that were raised at the Forum included:

- Practical projects in relation to market incentives, business intermediaries and mechanisms for energy conservation and renewable energy
- Assessment of the large number of 'sustainability' instruments currently applicable to buildings and property development across the nation
- The need to apply proper risk management approaches to the impact of future climate change on the built environment
- Regulatory barriers to the environmentally sustainable recycling of sewage waste
- Tax incentives for sustainable landscape development in the urban context to match those provided in the rural sector
- The economic, environmental and regulatory issues relating to water recycling, de-salinisation and urban water supply catchment management

The Committee will be expected to develop a program of work in these areas. The emphasis will be on what can be achieved to facilitate successful, commercially viable, approaches to sustainability in the built environment. This could lead to business partnerships to apply new technologies, or changes to regulatory and incentive approaches to facilitate the market taking up more sustainable approaches.

Through its emphasis on practical approaches to sustainability in the built environment, **the Australian National Committee on Business Building Sustainable Cities** will complement broader advisory bodies on business and sustainable development, and Commonwealth-State officials groups on regulatory approaches.

#### **DISCLAIMER**

This report represents a wide range of views and interests of the participating individuals and organisations. Statements made during discussions are the personal opinions of the speakers and participants and do not necessarily reflect those of the organisers and/or sponsors of the Forum.

## STEERING COMMITTEE

A Steering Committee of experts was established and managed by GAP to give the Forum direction and to bring together the best possible information, speakers, supporters and participants.

For their time, expertise, dedication and enthusiasm we thank:

**Mr Max Barry**

Deputy Managing Director  
Techcomm Simulation

**Mr Roger Beale AM**

Senior Associate  
Allen Consulting Group

**Mrs Wiebke Benze**

Managing Director  
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Director, Education Services &  
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Group Managing Director  
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Chair GAP Forum Steering Committee

**Ms Pauline Gregg**

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**Mr Kevin Keeffe**

Assistant Secretary, Communication &  
International Branch, Australian  
Government Department of the  
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**Ms Sam Mostyn**

Group Executive, Culture & Reputation  
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**Mr Steve Rank**

Senior Manager Business Service  
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**Mr Dale Starr**

Director Public Affairs  
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the Environment & Heritage

**Mr John Wells**

Director  
HydroCon Australasia

**Mr David Whan**

Managing Director  
TechComm Simulation

**Mr Alfred Wong**

Chairman  
Green Pacific Energy Ltd

## SPONSORS

The GAP Forum on Ecological Sustainability 2004 was supported by Government and Industry and highlighted as one of the 'Year of the Built Environment' Events of National Significance. The following organisations and businesses have contributed generously to the success of the event:



**Australian Government**  
Department of the  
Environment and Heritage

The **Australian Government Department of the Environment & Heritage (DEH)** develops and implements national policy, programs and legislation to protect and conserve Australia's natural environment and cultural heritage. 2004 has been proclaimed by DEH the Year of the Built Environment across Australia. It is a collaborative celebration by Government, Industry, environmental and community groups to raise awareness in the Australian community about the built environment.



Department of  
**Environment and  
Conservation (NSW)**

The **Department of Environment and Conservation (NSW)** is the main government conservation agency in New South Wales. It was born as a result of the recent consolidation of several separate agencies, and incorporates the staff of the Environment Protection Authority (EPA), National Parks and Wildlife Service, Botanic Gardens Trust and Resource NSW, and creates strong linkages with the Sydney Catchment Authority.



**Green Pacific Energy Ltd (GPE)** is one of the only companies that has successfully combined environmental improvement and business success. It is the result of a corporate restructure of EnviroStar Energy Ltd (EEL). GPE builds and operates renewable energy generating plants which use green waste as fuel to generate electricity. The process is simple, the technology is well developed and the electricity created is cost effective and environmentally friendly - green waste that would otherwise have become landfill rubbish is now combusted to create electricity.



**HydroCon Australasia Pty Ltd** is associated with HydroCon GmbH of Germany and is developing, manufacturing and marketing HydroCon stormwater retention and infiltration technology in Australia, New Zealand and the Asia/Pacific region. Like its partner in Germany, the company places considerable emphasis on research and development, as well as delivering solutions tailored to local conditions and situations.



A leader in the provision of insurance products and services, with almost 12 million policies in force and with a wide range of business products, **Insurance Australia Group (IAG)** recognises a clear link between its business and the broad social, environmental and economic well-being of the communities, and makes environment, safety, and community central to the way it runs its business - a commitment that embraces 11,000 employees, policyholders, shareholders and service providers.



The **NSW Department of State & Regional Development** provides information, advice and assistance to foster business growth, industry and innovation in Sydney and regional New South Wales. The Department works with SMEs to save them time and money by providing a wide range of business and investment information, assisting in finding new markets for their products and services, organising trade missions, delivering enterprise improvement programs which enhance international competitiveness, and driving policy change to improve the business climate in NSW.



Australia's leading domestic carrier and one of the world's premier long haul airlines, **Qantas Airways Ltd** is an overall sponsor of GAP Forums and Congresses. Established in 1920, Qantas is also one of Australia's most recognised brand names, with a reputation for excellence in safety, operational reliability, engineering and maintenance, and customer service.



The **TCG Group of Companies** (GAP's partnering company) is an independent group of private, mutually supportive enterprises which have been in operation since 1971, covering five strategic areas - services, computers & communications, business accelerators & technology parks, land & food, and the environment. The TCG companies have created several globally significant groundbreaking technology advances in information systems, data transmission, management structures and the food industry.



**TechComm Simulation** is a leading Australian service provider to the power generation industry. The first TechComm simulator was delivered in 1985 being the first PC Based type which has become an industry standard. At present more than twenty simulators have been supplied to all regions of the world. From these beginnings TechComm Simulation growth includes a Training and Operations Services Division, which compliments the Simulation Business providing a comprehensive service package for their clients. Since 1998 TechComm is a key member of Yokogawa Electric Corporation family of companies.

## SPEAKER



The GAP Forum on Ecological Sustainability 2004 featured **Björn Stigson**, President of the World Business Council on Sustainable Development (WBCSD), as a keynote speaker. WBCSD is a coalition of 170 international companies, with annual total turnover of \$3 trillion and 2 billion customers daily. Since the formation of the Council in 1990, Mr Stigson has been actively involved with the business response to the challenge of sustainable development.



World Business Council for  
Sustainable Development

Björn Stigson began his career as financial analyst with the Swedish Kockums Group. From 1971-82 he worked for ESAB, the international supplier of equipment for welding, in different positions responsible for Finance, Operations and Marketing.

In 1983 he became President and CEO of the Fläkt Group, a company listed on the Stockholm stock exchange and the world leader in environmental control technology. Following the acquisition of Fläkt by ABB, in 1991 he became Executive Vice President and a member of ABB Asea Brown Boveri's Executive Management Group. From 1993-94 he ran his own management consultancy.

On January 1, 1995 Mr Stigson was appointed President of the World Business Council for Sustainable Development (WBCSD) in Geneva, which is a coalition of 170 leading international corporations. Since the formation of this organisation in 1990, Mr Stigson has been actively involved with the business response to the challenge of sustainable development.

Björn Stigson has served on the board of a variety of international companies. He is presently a member of advisory councils, including, among others, the Unilever Environmental Advisory Group (UK), the OECD Round Table on Sustainable Development (France) and the Council for International Cooperation on Environment & Development (China).

Mr Stigson is a member of the board of GRI (Global Reporting Initiative), the IRGC (International Risk Governance Council) and TERI - North America. His earlier board memberships include companies in the following sectors: Engineering, Construction, Insurance, Venture Capital, Waste Management, Consulting, Leasing, Transportation and Medical Equipment.

He studied at the Gothenburg School of Business Administration, the Swedish Management Institute and Harvard Business School.

## PARTICIPANTS

Participation at the GAP Forum on Ecological Sustainability 2004 was by personal invitation. The Forum operated as a proactive, multidisciplinary task force, with attendees - a mix of select groups of decision makers from the top echelons of government and industry - contributing to high-powered debate in roundtable discussions. Each participant was encouraged to drive their own agenda and offer their experience to all.

Participants from the following organisations attended the GAP Forum on Ecological Sustainability 2004 over two days (*for the full list of participants, see App. 8 page 43*):

- Allen Consulting Group
- Australian Greenhouse Office
- Baker & McKenzie
- Building Australia Magazine
- CH2M Hill
- Colliers International
- CRC for Catchment Hydrology
- CSIRO Sustainable Ecosystems
- David Beddall & Associates
- Department of Environment & Conservation (NSW)
- Department of Sustainability & Environment Victoria
- Department of the Environment & Heritage
- Department of the PM & Cabinet
- Ecos Corporation
- EcoSTEPS
- Energetics
- Energy Australia
- GHD
- Gold Coast City Council
- Government News Magazine
- Green Building Council Australia
- Green Pacific Energy
- Hydrocon Australasia
- Ilum-A-Lite
- Insurance Australia Group
- JEM Australia
- Jones Lang LaSalle
- Lucis Pty Ltd
- Marsupial Landscapes
- Melbourne Water
- Minister for the Environment, NSW
- Mirvac Group
- Natural Edge Project
- NSW Department of Energy, Utilities & Sustainability
- NSW Department of Housing
- NSW Department of State & Regional Development
- Office of the Shadow Minister for Small Business
- Office of the Minister for the Environment & Heritage
- Office of the Lord Mayor of Sydney
- Premier of New South Wales
- Roads & Traffic Authority (RTA)
- Royal Australian Institute of Architects (RAIA)
- RAIA, NSW Chapter
- Sinclair Knight Merz
- Stephen Schuck & Associates
- Storm Consulting
- Sustainable Energy Authority Victoria
- TCG Group
- Techcomm Simulation
- University of NSW
- University of Technology Sydney
- Walter Construction Group
- Waste Service NSW
- Waste Technologies of Australia
- WBCSD

## SUMMARY OF ISSUES

The GAP Forum on Ecological Sustainability 2004 was held over two days at the NSW Trade & Investment Centre in Sydney.

Two roundtable sessions took place on **Day One (Boardroom Day)** with different participants at each. These meetings examined a range of sustainability issues from a decision makers' point of view - both Government and private sector. The discussions on **Day Two (Workshop Day)** invited a wider group to take a practical in-depth look at the subjects under review. The discussion format encouraged the participants to express their personal point of view regarding current issues of concern and develop concrete solutions they could pursue in the future.

Mr Bjorn Stigson presented on both days, with his speech being followed by discussions between participants and a question and answer session open to all.

The following summary of issues is based on the Forum's proceedings. For convenience the issues are arranged under subject headings, rather than reproduced in chronological order.

### THE BUSINESS RESPONSE TO SUSTAINABILITY

#### Climate Change

The Forum identified climate change as the most pervasive issue in sustainability. It raises risks for Business in two ways: 1- in assessing the effective future policies to reduce greenhouse emissions; and 2- in the impacts of changing weather patterns on natural systems including water supply, infrastructure, buildings, people and demands for goods and services. Business needs a better basis on which to manage these risks. This is best provided by clear, long-term Government policies and much improved information.

- Many expressed the concern that there is an urgent need to research the costs and consequences of inaction on emissions reductions and adaptation. The costs of action are often highlighted, while the costs of apathy are not. Business needs to know what action governments may take in the future so it can minimise the costs of their implementation by preparing for them now. Business will increasingly take that lead, and it would be very helpful if the proposed Australian National Committee can assist in driving that research.
- More generally, many at the Forum expressed the view that a key role for Government is "writing the rules" on allocation of risk in society.

#### Adaptation: The Impact of Changing Weather Patterns on Urban Planning, Infrastructure & Building Design

- Our urban systems - the location of activities, the design and capacity of infrastructure and the construction of buildings - are based on the assumption of a stable climate.

- Stormwater systems have capacity limits, dams are constructed with holding capacities related to past patterns of rainfall and run off, buildings are designed against nominated wind load limits, dwellings are generally not permitted in flood or storm surge prone areas.
- Below these design severe weather events are handled at modest costs. Capacity and load limits are based on the historical experience of patterns of weather variability. If these design limits are exceeded, large scale devastation can occur with huge economic and human costs.
- Insurance companies in Australia and globally already report a significant increase in claims arising from natural disasters - hail, storm, flooding and fire.
- Most of Australia's urban water supplies are under pressure from the intersection of increased demand and low levels in existing dams.
- Climate change is raising the risk that the design limits will be exceeded more frequently with serious implications for the built environment and the economy. Even modest global changes can produce more severe weather events with their consequent damage and we should be incorporating these factors into new design standards as part of our development codes. A risk management approach is as vital in practical design as it is in market investment.
- Some Forum participants were concerned that some local governments were allegedly refusing to publicise flood and storm surge prediction zones because of concerns about the impact on land values. This raised difficult moral and legal questions and reduced incentives to adapt. In some cases it could lead to consumers purchasing or constructing homes that could be uninsurable for flood damage.

*"A 25% increase in peak wind gusts causes 650% increase in building damage."*

**Sam Mostyn**  
Group Executive  
Culture & Reputation, IAG

*The GAP Forum participants were invited to attend the upcoming launch of the Australian Climate Group (ACG) - a joint initiative of the WWF and IAG to guide public opinion and government policy towards a solution to the issues of climate change.*

#### **Mitigation of Emissions: Should Business Act Independently or Wait for Government legislation?**

- Businesses face a dilemma. Should they act now to address issues of sustainability or adopt a stance of wait and see? This is particularly pressing with regard to climate change. But many businesses feel that they will be disadvantaged if they act without a supporting framework from Government that ensures that their competitors also do so. Some nevertheless have implemented proactive climate programs.

*"Businesses can do much to encourage eco-efficient practices, but they need an enabling framework from society if they are to move forward with any greater speed. It is the role of governments, in consultation with business, to create the conditions that allow business to contribute fully to sustainable development."*

**Bjorn Stigson**  
President WBCSD

- BP’s internal development is an interesting example. Initially, BP took a very aggressive position against the need for government or business action on climate change, but those who run this influential company now see climate change and resource depletion as an important issue, arguing that energy efficiency has saved them up to 60 million dollars. BP’s impetus for taking action in this area comes from its European base, where it is subject to a significant amount of regulation as well as consumer pressure.
- A number of Australian companies, such as IAG and Origin Energy, take a strong position on the need for action over climate change and pushing a sustainable approach. These companies point out that they have maintained a buoyant share price in a difficult market in recent years. Companies interested in sustainability tend to be efficiently organised and well run, and look at issues with a holistic approach.
- Some companies are very active in developing their renewable energy technologies in Australia and exporting them worldwide. Many of them are based in Europe and have well funded investment support, allowing them to establish themselves in Australia and take a market lead.
- Well-managed businesses will deal with these changes, move on and continue to succeed. Less well-managed companies that do not address this problem will be affected adversely.
- Business will increasingly think about the ways it can carry the message to State Premiers, Treasurers and Industry Ministers about the risks of not taking action and the innovative and other economic benefits of taking action, if the Commonwealth fails to lead. Lack of national action on long term adjustment paths creates an opportunity for the creation of powerful state coalitions to drive the agenda.

