



NBLF

NATIONAL BUSINESS LEADERS FORUM
ON SUSTAINABLE DEVELOPMENT

THURSDAY 27 JUNE 2013
MAIN COMMITTEE ROOM
PARLIAMENT HOUSE, CANBERRA

POST FORUM REPORT 2013

INVESTING IN SUSTAINABLE SECURITY: business leadership in a world of strategic risk and opportunity



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THE 2013 NATIONAL BUSINESS LEADERS FORUM ON SUSTAINABILITY

HELD IN THE MAIN COMMITTEE ROOM, PARLIAMENT HOUSE IN CANBERRA

THURSDAY 27 JUNE 2013

INVESTING IN SUSTAINABLE SECURITY: BUSINESS LEADERSHIP IN A WORLD OF STRATEGIC RISK AND OPPORTUNITY

In today's global environment where mistakes can generate lethal consequences, the world's military planners have recognized that 'security' must be managed across multiple dimensions. In a complex, inter-dependent and warming world, issues such as: energy security, food security, water security and human security now rate alongside more traditional concerns associated with the management of power. Business and political leaders are coming to similar conclusions: recognizing that prosperity can only be increased for the poor and sustained for the 'West' when essential forms of social and natural capital have been secured for the future. How can we invest across society to ensure we are mobilizing the financial capacity to adapt to the evolving security threats for a sustainable future, and to seize the opportunities that this emerging scenario will require? Strategic risks and opportunities seldom arise within fixed borders. Given this, the Forum plans to complement USA and Australian perspectives with those drawn from our wider region - examining the role that business leadership can play in securing and sustaining the conditions for prosperity and development.

This summary was compiled by Dr Michael H Smith, who has also provided research, programme development and support to the Forum for several years. Assisting Dr Smith were Peter Stasinopoulos, Risa Bhinekawati, Anne Duncan and Jemma Williams from ANU. Edited by Ann Storr from St James Ethics Centre.

INTRODUCTION

The National Business Leaders Forum on Sustainable Development (NBLF), since 1997, has been at the forefront of demonstrating the value and importance of putting sustainable development at the heart of investor, business and government decision-making in Australia.

For instance, the NBLF brought Simon Upton from the OECD in Paris to Australia for the 2011 Forum where he talked about how to put sustainability at the heart of economic decision-making. Simon Upton also launched the OECD's landmark *Green Growth* initiative in Australia. OECD's *Green Growth* work is truly historic, as it shows how it is possible to reconcile the twin needs to achieve economic growth whilst achieving environmental sustainability. Since its launch, *Green Growth* has been adopted by all major global fora, including the G8, G20 and APEC and many countries have now developed *Green Growth* frameworks and strategies. This year a new global institution, The Global Green Growth Institute, based in South Korea, has been formed and is led by an Australian, Howard Bamsey.

In addition the Forum has often been the first to breakthrough old paradigms by engaging with influential thinkers including Kishor Chaukar, Tata Industries, India (2011); HRH the Prince of Wales (2011); former Vice President Al Gore (2003); Ray Anderson, Interface (1998); Paul Hawken, author of *The Ecology of Commerce* (2000); Jerry Porris, author of *Built to Last: Successful Habits of Visionary Companies*; Don Tapscott, author of *Wikinomics*; Georg Kell, United Nations Global Compact; Janine Benyus, author of *Biomimicry*; Reverend Tim Costello, World Vision; Dame Julia Cleverdon, UK; international

climate scientist and author, Professor Tim Flannery and David Nieh, Shui on Land for Knowledge Community Developments, China. The 2013 National Business Leaders Forum focused on how water, energy and food security as well as climate change issues are now being put at the heart of national security as well as in the investor/business risk management and planning sectors. There is growing recognition in the sectors of investment, business and defence as well as policy making communities that the security of nations, investments, business profits and communities now involves proactive and better management of climate change, energy, water and food security risks. This is evidenced by the following:

ENERGY SECURITY AND CLIMATE CHANGE:

In 2011, the UN Security Council issued a formal statement expressing its concerns about the risks of climate change to global and national security. Secretary-General Ban Ki-moon, at this meeting stated, "The facts are clear: climate change is real and accelerating in a dangerous manner ... it is a threat to international peace and security". The International Energy Agency's World Energy Outlook for 2011 concluded that, based on this climate science, the world only has 5 more years to avoid 'lock in' of dangerous irreversible climate change. It also concluded that if fossil fuel infrastructure is not rapidly changed in the next decade, the world will 'lose for ever' the chance to avoid dangerous climate change.¹ A range of studies suggest only 20 to 35% of remaining known oil and gas reserves can be used to stay within 2° of warming.²

WATER SECURITY:

US State Department, under Secretary Hillary Clinton commissioned a landmark report on 'Global Water Security' by the US Intelligence Agencies in 2012. The report warned that humanity only has 10 years to make a transition to more forms of water management or

During the next 10 years, water problems will contribute to instability in states. Water problems – when combined with poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions – contribute to social disruptions that can result in state failure.

Major concerns exist for water management because currently half the world's population, including China and India, rely on food production which is based on extracting underground freshwater at rates that are completely unsustainable. Water tables are now rapidly falling in countries that contain more than half the world's people.³ For instance, in 2005 the World Bank warned that if the current trends continue, 60% of all aquifers in India will be in a critical condition within 20 years.

RESOURCE SECURITY:

McKinsey Global Institute pointed out in 2012 in its landmark report on 'Resource Productivity' that increased demand for resources has led to commodity price rises in the last decade wiping out the previous 100 years of commodity price reductions. (Figure 1)

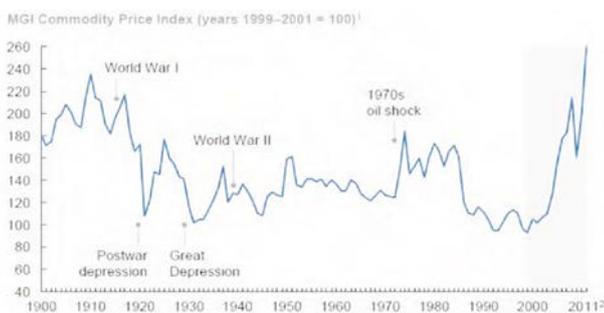


FIGURE 1: Commodity Prices Have Increased Sharply Since 2000, Erasing all the Declines of the 20th Century. (Source: McKinsey, 2011⁴)

In addition to water, resources of particular concern are phosphorus and rare earth metals. World phosphorus production is likely to peak in as little as 25 years' time.⁵ A range of studies warns that some rare earth metals risk running out within two decades unless recycling rates are rapidly increased.⁶ UNEP publications show that recycling rates of most rare earth metals are less than 1%.⁷

FOOD SECURITY:

The Food and Agriculture Organization of the United Nations forecasts that global agricultural output must increase by 70% from average 2005 to 2007 levels by 2050 to feed the expected population of 9.3 billion. By 2050, in a world of more than 9 billion people, fertile soils and food will be the most prized resource. Food, fertile soils and water security will be the key issue of this century. History tells us that, maintaining healthy and fertile soils and clean water for agriculture are critical to national security and the survival of civilisations because of these and other issues:

- over 100 new security reports and statements from the US Defense and Security establishments have been published in the last three years alone, linking security issues with resource security, climate change and other environmental and sustainability concerns. The Garnaut Review on Climate Change published an extensive piece on the risks climate change poses to Australian and regional security - refer Key Resources Section
- the Investor Group on Climate Change (IGCC) Australia/New Zealand, in 2013, published reports on climate change risks and opportunities to help investors and business leaders factor climate change, water, energy and resource risks, into their decision – making processes – refer Key Resources Section
- IGCC and sister organisations internationally, that together represent USD20 trillion of investments, formed the Global Investor Coalition on Climate Change to address, proactively, these issues
- the insurance industry has warned that insurance costs will continue to rise at a greater rate than inflation due to extreme weather events. Whilst the Australian economy represents 1.7% of the global economy, Munich Re, estimates 16% of total global re-insurance costs, in the last few years, are from insurance costs due to extreme weather events and earthquakes in Australia and New Zealand.

In this context, the 2013 National Business Leaders Forum on Sustainable Development met to contribute to the debate and discuss how to create a new model of security, risk management and opportunity assessment through a more sophisticated approach to managing risks and opportunities in the 21st century.

FORUM WELCOME: DR JOHN HEWSON AM, EXECUTIVE CHAIRMAN, SHARTRU CAPITAL



DR JOHN HEWSON opened proceedings by welcoming distinguished guests, speakers and leading sustainability practitioners to Parliament House for this year's National Business Leaders Forum for Sustainable Development. Dr Hewson has formerly chaired the Forum and been a key member of the Steering Committee for much of its 15 year history.

He reflected on the significant 'mainstreaming' of climate change and sustainability issues in the Australian business community during that period and the role of the National Business Leaders Forum and its partners in enabling this. Dr Hewson reflected on the early days of the Forum when, the focus was on raising awareness in the business community of the significant opportunities for business from pro-actively addressing climate change and sustainability.

Dr Hewson commented on the fact that, when the Forum started, the level of detailed understanding of these issues in Australian business community was poor. He listed some of the highlights such as the fact that the Forum brought to Australia some key speakers and helped to support key initiatives, such as the Global Reporting Initiative, that have made a significant impact.

One particular example of this was the key role of the Forum in bringing Al Gore to Australia. At the 2003 Forum in Sydney Al Gore presented, for the first time, an inspiring address on climate change that formed the basis of the now famous film *An Inconvenient Truth*. At the time we encouraged the former Vice President to make his presentation as widely available as possible. His talk and film helped to mainstream understanding of why and how business and investors must take climate change into account in planning of risk and opportunity assessments. Al Gore's film combined with the publication of the Stern Review Report and 4th IPCC Assessment in 2006-2007 also catalysed a significant shift politically on climate change globally and in Australia.

Following the 2007 Forum a consensus statement on climate change policy for Australia was produced and was a feature article on the cover of *The Australian Financial Review*. The statement became a factor in the Howard Government joining the ALP Opposition of the time in committing to implementing an emissions trading scheme in the lead up to the 2007 election.

In 2010, the Forum's statement on climate change policy was supported by most major Australian environmental NGOs, five major industry groups and leaders, such as Sir Nicholas Stern, also had an impact. Supported by Rob Oakeshott MP, the 2010 Forum's statement on climate change policy showed that it was possible to achieve a broad consensus on climate change policy and enabled passage of a package to put a price on carbon. As Rob Oakeshott wrote at the time "If the National Business Leaders Forum on Sustainable Development can show that big business and peak environmental groups can come together and find common ground and reach a consensus on climate change policy, then we, elected politicians, should be able to do so as well".