*“Judging from the sustainable development-oriented indexes, such as the Dow Jones Sustainability Index, companies focusing on sustainability tend to be more profitable than others. Sustainable companies are more in tune with society, faster to adapt and generally better managed.”*

**Bjorn Stigson**  
President WBCSD

## Carbon Trading

The Forum generally favoured market oriented strategies that would give Business signals to manage its investment risks. A forward-looking carbon trading system is one option that would provide Business with the incentives to search out least cost solutions and adopt efficient transition paths to a carbon constrained future. Further practical research and policy development is justified.

- There is an ongoing debate as to the role business should play in the absence of a strong policy framework. We have legislation at the State level, which creates some limited carbon markets; and many trading companies, the Japanese in particular, are looking at leveraging trade in Australia, New Zealand and other Asian-Pacific regions.
- ST Microelectronics, an Italian semiconductor manufacturer, invested 172 million dollars with State Forests in 2003 to establish and manage up to 12,000 hectares of new plantations in northern NSW. Through this, ST Microelectronics plans to offset its carbon emissions in Europe and become a zero greenhouse gas emission company by 2010.

- It is critical to develop a sustainable national greenhouse policy, which would support a national carbon market rather than prescriptive national technology regulations. There is an uncertainty over the scale of the carbon crisis, the global situation and, in particular, long term national policy. These uncertainties are a disincentive to long-term investment.
- Investment in the wrong form of generation could cause shareholder assets to be degraded as a result of shifts in the emerging carbon crises. Investing in the wrong form of building, infrastructure or vehicle poses the same sort of problem. This increases the risk associated with investments, and in the absence of clearer national policies, probably tends to suppress the level of investment in these long lasting, energy intensive assets.
- Normally you trade in something with a generic value. The challenge when you trade pollution is that it has no value in itself. Pollution only has a value if it must be capped. The emissions trading of pollution only works if you are not allowed to pollute past a certain level. As long as there is no cap it has no value. There will be experimentation because people want to try to understand what is happening, but no market will be created unless new legislation creates such a limit. Europe is one area where action is happening in terms of the creation of big facilities, big power plants and big process plants which take carbon emissions into account because there was such a cap.

### **Reducing Emissions in Buildings**

**Commercial and residential buildings are a major focus for energy consumption both in their construction, and more particularly operation. Energy consumption is directly linked with the production of greenhouse gases. The household sector is likely to become more important to peak energy demand as temperatures increase, air conditioning becomes more an accepted community expectation and particularly as ‘climate unfriendly’ building designs become more popular. Increasing energy efficiency in buildings through better design, retro-fitting and active management therefore becomes more and more important. But this is a difficult area in which to get results. Some of the observations made at the Forum were:**

- The building sector is making efforts to reduce energy use in buildings. The Australian National Committee could play an important role by introducing interested parties to the opportunities that exist, and launch programs to make full use of those opportunities. It should facilitate the understanding of the issues at each of the individual jurisdictional levels and pull together a cohesive approach for those disparate systems that already exist as markets work at their best when they are large enough to encourage competition and innovation.
- One important area where Australia has not developed a sophisticated market is energy conservation. It is important to understand why so many economically and financially positive energy conservation investments are not made, and how new incentives, intermediaries and information systems could garner energy conservation savings.
- By giving away energy efficient light bulbs, Energy Australia are generating favourable media coverage and the importation of thirty times the average annual sales of such products forces the Chinese producers to change their pricing and products in ways specified in the tender.

- Energy Australia's other key strategy is to change future thinking about energy efficiency by aiming at school education. They see environmental progress as requiring a change of generations.
- Business opportunities are created when people begin to think in environmental terms. They may have nothing to do with rehabilitation but exist simply as business propositions. Emerging problems create business opportunities, such as energy efficiency and building climatically appropriate housing. PR can encourage customers to demand such environmentally friendly solutions.
- A pressing need was identified for better objective measuring tools in the whole area of sustainability. We must have universally accepted ways of measuring results. Objective evidence of concrete results and improvements is a very powerful driver of change.
- In terms of workplace design, a growing body of international research proves that better workplaces produce both improved environmental outcomes and higher business productivity. These have been measured anywhere between 1-2% and 15%, and 15% on 85-90% of bottom line costs constitutes a significant driver to action. Humans have a fairly narrow range of temperatures in which we're comfortable. Performance plummets outside it.
- People inevitably look for ways to cut costs when building a house, and all too often it is the ventilation system that suffers. However, the relatively small initial capital savings are soon overwhelmed by the continuing costs of lost productivity caused by a sick building full of uncomfortable people who are always too hot or too cold. If you calculate the return on the investment required to create efficient ventilation, the payback time may be little more than a week because the extra material cost, relative to the cost of poor productivity in bad conditions, is so small.
- In the past we have invested in developing different technology for building houses, but the issue now is to reduce energy and water consumption to save costs for both the tenants and building owners. Ecological sustainability, which benefits everyone, is being driven by the needs of financial sustainability.
- An interesting study in California in 2003 examined the impact of standards implemented across Government four years ago. They revealed that the average capital cost increase of delivering these high performing buildings was less than 2%, with a life cycle savings of about 20% over twenty years. Based on the top 30 green buildings in the US, you saved 50% on energy and 70% on water for a 1.63% building premium.
- The Green Building Councils in Australia report that producers and consumers value examples of cost saving ecologically friendly buildings which are specific to Australia far more than international examples.

## Making Sustainability Meaningful

There is no common understanding or even a common terminology about sustainability. During this year of the Built Environment terrific programs at all State levels have been established but the feedback from the industry suggests they are looking for true policy debate and leadership from the political institutions.

- There needs to be the creation of market demand for environmentally friendly products by educating consumers about sustainability. Those in business with sustainable products, and the civil society members, called for new 'Life be in it' style campaign with key but simple messages about living sustainably to create a general understanding of the impact individuals can have by their daily choices. This may be a national extension of NSW's *Our Environment: It's a Living Thing* Campaign.

*"We need some practical, physical, feely, smelly things that can connect to people and actually show that these things work, and give people the incentives to go and replicate the technology."*

Ms Gabby Greyem  
Consultant, Ecos Corporation

- There is a huge amount of environmental information available but few people know how to gain access to it. We need to develop easy to use web portals with a series of levels for the general public, school students, councils, architects and professionals with links to a wide range of relevant material and information.
- Systems that provide real time feedback on the environmental consequences of behaviour are also powerful motivators. The feedback provided by the Toyota Hybrid vehicle *Prius* to its driver on both the power source and the net energy consumption was a powerful incentive to economical driving. Similar devices can provide real time feedback on energy consumption in the home, even to the extent of energy consumption by each appliance in use.

## Waste Disposal

Waste disposal - both of 'clean waste', green waste and sewage is becoming an increasing issue globally as the size of cities increases and economical and sustainable disposal mechanisms are exhausted. There are considerable opportunities to reduce waste at source, but there are also opportunities to successfully treat it and turn it into a valuable resource. The Forum was told of some interesting examples - but also of difficult regulatory barriers that had to be overcome:

- One successful waste company with a major investment in a 2000 hectare, 50 year landfill facility outside Brisbane, highlights the long term benefits accruing to major investment in sustainability. They generate electricity from methane generated by the landfill, the only such scheme in Australia, with the site being structured to break down the waste within 10 years instead of the usual 25 as liquids are re-circulated through the landfill to create more gas.
- They have developed a cutting edge electronic thermal conductor unit that removes waste hydrocarbons from soil and heats them in a catalytic converter to vent non-toxic gases. The treated soil is suitable for household lawns while untreated soil hydrocarbons remain toxic for 100 years.

- They also have a contract to deal with human sewage waste. The ultimate goal is to use it as a productive landfill. A series of experimental designs mix the ‘bio solids’ with waste from coal mines to create an A grade top soil. The bio-solid/mine waste mixture can replace top soil removed during building new houses. It has excellent water retaining properties, allowing grass and trees to thrive without extra watering.
- They have a 5-hectare forestry project with the DPI and are studying how the bio solids react with the trees. There is a proposal for a paper mill for this site, to utilize the forestry as 2000 hectares of land carries a significant amount of timber. If you look at new ways to use waste products you can turn them into lucrative profit streams.
- One of the problems faced by the project was moving waste over State borders so that the bio-solids and coal waste could be brought together. In the view of the company there needs to be clearer protocols for the movement interstate of these wastes that do not fall neatly into existing categories.
- Another start-up company spun off a CRC told the Forum of a technology for ‘sewer mining’ that could produce water that is essentially equivalent in quality to potable water using small modular plants that are located where the water is required. In many cases this solution is less costly than the current practice of building large end-of-pipe treatment plants and then building a separate pipeline to pump treated water back to its original source. The low cost of water and lack of incentives to apply reuse are further inhibitors to the economic viability of reclaiming water from sewage, especially for smaller systems.
- In a sustainable society, the word ‘waste’ should not exist anymore. Everything is a ‘Resource’ if used properly.

*“Where there’s muck  
there’s brass.”*  
Old Yorkshire Expression

### Opportunities for SMEs and Problems in Getting the Message to Them

The built environment is characterised by a major spread in the size and sophistication of industry players. In the more sophisticated or commercial sectors, clients including Governments and superannuation funds are well informed and looking to the long term. The building industry is responding to their demands for environmentally friendly products, albeit at different rates, because commercial builders must always respond to their customer’s requirements in order to survive in a competitive market place.

- The second, more problematic, market is in housing. The building industry itself, which employs about 700,000 people in Australia, is largely comprised of SMEs. At its most basic level, the housing industry faces serious issues related to resources, training, safety and access to information. Knowledge in the industry regarding the issues under discussion is relatively unsophisticated, as it is in the general housing market.
- The industry would be forced to address these issues by the new Building Sustainability Index (BASIX), which is designed to require consideration of energy and water efficiency. Many in the industry would have difficulty in coping with these new demands, it was said.

- In reaching out to SMEs the medium is almost as important as the message. SMEs do not read reports. If concerned organisations want to influence their behaviour they must knock on the business' door. Once they have helped one company save money, word spreads like wildfire.

### **Integrated Planning Issues**

**Many at the forum expressed concern at institutional failure in planning, infrastructure and service delivery. While steps forward were being made under recent sustainable Sydney initiatives there were still too many examples of failure to coordinate comprehensively, through a place-based approach, all the inter-related aspects of urban design and community support. Some comments made at the Forum:**

- A major initiative taken by the Government of NSW in 1996 created an integrated transport policy. Instead of building roads for cars, the strategy looked at integrating transit ways and pedestrians, bus routes, cycle ways and so forth to build a more sustainable network. To some extent this has worked, though obviously it has been better in some areas rather than others. One of the initiatives was the transit way network in the South West that featured a bus only corridor, running energy efficient buses. This showcases a way forward for all planning decisions.
- Nevertheless some argued that a more comprehensive approach to public/private transport and infrastructure delivery, linked with closer cooperation between key local governments and state authorities, was essential.

### **Financial Markets**

**The financial markets hold the scorecard for the economy. Many good sustainability initiatives and products find it difficult to raise investment capital. Ultimately everything comes down to profitability and incentives. The super funds have a great deal of power in terms of encouraging more socially responsible business practices and should be targeted for action. Some comments to the forum stressed the potential role of industry super funds.**

- Contributors, it was argued, have little direct input into the decisions of super funds or their company's choice of super fund managers. Issues of ethical investment and sustainability auctions within various super funds are now being discussed more, but not to anything near the correct degree. Australia enforces compulsory superannuation, 9% of our salary is invested in these funds, and there should be more input from employees as to what we are financing.

## Water

Climate change resulting from greenhouse gases, as well as the effect of ozone depletion on the Antarctic vortex, may well exacerbate water shortages, particularly in South East Australia in the way that has already occurred in the south west of Western Australia. Inland river systems in the Murray-Darling Basin are already under extreme pressure as a result of the rate of extraction for agricultural purposes. There is a recognised need to increase environmental flows to restore river system health. Increasingly South Eastern Australia might see competition between agricultural and urban uses for scarce water supplies. The risk of more variable and lower rainfall and run-off regimes, is going to require careful thinking about the alternative strategies of more dam construction, water reuse, desalinisation, water conservation and demand management against the background of careful study of future climate variability and costs. A mix of strategies is likely to be needed. Some vignettes of approaches already underway and reported to the Forum are set out below:

- Melbourne Water is a State-owned corporation that manages a resource, rather than being its wholesaler. It recognises that we all have to do more with our water. We simply cannot, as consumers, use it once and put it down the system, but have to keep it in the cycle longer. A new feasibility study project, announced last week, is potentially the biggest project in Victoria since the building of the Thomason Dam but cannot be undertaken by the state government alone. It is a billion dollar project that requires private partnership, and but historically fresh water and recycled water is identified through legislation as government owned.
- Victoria plans a massive scheme to pump water back to Gippsland for treatment so that the resulting waste water can be used for a host of industrial and farming purposes. Previously this water would have entered the sea through outfalls near to surfing beaches. Closing these outfalls will bring amenity and possibly health benefits.
- The mixed reaction to these proposals from a host of competing vested interests highlights once again the difficult problem of measuring cost/benefit analysis in environmental terms.
- In South Western Australian rainfall has declined by 25% since the mid-70s and runoff by nearly 40%. Urban water is going to be a huge issue in the future in these areas. The Western Australian Government has recently announced Australia's first major de-salinisation plant.
- Rating houses as a buyer, insurer or lender allows financial differentiation between houses that are environmentally friendly or not. However the hip-pocket nerve tends often to lead consumers to buy what's cheap in the short term, not necessarily what is the most suitable overall, particularly when the long term costs are not clear.
- If the price of the asset, in this case water, increases then people focus on saving money by limiting their consumption. Cash raised by higher prices could be used to subsidise the instillation of energy and water efficiency devices in existing housing. 'Basics' policy supports ecologically sustainable instillations in new housing, but the vast majority of older housing is very inefficient in their use of these scarce resources.

## Generating Energy Efficiency. Managing Energy Efficiency in Buildings

The Australian National Committee on Business Building Sustainable Cities could play a role in increasing a peak load demand for electricity generation, as well as assessing possible risks to transmit infrastructure from bushfire or weather events.

- Energy efficiency is an area waiting for a breakthrough everywhere in the world. The numbers in Australia are impressive. Measures to halve the current shortfalls in energy efficiency would pay for themselves within four years, the economy would save about \$800M a year and remove the need to build two new power plants which are currently proposed.
- The New South Wales Greenhouse Gas Abatement Certificate Scheme provides an incentive to electricity market players to reduce greenhouse pollution (for example through energy efficiency).
- Other nations employ different approaches. For example, the recent British legislation requires all suppliers of electricity to double their success in energy efficiency.
- A market exists for contractors who would assess a company's energy use and advise on ways cut waste, thereby saving it money and increasing its sustainability. There are issues of trust to be overcome as companies have come to distrust similar approaches in computing and communication.
- Designers and builders tend to have little interest in a building's long-term sustainability or energy efficiency. No-one (tenants, managers or owners) wants to pay for energy management services which would actually save all of them money in the long run.
- The JEM organisation finds that hotel chains are prepared to spend their own capital to save water and energy providing they get a payback in around 15-18 months and that any new techniques do not interfere with the expectancies of their guests. In other words, no complaints from customers forced to shower under a chilly mist!