Thanks to these efforts, and many more of those associated with the Forum, climate change and sustainability risks and opportunities are now significantly understood by those in mainstream Australian businesses and the investor community sectors. Today, we are seeing greater understanding of these issues and opportunities at the level we hoped for when the Forum started 15 years ago.

After opening the 2013 Forum, Dr Hewson introduced Admiral Dennis Cutler Blair and invited him to deliver the keynote address *The Future Global Security Agenda*.

KEYNOTE: ADMIRAL DENNIS CUTLER BLAIR, FORMER UNITED STATES DIRECTOR OF NATIONAL INTELLIGENCE RETIRED UNITED STATES NAVY ADMIRAL



THE FUTURE GLOBAL SECURITY AGENDA

Admiral Blair sketched the latest emerging security trends. He began with an overview of traditional trends which remain from the previous national security eras (Cold War, post-Cold War and war on extremist terrorist groups) including Middle East issues, the war in Iraq, international terrorism and crime, as well as the wide availability of nuclear weapons. He then overviewed the many new trends of this new security era.

- Natural catastrophes that involve the environment, energy, food and water, when they occur, take priority over other national security issues. The severity of environmental events and disruptions is high however preparation can reduce this severity. In the worst cases, water stress and shortages, for example, can lead to civil war. These events, however, are also opportunities for cooperation, not conflict, in humanitarian responses, preventative measures and common policies.
- Energy and water must be supplied with greater efficiency and fewer emissions. A new, international approach to energy supply will enable developing countries, led by China and India, to meet energy and electricity demand.
- Climate-change adaptation and mitigation measures, based on cost-benefit calculations, are also essential to reduce the risk of dangerous climate change as well as reducing the potential negative impacts of climate change that is already locked into the global system.
- Carbon emissions can be reduced with further international research and development on carbon capture and storage from coal-fired power plants - the largest source of growth in carbon dioxide emissions in the future
- Governments and businesses will need to cooperate to expand the use of natural gas, abundant in the USA and Australia, for electricity generation, noting that this is an interim technology, not a solution, and to share these resources.
- The large gap in agricultural water efficiency between different regions of the world indicates an opportunity for progress through sharing strategies. For wide adoption, these technologies and strategies require governments to fund research and development, and once proven, require involvement from the private sector for commercialisation.
- Energy and water are heavily subsidised. Changing this model is difficult but could be achieved with persistent and imaginative efforts by governments, businesses and concerned citizens, to take responsibility for energy and water usage.
- Multiple nations and regions, not just a single nation or region, will lead. The nation state will remain central, but international organisations will play a larger role than they have previously. International coordination requires multilateral approaches.

- Democracy will continue to spread.
- Information technologies will extend into unwired regions. Big data will increase efficiency and profits.
- Information technologies might, with advances in algorithms, enable new early-warning systems for social disorder, civil war, environmental, climate and other security threats. These advances will also make it difficult for undesirable individuals and groups to hide.
- There is a risk, however, of abuse of technology and power, by authoritarian or 'big brother' governments.

Governments require focus and flexibility to prevent these national security issues from becoming crises, when the actions required will be at great cost. Smart policies and actions now are vitally important to prevent potential future crises. For business, the challenge is to align with these trends. Businesses that resist the trends will suffer; businesses that ride the trends will prosper.

Q AND A

In response to questions from the audience, Admiral Blair further discussed energy and carbon emissions.

- China has difficulty avoiding coal-fired power plants because development is strong. China needs a practical approach and other nations need to support China. China could seek to develop natural-gas power plants and use carbon capture and storage.
- In the USA biofuels comprise a very small proportion of energy supply - this use is inadequate to overcome the 2020/2030 hump in carbon-emissions reduction.
- In the US military, renewables have been a long-time focus because fuel is the largest item that military forces transport. Safety risks are lower when less fuel is transported to the battlefield.
- In the USA, the Three Mile Island incident in 1979 stopped the development of nuclear power. Recently, the USA resumed plans to build more nuclear power plants but the Fukushima incident in 2011 stopped those plans. New nuclear technologies have lower risk than old technologies. One such developing technology is a small, non-water-cooled power plant. This technology is worth investigating for Australian use.
- The Global Financial Crisis (GFC) of 2008/2009 led to fewer carbon emissions but was economically and socially difficult for individuals. Since the GFC, carbon emissions have continued to decrease while the economy has grown moderately. Business learned to plan carefully in challenging conditions.

SESSION 1: DEFINING ENERGY SECURITY, ROBUST INFRASTRUCTURE AND BUSINESS LEADERSHIP IN OUR REGION

MODERATOR:

FRAN KELLY, Journalist and Host, ABC Radio National's *Breakfast* Program

SETTING THE SCENE:

PROFESSOR ROBERT HILL AC, United States Studies Centre, University of Sydney and former Howard Government Defence Minister and Environment Minister

DISCUSSION LEADERS:

PETER JENNINGS PSM, Chief Executive Officer, Australian Strategic Policy Institute and formerly Deputy Secretary of Strategy for the Australian Defence Department;

THE HON GREG HUNT MP, Shadow Minister for Climate Action, Environment and Heritage; represented by **SENATOR THE HON SIMON BIRMINGHAM**, Shadow Parliamentary Secretary for Climate Action, Environment and Heritage;

DIANNE O'HARA, General Manager – Business Development and Strategy, ActewAGL.

SESSION FOCUS:

Australia has the opportunity to lead the world in creating a new model of security through inclusive business development in our Region. With some of the biggest expanding global markets at our doorstep, as well as some of the poorest nations in need of sustainable business investment, we have an important business leadership opportunity. Energy security is one of our biggest challenges as highlighted by two previous Forum participants, Amory (2011) and Hunter (2007) Lovins who wrote:

The foundation of a secure energy system is to need less energy in the first place, then to get it from sources that are inherently invulnerable because they're diverse, dispersed, renewable, and mainly local. They're secure because they are not pipelines or transmission lines – which invite devastating attack. Dispersed renewable alternatives don't, and literally can't fail on a large scale.

*The 1982 book *Brittle Power* by A & H Lovins was reiterated in a 2003 book chapter entitled *Terrorism and Brittle Technology*.*

How do we secure more sustainable energy systems without negatively impacting food, water security and vice versa? How can we transition to more suitable energy systems whilst enhancing natural and social capital? How does this impact long-term infrastructure decision making and planning? What are the business leaders in the region doing? What can we learn from them? And what will help leadership companies succeed?

FRAN KELLY noted that Australia has the opportunity to lead the world in creating a new model of security through inclusive regional development. With some of the largest and expanding global markets at our doorstep, as well as some of the poorest nations in need of sustainable business investment, we have an important business leadership opportunity. Energy is one of our biggest challenges: within our region how do we secure more sustainable energy systems without negatively impacting food and water security?



PROFESSOR ROBERT HILL set the scene and suggested that energy security was synonymous with sustainability, particularly with respect to social and environmental perspectives, as they were the costs that needed to be balanced with exploitation of resources. While there are abundant energy reserves, the distribution of these resource assets is not equitable and this is the major source of security challenges. Professor Hill provided a brief description of some of the environmental, social and security issues associated with different resources.



- Exploitation of shale gas in the USA is an example of the many social and environmental issues.
- Coal will be around for 100 years for practical reasons despite the environmental costs.
- Carbon capture and storage development is progressing very slowly, as a realistic option.
- Natural gas is replacing coal in the USA utilising new technologies which reduce carbon emissions by 50% and which are also more efficient in terms of energy production. This means that it will be an important contributor in a transition.
- Oil and hydrocarbons have been found to be more abundant than was previously thought and the potential threat has consequently been assessed as less than it used to be. A contributing factor is that Iraq is now exporting, which has increased supply and the Arab States are now more efficient in their use. Those in the developing world are trying to reduce subsidies e.g. Indonesia.
- Nuclear is going ahead in the developing world as a low-carbon alternative e.g. China. However the developed world is still struggling with relevant waste management and safety issues.
- Renewables are a significant but still minor player - solar energy is used in homes (approximately 1 million in Australia). Wind has the most significant take up e.g. 30% in South Australia.

PETER JENNINGS discussed the Government policy perspective, which was articulated in the Energy White Paper in 2012 and this year in a Defence Department paper, which identified energy as a major Defence consideration.



In the first instance Mr Jennings defined energy security as “adequate, reliable and competitive supply of energy and energy services to support the economy”. He described the strategic factors affecting energy security in the Indo-Pacific, of which Australia is part. The USA has emerged as having significant domestic energy supplies and is no longer import dependent, while both China and Japan will remain dependent on imports. Increasing competition for supply will mean that the sea lanes in SE Asia have much more strategic significance, the question being how to secure them.

Mr Jennings expressed the view that Australia has an opportunity to benefit from the need for energy resources from many nations as it is well-positioned in terms of coal and could increase development of gas (seventh in the world). He summarised the two main challenges:

- Australia's security of supply is declining. Australia is currently failing to meet International Energy Agency requirements to have an emergency reserve supply.
- Reliance on importation of energy supply is also high among other countries in our region – PNG, Timor-Leste and the Pacific Islands. Australia needs to make sure it considers these countries in its strategic view.

THE HON GREG HUNT MP, Shadow Minister for Climate Action, Environment and Heritage was represented by **SENATOR THE HON SIMON BIRMINGHAM**, who noted sustainability both in terms of supply and the environmental and social impact as key issues.



In addition the Forum Convenor received from the Shadow Minister a prepared address which proved to be a very important and timely contribution to the 2013 Forum with its focus on re-defining and broadening the notion of national security.

In his prepared address the Shadow Minister focused on what Australia and the rest of the world are doing to tackle climate change to create a more secure world. He noted that protection against the potential ramifications of climate change is one of the most pressing energy security issues facing the world today. The Shadow Minister's prepared address provided one of his most detailed descriptions on how the Direct Action Plan on the Environment and Climate Change would work. An explanation of the operation of the Coalition's Emissions Reduction Fund was also included. To access the Shadow Minister's prepared address

http://nblf.com.au/uploads/docs/Greg_Hunt_address_2013.pdf

DIANNE O'HARA provided an industry perspective from an ACT operator, ActewAGL, with significant infrastructure and existing customers.



Ms O'Hara noted that consumer behaviour and patterns are changing and that pricing plays a key role. There is a sustained trend of reduced household consumption, concern with energy efficiency and installation of rooftop photovoltaic systems. In terms of technology there continues to be lots of innovation – more diverse mix of energy sources, a rapid increase in household use of solar, smart meters and electric vehicles.