### Legislative Levers

- What legislative levers should we consider? Even where an obviously profitable pay off for industry exists through using sustainable techniques, change is not happening fast enough of its own accord. Would legislation actually induce us to do the things that are good for us?
- One of Peter Fritz's companies, HydroCon Australasia, was formed because German legislation regarding storm water management meant landowners had to dispose of the water on their land; they could still dispose it into the sewerage system if they wanted but it would cost them a lot more. That encouraged the firm's development of porous pipes, which allowed the water to disperse on the land.
- A good example of national legislation deals with used tyres, or waste oil, which is subject to a levy and a subsidy scheme. One alternative would be to require the major oil companies to demonstrate that 90% of their waste oil had been either recycled or used as fuel.

- An authority in South Australia has adopted a zero waste policy initiative in the private sector. There are currently companies putting into place zero waste programmes with targets over the next 20 years.
- However, if you legislate, rather than create value and provide incentives, you then have to enforce. If you are enforcing without incentives, you are pushing water uphill.
- Draconian laws requiring householders to do long lists of things only encourage ill willed neighbours to 'dob' in the unpopular person who is hosing the driveways. They imply a new batch of police who will knock on everyone's door and see if they have screwed in the energy light saving bulbs. As this is both impractical and oppressive it is politically impossible.
- The Federal Government recently announced that all Australian companies using more than a given amount of energy will have to conduct 'energy efficiency opportunity assessments'. They do not enforce action. The horse has been led to water, no-one is forcing it to drink.
- If governments legislate upstream they can administer regulation fairly readily. They can make it an offence to sell a certain product with the onus on the supplier to comply, a car without seat belts for example. If consumers can only buy an environmentally acceptable product, then over a period of time they take over naturally. The tricky issue is housing stock as nationally we rebuild only 1.5% or 2% to the housing stock each year. They might all be breaking the new law, but it is impossible to change them all or enforce such changes. In most instances only incentives, rather than the hard letter, encourage people to change the bulbs.
- Appliances offer a huge opportunity for the national regulation of higher standards. American states have adopted stringent air conditioning standards, which are the envy of Australian campaigners, but in a small market such as Australia there may be the danger of creating local monopolies which would only damage choice and innovation in the long term. However experience with energy efficient appliances (dishwashers, dryers etc.) in Australia is that while some less efficient appliances drop out of the market, there are equal if not more new models meeting higher efficiency standards entering the market.
- The Federal Government recently changed the excise system for fuel in demanding that companies claiming sizeable excise rebates must join the Greenhouse Challenge, a voluntary energy efficiency programme. Again it simply makes them assess and report on their emissions, trusting that this will encourage them to take action where appropriate.

### Marketing Green Products

- Companies have traditionally had difficulties in selling greener products to customers. Only a very small percentage of Energy Australia's customers have taken up their Green Energy option.

*"Selling "green" products is not easy. Consumers say in surveys they prefer these and are willing to pay more for them, but their actual purchasing behaviours are different. They will prefer the "green" everything else being equal, i.e. quality and price"*

**Bjorn Stigson**  
President WBCSD

- There are many ways for business to lobby government to examine different regulatory tools, be they incentives or disincentives for particular market places. One constant is the substantial disconnect between the strong environmental values expressed by the community and their lack of willingness as voters to support any regulatory system to make it a reality.
- Even in the very recent past it was very hard to persuade marketing people in major companies to understand or take an interest in the importance of environmental concerns in a market. The chief executive may have recognised an environmental issue which affected the bottom line but the marketing department said, ‘forget it.’ Over even the last year this has started to change.

### The Energy Crisis and Issues Regarding Renewable Energy

- An increase of 66% in the world’s demand for energy is projected by 2030, two thirds of that in developing countries.
- Assessments of global sources of primary energy show that 87% came from fossil fuel in 2000. The surprising projection is that, by 2070, fossil fuel generation will actually rise to 89%, due to a decline in new nuclear and hydro generation.
- In 2000 the world had a generation capacity of 3,100 gigawatts. We will build another 4,800 gigawatts up to 2030, more than doubling current capacity, with most of the growth in developing countries and powered by coal and gas because that is what China and India have. As a power station takes from 5 to 50 years from planning to completion this increase is already on the drawing board with the obvious conclusion that carbon emissions will greatly increase.
- Though there is debate about cause and degree, one thing everyone agrees on is that atmospheric carbon concentration is increasing and what cannot go on forever will eventually come to an end. Carbon concentration cannot increase forever without consequences. We do not know exactly when it will really hit, or in exactly what form it will take, but that it will happen seems inevitable.
- **There is therefore a much greater emphasis on adaptation to climate change in the greenhouse debate. The Kyoto negotiations were aimed at reducing emissions to reduce climate change, but the likelihood that we will mitigate climate change now seems very small. We can reduce the impact but not avoid it. There seem to be three types of actions we can take now.**
  1. One is the focus on *energy efficiency* in the short term that is currently supported through Commonwealth programs like the Greenhouse Challenge.
  2. No solution to the energy problem will be free of charge so the *price* of energy must increase, perhaps dramatically, over the next 50 years. This means that energy efficiency will be an area of growth and that the building industry must focus on these realities. Despite our practical bent, it is important to discuss these issues in the light of the major trends as they don’t change easily, such is the power of the big numbers.
  3. We must substantially increase the share of *low-carbon and renewable energies* in Australia’s generation mix. Much of this technology is already tried and proven but requires market drivers to stimulate economies of scale necessary for full market competition with conventional fossil fuels.

- While not an immediate solution, *carbon sequestration* may be necessary to achieve the deep cuts in carbon-dioxide concentrations that scientists say are needed to sustain life on Earth as we know it. At best, the Kyoto Protocol will deliver a 5.2-0% growth in greenhouse gas emissions from developed countries and UNFCCC scientists claim we need reductions of 60-80% now if we are to reverse this trend.
- Three sectors - building, industry and transportation - dominate the discussion of climate change. Transport is likely to continue to increase both its emission levels and share of total emissions. Energy generation is different because new technologies, such as bio fuel, will become increasingly important especially in Australia, assuming that water supplies remain viable. Changes in building design have been extensively discussed elsewhere in the forum.
- A great range of options between soft policy measures and hard mandatory actions exist and Australia is missing a lot of opportunities, in particular in Asia. Several Scandinavian Governments are aggressively entering into partnerships with Asian governments to develop renewable energy technologies in our region. At last year IETA's (International Emissions Trading Association) Workshop on renewable energy and emissions trading in Manila, every major developed country had a trade representative looking for opportunities for a new earning sector, except Australia.
- We have considered the effects of more frequent cyclones on tourist centres such as Cairns. How robust will our electricity grid be if faced with more frequent fires of the type we have recently seen devastate large areas of South Eastern Australia. How many of connectors can be lost before the whole grid goes down? What is happening regarding planning for hundred year flood events if they'll be hitting every twenty years instead? Climate change models predict events of increasing severity and frequency? This implies huge economic costs and that must drive the design of our infrastructure systems. We are increasing the population density in our cities to increase their capacity. Our aging sewerage and water infrastructure was not designed to withstand even one of these events.
- Tax breaks would encourage individuals and firms to invest in expensive environmentally friendly water and waste management systems which currently fail to attract any government support. Farmers receive large subsidies but urban schemes run by individuals receive none and are therefore hard to sell to companies and clients. If the tax system is to be used to penalise unsustainable behaviour, rebates should be employed to encourage environmentally beneficial projects of this type.

## Questions & Answers

**Q:** *How can we encourage builders and homeowners to install solar technology?*

**A:** Builders and homeowners will only install solar heating if they see a direct benefit from it. Turkish homes, for example, have more solar panels because their electricity grid is so unreliable, not because they are more advanced or eco-conscious. Australians are reluctant to make that initial investment. Perhaps if someone owned and installed those panels, and the homeowners then received a discount on their electricity bills, it might be different.

*Q: We have heavily subsidised road transport and fossil fuels despite knowing they're finite. Whether it's thirty years or three hundred, they're going to run out. We need to convince people to vote out politicians who fail to address this. Though there's a relatively high green vote in Australia of between 6 and 12% it is decisive in only a few seats. I wonder if you might comment?*

A: When Bill Clinton was President I met his Chief Scientific Advisor and said the best thing he could do was put a one dollar tax on gasoline - which of course would be political suicide. Now that the market has increased prices by that amount, efficiency will be driven up just the same. The market drives everything in the end.

*Q: How do we modify our markets to take sustainability into account?*

A: Suppliers still don't bear the social and environmental costs of production. The producer still does not pay. But one needs to be absolutely convinced that the intervention is going to cost less than the harm that one is trying to address, and it needs to be done in a way that is socially and politically sustainable.

Governments have a license to operate and innovate just as companies do. Their contract runs out every three or four years so they need to be sure they know what their consumers, meaning the voters, are prepared to accept. That brings us back to the need to foster an informed market. People have to accept there is a problem, and feel they 'own' it before they will accept the government providing a solution.

It is not about privatisation though. You pay for things through tax and by direct payment. If something is privatised, and you are charged more for it, you complain but you do not take into account the fact that your taxes are now being spent on something else.

*Q: What is the 'Natural Step'?*

A: We know amazingly little about many of ecosystems, about how much biodiversity they can lose before they collapse. We know relatively little about the climate and atmospheric system though there is a lot of research going on. That is why initiatives such as the Millennium ecosystems assessment are so important as they are trying to increase what we know for sure.

The 'Natural Step' deals with that question of how much biodiversity can be lost before systems crash. It looks at the trends, where things are systematically getting worse, for instance we are losing forests at a terrible rate all over the world. We know that at the end it will not be sustainable so we look at the system trend rather than at actual levels because it is like the guy jumping out of the skyscraper shouting 'So far so good' when he passes the twentieth floor.

How do you create the awareness and momentum needed for action? What should these actions look like? What social trade offs need to be made? How much money should we put into tackling climate change versus health care versus death on the roads? The fourth biggest killer today globally is accidents on the road and it is moving up to be one of the top killers in the world. How much are you going to deal with that versus other things?

It is these difficult trade offs which generate debate because society cannot do everything. There are simply not the resources to solve all of these things at the same time and the only system we have to resolve these questions is the political system. We elect politicians to make these trade offs.

## Concluding Remarks

- “We are talking about something that is just over the horizon, if not over it already, and we have not heard the word urgency today.”
  - “Australians can afford to sit in meetings like this but the majority of the world cannot. At a conference in Istanbul in June 2004, the Bangladeshi Minister was talking about a loan of \$100 being meaningful, and The Deputy Administrator of the US delegation who had just floated her company for a billion dollars, looked at that man and said she realised then that they were on different planets.”
- “We cannot realistically go and talk about how to improve the energy efficiency of air conditioning to someone in Africa, who’s on a dirt floor with no running water and nothing to eat.”*

**Mr Matt Reardon**  
CEO Energetics
- It has been said on several occasions that businessmen will be happy to sell sustainable products if they can make a profit on them. That is obvious. But something that is a lot harder to resolve in a small consultative committee like this is to focus on consumption and the consumer, consumer behaviours rather than attitudes. Consumers’ actual behaviours do not match their professed environmental attitudes.
  - Governments are forced to pay extra for sustainable products because the market is small, and that means fewer nurses, fewer hospital beds, fewer teachers, but if they encouraged the market to grow that price differential would disappear, and with it any excuse for inaction. By 1 July 2006 or 2007 all NSW Government tenancies will have to be de-rated buildings so any landlord or office manager wanting to approach a Government Agency for a lease will have to have rated their building which is going to have flow-on effects for private enterprise. That is one area where the Government is using its purchasing power to drive a push towards sustainability.
  - Apart from a couple of stand out Green champions, most home builders are small family firms who do not have any understanding of sustainability and have no interest in improving it. They are the people going to new or renovating home owners and saying ‘No just do it this way, this is the way we have always done it, we will get around the regulations, never mind’. They are not champions for sustainability. One of the key ways of getting this message out to a wider community lies in educating those people as champions of sustainability. 730,000 people are working in the building industry so there are quite a few people to get to, to get to the rest of the population.
  - Most families lack the time and interest to care about sustainability. When they say they would pay for environmentally friendly products, in truth they generally will not. We need to get products on the market that do not appear different but are sustainable. We must work with businesses until all products sustainable, because consumers will not make that choice. We really cannot use all our energy educating everyone to be Green consumers; we have to shift the market and the products out there as well.

- Solutions to these huge, seemingly intractable problems, can be simple things like rooms wired so people cannot leave the lights on. Small things add up in the big scheme. There are lists and databases of sustainable materials, and the building industry contains a lot of people who do take notice of, and actually implement, these measures if it is made worthwhile to do so.
- The Building Code of Australia (BCA) is the type of document to look at. If everybody at the forum designed a house under the BCA, they would be all different and that allows a lot of innovation within the legislation and the regulations likely to come. Frameworks which allow people to be creative in solving problems create techniques which become commercially viable and available to all.

### **Bjorn Stigson's Three Scenarios of a Possible Future for 2015**

1. FROG - First Race Out Growth. A continuation of today's world, oriented to the short term, introspective - and not sustainable.
2. GEOPOLITY - A 'big' government world in which national governments co-operate to take and implement major decisions to deal with these issues is a world which could only take shape after it has faced crisis or narrowly escaped major disaster.
3. JAZZ - as in jazz music, variations around a common theme. Can we make our current markets work and gradually integrate sustainability? We can probably achieve this, if we are lucky and the ecosystems are a little more resilient than we once thought.

Bjorn Stigson: "We had big meetings in Washington, we had a meeting with the fifty top guys in the World Bank for a day, we had a meeting with the thirty top guys in the OCED for a day, and we told these three possible stories and then we said have we missed something? Is there something that we don't understand and, everywhere we went, people said 'No, you've got it right'. A lot of things are happening and I think, if we look at the last ten, twelve years since the Summit in Rio, a lot of things have happened. Sometimes we don't see how much change is actually going on because we are in the middle of the process of change."

*(For the full text of Bjorn's presentation and workshop outcomes, please see the Attachments)*

## APPENDICES

### Appendix 1 - Global Access Partners (GAP)

GAP is a proactive and influential network which initiates high-level discussions at the cutting edge of the most pressing commercial, social and global issues of today. Through forums, conferences, missions and advisory boards, we facilitate real and lasting change for our stakeholders, partners and delegates, sharing knowledge, forging progress and creating input for Government policy.

GAP promotes Australia's capacity to find novel solutions to the challenges facing the global community, and translates these innovative solutions into business opportunities. We focus on practical economic outcomes for Government and business, and offer a landmark opportunity for those involved in the GAP process to discuss Australia's future in a high-powered environment.

GAP's reputation for excellence is founded on its strong record of successful high-level national and global initiatives covering a wide range of industries and issues. In seeking to foster the links between Government, Business, Industry and Academia, GAP has developed its unique model of an interactive multidisciplinary task force. Each GAP project, be it a national round table or an international symposium, constitutes the beginning of a process. One of the major outcomes is the formation of Australian Government Consultative Committees, which work to ensure the recommendations flowing from each GAP initiative become reality.