Utilities will need to adapt to this and subsidies mean that photovoltaic systems are not just restricted to green consumers. For example, the uptake of photovoltaic systems has increased significantly in the ACT during the last 5 years, from 312 households in 2008 to 11,000 now.

The technology of energy storage is improving – facilitated by significant research investment in domestic energy storage. 'Smart meters - smart grids - smart energy'. The energy grid now requires modernisation to enable more effective management. The future will likely be one where fuel cell technology is supported by utilities. There will also be innovation in business models to match technology developments and as barriers to entry decrease.

Businesses are recognising the need to adapt to suit customers and their changing behaviour. IT businesses and others have entered the space. For example, there are third party aggregators (for rooftop solar).

In the USA there are geothermal utilities that provide household heating and cooling with no upfront investment by households. Energy networks are becoming more common as are retailers – larger utilities can link to niche providers of specific products. In other words the energy business is becoming much more dynamic, with flow on implications for internal structure.

SESSION 2: FOOD AND WATER SECURITY: INNOVATIONS TO IMPROVE THE PRODUCTIVITY, SUSTAINABILITY AND RESILIENCE

MODERATOR:

FRAN KELLY, Journalist and Host ABC Radio National's *Breakfast* Program

SETTING THE SCENE:

AMBASSADOR JEFFREY BLEICH, US Ambassador to Australia

DISCUSSION LEADERS:

BRIAN EXELL, Acting Deputy Director General, AusAID;

DR BRIAN KEATING, Director, CSIRO Sustainable Agriculture Flagship;

MICHELLE EDGE, Chief Executive Officer, Australian Meat Processor Corporation;

JAMES NEVILLE-SMITH, Executive Chairman, Neville Smith Forest Products Pty Ltd,

MALCOLM THOMPSON, Deputy Secretary, Department of Sustainability, Environment, Water, Population and Communities.

SESSION FOCUS:

Food security is a central global challenge that needs to be addressed urgently. Growing populations and changing diets are steadily increasing demand, with the Food and Agriculture Organization of the United Nations forecasting that global agricultural output must increase by 70% from average 2005 to 2007 levels by 2050 to feed the expected population of 9.3 billion. Experts forecast that food prices are likely to remain higher and more volatile than they were before 2008. By 2050, in a world of 9 billion people, fertile soils and food will be the most prized of resources. Food and water security will be the key issue of this century.

The 2012 US Intelligence Assessment on Global Water Security, initiated by Former Secretary of State Hillary Clinton, concluded that several regions of the world will face major challenges coping with water problems. The report predicts that during the next 10 years, many countries will experience water problems that will increase the risk of instability and state failure, and exacerbate regional tensions significantly. Current trends to avoid water problems are further undermining national security. How does better management of natural resources such as forests, both fresh water and marine systems, and preserving ecosystem resilience and biodiversity, increase our security for the future? For productivity of fisheries, farming and food production? How can both coexist? And why must they coexist for our future security?

FRAN KELLY introduced the topic by commenting that energy security can of course impact on food and water as well as noting that food security is a central global challenge that needs addressing urgently. Growing populations and changing diets are steadily increasing in demand, with the Food and Agriculture Organisation forecasting that agricultural output must increase by 70% by 2050 to support a projected world population of 9.3 billion. Where will the water to sustain this agricultural output come from? In the next 10 years lack of water will contribute to instability, social disruptions and state failure. Australia is a world leader in water management and could perhaps use this to be a global leader.

AMBASSADOR JEFFREY BLEICH set the scene by providing the US perspective. There are a great number of challenges in the world but food, water and energy are the greatest with the potential to cause much conflict and social disruption. Why? Well the population will increase to 9.3 billion by 2050 with rising incomes and lifestyle changes that are even more dramatic. There are 2.5 billion in the 'middle class' in the Asia Pacific all of whom have houses, cars, electronics etc with their associated increases as well as changes to food demand (e.g. increase in meat consumption).



For a problem of this magnitude, no single country can solve it alone – there will need to be cooperation as never before. With respect to food, the globe is already on the back foot – 870 million are already under-fed but we need to supply food for an additional 2 billion. There is some more land but land is finite. We can increase crop yields using fertilisers, pesticides and develop climate smart crops – i.e; from 'paddock to plate'. The Ambassador mentioned the amount of food that is wasted and noted that consciousness of this has increased.

With respect to water, since 70% of water is for agriculture, global requirements for water are linked to food requirements. The global water situation is dire with 1.2 billion people living in water scarce areas and half the population already water stressed. This has led to territorial disputes and social conflict. We need to think about it differently, in terms of price (currently too low), systems for sharing and technology development such as desalination and reverse osmosis. This is going to require working with people the USA has not worked with before.

BLAIR EXELL talked about the particular threats of food and water security in the region, how they are interdependent and prioritised above all else. Some 50% of the world's population is living on less than AUD2.50 per day. It is significant that many of those are our nearest neighbours who live in coastal areas and given the likely effects of climate change the challenges will be significant.

In terms of aid policy, one of Australia's ten objectives relates to agricultural productivity, resilience and livelihoods. AusAID has spent AUD411 million on this objective alone. Australia is a world leader in agricultural development and water management and AusAID is, for example, involved with organisations like The Australian Centre for International Agricultural Research. For instance, the expertise in water management of the Murray Darling Basin Commission is being transferred to India. This is publicly funded aid development but the Government can't do it on its own and needs to work more with the private sector. For example, through the Cambodia value chain project – Cambodia Agricultural Value Chain Program (CAVAC) 69,000 farmers have access to rural technology that was previously unavailable.

DR BRIAN KEATING, in outlining a research perspective, pointed out that for CSIRO the issues of food and water are interconnected. In terms of the global prospects for food demands there are significant regional differences. An increase of 100 to 200% in the next 40 years in Africa is predicted (global average of 70%) however the challenge doesn't end there. Whilst, between 1970 and 2010 agricultural output rose 129%, current rates of improvement are low (1%) and many different approaches may be required. It is recognised that there are no silver bullets but that Australia may be able to play a leadership role.



Australia has 1% of world food and trades 2% of food. In other words it is not a food bowl for the world. Are there prospects for growing? Assuming we have the natural resources base we need to double the output over next 40 years. We have doubled the agricultural value once before by use of technological change plus resources – e.g. tripling the use of water from Murray Darling Basin plus fertilizer.

Looking forward can we lift productivity in those traditional agricultural areas? Recently the emphasis has been on genetically modified crop with contribution from information technology and material science. Can we bring more land into production such as northern Australia? There are significant land and water resources but just not in the same places. There is also the influence of natural asset values and cultural values, which means, working with many stakeholders. CSIRO has been exploring in northern Australia since 1950. It is neither simple nor easy and there are lots of constraints.

MICHELLE EDGE provided a meat industry perspective. Meat processing contributes AUD16.2 billion to GDP, providing 148,000 jobs in 157 meat-processing plants in Australia. The Australian Meat Processor Corporation (AMPC) is interested in improving productivity, particularly in Asia and sees research and development as key and is this it partners the Australian Government. The corporation's budget includes AUD60 million for research and AUD30 million for marketing. In terms of Australia's food supply, it is stable with production across the country, but there are a number of challenges: growing conditions across the country are changing; there are trade barriers; economic conditions are becoming more uncertain and competition for natural resources is increasing.



In this environment ensuring collaboration and communication is paramount. The National Food Plan provides a vision for Australia's food supply and sets goals in relation to infrastructure, biosecurity, regulation (reducing red tape), safety and nutrition, having an Australian 'brand' and increasing productivity.

Australia has been complacent in the last few decades. Investment has been declining in terms of private uptake in research and development and productivity has also been declining, which has resulted in a declining capability to undertake effective research and development. Although production has doubled in the last 30 years there are many challenges.

We need to refocus on productivity as the key driver of prosperity, aim for a revival of agricultural research and development as well as sustainability. The Government supports this aim with an investment of AUD700 million in a unique model with AMPC as a co-investor (which is funded through levies on industry). AMPC will continue to work and invest collaboratively with Government and build capability through for example, a natural resource extension strategy.

JAMES NEVILLE-SMITH then provided a family forestry business perspective on sustainability. Forestry can impinge on food and water, which raises the important question, what is the best use of land? He mentioned the recent Tasmanian Forest Agreement as a good example of people working together to resolve this question.



The Agreement has a wide range of signatories including unions, industry and conservation groups and represents a long-term commitment to a vibrant forest industry based on sustainable use of native forest along with introducing further protection. However this can't happen without strong focus on research and development to overcome some challenges; wood waste is not often mentioned but significant; maximising plantation forest for biomass is neither well understood nor supported; maximising the utilisation of trees is a growth industry. For example, the use of waste is now possible at an industrial level and this is being demonstrated in Europe. Forestry and associated industries are important regional employers employing 85,000 people. James Neville-Smith wondered why Australia could not be self-sufficient in this area. He saw innovation and collaboration as essential with more consistency from the Australian Government as well as more commitment from the private sector.

MALCOLM THOMPSON defined sustainability as being about wellbeing and concern for living standards of the future. He spoke about the importance of natural capital in this picture and three Australian Government initiatives in this area.

1. Finalisation of Murray Darling Basin Plan - a plan for sustainable extraction of water for agricultural and urban use which is underpinned by an AUD12 billion investment over 12 years. This plan includes setting up an institution, the Commonwealth Environmental Water Holder to manage the environmental water in the Basin.
2. The Commonwealth Marine Reserves Network Plan which ensures the sustainability of fishing, tourism etc.
3. The Caring for our Country Program is being continued with AUD2.2 billion in funding from 2008 to 2013 for vegetation, corridors, resilience of landscapes, protection of species, reducing run off etc. This involves partnerships with farmers, who manage over half the landscape in Australia, and farm businesses.

Malcolm Thompson mentioned the establishment of the National Sustainability Council and its recently released plan.

National Sustainability Council Plan – <http://www.environment.gov.au/sustainability/measuring/publications/pubs/sustainable-australia-report-2013.pdf>

SEGMENT: SUSTAINABLE SECURITY FOR THE POOREST AMONGST US

INTRODUCTION AND REFLECTION: REVEREND TIM COSTELLO AO, CHIEF EXECUTIVE OFFICER, WORLD VISION AUSTRALIA

TIM COSTELLO began his address by defining 'human security', as combining freedom from fear with freedom from want. He noted that in Syria there is perhaps currently the worst humanitarian disaster currently where there is a lack of human security. Civil war with four million Syrians displaced - 500,000 at least in Lebanon and 500,000 in Jordan and no end in sight. And so achieving and maintaining the food and water pipelines to get the food and water to those who need it is an extraordinary undertaking.