Global Access Partners is part of the TCG® Group of Companies - an Australian-owned group of independent, mutually supportive private enterprises. We have been in the business of building businesses for over 30 years.

#### GAP INITIATIVES

##### 2002

- *Vendor Management and Outsourcing Forum*

##### 2003

- *Australia/Central Europe Entrepreneurial Study Mission*
- *GAP Forum on Informatics in Biology and Medicine*
- *Virtual Opportunity Congress III: Security and Risk*

##### 2004

- *GAP Forum on Ecological Sustainability*
- *OECD Ministerial and Business Symposium: SMEs Competing in a Knowledge Economy, Istanbul*
- *GAP Forum on Better Health Care Through Electronic Information*

##### 2005

- *GAP Forum on Commercialising Nanotechnology*
- *Australian Trade Mission to Central Europe*
- *GAP Forum on Leveraging Global Networks*
- *Virtual Opportunity Congress IV: Knowledge Capital*

##### 2006

- *GAP Congress on SMEs*

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## Appendix 2 - Minister Kemp's welcome letter

Professor Peter Fritz  
Chair Steering Committee  
GAP Forum on Ecological Sustainability  
Level 3, 53 Balfour Street  
Chippendale NSW 2008

Dear Professor Fritz

Thank you for your letter of 10 March 2004, inviting me to attend the GAP Forum on Ecological Sustainability to be held in Sydney on 29 and 30 June 2004. I am unable to attend the Forum but wish you every success with this important event.

I am delighted to see that with support from the Year of the Built Environment 2004 National Steering Committee, you are seeking to foster business engagement in issues relating to our built environment through your Forum. I am sure that with the quality and extent of the program you have developed, and the contribution of experts such as Bjorn Stigson, you will successfully attract the involvement of many key industry leaders and consider many of our nation's environmental challenges.

The Year of the Built Environment provides an opportunity for organisations and businesses to focus on challenges and business opportunities such as sustainable energy usage; adoption of new technologies and services to increase environmental efficiency; water usage and management, from the household scale to the bigger infrastructure issues; and the management of waste, particularly minimising construction waste.

It is timely that a background theme for the Forum will be adaptation to possible increased climate variability, particularly consideration of the implications and opportunities from systems design to individual dwellings. This is an important issue that Australian industry leaders need to consider, particularly as it has the potential to have a great impact on industries and the Australian population in general.

I am also very pleased to note that a positive outcome of the Forum will be the establishment of an ***Australian National Committee on Business Building Sustainable Cities***. I congratulate you on this initiative and would be pleased to see the views and practical business initiatives emerging from the Committee.

I wish you every success with this Forum and look forward to seeing the ideas and directions that result from the discussion.

Yours sincerely



DAVID KEMP

## Appendix 3 - Speech by Björn Stigson, President of the WBCSD

### SUSTAINABLE DEVELOPMENT: CHALLENGES AND OPPORTUNITIES FOR BUSINESS

Ladies and Gentlemen,

I am honoured to participate in this workshop. I would like to take this opportunity to commend Professor Peter Fritz for his leadership in convening this event. I have been invited to talk about the sustainable development challenges and opportunities for business. Let me briefly introduce the organisation that I represent.

#### WBCSD

The WBCSD is a coalition of 170 international companies united by a shared commitment to sustainable development. Our members are drawn from 35 countries and more than 20 major industrial sectors and are represented in the council by their CEOs or equivalent. Three Australian companies are members in the WBCSD: Amcor, BHP Billiton, and Westpac. But many of the leading corporate brands are also members via their corporate headquarters like Alcoa, Anglo American, BP, DuPont, General Motors, Rio Tinto, Shell, Toyota and Unilever, just to mention a few.

We also benefit from a Regional Network of 50 national and regional Business Councils for Sustainable Development (BCSDs) and partner organizations representing more than 1, 000 business leaders globally but mainly in the developing world. Here in Australia, we have two partners, the Western Australian Sustainable Industry Group (WASIG) and the Business Council of Australia (BCA). [www.wbcd.org](http://www.wbcd.org)

#### From Stockholm to Johannesburg

Sustainable development has had a 30 year journey. Global concern for the environment started in 1972, with the UN Stockholm Summit on the Environment. Twenty years later, in 1992, at the Rio Earth Summit, the focus broadened to Environment and Development. And in Johannesburg in 2004, for the first time, a global summit, the World Summit on Sustainable Development, looked at all three pillars of sustainable development (economic, environmental and social) in an integrated way.

In short, one could say that the journey from Stockholm to Johannesburg has been focused on *norms and principles* for sustainable development and that Johannesburg marked the start of a new phase with an emphasis on *implementation* of sustainable development.

#### The role of markets

As we move into the implementation phase, we see markets as a key tool for sustainable development. Throughout the world, countries are developing market-based solutions for dealing with environmental issues. The carbon emissions trading system in the EU is one such example.

Well functioning markets are crucial for business operations as they offer the 'space' where companies deliver products and services. The role of markets is also a core element of our work in the WBCSD. Already in our report *Changing Course* to the Rio Conference in 1992, we identified open and competitive markets as crucial for sustainable development.

Later, in 1997, in our work on *Sustainable Development Global Scenarios*, we looked at how a market-based system could lead society onto a sustainable path. In 2002, in our report on *Sustainability through the Market - Seven keys to success*, we outlined the keys for how markets could help move societies toward sustainable development. These seven keys form connected action fronts. One cannot choose a few and neglect the others. They are all necessary. What we need is coherent action in every dimension simultaneously.

#### Sustainability through the Market: the seven keys

##### KEY 1 - Innovate

All businesses must innovate to remain competitive and I believe innovation - and the ability of a company to exploit knowledge and innovation faster than its competitors - is a prime driver for competitiveness. But innovation processes must take into account the concerns of the public or they run the risk of being rejected by society. And this is a topic of much debate today.

**KEY 2** - *Practice eco-efficiency*

Eco-efficiency, a management concept that means “creating more value with less impact”, has helped companies to turn sustainable development into action. Eco-efficiency has moved beyond the corporate sphere into policy circles, and, throughout the world, governments now recognize it can help nations become more sustainable and profitable. The EU Presidency for the second half of 2004 is held by Holland. As one of their key themes, they will have “Environmental as an opportunity” based on eco-efficiency and eco-innovation.

**KEY 3** - *Move from stakeholder dialogues to partnerships for progress*

Sustainable development requires cooperation and partnerships between the different parts of society: governments, business and civil society. Yet, while we all agree that partnerships are a central element in moving forward, we should not underestimate the very substantial investments in time and resources required to build functioning partnerships.

**KEY 4** - *Provide and inform consumer choice*

Functioning markets require informed consumers. But selling “green” products is not easy. Consumers say in surveys they prefer these and are willing to pay more for them. But their actual purchasing behaviors are different. They will prefer the “green” everything else being equal, i.e. quality and price.

**KEY 5** - *Improve market framework conditions*

Markets depend on a stable and supportive framework of public policy. But governments’ most effective means to achieving a target is specifying a goal and leaving it up to business to find the most efficient way to reach the goal. However this will only work if there is what the Japanese call a “punishment system” for non-performers. Voluntary agreements between governments and industry have proven quite successful in some countries. It has also been successful in establishing performance standards for certain industries.

**KEY 6** - *Establish the worth of Earth*

The market system needs accurate price signals. Proper valuation of the environment and of natural resources is the key. One of the big problems here is the amount of subsidies. Total subsidies in the world economy are estimated to represent 1 trillion US dollars per year. This is creating an enormous amount of distortion in the world economy, and creating major obstacles for developing countries to sell their products.

**KEY 7** - *Make the market work for everyone*

The opening up of the global markets has created unprecedented wealth. But this wealth has not been very evenly distributed. If we want to maintain the support for open markets, then the benefits of globalisation must increasingly come to the world’s poor. So a central question is how we can make markets work for all and serve the needs of poor people. Much of this has to do with ACCESS to markets, to healthcare, to technology and to funding.

We have in the WBCSD a working group “Sustainable Livelihoods”. In April, they launched a report on *Doing business with the poor*. It shows that companies are opening up new avenues of growth by developing “pro-poor” business models to provide the world’s poor, that is 4 billion people, with products and services that meet their needs and at the same time are profitable for companies. The traditional way big companies do business is normally too expensive for products and services to the poor. Companies that want to engage in and be successful in pro-poor business must therefore find new innovative business models. If this is not the case, the activities will not be sustainable long-term.

**Two sustainable development agendas**

Looking ahead, there are two sustainable development agendas that business needs to address. The first is a public policy agenda driven by forces outside of business. This agenda deals with the framework conditions and policies that are set by society for business. It is not something companies can choose to deal with. It is coming our way whether we like it or not. The second agenda, the business agenda, focuses on the business case for sustainable development. It is concerned with why addressing sustainable development makes good business sense, and how to manage change toward sustainable development.

**The public policy agenda**

The public policy agenda encompasses a number of issues that are true dilemmas for companies. Let me touch upon a few of them.

### *Globalisation and global governance*

The constraints of the multilateral system like the WTO and the UN to deliver solutions to global problems are clearly visible. This has triggered a shift toward bilateral and regional agreements and actions. However, for corporations it is important that this does not create competitive distortions and limit the efficiencies gained with the gradual opening of the global marketplace.

### *Sustainable production and consumption*

Since the Earth Summit in Rio in 1992, business has done much to improve its production efficiency and companies have learnt to tackle sustainable production issues. Sustainable consumption is a much more difficult issue for business and changing consumption patterns is a long-term process. The tools for achieving this are also politically sensitive and emotional. Who is going to decide what I can consume or not?

### *Societal services*

The involvement of business is crucial for society to be able to deliver services like water, energy and healthcare. Without the technology, management skills and funding of business, this will not be possible. However, the pricing of services often becomes a contentious issue that complicates both privatisations and public private partnerships.

### *The role of innovation and technology*

In a world physically limited, with a growing population aspiring to higher living standards, innovation and technology is the only real counterforce to reach a sustainable future. However, the conditions under which business can introduce new technologies in the marketplace are not clear. The debate also often becomes emotional, especially for risks outside the control of the individual. GMOs and nuclear power are two good examples.

There is today also a questioning of whom to trust when looking at potential risks in new products. People are requesting a risk-free world even if no such thing exists. Adding to the problem is growing distrust in science in parts of the world.

### *Health of the ecosystems*

We have a limited knowledge of the ecosystems and there are major uncertainties related to their resilience. The climate issue poses a special dilemma, as you well know from the Australian debate. Further, the interest in biodiversity conservation has grown lately and new alliances have emerged between business and the conservation movement.

### *Accountability and trust*

We live in an information society with a growing demand for accountability and trust. There is no place to hide. And in the wake of Enron and Parmalat, there is a clear trust deficit for business.

New guidelines for reporting are coming from the Global Reporting Initiative (GRI) and others, and we see increasing interest for more information from the financial markets. This is putting pressure on companies to be more transparent about their values and principles, and to report on their performance. Yet, in responding to these growing demands, we need to strike a balance between what stakeholders find interesting to know, what they have the right to know, what can be put to meaningful use in companies, and the cost of producing the information.

In parallel, codes of conduct for business, such as the OECD Guidelines for Multinational Enterprises or the UN Global Compact, have emerged, making the question about codes of conduct increasingly relevant for companies. Yet, let me note that accountability is not just for business, it is also for governments and NGOs. The GRI is therefore also developing guidelines for reporting to these sectors of society.

### **Business assets**

A key reason why companies should worry about this public policy agenda is that it will influence their market valuation on the stock exchanges.

The market valuation of companies has changed during the last 25 years from being mainly based on physical assets like land, raw materials, buildings and machinery to being primarily made up of intangible assets like reputation, brand, the ability to work with stakeholders and adapt to changing societal expectations. One estimates that up to 75% of the market capitalization of a typical company today is based on such intangible assets.

Intangible assets are influenced by how the company handles the issues on the public policy agenda for sustainable development. There are many examples of corporations that have seen dramatic impacts on their market valuation when being accused of child labor, human rights abuses or environmental damage.

### **The business case for sustainable development**

Let me turn to the second agenda, the business case for sustainable development. There are a number of things you should be doing to address sustainable development issues because it makes perfect business sense. We have in the WBCSD identified the following elements of the business case for sustainable development.

#### *1. Risk reduction*

Sustainable development policies and procedures allow a company to better anticipate the potential negative social, environmental or health-related effects of a product, service or manufacturing process.

#### *2. Operational efficiency*

Improved resource efficiency, that is eco-efficiency, means less pollution and higher efficiency. Having no accidents requires efficient operations. And good relations with the local communities in which you are acting will facilitate operations and approval processes for new or extended activities.

#### *3. Recruitment and retention of talent*

Employees are increasingly looking at corporate reputation and values in determining their employer of choice. In the fight for talent, sustainable development indeed gives corporations a competitive advantage.

#### *4. Enhancement of value creation*

Our Sustainable Livelihoods project shows that there are major growth opportunities in looking at earlier unserved markets. We seem to be at some breaking point for companies as they try to give products and services green and socially responsible characteristics.

#### *5. License to operate and innovate*

Companies that are proactive in responding to pressing social and environmental concerns will find it easier to maintain their licence to operate and innovate.

#### *6. Protecting the resource base of raw materials*

Major industry sectors depend on the sustainability of the natural resource base for their existence and success. Business needs to manage these resources responsibly, otherwise it will have a major impact on the future viability of companies.

### **Clean, green and rich?**

Sometime ago, I gave a speech that I called "Clean, green and rich?" In today's world, you have to be "Clean" as a company. How will you benefit from being "Green"? The evidence is not yet conclusive. Will you be "Rich" if you focus on sustainable development? It seems so judging from the sustainable development-oriented indexes, such as the Dow Jones Sustainability Index, that show that companies focusing on sustainability tend to be more profitable than others. But is it because they are focused on sustainable development? It seems rather that it is because sustainable companies are more in tune with society, faster to adapt and generally better managed.

### **Industry sector approaches**

Sustainable development is often too big for individual companies to handle on their own. We therefore see a strong growing interest from our members to look at the sustainability performance and challenges for the whole value chain of an industry sector. This has led to five sector projects in the WBCSD: forest products, mining and minerals, cement, mobility, and electric utilities.

In a few days, our Sustainable Mobility project will release its report, *Mobility 2030*. Twelve international companies - eight automobile, two oil and two large suppliers - are behind the initiative. The report will provide a perspective on global road transportation covering the mobility of people, goods and services.

### **Looking ahead**

Let me now conclude by making four general observations. First, realizing a sustainable society is a shared responsibility for governments, business and civil society. It requires actions on three levels.

*In companies*

The normal operations of companies are crucial for sustainable development. Companies provide economic growth and jobs; they pay taxes and contribute to resource efficiency via technology and innovation. A special role is played by the financial markets. They are key in the pursuit of sustainable development because they hold the scorecard, allocate and price capital and provide risk coverage and price risks. If financial markets do not understand and reward sustainable behavior, progress will be slow.

*By governments*

Businesses can do much to encourage eco-efficient practices, but they need an enabling framework from society if they are to move forward with any greater speed. It is the role of governments, in consultation with business, to create the conditions that allow business to contribute fully to sustainable development.

*By civil society*

Civil society can provide trust in solutions in a way that neither Business nor Governments can. NGO's in Johannesburg strongly promoted partnerships as a way forward. However, they have so far shown limited capacity to deliver.

Second, the borderline between business and the rest of society is shifting. More is expected of business as a contributor to societies. And the challenge for us in business is that we cannot succeed in a society that fails. But where is the proper limit of our responsibility? We neither can, nor should, replace governments in their role.

Third, I feel there is a growing convergence between the sustainable development challenges and the general business agenda. Business is thus in a strong position to positively contribute to a sustainable development and enhance its license to operate and innovate. But this requires continued leadership, transparency, a positive engagement with stakeholders and action. Simply put that we 'walk the talk'.

Fourth, sustainable development requires a long-term view - it is an intergenerational issue. It is about handing over the planet to the next generations so that they may meet their needs.

## Appendix 4 - Speech by the Hon. Dr Sharman Stone MP, Parliamentary Secretary to the Minister for the Environment & Heritage, Federal Member for Murray

### BUILDING OUR FUTURE

Good morning. Thank you for inviting me to join today's forum.

When 2004 was first announced as the Year of the Built Environment, an opportunity was created. An opportunity for businesses, community groups, and governments from across Australia to come together and focus on the issues, challenges, and opportunities we face in relation to our built environment. This particular forum epitomises the convergence of ideas and positive momentum created by the Year of the Built Environment. I am delighted to participate in this forum - both as a representative of the Australian Government and as an individual with a keen interest in a number of built environment projects.

I am also pleased that this forum intends to develop an Australian National Committee on Business Building Sustainable Cities. It is my hope that the Committee will fulfil its intention and embark on practical projects that address major issues in the public interest - I will be very interested to see what projects these are and to keep track of the Committee's achievements.

In the next 10 minutes or so I would like to share with you some of the issues and projects that the Australian Government sees as important in relation to the built environment, and also those for which I have a particular affinity. It is unrealistic to assume we will all have the same agendas, but we should have the same goal - to build a sustainable future.

#### *Water*

The first issue of critical importance to our future is water. In my electorate of Murray, water is considered the lifeblood of the land. But it is also the lifeblood of our cities. Without water there is no life. Many regions of Southern and Eastern Australia are grappling with the issue of water management. It's been mooted around research institutions and policy back rooms for more than a decade, but has gained increased political and public credence in recent times.

Australians have well and truly begun to realise the extent of the problem and how directly it impacts upon them and their environment. To build a sustainable future, in both our cities and our country areas, we must carefully consider how we use water.

In rural and regional Australia, focus has been on water rights, additional water allocations, and various schemes allowing the selling and buy-back of water entitlements. This is understandable - it is important to establish a framework that encourages the efficient use of water.

One way is to adopt a system of allocations and entitlements that introduce commercial constraints and price signals for all users. Such a framework also helps direct our scarce water resources to areas where they are needed. This has an important and undeniable flow-on affect on the rural built environment.

Last Friday, the Council of Australian Governments agreed to just such a system - the National Water Initiative. It is a great achievement that paves the way for a coordinated, nationwide approach to managing water - we will now have tradeable water rights and entitlements. This means, farmers can begin to plan for the future with certainty. It will unlock private investment and enable farmers to switch to more sophisticated methods of water usage. It will allow them to invest in technology that uses water more efficiency and allows them to produce more with less water.

Water is a national resource and we need cooperation to manage it nationally - after all, rivers like the Murray don't respect state boundaries.

I am also pleased that COAG agreed to establish a National Water Commission, or NWC, to achieve just this purpose.

The Commonwealth, New South Wales, Victoria, South Australian, and Australian Capital Territory Governments signed the Murray-Darling Basin Water Agreement, which invests \$500 million to reduce the level of water over allocation in the Murray Darling Basin. The investment commences in 2004-05 and last for five years. A key priority for this funding is water recovery for significant ecological assets identified by the Murray-Darling Basin Ministerial Council in November.

The MDB Water Agreement will invest in water infrastructure, behavioural change, and the purchase of water on the market.

However, such a framework is not without its challenges. I recently told Parliament how some lenders in Victoria were pressuring farm households to sell their water entitlements to restore some equity in their assets. And that if they sell their permanent water rights, it has the potential to make parts of our irrigation systems non-viable. This strangles the chances of whole regions to recover from drought when rains eventually restore the irrigation supply.

This has at least two potential implications for the built environment. One - as we adopt new approaches for managing our water resources, it is possible that new infrastructure projects will become viable options. Two - water management can no longer be seen as a rural issue. The city-country divide has evaporated. While rural Australians have traditionally had the hands-on role for ensuring our ecological sustainability, their city cousins are playing an ever increasing role.

Urban built environment must contribute to wise water management if we are to build a sustainable future for both our country and city areas. The current raft of water restrictions in many capital cities has helped the cause - many city-dwellers now well versed that water is a scare resource - even within cities. Declining dam levels and increasing city populations has raised the profile of the problem better than any marketing campaign ever could.

The Australian Government is committed to tackling this problem, encouraging others to become part of the solution and building a sustainable future for all Australians.

Rural Australia often thinks innovative policies and programs are targeted at cities for the benefit of the cities. This is one case where we can focus on cities for the benefit of all Australians.

Pragmatic reason for focusing attention on our cities - 87 percent of Australians live in cities. Our major metropolitan areas are growing faster than the rest of the country, e.g. in the last two decades the greater Sydney region grew by 20 percent and similar growth is predicted for the next two decades.

Government believes strongly in *partnership* approach - working with industry and communities to meet environmental challenges. However, national legislation can also be an important motivator, and complement to, this voluntary action.

While we can't introduce policies to make it rain (not even in an election year), we can introduce policies and legislation to improve the efficiency of our water use, particularly in built environments such as our cities.

Together with the governments of the States and Territories, and of New Zealand, we agreed in May last year to develop a national mandatory Water Efficiency Labelling Scheme, or WELS. Legislation to introduce WELS was introduced to Parliament last Thursday. It covers washing machines, dishwashers, toilets, showerheads, taps, urinals, and flow control devices. WELS ensures that each of these water-using products is rated for its water efficiency and clearly displays this rating on the label.

It may not sound like a big deal - but it is.

By the year 2011 it is estimated we will be saving 18,900 million litres of water per annum and about 87, 200 million litres per annum by the year 2021. As a direct result of the WELS, we will have saved 610, 000 million litres of water by the year 2021.

Initiatives like WELS may not make a noticeable difference at the household level, but when you look at the total impact across the nation - they are certainly worth implementing. As you embark upon projects to build

a sustainable future may I encourage you not to overlook seemingly small actions, but to remember they can have an enormous impact - particularly when applied to an entire nation. In fact, WELS will not only have an impact on water consumption, but will also reduce greenhouse gas emissions.

By reducing the amount of hot water used in showers, taps, clothes washers and dishwashers, WELS will reduce the amount of gas and electricity needed to heat water, which will in turn reduce the level of emissions.

To give you an example, the energy savings related to showers alone are estimated to be more than 4,000 GigaWatt Hours by 2021.

### *Energy*

The second major challenge to our ecological sustainability is energy. Energy is important for two reasons - first, because our lifestyles are driven by energy and, second, because our environment is affected by the way we create energy.

Energy drives our lifestyles. Whether it's enabling us to commute, to cook, to clean, to play sport, to watch TV, to read a book, or to have a hot shower - without energy our lifestyles would be dramatically different.

Most of the headline-grabbing projects are about new forms of creating and harnessing energy - particularly renewable energies such as wind power, solar power, hot rocks, hydro electricity, and so on.

Following the release of the Government's white paper on energy by the Prime Minister two weeks ago, much of the debate has been about how we strike a balance between cleaning up the fuels that are the bedrock of the energy sector - that is, coal and gas - and developing our renewable energy technologies into commercially viable alternatives for the future. This is an important discussion to have.

I believe the Government's white paper balances the old and the new energy sources in a way that will allow us to meet and exceed our international emissions obligations.

Australia accounts for 1.6 per cent of emissions. From 1990 to 2002 the Australian economy grew by 47 per cent while our greenhouse gas emissions grew by only 1.3 per cent. As we look to build a sustainable future, we need to consider that through innovations in the built environment we might be able to change the way we *consume* energy, not just the way we *produce* it.

In looking at energy consumption, I think the built environment is the perfect place to start. Advanced design and high quality construction of buildings and equipment can deliver buildings that operate more efficiently and use fewer resources than many older buildings.

In January last year, we introduced mandatory energy performance standards for all new houses. Very successful - now working on developing mandatory energy efficiency standards for multi-residential building and office buildings and are aiming to introduce these in 2005 and 2006 respectively.

The Government has also developed the National Australian Built Environment Rating System, or NABERS for short. NABERS assesses the environmental performances of existing buildings. Among other things, it measures:

- the impact of energy use
- greenhouse emissions
- pollution, ozone depleting substances
- indoor air quality
- toxic materials
- water use
- the global warming potential of refrigerants.

On its own it may not sound like an earth-shattering measure, but it is a world-saving one. The cumulative effect of these measures contributes significantly to our ecological sustainability.

For a decade, the Commonwealth government has been working with the States to deliver the National Appliance and Equipment Energy Efficiency Program. This program is the cornerstone of government efforts to

improve end-use product energy efficiency and will be a foundation component of the National Framework on Energy Efficiency.

To further build upon this valuable work of establishing minimum energy efficiency standards under the Building Code of Australia, the Government has also committed to a multi-year project to incorporate broader sustainability considerations into the Building Code and related standards. This project will be a collaborative effort between the Department of the Environment and Heritage, the Australian Building Codes Board, and Standards Australia, and will investigate how issues such as water, materials selection, waste management, and indoor environmental quality can be addressed via the Building Code.

Projections over the 20-year period, 2000 - 2020, indicate that the currently agreed elements of this program will deliver community energy savings worth more than \$4 billion. It remains the most cost-effective greenhouse program delivered by the Australian Greenhouse Office.

As part of the program, the Commonwealth and State Ministerial Council on Energy agreed to new minimum performance standards to improve air conditioner performance. First mooted in 2000, the air conditioner standards adopted represent a consensus from all stakeholders and are projected to deliver net benefits to purchasers of \$485 million over the next 15 years. These air conditioner measures also deliver 9% of the greenhouse reductions achieved by the program. These regulatory standards are good for the environment, good for consumers and enjoy the support of the Australian industry.

The \$40m, 5 year *Sustainable Cities* Program was announced in the 2003/2004 budget. It was developed in collaboration with the Australian Democrats and designed to ensure understanding of, and action for, sustaining our cities into the future. The program has two major components:

- A \$15.8m **environment protection program** to continue the development of national standards and increase compliance in a range of urban-related areas including air quality, fuel quality, chemicals management, hazardous waste and ozone protection.
- A \$24.2m **urban environment initiative** to address issues such as urban water conservation and re-use, green building standards, and cycle facilities at public transport nodes. It will also extend existing programs such as the National Pollutant Inventory and the Photovoltaics Rebate Scheme.

One year into implementation, the program is on track and has already achieved:

- National approach to Air Toxics through Air Toxics NEPM
- Continued roll-out of national fuel quality standards - eg for biodiesel and LPG
- Water Efficiency Labelling and Standards (WELS) Bill introduced 24 June 2004
- Major amendments to *Ozone Protection and Synthetic Greenhouse Gas Act 1989* to extend regulation to synthetic greenhouse gases and taking over responsibility from the States for end-use control of ozone depleting substances
- National Chemicals Portal on Internet

Our creation and consumption of energy impacts our environment. Unrestrained creation and consumption will create an unsustainable ecology. As humans, we are part of that ecology. If we are to build a sustainable future, then we need to create built environments that are efficient, enjoyable and future-oriented.

While the scientific debate continues over the exact impact of greenhouse gas emissions, one thing is for certain - there is an impact. Whether it leads to global warming, global cooling, or changing rainfall patterns - the net result is a changed climate. The fact there is an adverse impact - whatever it is - should be enough to spur us into action.

It should be reason enough to create policies, programs, and projects aimed at addressing both the way we create, and the way we consume, energy. And I'm pleased that it has clearly been enough to bring each of us here today.

I would like once again to commend you for your commitment to this forum and to building a sustainable future for Australia. You certainly have my support and that of my Government - it is an agenda we are also committed to. I will leave you with this thought. Creating a future-oriented built environment is important... but it is just as important to remember that a built environment is only as good as those who build it.

## Appendix 5 - Speech by the Hon. Bob Debus MP, Minister for the Environment, NSW

Thank you Bernard and thank you to Global Access Partners for inviting me here today. And of course I want to particularly acknowledge Bjorn Stigson, President of the World Business Council of Sustainable Development. Which must be one of the most impressive titles to have on a business card outside a James Bond movie. I must confess that I half expected you to be stroking a white cat and to tip me into a shark tank under the floor if I failed your plans for world domination. In this case, world domination of a particularly benevolent sort.

### Introduction

I am particularly pleased to be here this morning, at the outset of the Forum's workshop. The challenge ahead of you today is to devise innovative and practical solutions to one of the critical issues facing us today - sustainability.

You don't need me to tell you that your operating environment has changed significantly. Australia and other western countries are now facing challenges that simply weren't on most people's radar 50 years ago. Issues like waste, resource use, water & climate change were once topics discussed only by academics & environmentalists, not CEOs, let alone CFOs. Today, shareholders, customers and governments around the world are all requiring businesses to address ecological sustainability.

Think about the insistent calls from the community about plastic bag use. Plastic bags may be only one part of the waste stream, but the community has identified this as an issue with a passion that business has no choice but to address. And big business is starting to heed the call.

For instance, in October last year, the Vice-President of External Relations, Policy and Social Responsibility at Shell International, Mr Robin Aram publicly acknowledged that the threat of climate change has become a real business issue - one that takes resources and time and business effort. Speaking in the House of Lords, Mr Aram said some extremely encouraging - I would venture to say, surprisingly encouraging - things.

*"Shell has shared the widespread concern over quite a considerable period that greenhouse gas emissions from human activities are leading to changes in global climate and that action is needed now to try to lay the foundation for eventually stabilising greenhouse gas concentrations in an equitable and economically responsible way. For us that means market based mechanisms which will actually help energy users and suppliers to pursue the sort of innovative energy solutions which are required to address the issue."*

Of course it takes more than an environmental charter or media release to make a difference. Companies and governments who proclaim commitment to sustainability but don't follow through with action are vulnerable today. In this State our most recent research shows that 92% of people now rank the environment as an important personal priority, third behind family and friends. People care about the environment, they want to live sustainably, but they also want to see business and government share the responsibility. Which is precisely the focus of your forum.

While I feel some trepidation at making extravagant claims for the New South Wales government in the presence of those of you operating at a global scale, I do believe that we are making some notable achievements in environmental economics through partnerships with business. We have a strong record in innovation and creativity.

One example is the **Hunter River Salinity Trading Scheme**. Ten years ago, who would have thought that power stations and mines would be buying and selling salinity credits and using sophisticated real time software to manage the release of salty water into the Hunter River. Back then, parts of the river used to be so salty that its water killed vegetable crops.