They have fled because they do not have freedom and now they do not have freedom from want. Reverend Costello had just returned from a visit to Syria and before that he had been in Russia. He indicated that he would be returning to Jordan where World Vision is working to help 500,000 refugees from the Syrian crisis.

On his last trip to Russia, Reverend Costello had a meeting with President Putin with whom he discussed Syria. He advised the President that more arms are not going to help rather the key is diplomacy. Here is the ultimate complex security issue. Syria shows that human security is tied up with this challenge of sustainability and simultaneously creating enough economic development to meet people's needs. On the surface, we can understand why some do not see economic growth as being compatible with sustainability.

But economic development that does not also take into account environmental sustainability is fool's gold, short-term gain for long-term pain. At World Vision, Tim Costello advised, both are done, simultaneously. World Vision is participating in the largest reforestation project in Africa. Its work, in partnership with Tony Rinaudo and many

others on regenerating farmland, has resulted in Niger now having 5 million trees. *The Guardian Weekly* voted this work in Niger as the third most important intervention in Africa in the last 10 years. The project has recently won UN awards for regeneration. Another example of the work of World Vision in Africa is enabling farmers and families to create gas sources of cooking using methane digesters which means that biomass and trees do not need to be cut down for cooking. This also means that women and men do not need to travel long distances to find new sources of biomass. With the pressure taken off the local forests and biomass, the project is working to reafforest.

One of World Vision's programs in this area operates in Ethiopia. Hugh Jackman was taken to see this program. He was so inspired by it that it affected him very deeply. After much thought he realised that the best way he could help these farmers in Ethiopia was to help add value to their products by marketing them and selling them in New York where Hugh lives. This led to the formation of a new company and coffee shop in New York that is selling these products to New Yorkers and sending all the income back to Ethiopia.

Reverend Costello shared this example as it reflects what can happen if we review what we are currently doing and what we could do better to make a difference at the same time acknowledging that not everyone is Hugh Jackman. However we can all support similar initiatives by purchasing fair trade organic products to ensure that more money returns to farmers and workers in the developing world. Reverend Costello feels that we can all do more to support efforts globally, to both achieve greater freedom from fear and want – to create greater human security – and thereby a more secure world.

The video provides an insight to a 'light bulb' moment experienced by Hugh Jackman during his visit to the World Vision program in Ethiopia.

VIDEO: HUGH JACKMAN, ACTOR EXTRACT FROM VIDEO:

I met a man who changed the way I looked at the world. As Dukale and I planted coffee trees together, I began to see the potential for one man's hard work to transform an entire community... While working with Dukale that day, I was so inspired by what I learned from him and his community. I



made Dukale a promise to do my bit to help. I realised that the best way I could help was helping Dukale get his product to markets which otherwise he could not get to. I formed a new organisation, Laughing Man Worldwide, to make this happen and we are now selling Dukale's coffee in New York and online

<http://webcast.gigtv.com.au/Mediasite/Play/0fc4b71f7e7647b69d3688d94c6029b61d?catalog=ddc759cb-17fb-4234-b12a-e90fdf7ca0ce>

SEGMENT: AUSTRALIA21 REPORT: GLOBAL CHANGE ON THE AUSTRALIAN AGENDA

PRESENTATION: PAUL BARRATT AO, CHAIR AND EMERITUS PROFESSOR BOB DOUGLAS, DIRECTOR, AUSTRALIA21

PAUL BARRATT AO, Chair and **EMERITUS PROFESSOR BOB DOUGLAS**, Director, Australia21 discussed the recently launched Australia21 Report featuring essays by leading experts that draw attention to the global changes which must be urgently addressed by the next government.



The board of Australia21 has become increasingly concerned that a number of grave challenges is being ignored, bypassed or placed in the 'too hard' basket and that there is no sign of this changing, as we head into vitally important national elections.

Accordingly, Australia21 commissioned this series of essays by a multidisciplinary group of Australian experts. The essays focus on a number of issues that are vital to Australia's future and are being largely or completely ignored by the current political process.

The purpose of the report is to provide the basis for dialogue between voters and aspiring politicians during the coming election, that will more adequately address the realities of anthropogenic climate change, population and refugee pressures, the risks to our economy, deteriorating ecosystems and declining agricultural and liquid fuel capacity.

The report is available at: http://australia21.org.au/publications/press_releases/13/Jun/442ccc9dff755a1a2f3c413197534fe6.pdf

KEYNOTE ADDRESS: ERNST LIGTERINGEN, CHIEF EXECUTIVE, GLOBAL REPORTING INITIATIVE MEASURING SUSTAINABLE SECURITY WITH THE FOURTH GENERATION OF THE GRI SUSTAINABLE GUIDELINES

SESSION FOCUS:

A decade ago only a handful of companies published sustainability reports. Now it is standard practice amongst the world's leading businesses, with 95% of the Fortune 250 and well over half the S&P 500 reporting. Chief Executive of the Global Reporting Initiative (GRI) Ernst Ligteringen will highlight the key features of G4 – the fourth generation of sustainability guidelines – such as the new focus on materiality and examine the future of sustainability and integrated reporting.

ERNST LIGTERINGEN, introduced by Africa Zanella, Head of GRI Focal Point Australia, updated the participants on the recent launch of the *Fourth Generation of the GRI Sustainable Guidelines*. The report focuses on materiality, which guides companies to consider sustainability as a business issue. The G4 also requires that information should be more precise and transparent.



The report will show how companies are connected to the global economy as G4 refers to key global norms. Companies need the capability to measure the key sustainability impact and performance issues. Financial information should complement the sustainability report to enable companies to measure the impacts of their economic activities on sustainability.

Since its establishment in 1997, GRI has developed the framework by which a company could commence tracking its impacts and performance in relation to the environment, the society and the economy.

Currently, 95% of the largest 250 companies have used the GRI for reporting. The number is growing among the largest companies across the globe, as shown at the recent GRI conference held in Amsterdam, which was attended by representatives from 82 countries.

Companies use the GRI because the reporting is highly relevant to their strategies, in positioning themselves for the future, in gaining a better understanding of their stakeholders and in making more informed decisions. There are trade-offs when considering whether GRI reporting should remain voluntary or become a public policy.

Several stock exchanges have indicated that the adoption of GRI reporting will be too slow if sustainability reporting continues to be voluntary. However, there are risks such as red tape and high cost, if the reporting becomes compulsory. Policy initiatives to take sustainability reporting in the format of integrated or parallel reports have been successful in South Africa and Denmark, where the companies are required to inform the public about key principles of their sustainability performance.

Positive progress also has happened in European Union, China, Brazil and India. It would not be possible to manage security risks for food, water, climate change, energy, unless sustainability programs are based on measurements and reporting. That counts for all, at the company and at the macro level. GRI provides the framework for global solutions to manage security risks. In Australia about 170 companies are familiar with GRI practices. Many of the companies are very good; they take part to push the initiative forward at the global level. Australia has an opportunity to increase participation and should do this with the 2,200 companies on the ASX, to ensure the country's GRI practices are on par with its trading partners from China, Japan and the USA.

Q AND A

A member of the audience commented that the term 'sustainability' is often defined in terms of 'strong' and 'weak' sustainability. The speaker suggested that the GRI model represents weak sustainability as it would not enable companies to know whether they live within the capacity of the world to support life. The speaker also questioned whether GRI adopted a 'strong' or a 'weak' sustainability concept.

ERNST LIGTERINGEN responded that the questions should be 'does GRI work?' and 'does adopting GRI lead to demonstrable

change?' He said that currently 90% of large companies have done sustainability reporting, and, as a result, seen change happen within the companies themselves. Signs of change include greater staff motivation and efficiency with some companies changing their corporate strategy accordingly.

He made the point that information is a precondition although it may not guarantee the change in behaviour. As we live in the age of transparency, increasingly, reporting is a factor in decision-making processes. GRI is a 'smart' reporting initiative although it may not be 'strong' enough.

SESSION 3: SECURITY IN A WARMING CENTURY – FROM HAVANA TO NEW DELHI TO TOWNSVILLE: HOW DO WE BUILD ADAPTIVE AND RESILIENT BUSINESS MODELS?

MODERATOR:

MARA BUN Chief Executive Officer, Green Cross Australia

SETTING THE SCENE VIA SKYPE FROM SWITZERLAND:

PROFESSOR JOSÉ FERNANDO MARTIRENA HERNÁNDEZ, UN Habitat Honour Scroll recipient 2011, Director, Centre for Research and Development of Structures and Materials, Universidad Central de Las Villas, Cuba

DISCUSSION LEADERS:

DR PAUL HARDISTY, Director, CSIRO Climate Adaptation National Research Flagship;

NATHAN FABIAN, Chief Executive Officer, Investor Group on Climate Change Australia/New Zealand;

TONY PFEIFFER, A/Executive General Manager, Asset Management, Ergon Energy;

REBECCA MILLER, Arup Resilience Practice Leader Australasia;

PAUL FREEMAN, General Manager, Liveable City Solutions, Sydney Water;

ROBERT MILBOURNE, Partner, Norton Rose Fulbright;

BEN WATERS, Director, ecomagination, GE Australia & New Zealand and Chair of Sustainable Business Australia;

RICHARD ROWE, Sustainability Manager – Marketing, BlueScope Steel

SESSION FOCUS:

In a world that is 4 to 6 degrees warmer, heat waves, sea level rise and more intense severe weather events will threaten the security of our communities. Business leaders will need to nurture their people, land and infrastructure, build adaptive capacity and cultivate flexible, interconnected strategies that fast-track commercialisation of adaptive technologies. It will be necessary to engage investors about risks and opportunities associated with our changing climate. There are implications for food production and distribution, water and energy security, coastal development, performance of cities, sustaining biodiversity and improving the durability and responsiveness of infrastructure and buildings. To mitigate future warming risks, we will need to adopt low carbon technologies as we adapt to our changing climate and create opportunities for future prosperity.

MARA BUN posited that, according to the International Energy Agency, business as usual will lead to an increase in average global temperatures of at least 6°C; whereas current and emerging



commitments and policies, generally seen as ambitious, will lead to an increase of 4°C. She also shared the mission of Green Cross Australia - to help people adapt to the changing climate, in ways that embrace sustainability and community resilience. Green Cross Australia addresses the human dimensions of environmental stresses.