We looked around the world for a way to solve the salinity problems without compromising industry or farmers' needs. There was no satisfactory overseas model, so the leaders in industry, agriculture, the community and Government came together and pioneered the Hunter River Salinity Trading Scheme. It's a co-operative arrangement that sets salinity limits for the river. It allows industry to discharge only when the river is in high flow and according to the number of salinity credits it holds. The benefits are clear - industry can continue to grow, irrigators have fresher water and we have a healthier river.

The recently introduced system of auctioning credits, which can then be exchanged among companies, makes environment protection part of mainstream business. It means new companies that need to discharge salt to the river have an opportunity to do so without adding to environmental degradation.

Now other countries are closely watching *our* progress.

Another program - often poorly understood - is **Load Based Licensing**. Before 1999, linking company's pollution levels to their licence fees as an economic incentive to improve the environment was just a good idea - just rhetoric, if you like. But our best economists put their minds to the task & created Load Based Licensing. This polluter-pays approach includes discounts up front for companies who commit to reducing their pollutant loads within a specified time frame. It covers the biggest polluters in NSW - from sewage treatment plants to oil refineries.

Weightings and fees exist for a range of pollutants, from heavy metals like zinc, mercury and arsenic to water pollutants like nitrogen, phosphorus and suspended solids. The message to business is simple - if you want lower fees, produce less pollution.

It was a major leap of faith to implement Load Based Licensing - in some cases we were increasing company fees by 1000%, but it's delivered real environmental gains, especially for our waterways. Five years on we're fine tuning the approach again. This time, changing the way air fees are calculated to refocus industry on reducing air pollution.

We're also using science to help planners make decisions based on the environmental legacy they will leave, well before the first sod is even turned. The Department of Environment and Conservation is working on modeling to predict future impacts on airsheds, coastal lakes and biodiversity. These pioneering approaches to planning will help us deliver the best environmental outcome for communities and habitats well beyond the traditional species & environmental impact assessments used now.

I expect to be able to tell you more about these initiatives later in the year. As many of you will be aware, the Government has also introduced BASIX - a scoring system to rate how green buildings are and better inform consumers about environmental performance and costs. Up until now our approach to conserving resources & minimising waste has been top down. But our latest approach - **Extended Producer Responsibility** or **EPR** - turns this on its head. **EPR** is about industry taking ownership of its products and packaging from the cradle to the grave. We've given key industry sectors 12 months to come up with voluntary schemes to address problem wastes like plastic bags, Ni-cad batteries, tyres and computers. This approach recognises that industry wants flexibility. It wants to be able to come up with an approach that works for business, the community and the environment. We're already seeing some sectors - like television and tyre manufacturers - take the lead and break away from the pack.

### Conclusion

It is self evidently the case that sustainability will only come about through a combined effort from government, business and the community. That's how the Hunter River Salinity Trading Scheme, Load Based Licensing and Extended Producer Responsibility got off the ground in NSW. Combining a growing population with an increase in overall consumption of natural resources, means governments and business around the world must plan for sustainable cities to ensure:

- the quality of our built environment,
- to ensure vitality of natural systems,
- and to ensure safety and security of neighbourhoods.

Just as important are:

- the integrity of our cultural and built heritage;
- and the opportunities for recreation and relaxation.

As leaders in your fields, I welcome the commitment you are making through participation in this forum. I look forward to working in partnership with many of you as we seek to tackle water, energy, resources and climate change. Thank you. I will leave you to the benevolent dictatorship of President Stigson and his plans to conquer the free world.

## **Appendix 6 - Briefing Notes from the Speech by the Hon. Bob Carr MP, Premier of New South Wales, at the GAP Forum Closing Dinner on Wednesday, 30 June 2004**

### **Building Sustainability Index**

- From tomorrow, our Building Sustainability Index, BASIX will mandate a 40 percent reduction in water use and a 25 percent reduction in energy use for all new detached homes.
- From 1 July, 2006, the target greenhouse gas emissions will increase to 40 percent.
- From October 1, 2005, BASIX will be applied to alterations and additions to existing dwellings.
- Once fully operational, BASIX should save around 232,000 million litres of water and 10.3 million tones of greenhouse gas emissions over 10 years.
- The next step is to apply the same principles to commercial and industrial developments and to new housing release areas. We will make an announcement on this later in the year.

### **Australian Building Greenhouse Rating Scheme**

- My government helped to develop the Australian Building Greenhouse Rating Scheme - a voluntary tool to rate the greenhouse efficiency of commercial buildings.
- NSW is the only State that has rated its entire Crown property portfolio for greenhouse performance.
- By June 30, 2006 all new government buildings, tenancy fit-outs and refurbishments must achieve a 4.5 star rating where cost effective.
- We expect these changes to save the taxpayer \$2 million on energy bills each year.
- The development industry is also getting the message.
- A good example is The Bond Development by Bovis Lend Lease - the first 5 star office development in Australia.
- Kogarah town centre shows what can be done when a government body like Kogarah Council commits itself to sustainability and livability.
- The multi-award winning development by architects Allen Jack + Cottier has set new standards for solar power generation and water management in a dense urban setting.
- Financial institutions are starting to encourage sustainability to shore up their performance and insulate investments against future risks.
- ANZ Bank has recently informed the Carbon Disclosure project it plans to review customer greenhouse management performance in light of the financial benefits achieved by greater energy efficiency.
- More than 500 companies are being asked to disclose their greenhouse management strategies under this project.

### **Metropolitan Strategy**

- The growth pressures facing our major cities mean that it's not enough to target particular locations and building types.
- We need to put livability and the quality of our built environment at the heart of our planning system.
- The Government is working on a new Metropolitan Strategy that will provide the broad outline for Sydney's growth.
- We will link this plan with our infrastructure priorities and the Budget process to ensure it is more elective than previous plans.
- In April, I launched the Metropolitan Strategy Planning Process.
- We are consulting widely on a range of issues which include: integrating land use and transport; balancing land releases with urban renewal; raising the standard of building and design; and low-impact, low-carbon energy and transport options.
- The Government has appointed two Sustainability Commissioners: Professor Peter Newman and former Reserve Bank Governor, Bernie Fraser to oversee the review.
- Leading US planning expert, Professor Ed Blakely has been appointed Chair of the Metropolitan Strategy Reference Panel.

## **Greenhouse**

- The Government established the new Department of Energy, Utilities and Sustainability to work closely with agencies such as the Department of Infrastructure Planning and Natural Resources and the Department of Environment and Conservation.
- Minister Sartor has asked the heads of the State-owned energy companies to come up with specific plans on sustainable energy use.
- These plans will build on our greenhouse benchmarks for electricity retailers, another world first.
- Our benchmarks are a smart, flexible form of regulation that let industry decide how best to meet its targets.
- Firms can turn to natural gas or renewables such as solar and wind. They can elect to educate consumers to use less electricity. Or they can invest in greenhouse offsets such as forestry plantations.
- It means we can cut greenhouse gas emissions by seven million tonnes a year, the equivalent of taking 2.9 million cars off the road.
- Already, our plan is showing dividends
- The UK wind farm developer Renewable Energy Systems and Southern Cross Windpower have announced plans to develop one of Australia's biggest wind power portfolios in NSW.
- It's the sort of opportunity our new Greenhouse Office aims to encourage and enhance.
- The NSW Greenhouse Office will lead the development and review of greenhouse policy across government and will report directly to me.
- One of its first tasks will be to develop a NSW Greenhouse Strategy within the first twelve months of its operation.
- The strategy will identify what we need to do at a state and national level to reduce greenhouse emissions.
- The Greenhouse Office will also administer a new Greenhouse Innovation Fund to support innovative research and technologies.
- The Fund will be supported by an allocation of \$6 million a year.

## **Extended Producer Priority Statement**

- Earlier this year, the Department of Environment and Conservation released an Extended Producer Priority Statement to encourage resource efficiency and reduce the waste.
- EPR schemes aim to encourage producers to take responsibility for the impact of their products throughout their life cycle.
- User-pays disposal schemes, oil recycling levies and voluntary product stewardship can reduce the proliferation of industrial and commercial waste.
- So far in NSW we have identified 16 types of waste suitable for EPR schemes in NSW. Nine will receive priority focus this year.
- If industry does not make significant progress in these areas, the NSW Government will consider making this scheme mandatory.

## Appendix 7 - Topics of the GAP Forum on Ecological Sustainability 2004

The following are the key topics for discussion and lead questions proposed prior to the Forum by the Steering Committee:

### THE INDUSTRY

#### Challenges and Opportunities

- What key environmental issues will affect Australia in the next decade (e.g. the growth of population and its impact on housing, transport, green spaces, water supply etc.)?
- What are the most pressing challenges facing the Australian building industry today in relation to the Environment?
- What are the driving imperatives in the area of ecological sustainability? What has been done and what still needs to be done in Australia to move the environmental agenda forward?
- What are the problems of adaptation that climate change will bring Australia?
- How can we build homes today that can cope with a greater range of weather/climate variability in the future?
- What are the world's leading-edge practices in environmental and resource management for the building industry?
- What constitutes the efficiency standards in buildings and how do resource use and over-consumption effect builders and developers?
- What are the emerging trends for industries in the Environment and how can Australia open up new markets?
- What environmental innovations can benefit the Australian building, construction and property sectors - specifically in water, energy, and waste & recycling management?
- What are the key issues of Energy in terms of efficiency, use and supply, and how these impact on business units and different professionals (material & service suppliers, designers, constructors etc.)?
- What integrated water cycle management projects (involving stormwater and grey water) can Australia showcase?
- How do we progress in the current national projects focusing on building waste & recycling management?
- What are the most efficient mechanisms to promote the dual benefits of cost savings and environmental protection through new, ecologically sustainable, products and services?
- What measures would help increase the level of interest in the Environment from Society and Business?
- How can we move from traditional 'remedial' approaches to preventative solutions?
- How can the building sector integrate knowledge from other fields concerned with human and ecological health and efficiency?

### GOVERNMENT AND POLICY

#### Environmental Regulation

- What is the Australian Government's current strategy towards achieving sustainable development?
- What are the major environmental policy constraints facing the Industry today?
- How should Australia act regarding climate change?
- How can we help promote a holistic understanding of environmental business issues?
- What standards currently exist in relation to ecological sustainability in Australia and around the world? What standards still need to be developed?
- How can Government and Industry work together to grasp existing opportunities in sustainability?
- What can Australia learn from European and American experience in this area?
- What sort of expectations should people have of the Government regarding the ecological sustainability of their community?
- What is the role of Government in transforming the individual into being an eco-friendly consumer?
- How can Australia overcome barriers to selling ecologically progressive products and services internationally?
- What are the best ways to promote exports and sell Australian capability overseas in new markets?
- What most prominent examples can be highlighted to showcase the success of eco-friendly legislation in the building industry?
- What are the main elements of a successful environmental development (Kogarah Town Centre)
- How can we achieve efficient and sustainable job creation?
- How can we pressure the Government to create legislation to increase customer demand for ecologically sustainable products?
- What are jurisdictional differences in environmental regulations of States and Territories which reduce the competitiveness of the Australian Industry?

## **MARKET**

### **Concerns of Suppliers & Customers**

- How can we make the market work for the Environment?
- How can we change the perception of many suppliers that the housing development market is driven solely by profits?
- How and where would eco-friendly suppliers like to expand markets in the building industry?
- What mechanisms can most efficiently keep developers, customers and governments informed about innovative products?
- What products and services Forum participants have available that could benefit customers?
- What legislative framework and consumer standards currently exist in Australia for water using products, and what are the best pricing strategies for water systems?
- How do we increase consumer demand for our environmental products? How do we create an easy understood rationale for their adoption?

## **BUSINESS**

### **Consumer-led Environmental Improvement**

- What has been done by Australian business so far to implement sustainable development?
- How can large organisations seize and develop the opportunities which exist in ecological sustainability?
- What measures are required to make environmental solutions an important economic driving force for Business?
- What are the current opportunities for SMEs in ecological sustainability, and how can small companies access them?
- How can we encourage SMEs to win export sales, thus creating new jobs?
- What new tools for businesses can assist them in making better strategic decisions to benefit the urban environment?
- How can the Australian business community make an effective contribution to a sustainable future?

## **COMMUNITIES**

### **Social Responsibility & Motivation**

- How can we enhance awareness in local communities about the positive aspects of ecological sustainability?
- How can we motivate and help individuals to take action in improving the Environment?
- How can we boost an individual buyers' demand for green products?
- How can Society create the 'right framework conditions' (B. Stigson) for Business to make faster progress towards sustainable development?
- "Think global and act local": how can Australia combine global concerns with local action?

## Appendix 8 - List of attendees

**Mr Howard Bamsey**  
Chief Executive Officer  
Australian Greenhouse Office

**Mr Max Barry**  
Deputy Managing Director  
Techcomm Simulation

**Ms Cheryl Batagol**  
Chairperson  
Melbourne Water

**Mr Roger Beale AM**  
Senior Associate  
Allen Consulting Group

**The Hon. David Beddall**  
Managing Director  
David Beddall & Associates

**Dr Simon Beecham**  
Director Water Management  
Faculty of Engineering, UTS

**Mrs Wiebke Benze**  
Managing Director  
Hydrocon Australasia

**Ms Rachael Bernstone**  
Editor  
Building Australia Magazine

**Mr Steve Blume**  
Adviser Small Business  
Office of Bob McMullan MP  
Shadow Minister for Small Business

**Mrs Nicolette Boele**  
Senior Project Officer, Sustainable Programs  
Department of Environment & Conservation  
(NSW)

**Mr Grant Bransgrove**  
Environment & Workforce Safety Officer  
Waste Service NSW

**Ms Rohan Bush**  
Sustainable Buildings  
Sustainable Energy Authority Victoria

**Mr Bernard Carlon**  
Director, Education Services & Community  
Programs, Department of Environment &  
Conservation (NSW)

**The Hon. Bob Carr MP**  
Premier of New South Wales  
Minister for the Arts

**Mr Simon Carter**  
Project Manager Knowledge Systems  
Colliers International

**Mr John Collins**  
Senior Executive  
Department of Sustainability &  
Environment Victoria

**Ms Lisa Corbyn**  
Director General  
Department of Environment &  
Conservation (NSW)

**Ms Ro Coroneos**  
Acting Executive Director  
Energy Markets and Policy  
NSW Department of Energy,  
Utilities & Sustainability