PROFESSOR JOSÉ FERNANDO MARTIRENA HERNÁNDEZ

discussed how Cuba will build dwellings and cities using only its own natural resources by shifting from a traditional development model to a more-sustainable development model. From 1959 to 1988, Cuban housing supply was based on an energy-intensive centralised production system reliant on the supply of cheap oil from the former USSR. The social situation improved however the subsequent collapse of the Soviet Union, which supplied 80% of Cuba's resources, had a dramatic effect on the entire system.



For the manufacturing industry to remain viable, it moved from centralised, highly-industrial manufacturing to small-scale, manufacturing of eco-materials with appropriate technologies and locally-available resources. Eco-materials have a strong record of contributing to sustainable solution in post-disaster scenarios. Preliminary testing indicates that one such material, low- carbon cement, has 28% lower cost, 30% less embodied carbon and ten times higher durability. <http://webcast.gigtv.com.au/Mediasite/Play/bfff1a0495fd4987a7a3586aafbd8a601d?catalog=ddc759cb-17fb-4234-b12a-e90fd7ca0ce>

MARA BUN prefaced the discussion by stating that climate change is an interdependent problem with interdependent risks. No organisation can address the problem on its own.

DR PAUL HARDISTY

focussed on three points – fate, opportunity and timing. We are not locked in to a 5°C future. Business has many opportunities for profit in preparedness and robustness for extreme events, particularly based on a lifecycle approach to assets and asset management. The cost curve moves higher as business and government delay action on climate change, especially following shock events. Early-moving businesses on adaptation and resilience gain a significant competitive advantage. In response to questions from the audience, Dr Hardisty added that governments and businesses are working on autonomous transitional adaptation whereas individuals and individual organisations are acting by themselves. Transformational change, which includes the interdependencies, is the next challenge. Furthermore, small changes have many co-benefits, including monetised environmental and social benefits that accumulate. Businesses must look for win-win outcomes but they need to quantify the costs and benefits.



ROBERT MILBOURNE shared a story of environmental events affecting resource projects, highlighting that adaptation is important. Some events had a severe effect on profitability. These events include the high water costs for miners, the floods in Queensland mines and the increase in price of coking coal from AUD100 to AUD300. Only companies that effectively negotiated escape clauses in such events were able to profit. Legislators will begin to hold businesses and civil society accountable for protecting employees from severe, foreseeable weather events. There are opportunities for first movers of adaptation to fulfil the responsibility of keeping safe employees, the environment and profits.



Fortunately, businesses can be proactive, rather than rely on escape clauses, because weather events are foreseeable. In response to a question from the audience, Robert Milbourne added that mines are in remote areas and have people at risk. They need infrastructure nearby. The move from mitigation to adaptation must happen at the board level as board members are liable for the safety of employees.

MARA BUN emphasised the importance of the time-value of money and of using a correct discount rate, given social and environmental values, in investment decisions.

NATHAN FABIAN highlighted critical investor challenges. The problem is that when investors invest capital for the long term, they rely on short-term certainty much more than the long-term return. Longer-term investments, however, generally have more climate risks. Business needs different metrics for fiduciary responsibility. Transparency is critical.



PAUL FREEMAN emphasised that utilities must stay in business because their services are essential. Fortunately, engineers have designed the network conservatively so it has inherent resilience. Yet, challenges remain given localised climate variability and the need to provide a continual service. Utilities appear to face a trade-off between optimising assets and minimising costs for the community that only wants cheap bills. One strategy is to overlay scenarios on assets to optimise a least-cost solution, leading to growth in resilience with cost-effective solutions. It is inadequate for only utilities to be resilient and self-sufficient because they are only part of the picture. Communities, the other part, also have a role to play. In response to a question from the audience, Paul Freeman added that the benefits must be in a language that economic regulators understand. We can cost societal factors economically.

TONY PFEIFFER raised the issue that traditional methods of adaptation, such as building capacity and changing standards, have been unsuccessful with legislators. The current gold plating of assets is driving investment costs higher. Business needs to look at new technologies, such as data and information technologies, rather than energy technologies. For example, Townsville, through the Smarter Cities Challenge, received a grant from IBM to speed the response after weather events. Their solution uses crowd sourced information, from social media. In response to questions from the audience, Tony Pfeffer shared a story where the board of the company was challenged for wasting money on a construction project to raise a control room in Bundaberg. The local government wanted to limit the height of the room to prevent local residents from perceiving a flood risk. The control room survived a recent flood because it was raised. Furthermore, the company plans to be diesel-free by 2050. Such goals are cost effective where fuel costs are higher.

REBECCA MILLER suggested that resilience is a process, not an endpoint; that we can't have nature adapt to us, we need to adapt to nature. Developed countries can learn from developing countries how to reduce the costs of adaptation. In developed countries, the economic loss due to weather events is high - there is insufficient money for resilience. In developing countries, the loss of life due to weather events is high. Developed countries should look at human solutions from developing countries. One example being residents in an Indian community simply move upstairs during annual flood. Another example is the early warning system for cyclones in Bangladesh which involves 40,000 volunteers riding bikes and using megaphones for announcements. These cyclists help to evacuate 2 million people.

BEN WATERS explained the benefits of decentralisation over centralisation of energy, noting that centralisation is better for water. Decentralisation is more resilient, adding to adaptation and industry is not resisting decentralisation. A holistic view of the electricity system, rather than a dislocated view, helps to maximise the benefits. CSIRO plans to do some hard modelling and look at various scenarios. Furthermore, the demand for energy will decline with energy efficiency and distributed generation. Therefore, business models need to change to reward those network service providers who enable the decline. New models need flexibility and creativity. In response to questions from the audience, Ben Waters added that business must look beyond the short-term outlook. Furthermore, some cities and councils in Sydney and Melbourne have goals that will make them largely decentralised or off-grid. It is already cost-effective for remote communities to be off-grid.

RICHARD ROWE elaborated on novel solutions that arise through an appreciation of the interdependency of the many issues within the systems encompassed by the built environment. Some materials for the built environment reduce environmental impact and also improve performance to make communities more resilient.



Three strategies for resilience are to design for failure, to allow energy from weather to move past the built environment and protection from weather events. Design for failure has end-of-life issues. An understanding of the rhythms of climate can help to harness the energy of the weather. For example, roofs provide protection and can harvest water, building façades can be constructed using building-integrated solar photovoltaic panels and solar thermal energy technologies. New technologies can enhance decentralisation, which increases resilience. For example, buildings in regions at high bushfire risk can channel rainwater from roofs into tanks made of fire-resistant materials, providing water for conventional uses and while the centralised water supply is unavailable post-bushfire. Design for the built environment should consider the resource consumption during production and use stages of the product life cycle as well as accounting for potential productivity benefits.

In response to a question from the audience, Richard Rowe added that technology solutions for adaptation are available now. They can combine off-the-shelf materials with design. For example, compared with conventional roofs, cool roofs cost and look the same but prevent heat gain.

MARA BUN closed the session by introducing and speaking about Green Cross Australia's Business Adaptation Network to support the adaptation conversation towards action. The Discussion Leaders present, represent organisations that are the founding partners of this important initiative.

SESSION 4: SECURITY AND THE 'EDUCATION REVOLUTION': ENSURING THE WORKFORCE AND GRADUATES ARE READY

CHAIR AND SETTING THE SCENE:

DR ANDREW JOHNSON, Group Executive Environment, CSIRO

DISCUSSION LEADERS:

DR TOM HATTON PSM, Group Executive Energy, CSIRO and member of the National Sustainability Council;

PROFESSOR STEPHEN DOVERS, Director, Fenner School of Environment and Society, ANU and representing the Australian Council of Environmental Deans and Directors;

DR MICHAEL H SMITH, Research Fellow, ANU and Research Associate, United States Studies Centre

SESSION FOCUS:

There is growing recognition in the investment, business, defence, policy and research communities that security of nations, investments, business profits and communities now involves proactively better nexus between managing climate change, energy, water and food security nexus. For instance, the Australian Strategic Policy Institute argues that the Australian Defence Force is unprepared for a changing climate and it needs to adapt its strategies to protect the nation now. An education revolution is needed to ensure defence, policy makers, investors, business leaders and the workforce are ready to move from the 'problem space' to the 'solutions space' to confidently take action to simultaneously address the climate change/energy/water/food security nexus challenges.

Not only is re-training needed on climate change, energy, water and food security nexus issues but retraining is needed to help enable policy makers to work better across the silos of government. The recently released National Sustainability Council report framework will provide a significant tool to enable this re-training. The complex nature of the climate change/energy/water/food security nexus challenge means that it is no longer possible for policy makers to solve these problems in their departmental silos. The singular nature of government also means that there are no government grants to develop interdisciplinary climate change/energy/water/food security nexus educational programs. Likewise, the siloed nature of universities means that currently there are few climate change/energy/water/food security nexus university courses. To address these challenges, the following speakers discussed how the Investment community is developing new education resources; the University sector has formed the Australian Council of Environmental Deans and Directors (ACEDD), comprising all university multi-disciplinary institutes, to address these challenges in novel ways and the CSIRO, through its Flagships program, is addressing knowledge and data gaps to better inform decision making.

DR ANDREW JOHNSON opened the session by introducing the topic and the discussion leaders.

DR TOM HATTON spoke about the intension of the National Sustainability Council, as an independent, expert body to provide advice on sustainability issues. The Council's key role is to deliver a public report every two years on a range of sustainability indicators for Australia. The expertise of the members of the Council will help ensure that the reports provide reliable and robust information that is accessible to communities, business and industry as well as governments. The Council will also provide interim, targeted advice on sustainability issues and potential improvements to the sustainability

indicators over time, as new data and methodologies become available. The first report published in April 2013 highlights a number of challenges facing social, economic and natural capital in Australia. Dr Hatton made reference to two main challenges that related to the session's topic. The first is the productivity challenge; not just in relation to labour but also water, energy and carbon. The second challenge comprises geographical and social disparities that pose a sustainability challenge for Australia. Closing these gaps is an imperative if we are to increase our productivity.

Two conclusions reached by the National Sustainability Council are that Australia must meet the productivity challenge to underpin sustainability and that there must be improvement in the delivery of education to close the geographic and social gaps to support productivity.

PROFESSOR STEVE DOVERS spoke on two main points. The first was the type of human capital Australia wants to create in its graduates. The ACEDD analysed the selection criteria of thousands of job advertisements over the last 10 years in Australia in environmental management. The results showed that critical thinking, team skills, problem solving ability and flexibility topped the criteria. The second point raised by Professor Dovers was the need for more structured engagement between the private sector and the tertiary sector to encourage greater input, both material and intellectual, from the private sector. Professor Dovers posed two questions to the floor:



- What sort of people do you think we need to run the planet in 10 or 20 or 50 years, and therefore what should we be doing now to produce those people?
- How can the progressive end of the private sector engage more closely with the universities that produce your human capital?

Professor Dovers invited the Forum to join him and the ACEDD in October 2013 to discuss this.

DR MICHAEL H SMITH tied together the points of the previous speakers by highlighting the importance of investing in early education and linking sustainability with the productivity agenda. Dr Smith then spoke of the importance of understanding the needs of different stakeholders in our society in relation to education for sustainability to achieve sustainable development.



Part of that understanding and the mainstreaming of sustainability is the recognition that we can de-link economic growth and have a new form of economic growth from environmental pressures through a renewed focus on energy, water and resource productivity. Businesses and investors now need to play their part to invest in eco-efficiency improvements, as well as governments and policy makers.

Dr Smith highlighted some of new Government web portals and online resources that he has been fortunate to work on to try to empower investors and business to address these challenges:

- COAG Energy Efficiency Exchange web portal;
- Commonwealth Government's Tools for Planning Water Efficiency Opportunities portal;

- Investor Group on Climate Change's Climate Change Risks and Opportunities reports and
- Business Sector Climate Change Risk, Adaptation and Mitigation Assessment Educational Guides – published by ANU. (Please see Key Resources for links).

Dr Smith also mentioned that Dr Pittock and Dr Hussey from ANU are leading a new Cambridge University Press publication on the Climate Change, Energy, Water and Food Security Nexus for publication next year of which he and other ANU staff are co-authors. This new book is one of the first to focus on mapping solutions to the climate, water, energy, and food security nexus challenge of the 21st century to meet the need for a capacity building resources in this area. Finally, Dr Smith also launched a report that outlines a new education for sustainability agenda for Australia to help Australia unlock new sources of productivity growth available from <http://alliance21.org.au/site/assets/media/SC-Green-Growth-EfS-Reform-Agenda-Green-Growth-Unlocking-New-Sources-of-Productivity-through-Education-for-Sustainability.pdf>

REFLECTION: DR ANDREW JOHNSON



Responding to future challenges is going to involve the application of enhanced understanding of entire social, economic and ecological systems, as well as the development and deployment of new technologies, processes and services. This is going to require new approaches to focus our attention on co-designing research, developing strategies and co-producing knowledge with the people who stand to benefit from those strategies - the business and policy communities.

SESSION 5: UNLOCKING SUSTAINABLE INVESTING: SECURITY FOR THE FUTURE

CHAIR:

NATHAN FABIAN, Chief Executive Officer, Investor Group on Climate Change Australia/New Zealand

SETTING THE SCENE:

AMBASSADOR JEFFREY BLEICH, US Ambassador to Australia

DISCUSSION LEADERS:

STEPHEN DUNNE, Managing Director, AMP Capital Investors;

PABLO BERRUTTI, Head of Responsible Investment Asia Pacific, Colonial First State Global Asset Management;

SIOBHAN TOOBILL, Head of Sustainability and Community, Westpac Banking Group;

GEOFF MANCHESTER, Director and Co-Founder, Intrepid Travel.

SESSION FOCUS:

How can we build the markets and asset classes needed to expand the investments across society in the range of issues that will enable us to adapt to the coming climate change and other security risks? Energy Security and Clean Tech, Food and Water Security are all issues that require bigger investments than most governments can afford to make. Yet without these investments, society will be at increasing risk. Westpac's innovative fund for financing business investments and mobilising super funds, as well as exploring the risks and opportunities in mining and manufacturing, will be explored.

NATHAN FABIAN chaired the session and commenced the discussion by highlighting that the impact of economic externalities on the environment has reached a critical level. And yet, the policy reform by the government is difficult. Government balance sheets are under severe pressure and the pool of institutional capital invested in the economy continues to grow resulting in a change of focus for communities. Communities are looking more toward the institutional investors to reduce their contributions to the technologies and business models that contribute to the economic and environmental externalities and to finance alternatives that would displace them. But what can and should investors actually do? The



session explored the role of investors in addressing sustainability challenges; the relationships between investment practices and government policy; and where innovations might come from within the investment sector.

AMBASSADOR JEFFREY BLEICH set the scene by offering 'a US Perspective'. He presented different funding options to finance sustainable investment, including government, private investors, philanthropy and the fairly new source of funding called 'crowd funding'. The US Government uses regulations and taxes to discourage conduct it does not want. It uses tax breaks and subsidies and low cost loans and regulatory targets to encourage the conduct that it does want. Currently the US Government does more on tax breaks than new taxes.

To increase innovations, the US President has been focusing on small businesses by applying 100% exemptions for capital gain taxes for investors in small businesses, across the board. There is a simple process to reclaim the tax credit as well to boost research and experimentation. Currently there is another Bill going forward that has bipartisan support and is likely to pass. It is called the 'Startup Innovation Credit Act of 2013' that would allow research and development tax credits and make them available to 'startup' companies.

The US Government also provides a lot of investment in various sectors that would reduce energy waste and promote sustainable practices, including advanced vehicle technology, fuel technologies, more public transport and other areas that encourage innovations. For example, the US Government has a USD100 billion stimulus program as part of 'The American Recovery and Reinvestment Act of 2009' (ARRA) that allowed the USA to almost double power generation from renewable sources, particularly wind, solar and geothermal.

The US Government does not pick winners, but incentivizes particular industries by setting goals to encourage companies to participate, because some ideas would not get private investment as they are too new and too 'out of the box'. For example, the Department of Energy has a program called the Advanced Research Projects Agency-Energy (ARPA-E). It is too early in the life of such projects for private investment as they are more risky but more rewarding with funding making a huge difference. In 2011, ARPA-E supported 60 cutting-edge research proposals from 25 states and by the end of 2012, it supported more than 190 individual projects. Currently over 85% of the projects have been picked up by the private sector.

In the automobile industry, the US Government made more than USD8 billion in loans to car companies as part of the program to encourage them to develop advanced vehicle technology. One example is Tesla Motors, which received USD465 million in loans from the Department of Energy in 2009. The loan supported the engineering and production of cars called the Model S Sedans. Three years later the consumer report called it "the best car it has ever tested". Tesla Motors repaid its loans ten years early - a great example of money very well invested.

The other area outside the US Government is private capital. Both venture capital and clean tech have fallen off due to a lot of things, including the disappointment with the outcomes from Copenhagen and the inability of major economies like the US to adopt the measures.

The US President has put forward a carbon trade program which has had support from Congress and bipartisan support in the Senate. However after the mid-term election, the Bill was not successful and thus investors' confidence was reduced. Accordingly, clean tech investment has fallen by about a third from 2011 to 2012. Early stage funding is especially challenging which makes government investment even more important as private investors wait to see whether the US Government steps in and if so deems those are the areas that are worthy of investment.

In terms of philanthropy, there are three examples: the Goldman prize, MIT's clean energy project and the Bill and Melinda Gates Foundation. The MIT Clean Energy Prize is an incentive for university teams across the USA to share business ideas, get mentoring and support from different sectors of public and private organizations resulting in the accumulation of over USD85 million for their projects resulting in the creation of over 400 new jobs. The Goldman prize focuses on grassroots leaders in a variety of fields for environmental protection for people contributing in that space. The Bill and Melinda Gates Foundation supports projects that focus on sustainable agriculture and improved agriculture techniques.

Finally, there is 'crowd funding' like 'Kickstarter' and 'Indiegogo' - online platforms that require entrepreneurs to share ideas, provide their fundraising goals and their deadlines - usually 60 days. Members of public access the websites and decide which entity to support. 'Green funding' is up and running as a result of 'crowd funding'.

The US has made progress on critical issues and has the menu to fund good ideas to ensure security for food, water and energy and is addressing climate change challenges. There will be some bad bets such as Franklin computers, Wang computers and Beta. However people learn from these failures - the way to accelerate the process is to use all options within the funding portfolio.

STEPHEN DUNNE commented on the relationship between investment practice and Government policy. Government policy is very influential for the company in making decisions on longer-term investment. Investors can build and assess risks based on the policy framework that is actually set by Government. For example, Government intervention around the aged care and retirement sectors which was done during the 80s and 90s has continued to be refined by active engagement with participants and has created a pool of AUD1.5 trillion worth of savings to help people retire more successfully than they would have without such a policy in place.



This Government intervention provided a pool of savings that has enabled the investment industry to build skills and capability which are exportable. Hence, AMP Capital is now able to take its investment

skills offshore and be successful in markets such as Japan, Europe and USA. Furthermore, this policy has provided other benefits for the economy. During the global financial crisis, the pool of savings enabled corporate Australia to recapitalize and remain in positive growth environment throughout the most significant financial crisis in our time. The Government, as a policy maker, has also done a very good job in the area of aged care. Previous investors in this area were charitable organisations or benevolent institutions but that has changed with the amount of capital accumulated in the aged care sector close to AUD26 billion.

In the establishment of policies for both aged care and retirement sectors the support has been bipartisan. With a time frame of 7 to 10 years before significant review that enables investors to deploy capital in a way that they can actually assess the risks and calculate the return of deployment of capital.

In terms of investment on clean energy, AMP Capital has invested around AUD0.5 billion in renewable energy over the last 12 to 18 months. These investments are all offshore as the lack of bipartisan support for a longer-term policy has essentially meant that AMP Capital sought other markets for the deployment of its pension assets into areas such as Ireland, USA and UK.

Aa Ambassador Jeffrey Bleich indicated there has been a significant drop in investment in clean technology since Copenhagen and the failure of a bipartisan energy Bill. The capital markets need certainty in the investment environment. The US Government has to send a consistent signal or be able to prove that it can deliver on what the market has been promised otherwise a difficult environment for attracting capital would be created.

Stephen Dunne commented that it is important to have a policy that does have bipartisan support and AMP Capital has a strong belief that it is here to stay. It is less about carbon trade policy versus base line and credit policy rather the issue is around stability in terms of assurance in the environment that the investors are going to invest in for the period of 5 to 10 years. The policy may change after that, but the investors need the conditions so they can actually justify the risks they are taking on behalf of their clients and to secure the return within the horizon of 15 to 25 years.

SIOBHAN TOOHILL commented on how Westpac as a retail bank deals with sustainability issues. Sustainability is embedded in the culture of Westpac, so it uses its capacity as a bank to address emerging social issues in three areas. The first is to deal with demographics in relation to Australia's ageing population. The second is to enable Australians to have a better future; focusing on wealth management and helping Australians to save. And the third is to find economic solutions to big environmental and social challenges.