**Mr Peter Cotton**  
National Manager  
Product Development  
Mirvac Group

**Mr David Craven**  
Director  
Sustainable Energy Authority Victoria

**Ms Jenny Davis**  
Executive Policy Advisor  
Energy Australia

**Ms Lucinda Dean**  
Journalist  
Government News Magazine

**The Hon. Bob Debus, MP**  
Minister for the Environment  
New South Wales

**Mr Chris Derksema**  
Technical Manager  
Green Building Council Australia

**Ms Lynnette Dorn**  
Senior Manager Trade Services  
NSW Department of State & Regional  
Development

**Ms Cath Dustan**  
Environmental Officer  
Biodiversity & Sustainability  
Roads & Traffic Authority (RTA)

**Mr Michael Frick**  
Chief Executive Officer  
Walter Construction Group

**Mr Peter Fritz AM**  
Group Managing Director  
TCG Group

**Mr Andrew Gaines**  
Associate, EcoSTEPS

**Ms Fiona Gainsford**  
Senior Environmental Scientist  
CH2M Hill

**Ms Gabby Greyem**  
Consultant, Ecos Corporation

**Mr Michael Hannon**  
Director Road Network Infrastructure  
Roads & Traffic Authority (RTA)

**Mr Loftus Harris**  
Director General  
NSW Department of State & Regional  
Development

**Mr Peter Hilderson**  
Director of Engineering & Operations,  
Management Services Australia  
Jones Lang LaSalle

**Mr Murray Hogarth**  
Senior Consultant  
Ecos Corporation

**Mr Neil Hughes**  
Natural Resources & Environment  
Department of the Prime Minister & Cabinet

**Ms Mary Jacobson**  
Executive Director Business Management  
NSW Department of Housing

**Dr Graham Jenkins**  
Senior Lecturer  
CRC for Catchment Hydrology  
Griffith University

**Dr Ian Joliffe**  
Principal Water Resources Engineer  
GHD

**Mr Kevin Keeffe**  
Assistant Secretary, Communication &  
International Branch, Australian Government  
Department of the Environment & Heritage

**Prof Greg Leslie**  
Associate Professor, School of Chemical  
Engineering & Industrial Chemistry  
University of NSW

**Mr Sony Lim**  
NSW Chapter  
Royal Australian Institute of Architects

**Mr Geoff Linke**  
General Manager, Environmental Division  
Sinclair Knight Merz

**Mr Patrick Longfield**  
Associate, EcoSTEPS

**Mr Chris McDonald**  
Managing Director, JEM Australia

**Mr Wayne Moenting**  
Manager, Mirvac Group

**Ms Sam Mostyn**  
Group Executive, Culture & Reputation  
Insurance Australia Group

**Ms Fiona Murphy**  
Media Advisor to the Hon. Sharman Stone MP  
Parliamentary Secretary to the Minister for  
Environment & Heritage

**Mr Richard Nott**  
Non-Executive Director  
Green Pacific Energy Ltd

**Mr Nick Palousis**  
Project Officer  
Natural Edge Project

**Mr David Parken**  
Immediate Past President  
Royal Australian Institute of Architects

**Ms Nicolle Parry**  
Strategic Policy Unit  
Department of Environment &  
Conservation (NSW)

**Ms Aruna Pavithran**  
Director  
Lucis Pty Ltd

**Ms Caroline Pidcock**  
President NSW Chapter  
Royal Australian Institute of Architects

**Mr Khondker Rahman**  
Coordinator Flood Strategies  
Gold Coast City Council

**Mr Steve Rank**  
Senior Manager Business Service  
NSW Department of State & Regional  
Development

**Mr Matt Reardon**  
Chief Executive Officer, Energetics

**Ms Janine Ricketts**  
Executive Director, Small Business Development  
NSW Department of State & Regional  
Development

**Mr Sean Rooney**  
R&D Business Manager - Resource Futures  
CSIRO Sustainable Ecosystems

**Mr Mark Rutherford**  
Director, Illum-A-Lite

**Ms Sue Salmon**  
Policy Advisor, Strategy Planning &  
Environmental Sustainability  
Office of the Lord Mayor of Sydney

**Dr Stephen Schuck**  
Managing Consultant  
Stephen Schuck & Associates

**Mr Neil Sinclair**  
General Manager  
Waste Technologies of Australia

**Ms Arahni Sont**  
Business Briefings Manager, Communications  
Unit, NSW Department of State & Regional  
Development

**Mr Bjorn Stigson**  
President, World Business Council on  
Sustainable Development (WBCSD)

**The Hon. Dr Sharman Stone**  
Parliamentary Secretary to the Minister  
for Environment & Heritage

**Mr Mike Thomas**  
Business Services  
NSW Department of State &  
Regional Development

**Ms Anthea Tinney**  
Deputy Secretary  
Australian Government Department  
of the Environment & Heritage

**Ms Neviene Torki**  
Business Development & Marketing  
Green Pacific Energy Ltd

**Mr David Trewin**  
Manager Cleaner Industries Unit  
Department of Environment &  
Conservation (NSW)

**Mr David Whan**  
Managing Director  
TechComm Simulation

**Mr Rod Wiese**  
Managing Director  
Storm Consulting

**Mr Martijn Wilder**  
Partner  
Baker & McKenzie

**Mr Jeremy Winer**  
Managing Director  
Marsupial Landscapes

**Mr Tony Wise**  
National Sales & Marketing Director  
JEM Australia

**Mr Alfred Wong**  
Chairman  
Green Pacific Energy Ltd

## Appendix 9 - Workshop facilitators' profiles

### Max Barry

Mr Barry is Deputy Managing Director of the Australian Company TechComm Simulation Pty Ltd. - a subsidiary of Yokogawa Electric Corporation, Japan. TechComm Simulation is a leading service provider to the power industry around the world. Mr Barry has 20 years experience in the power industry, and has supplied power plant services to plants in Australia, Indonesia, Thailand, Bangladesh, Vietnam, Korea, Mexico Singapore and Sri Lanka. In the past few years the TechComm Services group has developed considerable experience in generating electricity by burning biomass fuels in fluidised bed boilers. These fuels include, bark, rice husks and dried effluent. Recently Max Barry has been involved in the Commissioning, Operations and Maintenance of the Green Pacific Energy, Biomass Power Plant at Stapylton Queensland. This plant is currently generating electricity on a 24 hour per day 7 day per week basis burning a fuel consisting of household green garden waste. Mr Barry has a Bachelor of Science Degree and a Master of Education.

### Roger Beale AM

Roger Beale is a Senior Associate with the Allen Consulting Group. He joined the ACG in March 2004 after nearly 20 years in department head level posts in the Commonwealth Government, with his last eight years in the Service as Secretary of the Department of Environment and Heritage. Roger was particularly involved in the reform of the Commonwealth public sector, the microeconomic reform of the transport and communications industries and in the development and implementation of national competition policy. He was appointed a Member of the Order of Australia in 1995 in recognition of this contribution to public policy and was granted the Centenary Medal in recognition of his leadership of the Department of Environment and Heritage. Roger is a member of the Australian Heritage Council and a Director of the Lane Cove Tunnel Company. He has had extensive past experience on commercial and statutory boards, including Australia Post, the Federal Airports Corporation and the Public Service Board. He is an economist, a past President of the Economic Society of Australia (ACT Branch) and was a Harkness Fellow at Cornell University.

### Stephen Rank

Steve Rank is the Senior Manager Business Services at the NSW Department of State and Regional Development and has experience in the management of government programs targeted at fast growing small to medium sized businesses in both New South Wales and Tasmania. This includes the management of key business growth programs and management of a business development teams targeting businesses in industries ranging from information technology, medical devices, food inbound tourism to manufacturing and services exports. Steve has extensive financial services sector experience in corporate finance and business banking markets. This experience culminated in the nationwide responsibility for Westpac's successful Olympic Games business development and marketing programs targeted at the small and medium sized enterprise market. He is a graduate of Sydney University and has post-graduate qualifications from the University of Technology and the Australian Graduate School of Management.

### David Trewin

David Trewin is Manager Cleaner Industries Unit at the NSW Department of Environment and Conservation. He joined the NSW EPA in 2001 from the Hawkesbury-Nepean Catchment Management Trust, where he was Program Leader Catchment Education and Community Support. David has twenty years experience in education, public relations and environmental management.

### David Whan

Mr Whan is Managing Director of the Australian company - TechComm Simulation Pty Ltd - a subsidiary of Yokogawa Electric Corporation, Japan. TechComm Simulation is a leading service provider to the power generation industry around the world. Mr Whan has 30 years experience in the power industry, specialising in coal fired technology, and has held previous positions with the largest power generator in Australia, Pacific Power including Manager Employee Development and Services. Mr Whan has an Honours degree in engineering and a Master of Business Administration.

## Appendix 10 - Workshop groups' presentation briefing notes

### GROUP 1 - "CLIMATE CHANGE AND THE BUILT ENVIRONMENT"

- Facilitator - Mr Max Barry**  
Deputy Managing Director, Techcomm Simulation
- Speaker - Mr Matt Reardon**  
Chief Executive Officer, Energetics

The Group discussed about the impact of climate change on the Built Environment and ways of adaptation of the Built Environment to weather patterns variability.

#### ISSUES

- Education - what 'climate change' means to people
- Existing built form inappropriate for the climate and its predicted shifts; retrofit approach to change built form
- Urban planning - issues associated with public transport service and how to reduce people's dependence on cars
- Demographics - increasing population, people getting further away from where they work with no public transport available, freeways increasing gas emissions etc.
- Water - the need for a total cycle of water
- Energy usage
- Infrastructure efficiency with  $\Delta T$  demand manage -v- augment supply

#### WHAT IS MISSING

- Leadership: Who is to lead?
- Whole of life cost -v- capital: What is the cost of not factoring in climate change aspects? What does this changing world mean for the economic decisions we make?
- Economic model (value/incentive reason): What is the value proposition in order to sell the sustainability idea to people? What would fiscal incentives be? How to deal with voter intention and will?
- Knowledge (effect/adaptation)
- Long-term vision - lack of an understanding & a mechanism factor in those long term issues as we live in a short term world

#### WHAT CAN WE FIX

Having solved the Middle East crisis and world poverty, the following would be pretty easy:

- Government (State, Federal or Local), as a major commercial customer to plenty of businesses in Australia, could implement sustainable purchasing policies; that would give an incentive to businesses (including SMEs) trying to sell more sustainable products and services
- Business to implement sustainable purchasing policies, by Government regulation and other ways
- Study of real costs of generation of electricity and water conservation at the point of use -v- reticulation as current ("*Every house a dam and every house a power station*" (M. Rutherford): For the mere expenditure of 5 billion dollars, we will have 1 million houses producing about 1.8 gigawatt hours per annum and about 5 billion litres of water a year which would be more than a replacement for extra dams and extra power stations)
- Identify benefits of Australia as a leader in engineered buildings (in all aspects)

#### PUBLICISING THE MESSAGE

- 1-12 schools years - a captive audience of x million school children; 'reading, writing, arithmetic and sustainability' (the first Apple computers were sold to five and six year olds who 30 years later are ensuring those Apple computers are being bought by their businesses; Apple computers created the Windows interface which is the standard for all of our computing needs)
- Demonstration - to publicly demonstrate the benefits of taking a sustainable approach in relation to the Built Environment
- Direct business to business (B2B)

- Role model promotion - “Our Mary” concept (Mary Donaldson): We cannot realistically go and talk about how to get the energy efficiency of our air conditioning down to someone in Africa, who’s on a dirt floor with no running water and nothing to eat. We need to create some champions to talk about “planet Australia”, to do what Ian Thorpe does for the country. Unfortunately we could name a thousand sporting examples, but not too many academics as key public figures. There is also a big part for Government to play, as some of these are uneconomic things right now and Government is the greatest uneconomic powerhouse in the world.

## **GROUP 2 - “WATER IN THE BUILT ENVIRONMENT”**

**Facilitator - Mr Roger Beale AM**  
Senior Associate, Allen Consulting Group

**Speaker - Ms Gabby Greyem**  
Consultant, Ecos Corporation

This Group’s task was to ‘solve the world’s drought’ on potable, quality water in the Built urban environment.

### **ISSUES**

Our current infrastructure and consumption patterns in Australia’s major urban populations are unsustainable. We face running out of water in 10 to 20 years if we continue the status quo. Energy and water are intrinsically linked, whether it is in moving water, reticulating water or cleaning water, and also in terms of rainfall and climate change.

### **PROBLEMS INCLUDE**

- Levels of consumption
- Growing urban population
- Demand expectations and management of water
- Community acceptance and license to operate
- Health
- Openness to new technology
- Climate change and limited water sources
- Education
- Institutional barriers & failure in decision making when new ideas and alternative solutions are brought to the table (no-one feeling really empowered to say ‘yes, we will implement this as a national policy’)
- Market failure
- Urgency in recognising that problem needs to be addressed

### **MOST OBVIOUS OPTIONS**

- Increase water catchment by building more dams around Sydney, looking at urban collection of water and water tanks etc.
- Reduce use of water, use recycled and re-used water, or invest money and energy into desalination

### **SOLUTIONS REQUIRE**

- Leadership
- Baselines and targets to measure consumption (quantity & quality of water)
- Demand minimisation
- Education at all levels, especially at the Tertiary Engineering area of education where it seems that engineering is about ten years behind the times
- Targets for water reuse - setting of some minimum targets to have market-based incentives & initiatives
- Outcome-driven policy and strategies
- Increasing cost of water
- Community participation in decision-making process and community ownership of the problems that need to be addressed
- Institutions and consultative committees that work
- New H2O efficient technologies and products
- Demonstration models (e.g. Prince Henry Hospital site): We need some practical, physical, feely, smelly things that can connect to people and actually show that these things work, and give people the likeness

to go and replicate the technology. That is in the leadership and legislative policy, in the decisions about what technology is chosen, in the initiatives that make it creative and innovative so that people no longer feel threatened by it. There is an international day for monitoring water quality that we could be getting engaged with.

- Integration within water authorities (storm water, waste water and water supply) & integration beyond water into the whole of sustainability, so that more urban developments will take up water-sensitive urban design
- Implementation of large-scale water recycling schemes by using the WBCSD's six principles of the sustainable business case (see App.3 - Bjorn Stigson's speech); examples - sites in South California and Singapore

### GROUP 3 - "ECOLOGICAL SUSTAINABILITY IN THE BUILT ENVIRONMENT"

**Facilitator - Mr Steve Rank**

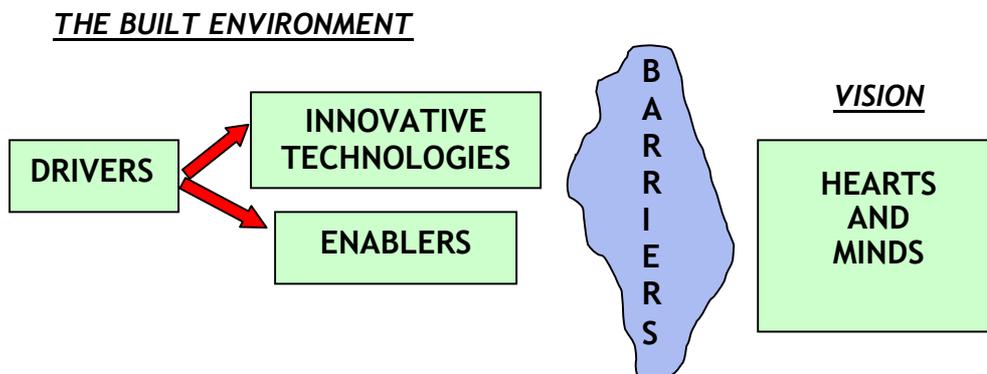
Senior Manager Business Service, NSW Department of State & Regional Development

**Speaker - Ms Aruna Pavithran**

Director, Lucis Pty Ltd

This group was formed as a result of GAP's "Future Leaders" initiative to engage younger people in the discussions of national importance. The group was given a task to brainstorm ideas on ecological sustainability in its entirety. How do we manage the complexity of implementing or creating sustainability in our environment? What does sustainability mean to us? What are the issues and what can we do to fix problems? How do we make 'a six-pack holder' out of all the different topics?

The group came up with a number of categories of items:



#### **DRIVERS**

These include managing water & waste better, dealing with climate change; all things that we necessarily have to do now, in order to be able to respond to issues that have arisen in the recent past.

#### **INNOVATIVE TECHNOLOGIES**

All of us have come across either machines or ideas, or processes, or companies, or things that are completely of the mark as to how to respond to some of the drivers that we have seen. That might include windmills, heating compression machines to convert plastic into diesel etc.

#### **ENABLERS**

Various enablers have been developed to help us solve the problem; that includes items like regulation to drive innovation, and the democratic process in general. We can elect a Green Parliament, if we wanted to, in order to push the sustainability through on a society level.

#### **BARRIERS**

A change in mindset is required. We have an old mindset, which is focused on bottom line profitability and 'short termism' that may be linked to a four-year political agenda or a one-year financial market agenda.

## VISION

What is it that we are actually working towards? This links to how we all behave, i.e. the hearts and minds of everybody.

There are some serious gaps in the way that we are currently using the enablers at our disposal in order to accomplish that vision. There are problems in the innovative technologies in that many of them have not been tested. There is also the lack of a balance between Government regulations and commercial realities (i.e. technologies driven from the point of view of reducing costs). A whole bunch of regulations, particularly with water as an issue, are actually restraining you from moving to something new quite significantly (some rain water tank technologies may take months to get approved) and these need to be reviewed.

Articulate a vision is the right place to start - by using leadership, having long-term targets, collaboration across State and Local Governments etc. The idea of common goal or a common vision is a nebulous one, however potentially it is the only way to ensure alignment across **leadership, targets and consistency**. Once you have that vision, you are much better able to work the mix of enablers. Regulation sometimes doesn't necessarily help us towards our goals, or it perhaps can set conflicting signals: you may have well intentioned regulation to set affordable prices, and at the same time that same regulation may be preventing innovation in the market, or preventing innovation to be cost competitive. The vision necessarily has to 'wind back' into the way our enablers, including education, are used in order to achieve our goals.

So what can we fix? We are talking about a total shift paradigm, a different way of being and a way of seeing our future, and the only real way to address that is to get **leadership, targets and consistency** working for us and in concert to a common goal.

## GROUP 4 - "WASTE IN THE BUILT ENVIRONMENT"

**Facilitator - Mr David Trewin**  
Manager Cleaner Industries Unit, Department of Environment & Conservation (NSW)

**Speaker - Mr Kevin Keeffe**  
Assistant Secretary, Communication & International Branch  
Australian Government Department of the Environment & Heritage

## ISSUES

- Companies do not have to accept responsibility, under current circumstances, for the whole life cycle of their product or the waste stream end of the product; in that Australian situation was contrasted with the European, and particularly the German, situation
- Companies and SMEs rarely know how to use their waste as a resource, particularly as a resource that can earn a buck
- Community is unaware of the full impact of their decisions: people are making choices about product unaware of the full costs embedded into each product, their choices based on life's common denominator
- There is no full cost accounting built into the product of its waste implications
- There is too much focus on recycling rather than reuse, and getting the most out of all components of the product (we spend a fair bit of time redefining the notion of waste as such, and that is heading in the wrong direction as even the category of waste is inappropriate)
- There is a fragmentation and duplication of rating systems and policy frameworks, a real problem in relation to environmental effectiveness and use of materials

## SOLUTIONS

- Extend producer responsibility with the end use in mind; company reporting in particular so that they are accountable for the products they produce, their ingredients and energy costs; responsibility over the design and selection of raw materials
- Education - raising awareness amongst consumers; educating SMEs about options & sharing the resources and the intellectual expertise that exists in the SME sector; collaboration on research and establishing networks amongst SMEs and other producers; looking at education in terms of product

labelling (we have moved a long way in terms of the ingredients of a product, but what about the whole waste cycle and product component elements of eco efficiency in labelling?)

- Full downstream accounting - the need to reflect depletion of natural resources and encourage research
- Foster, facilitate and stimulate a debate on environmental economics looked at products and the way they are used
- Provide incentives and support for enterprises to change their focus towards reuse and deconstruction rather than recycling
- Agreed national approach in terms of assessment of environmental impacts, environmental rating schemes, how to better facilitate and reduce costs for producers

#### **‘PARKING LOT’ OF ISSUES**

- Consumption has to be addressed as a core issue
- Using waste as a descriptor is inappropriate
- Cost and pricing are to be integrated into the debate
- We need to build a business case for sustainability: how can people profit from more sustainable products
- The cycle times and horizons are in conflict (the short political horizons and corporate responsibility horizons versus the conservation product use time frame)
- We need a conservation price index that put a rating or a value on assets and clearly present them to the market place for informed consumer choice
- There is concern about the national fragmentation of environmental rating systems and policy frameworks

The producers are responsible for all elements of the product; they do not stop responsibility once the product is gone off the shelves. We must move towards a national building code or common rating tools, supporting a national approach, not a fragmented approach. We should invest into education and public awareness; facilitate a research project that would focus on how to avoid, produce and reuse products in the life cycle. All this is related to a different thinking about environmental economics - a greener, more sustainable, more holistic approach towards the environment.

Education on sustainability issues should not finish at Year 12, and this is not just the waste, but the whole concept of sustainability. No student should graduate from any institution without having a working knowledge of sustainability holistically and the impact of the industry they chose to work in on the environment. It is the education model or the educational learning that goes on, which is an absolutely essential for all aspects of sustainability.

#### **GROUP 5 - “ENERGY AND THE BUILT ENVIRONMENT”**

**Facilitator - Mr David Whan**  
Managing Director, TechComm Simulation

**Speakers - Mr Andrew Gaines**  
Associate, EcoSTEPS  
**Ms Rachael Bernstone**  
Editor, Building Australia Magazine

#### **PRICE & COST**

- As a medium-term plan, energy prices should include the real cost to the environment, through a market structure specifically designed to achieve this (equitable market system for pricing is missing)
- ‘*Use more, pay more*’: People that use more energy, should pay more rather than getting discounts
- There is lack of uptake of renewable energy generation technologies: solar, wind, biomass etc. Why are PV cells not purchased?

#### **CONSUMER CULTURE**

- We need to develop a common vision about what Australia will do about sustainable energy (bi-partisan, a tri-partite agreement ‘Government-Business-Community NGOs on climate threat’ etc.). The main question should be, “what would it take to evolve a **world that works** and clears the psychological and the social, as well as technical sustainability side?”

- Communicate and sell this vision to a consumer: through funding for development of educational films/programs/documentaries that explore issues through public broadcasters (publicity - “*Day After Tomorrow*” - springboard for public awareness campaign); industry & community groups, face-to-face etc. No sense of crisis exists - we need to get people feel personally responsible for the future
- Reduce consumption & promote personal development - “*Happy people consume less*”. Part of what drives excess consumption on an outer level is advertising and the stimulation of desire, but at a deeper level, people are not feeling happy with themselves. Therefore, in order to actually reduce consumption and have a healthier society, as public policy we should put much more into education that teaches people to know themselves better, be more content with themselves, for which there are a number of disciplines.
- Focus on financial outcomes and neglect of social & environmental considerations, i.e. ‘PV is less damaging than fossil fuels’ (no emissions)
- Drive culture & behaviour change in the community: What is the energy efficiency equivalent of ‘Slip-Slop-Slap’?
- Educate consumers on energy operating costs as well as embodied energy; transmit clear, unambiguous messages of price signals to consumers & voters

#### **POLITICAL**

- Regulation is needed - business cannot drive public desires (enough)
- Governments has a large role to play as consumers and clients themselves, especially in the Built Environment; Government purchasing is one of the potential levers of change to reinforce new developments in the sustainability technology and support sustainable products and projects, be they renewable energy or green buildings (Government fast track environment sustainability projects)
- Government can also make it a policy to buy only sustainable products, energy, fit out buildings with PV and water technologies, other energy efficiency technologies which would add critical mass to those fledging industries, and perhaps bring the prices down for consumers in general. Governments are big clients in terms of state-owned housing and office accommodation, so there is plenty of scope for them to make an impact in those areas that could then be followed by private enterprise.
- We would also like to see Governments provide further tax, grant and other financial incentives for sustainable projects, to give them the sort of boost that existing industries are already benefiting from.
- Another lever of change is democracy. The current free trade agreement makes Government purchasing and democracy much more difficult.
- Challenge the ideal of economic growth; there is lack of awareness at community level about impact of ‘business as usual’, and lack of impetus for change.

#### **BUILDING**

- Add emphasis on design of energy systems focusing on risk reduction: It has to become riskier to build conventionally than to renovate. What can drive this?
- Poor residential design leads to increased energy consumption: Some of the changes recently introduced (i.e. Victoria’s five star house) are going to have some impact on reducing energy and water consumption in new built residential, but that’s about 5% of the total housing stock. In 95% of homes these measures are having no impact at all. We would like to see further incentives for retrofitting for the phasing out of unsustainable technologies and systems, and phasing in of better products and services. There can be a lot more focus on Zion upfront (passive solar, passive breezes etc). The houses built out in the Western suburbs of Sydney and Melbourne that face west, with no eaves and free air conditioning, are not helping here.

#### **EDUCATION**

- Get through to school children and university graduates
- Develop professional training in sustainability (engineers, scientists, lawyers, economists etc.)
- Teach how systems work through environmental advertising
- Community education & seminars for designers on integrative thinking skills (looking at whole of life and full costs, rather than just ‘how do my windows fit into that building’)

## Appendix 11 - Pressroom

### **GREEN LIGHT FOR THE FUTURE?**

#### **Global Access Partners to Launch a Practical YBE2004 Initiative on Business Building Sustainable Cities**

*“June 22, 2004 - Sydney, Australia: Obscure frogs and spiders are not the biggest potential victims of urban Australia’s incipient ecological crisis, construction firms which fail to adapt to the new regulatory and consumer environment may soon follow the dinosaurs and dodo into extinction.*

*So while in China it may be the year of the Green Monkey, here in Aus the ‘Year of the Built Environment’ holds centre stage and the big players in the NSW building industry will meet Government, State and Territory officials, investors and entrepreneurs, utility providers, architects, planners, scientists and environmental regulators at the ‘Global Access Partners’ Forum on Ecological Sustainability at Sydney’s Trade & Investment Centre on the 29<sup>th</sup> and 30<sup>th</sup> of June.*

*Keynote speaker Bjorn Stigson is President of the World Business Council on Sustainable Development, a coalition of 170 major multinationals from 35 countries with an annual turnover of 3 trillion dollars. Championing the free market to find sustainable business solutions to the challenges of ecological and technological change, Mr Stigson will highlight new issues and opportunities for profitable innovation in this fast developing sector.*

*With problems such as the reliability and conservation of energy supplies, the uncertain future of Australia’s water resources and the pressing need to avoid cost and legal hassles by minimising construction waste on every building firm’s agenda, the GAP Forum will seek practical solutions and give the much maligned building industry a real voice in the debate. Supported by the Australian Government Department of the Environment & Heritage, the NSW Department of State & Regional Development, the Department of Environment & Conservation (NSW), Green Pacific Energy, TechComm Simulation, IAG, HydroCon Australasia and Qantas Airways, the GAP Forum will help ensure its participants are still here, like the new generation of ‘eco-friendly’ buildings, in a hundred years time.”*

#### **GAP Media Release**

### **CALL FOR DEBATE ON ROLE OF BUSINESS IN SOCIETY**

**ABC The World Today, 1 July 2004**

*ELEANOR HALL: As Australians grapple with increasingly critical environmental problems, there are claims today national governments now have far less influence on global issues, like climate change, than they did even 10 to 15 years ago. Bjorn Stigson, the head of an international coalition of 170 global companies, says governments are stepping back from major global crises and that as they retreat, international business has been forced to step in. Mr Stigson is the President of the World Business Council for Sustainable Development and he has just flown to Australia from New York, where he has been meeting with United Nations Secretary General, Kofi Annan, about Mr Annan’s call for business to do more to deal with sustainability issues.*

*BJORN STIGSON: The erosion of trust has come from some scandals from individual companies that have stepped outside what is the normal boundaries of behaviour and what we can do from the business community is to show that that is not the normal practice in business. [...] I think we have to be very careful in saying that business should step into the role of governments, but there is a lot being asked for from business as governments have been retreating. But business can never and should never replace governments. Government has a unique role to play, so we should be a little bit careful on how we phrase that. [...]*

*ELEANOR HALL: What are the different groups arguing at this stage? Would business prefer that government did take a bigger role in some of these issues?*

*BJORN STIGSON: We like to see strong governments, because the main problem where we have non-functioning societies, is that we have governments that don't function. Business role is to make money to create wealth and without fulfilling that role, business has no future [..] If you increase your resource efficiency, you use less resources, you will be more efficient, you will earn more money. Today, younger people want to work for companies that stand for things that they believe in. If you want to have the best people working for you, you have to address these issues. [...]*

*ELEANOR HALL: You represent 170 international companies. Do they regard climate change as a serious problem?*

*BJORN STIGSON: Yes, they do. We have just had a survey with our members and about two thirds are rating energy and climate change as one of the top three issues that they feel business has to address and they have to address.*

*ELEANOR HALL: That was Bjorn Stigson, and he's the President of the World Business Council for Sustainable Development and he's in Sydney to attend a Global Access Partners' conference.*

Full version of story - [www.abc.net.au/worldtoday/](http://www.abc.net.au/worldtoday/)

## Appendix 12 - From the letters of thanks and congratulations

*“Thank you for the GAP meeting last week. I think that there will be at the very least some positive policy impact from the sessions. A very productive day and some good contacts made that I will follow up on. Please pass on my thanks and appreciation for a job well done to all who arranged and managed the Forum.”*

**Steve Blume**  
Adviser, Office of Bob McMullan MP  
Shadow Minister for Finance, Shadow Minister for Small Business  
Member for Fraser

*“Thank you for your efforts in helping make the GAP forum a success. It was an excellent event - very stimulating and I look forward to following up on the contacts made (please pass on my congratulations to all involved!).”*

**Neil Sinclair**  
General Manager  
Waste Technologies of Australia

*“I did enjoy the day and [...] found it very interesting and valuable in the work I do. Thank you again. Best wishes.”*

**Patrick Longfield**  
Member EcoSTEPS Group  
Sustainability Partner

*“Dear Peter, I am impressed by your ability to pull together such an interesting cross section of society in NSW to form a consultative committee for business opportunities with focus on environment and society. It was interesting to hear the discussions and views expressed by different participants stemming from different backgrounds. I am looking forward to hearing from you how you are progressing with the consultative committee and initiatives flowing from that.”*

**Bjorn Stigson**  
President  
World Business Council on  
Sustainable Development