Westpac has big initiatives as it has committed around AUD6 billion toward clean tech between 2013 and 2017. In its loan book, Westpac already has around AUD3.5 billion on clean tech. Such initiatives have signalled Westpac's commitments to the market and to its own organization. The AUD6 billion is split in different parts of the organization with the institutional banking focusing on the large institutions around clean tech or green buildings and business banking deals with SMEs both in Australia and New Zealand.

Westpac does this because it has done it for a long time, has built its capacity around clean tech and carbon pricing and it has enormous capacity within the organization in terms of managing the risks.

PABLO BERRUTTI commented on a question posed by the Chair as to whether in policy uncertainty, such as in low carbon, the finance community can deploy in a timely manner, the capital it needs to get away from the risks to address the emerging issues.



There are different groups of players, such as insurance companies and the pension funds which have generated a pool of superannuation funds of AUD1.5 trillion in Australia. Currently there is a shift towards passive investment where the investors rely on whatever the price that the market tells investors at that particular moment, is the amount that they should hold in that particular asset. Although there have been discussions about divestment of fossil fuels if a large amount of funds from the portfolio were invested passively, the money will just stay within such investment companies.

There have also been a number of issues with the incentive structure. There has been a very long-term horizon in terms of variety of funding sources but in the institutional investment value chain, the horizon is much shorter. The investors' performance is measured against a short-term benchmark, while actually they have to manage long-term horizons. This may create issues in terms of sustainability.

New products need to be developed to address some of these issues but the asset owners do not want to invest in them unless the products generate short-term returns. Currently, there is no investment strategy that can be deployed that will guarantee the asset owners a dignified retirement in a world with a 4°C increase. So the only way to address it is to accept the boundaries and do something about it and work in collaborations with investment communities. Therefore, asset owners need to work on very long-term nature of partnerships where they trust asset manager or fund manager to work together for decades to protect their savings and retirements.

STEPHEN DUNNE commented that the investment sector has swung too far in over emphasizing short-term performance. To change it in terms of incentives, scorecards, etc., AMP Capital has tried to move towards rolling into 3 or 5 year terms. Currently the majority of fund managers are measured and rewarded on a single year of performance. Furthermore, it is very important for the investors to step back and reconnect with their investees to establish what they are trying to achieve. That does two things. One is to promote a longer-term view, and two, it opens up the universe in terms of where investors might invest. If the performance is measured against the ASX benchmark, the investment industry is only limited to that universe however going outside may involve unintended risks. The question is how to get the real rate of return for our investors over a 5 to 10 plus year period that opens up broader scope that brings a range of opportunities.

GEOFF MANCHESTER commented that companies need to change the way they think about the purpose of their existence. There have been debates for generations about companies that exist purely to make profit or do they exist for other reasons? For example, Richard Branson has just launched his B team. They have made a commitment not just to pursue profits but to be the good corporate citizen and think about what they are doing in the longer term. Business leaders have to make decisions and think about why they are there and why they exist. Are they in the business just to make a profit or are there some other more fundamental reasons? No matter what business we are in, we can always ask why we exist. We should dig deep and come up with some fundamental reasons.

Moving on they should think about other groups to be involved in the business and certainly engage the stakeholders as they are a very important group.

AMBASSADOR JEFFREY BLEICH stated that the amount of altruistic investing is very low. In order to gauge where the big money is, companies have to align people's self-interest with the companies' social goals, because capital flows to its most productive use. And if the most productive use is socially destructive, then it is the role of the Government to step in to capture the externalities in that use and suggest some other use which is better for society and make it more attractive for capital to flow in that direction. That is why the Government's long-term signal is very important.

SIOBHAN TOO HILL stated that increasingly organizations realize that they have to think about purpose. Westpac's aim is: "to help our people, our customers, our community to prosper and grow". There is a link between profit and social goals and includes dialogue about sustainability and longevity. In terms of how Westpac puts its aims into play, when Westpac relates with individual customers, it talks about a healthier relationships with money. When Westpac talks with communities, it helps communities to become more resilient. At the national level Westpac plays a role in shaping Australia's social agenda. Through its Foundation, Westpac has decided that it wants to focus on social enterprises that actually tackle social issues in Australia. Westpac has methodology for its decision-making process when directing funds to help organizations that have a business mindset to tackle social problems but need some funds to get started.

STEPHEN DUNNE commented that a company's purpose is important but if it does not generate the return in the short term or over the medium term, it is not interesting enough. Investors need to see the real return.

PABLO BERRUTTI commented that sustainability and profitability is not an either/or equation but can be both; it may take a bit longer to play out and it does take a lot of work to find those opportunities. Education is very critical. It is difficult to incorporate sustainability into financial analysis if it is not taught in school, for example in the curriculum certified finance analyst.

An example of good sustainability investment is the social housing fund which was based on the Government program where the investors received rebates for social housing investment. This made for a very compelling investment vehicle for institutional investors to provide very secure rate of return, guaranteed by the Government, AAA rated. It also provided a very good outcome in terms of affordable housing. However it took 2 years to develop the product and it was incredibly difficult as it was based on the way particular laws and regulations are structured. Nevertheless, the product has good outcomes for the investment industry and delivered on the Government's purposes based on meeting social and environmental needs. Some development banks adopted the model and there are similar initiatives in the USA and the UK.

There is potential in finding ways to put institutional investment into social purposes but it is a matter of finding the right mix or incentives so there is a reasonable and fairly secure rate of return. So cooperation with the Government is very important.

STEPHEN DUNNE added that advocacy with the Government and with investee companies is very important. For this purpose, AMP Capital has advocacy teams across all sectors, the environment and social as well as a governance team that deals with the issues that may damage the return or increase the risk for particular investment.

GEOFF MANCHESTER emphasized that there is no trade-off between purpose and profits; both should be included. The US examples of conscious capitalistic companies are Whole Foods and South West Airlines. Both have very strong purpose and they are performing really well.

AMBASSADOR JEFFREY BLEICH commented on the awareness of the Government. As an example the 'New Resource Bank' shows that the bank has been struggling because it invested in good and clean environment areas but it just did not get the return. After Government subsidies started to kick off, the bank started to invest in clean buildings and real estate because there are opportunities in clean certified buildings. Banks started to invest in car and car batteries because there was Federal funding that supported investment in cars. Suddenly the return started to improve, due to government incentives, and now the bank is doing extremely well.

So, it was not that people were not altruistic rather they are much happier to invest where the return is competitive. People are trying to do the right thing however it is more likely that people will do the right thing if the investment is aligned with their self-interest. Hence, the Government needs to understand these needs and align its policies with natural incentives of the financial market.

NATHAN FABIAN concluded the session by thanking the participants and inviting them to communicate via email for questions.

SESSION 6: WAYS FORWARD FOR A SECURE AND SUSTAINABLE FUTURE

ADDRESS:

ROGER BEALE AO, Commissioner, Climate Commission

REFLECTION:

ADMIRAL DENNIS CUTLER BLAIR, former United States Director of National Intelligence retired United States Navy Admiral

VOTE OF THANKS:

MOLLY HARRISS OLSON, Forum Convenor and Director, EcoFutures

CONCLUSION:

DR JOHN HEWSON AM, Executive Chairman, Shartru Capital

ADDRESS: ROGER BEALE commenced his presentation by informing participants that the report 'The Critical Decade 2013' has been released. He confirmed that the climate is changing and the atmosphere is warming, more particularly in the last 50 years, when massive polar ice loss has occurred in the northern hemisphere. However the impact is also evident in the southern hemisphere. Such losses reflected the links between global warming and ozone depletion.



There have also been changes in the lifecycle and distribution of many plants and animals. Solar intensity, volcanoes and man-made factors like aerosol have all impacted on the trends.

There are still uncertainties around climate sensitivities however in Australia, the changes are obvious as the country has experienced distinct drying tendency across south western and south eastern Australia, with an increase in temperature and an increase in rainfall, across north-west Australia. This is evidenced by the angry summer in 2013, which broke 123 climate records. Australia had the longest period ever, where the national average temperature was above 40°C. The Bureau of Meteorology had to add another colour to the temperature gradient maps to reflect areas above 50°C.

So, climate is changing. But there are good signs. Currently there are 35 countries that have a national emission trading scheme. China will join soon. There are hopes that the State Council will shortly adopt and set the goal for Chinese emission to begin and then reduce them as early as 2022 or 2025 rather than 2030. In a recent speech President Obama mentioned there has been active discussion between the USA and China on this issue.

For a 75% chance of keeping within 2°C limit, (a majority of countries around the world has agreed to adopt this as an objective) the world must limit its emission to no more than 1,000 billion tons of CO² between 2000 and 2050. With that order of magnitude, the world has already omitted nearly 40% of the carbon budget to keep it close to 2°C. The implication is that there are commitments not to burn all the fossil fuels deposits.

The countries with limits from 20 to 30% on their existing resources, some of the deposits are listed as asset amongst our major corporations. However there has been a disconnect between the facts of global warming and the way in which the senior business leaders of global energy producers, when talking about gas. They are talking about gas not as a transitional power source but as a destination power source. With such a mindset, the target of 2°C is not going to happen.

Looking forward, there is a need for a reality check. The business people and governments around the world have to think about their commitments. We cannot maintain the 'business as usual' approach. Companies that say gas is a destination fuel source are going to be in trouble. Carbon intensive investments will have a truncated life span and our children or grandchildren will have a truncated life. There is a need for political consensus and policies that encompass not only targets but also how we are going to get there. Political consensus is both the means and the ends; that help the polity, the politicians and the community, actually to achieve their commitments in the not too distant future.

REFLECTION: ADMIRAL DENNIS BLAIR commenced his reflection by acknowledging that the conference has provided participants with both reassurance and concerns about the future. He reminded the participants of the facts such as 2.5 billion higher consuming yuppies who have to be eating meat and using electricity and the decoupling of economic growth from carbon emissions rapidly to avoid 4°C and 6°C degrees in the future.

However, the Admiral was also reassured and enlightened by individual success stories from Sydney Water, Neville-Smith Forest Products Ltd, Cuban construction practices and Green Cross Australia's initiatives, to pull people together.

The big question will be whether these individuals, together with thousands of others, are able to accomplish the mission. The answer is it depends on several conditions. First, how many and how powerful these individual initiatives are. Second, how well they are integrated or synchronized or coordinated so they add their effectiveness, rather than cancel each other out. Third, it depends on how energetically the initiatives are pursued, not only proposed. The Admiral noted that it is reassuring that there are enough smart and dedicated people and organization working on this challenge, from President Obama to a coffee grower in Ethiopia.

VOTE OF THANKS: MOLLY HARRISS OLSON

reflected on the way ahead for creating a secure and sustainable future as well as the need to take decisions in a fact-based way. The reports and work discussed at the 2013 Forum including those of the Climate Commission, CSIRO, National Sustainability Council, Australia21 and Global Reporting Initiative, to name just a few, all provide solid information that enables Australians to make fact-based decisions about our future. We can use more effectively the facts and information available to make sound decisions for the long term. Maintaining leadership networks of innovation and keeping them vibrant is vital to success. It is hoped that the NBLF contributes to that business leadership process.



The Forum has been very grateful for exceptional support from visionary leadership companies for the past 15 years. The 2013 Forum simply would not have been possible without ActewAGL which has been a long-term supporter, and the continued support of our Foundation sponsor - Department of Sustainability, Environment, Water, Population and Communities.

CSIRO, AusAID, Neville-Smith Forest Products and Virgin Australia have been involved as key NBLF sponsors for nearly a decade. Without these sponsors we would not be able to make the Forum happen. For a full list of the sponsors that have made the Forum possible for the past 15 years we invite you to visit our website nblf.com.au.

We wish to thank our inspiring international speakers including Admiral Dennis Cutler Blair, US Ambassador Jeffrey Bleich, Ernst Ligteringen and Professor Jose Fernando Martirena, as well as all the speakers and discussion leaders who made this year's Forum such a quantum leap forward in understanding the link between 'Sustainable Security',

business leadership and its importance for Australia and our region. This year's Forum has shown that some business leaders in Australia are no longer looking at security as just a military issue, but as a concept which is defined by food, water and energy security to ensure our sustainable future.

We also wish to express our deepest thanks for the staff and logistics support of the NBLF. Ann Storr of St James Ethics Centre and our lead researcher Dr Michael Smith of ANU have both supported the Forum for over a decade and have been pivotal to our success. This year's intern Molly Saunders has been a terrific support as have Media Coordinators Kim McKay AO and Sarah-Jane Sherwood; Forum volunteers Jamie Toyne and Ruby Robertson; Doreen Culliver of On Q Conferences and her staff; our audio team from Audio Solutions as well as the very helpful team at Parliament House.

My co-directors of the NBLF Dr Simon Longstaff AO and Phillip Toyne AO have provided essential inspiration and support, as have the Forum Chair Rod Leaver and other members of the Steering Committee: Mara Bun, Peter Carre, the Hon Simon Corbell MLA, Michael Costello AO, Reverend Tim Costello AO, Dr Andrew Johnson, Kim McKay AO, Sam Mostyn, Martyn Myer AO, Dr Michael H Smith, Professor John Thwaites, Tim Williams and Les Williamson.

And finally I want to express our profound thanks to Dr John Hewson AM, the longest serving Chair of the Forum, who has contributed so much to our leadership successes.

CONCLUSION: DR JOHN HEWSON

closed the Forum by recognising the importance of the event. Currently there has been lack of leadership on many of the issues although the science is there and the urgency is great. However this is not yet recognised by the Government and business. Leadership is needed to drive the process. It is expected that President Obama could significantly contribute to the shift in attitude of leadership, internationally, on the issue of climate change and the urgency of the subject.



The business community can play a more significant role than it does not only in understanding the risks but also recognising the opportunities and capitalising on them. There is a lot that business can do beyond government.

The facts from the survey of the top 1,000 superannuation pension funds; life insurance globally (that collectively owns about USD65-70 trillion) have been alarming in that more than 55% of the money was invested in the carbon-intensive industry and only 2% of the money in the low-carbon intensive industry. If the investment in the low-carbon intensive industry is increased from 2% to 5% or 6%, there are sufficient funds to invest in clean technology. A website called the 'Vital Few' has been developed to empower individuals to contact their trustees, to ask how they manage the climate change risks, etc. Top down and bottom up approaches should work together to make a significant change.

MEDIA COVERAGE

SARAH-JANE SHERWOOD, WORKING WITH KIM MCKAY AO, Managing Director, Momentum2 Pty Ltd and member of the NBLF Steering Committee, coordinated media coverage of the 2013 Forum. Coverage included:

- ABC News24
- Australian Financial Review
- Business Acumen
- Carbon Extra
- Fifth Estate - Online
- Fifth Estate - Newsletter
- PS News
- Sydney Morning Herald – article 1
- Sydney Morning Herald – article 2
- Security Solutions Magazine

The NBLF took place on the day following the change of Prime Minister when media coverage was focussed elsewhere. Despite this, the Forum received 10 pieces of positive coverage from a number of leading media outlets. Interviews were offered personally to journalists at key media outlets.

These interview opportunities received the most interest from the media approached. The interview content offered was focussed around the 2013 Forum agenda and associated issues that were taking place prior to the Forum.

Two releases were sent out leading up to the Forum and three invitations to attend and / or cover the event were sent. We received one take up on this invitation from a journalist in the Press Gallery at Thomson Reuters. This resulted in coverage in Carbon Extra.

Successes were gained largely from existing and new relationships formed with journalists on a personal level, with only the *Security Solutions* magazine coverage occurring as a result of the media releases distributed.

Admiral Dennis Cutler Blair attracted the most media attention. <http://www.nblf.com.au/forum-media/articles/2013-forum-media>

KEY RESOURCES FOR INVESTORS, BUSINESS AND GOVERNMENT

SUSTAINABLE SECURITY RESOURCES

Climate Change and National Security Assessment Reports - over 100 reports published in the last 5 years at <http://climateandsecurity.org/resources/>

Dupont et al (2008) Climate Change and Security: Managing the Risk. Contribution to The Garnaut Review at [http://www.garnautreview.org.au/ca25734e0016a131/WebObj/05Security/\\$File/05%20Security.pdf](http://www.garnautreview.org.au/ca25734e0016a131/WebObj/05Security/$File/05%20Security.pdf)

Lovins, A & Lovins, H (1982) Brittle Power: Rocky Mountain Institute. The original seminal work on energy strategy for national security, commissioned by the Pentagon freely available at http://www.rmi.org/Knowledge-Center/Library/S82-03_BrittlePowerEnergyStrategy

Lovins, A et al (2004) Winning the Oil Endgame: Innovation for Profit, Jobs and Security. The first comprehensive study to show how the USA could 'get off oil' by 2050, at a profit. This study was commissioned, in part, by the Pentagon. <http://oilendgame.com/>

CLIMATE CHANGE RISK AND OPPORTUNITY ASSESSMENT RESOURCES FOR INVESTORS AND BUSINESS LEADERS

- Smith MH 2013 Assessing Climate Change Risks and Opportunities for Investors: Oil and Gas Sector. Investor Group on Climate Change, Sydney. http://www.igcc.org.au/Resources/Documents/oil_gas_assessing_climate_change_risks_for_investors.pdf
- Smith MH 2013 Assessing Climate Change Risks and Opportunities for Investors: Property and Construction Sector. Investor Group on Climate Change, Sydney. http://www.igcc.org.au/Resources/Documents/property_assessing_climate_change_risks_for_investors.pdf

- Smith MH 2013 Assessing Climate Change Risks and Opportunities for Investors: Mining and Minerals Processing Sector. Investor Group on Climate Change, Sydney. http://www.igcc.org.au/Resources/Documents/mining_assessing%20climate_change_risks_for_investors.pdf

CLIMATE CHANGE RISK, ADAPTATION AND MITIGATION ASSESSMENT GUIDES – FOR BUSINESS, CONSULTANTS, PROFESSIONALS, EDUCATORS AND STUDENTS

- Smith, M (2013) *The Mining and Mineral Processing Sector – Climate Change Risks and Opportunities*. An Educational Guide to Assist Climate Change Risk, Adaptation and Mitigation Opportunity Assessment. DIICCSRTE and ANU. This and the following educational guides are all freely available from <http://cci.anu.edu.au/news/article/?id=climatechange-risks-and-opportunities-sector-guides-for-investors-business-and-educators>
- Smith, M (2013) *The Oil and Gas Sector – Climate Change Risks and Opportunities*. An Educational Guide to Assist Climate Change Risk, Adaptation and Mitigation Opportunity Assessment. DIICCSRTE and ANU.
- Smith, M (2013) *The Oil and Gas Sector – Climate Change Risks and Opportunities*. An Educational Guide to Assist Climate Change Risk, Adaptation and Mitigation Opportunity Assessment. DIICCSRTE and ANU.
- Smith, M (2013) *The Manufacturing Sector – Climate Change Risks and Opportunities*. An Educational Guide to Assist Climate Change Risk, Adaptation and Mitigation Opportunity Assessment. DIICCSRTE and ANU.
- Smith, M (2013) *The Food and Beverage Processing Sector – Climate Change Risks and Opportunities*. An Educational Guide to Assist Climate Change Risk, Adaptation and Mitigation Opportunity Assessment. DIICCSRTE and ANU.

- Smith, M. Stasinopoulos, P. (2013) *The Product Manufacturing Sector – Opportunities to Enable Climate Change Mitigation and Adaptation*. An Educational Guide. DIICCSRTE and ANU.
- Smith, M (2013) *Construction and Property – Climate Change Risks and Opportunities*. An Educational Guide to Assist Climate Change Risk, Adaptation and Mitigation Opportunity Assessment. DIICCSRTE and ANU.

Business Network for Climate Change Adaptation at <https://www.greencrossaustralia.org/our-work/climate-adaptation/business-adaptation-network.aspx>

National Climate Change Adaptation Research Facility Publications for Business at <http://www.nccarf.edu.au/business/>

NEW COMMONWEALTH GOVERNMENT ECO-EFFICIENCY INFORMATION WEB PORTALS

The COAG Energy Efficiency Exchange www.eex.gov.au

The Commonwealth Government's Tools for Planning Water Efficiency Opportunities web portal <http://www.environment.gov.au/water/policy-programs/weo/best-practice.html>

GLOBAL REPORTING INITIATIVE

<https://www.globalreporting.org/Pages/default.aspx>

DISCUSSION PAPER – EMBEDDING EDUCATION FOR SUSTAINABILITY INTO AUSTRALIA'S 'EDUCATION REVOLUTION' TO UNLOCK NEW SOURCES OF PRODUCTIVITY GROWTH

Smith, M (2013) *Green Growth - Unlocking New Sources of Productivity through Education for Sustainability An Education and Skills for Sustainability Reform Agenda to Lift Australia's Productivity*. Discussion Paper from the United States Study Centre: <http://alliance21.org.au/site/assets/media/SC-Green-Growth-EfS-Reform-Agenda-Green-Growth-Unlocking-New-Sources-of-Productivity-through-Education-for-Sustainability.pdf>

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- 4 Ibid
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- 7 Ibid

PARTNERS

