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“Climate Change and Sustainable Development: A Challenge for Company Directors Nationally and Globally that cannot be ignored”

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Distinguished Guests

Ladies and gentlemen

I would like to acknowledge the traditional owners and custodians of the land on which we stand and pay my respect to their elders past and present.

Thank you for the invitation to speak to you tonight. I hope I can convince you that the title of my talk “Climate Change and Sustainable Development: A Challenge for Company Directors Nationally and Globally that cannot be ignored”, is of importance to you all.

As company directors, each of you will have a slightly different focus dependent on the nature of your business. Perhaps a common feature would be to understand the society in which your company functions and to interpret the changes in society that may impact on your business, it's future focus and growth potential.

Even if your business is local, you cannot today ignore what is happening in the global society. The recent economic tsunami provides an excellent example.

Climate change and the need for sustainable development is another such topic where there are no boundaries between local, national and global environments.

Surprisingly, as I set a scene globally for you about the next 40 years, initially, I will not mention the words global warming or climate change.

Here's a few thoughts:

- All of us seek better health and longer life and medical science is enabling this to happen.
- The population of the world is predicted to rise from 6 billion today to 9 billion by 2050.
- Pollution from transport, powerhouses and industry today kills a million people annually and is responsible for the ill health of millions more.
- Daily we read about environmental degradation of water supplies and the land in many countries and also of emerging global food shortages.
- We have already passed the peak of oil availability and need to conserve oil as a fuel for functions where there is no other alternative.
- The developing nations such as India, China and Indonesia require a 5 fold increase in energy expenditure per head of population for each of their citizens to reach a standard of living comparable to ours.

If we are idealistic and wish to engage with the developing nations to develop global agreements, we will get nowhere fast unless we accept the notion of global equity. Global equity to me means that by 2050, all the people in the world should have been given the opportunity to reach the same level of life style as in developed countries. If that were to occur, my conclusion is that we will leave a very degraded planet unless we each develop a more sustainable lifestyle, using energy from renewable sources so that our environmental footprint is much smaller.

Let me now consider climate change and global warming and make my view clear as a scientist. To me, the scientific evidence is over-whelming to support the link between man made increases in greenhouse gases, global warming and the resultant changes that are occurring on the earth. I do not have the time to take you through those reasons but I will refer you to a beautifully written book that you must read. One of the authors is rigorous scientist, Sir David King, who was the Chief Scientist of the UK until this year. Titled "The Hot Topic" by Walker and King, it is essential reading for all company directors!

If, for a moment, we accept the sceptic's views, that all the answers are not available and introduce an element of uncertainty, we could allow a 5% level of uncertainty that greenhouse gases are not the cause of the climatic changes. That the drought in Australia is just an unusual event in our weather patterns. That the famous ice skating race in Holland on the frozen canals has not been held for 9 years because the canals have not frozen, whereas the longest interval previously was 3 years, is just another climate aberration. That the migration of tropical plant and animal species to higher altitudes is a chance happening and has nothing to do with higher global temperatures? That the changes in the Arctic Ocean are not dangerous?

Can you as company directors turn your back on a 95% level of certainty and fail to take the necessary actions to make sure that your businesses are protected against these eventualities? Would an actuary be negligent if they did not factor a 95% level of certainty into calculations of future claims for an insurance business?

The point I am driving at here is that we must all act even if there may be a small degree on uncertainty as the consequences of inaction are disastrous. Further, even though they may be costly, all of our actions would be considered beneficial to the earth.

Recent data suggests that the climate is changing rather faster than expected. Let me briefly summarise.

The summer ice melt in the Arctic in 2007 was the greatest of anytime. The sea ice minimum was 1.19 million square kilometres less than the previous minimum in September 2005 representing an area roughly the size of Texas and California combined. The thickness of the sea ice also declined to approximately 1 metre compared to 3.5 metres in the 1960s. The recent 2008 summer ice melt was the second largest in history and Flannery suggests that these figures make complete melting of the sea ice likely in the next 5 to 15 years and not in 2100. Remember that ice reflects back a large percentage of the solar energy whereas darker coloured water absorbs energy leading to warming.

While melting sea ice will not add more water to the oceans, it does affect the refreezing of the North polar ice cap, in turn, accentuating ice loss from Greenland. The New Scientist in 2006 reported that the rate of water loss from Greenland doubled in the last decade, adding more water to the oceans and speeding their rate of rise.

Reflect on the effect of a rise in the ocean levels of just one metre. Stern reported that more than 200 million people live on coastal flood plains around the world with 2 million square kilometres of land and \$1 trillion worth of assets less than 1 metre above current sea levels. Many of the world's major cities risk flooding from coastal surges including Tokyo, Shanghai, Hong Kong, Mumbai, Calcutta, Karachi, Buenos Aires, St Petersburg, New York, London and Miami. Further, if the Ganges delta of Bangladesh floods, apart from devastation and displaced populations, it will remove a very fertile region from food production.

The rising sea levels will affect the water supply of coastal cities which rely on aquifers for their water. Already, due to use and higher global temperatures, water levels in these aquifers are lower and rising sea levels can potentially infiltrate these water storages, rendering them unusable to quench our thirst. Already, the people of Tuvalu in the Pacific have become "climate change refugees" as their islands are progressively becoming uninhabitable

Food sources are highly sensitive to water availability and climate change induced decreases will profoundly affect irrigation dependent agriculture. Irrigation accounts for 40% of the world's food production but 70% of China's grain harvest. Asia's water availability declined by about 40-65% since 1950 from degradation of existing sources due to high populations, destruction of water tables through deforestation, urbanisation and agricultural practices.

This type of data makes climate change an issue about which we cannot gamble on the outcome.

Let me mention a few additional points that we rarely see mentioned in the discussion.

- Increasing temperatures cause melting of permafrost in Canada and Siberia with the capacity to release vast amounts of carbon dioxide and methane from stores in decaying timber, reservoirs that dwarf global oil reserves, and when released will significantly increase greenhouse gas emissions. The Age this week [November 3rd], reported elevated atmospheric methane levels.
- Global temperature rises increase ocean temperatures and adversely affect the growth of plankton, microscopic plants that have the capacity to convert up to 50 billion tonnes of carbon dioxide into oxygen
- The oceans are a sink for carbon dioxide but increased absorption leads to increases in acidity which, if unabated, will cause the extinction of many marine organisms and affect ocean environments for millions of years to come and such icons as our Great Barrier reef

What should be our approach, and I use the word "our" deliberately? Briefly, there is an urgent need for global, national, community and personal action. It is an area for bipartisan leadership as plans and actions must occur over a 20-50 year time frame, well beyond an electoral cycle.

What does this mean at the personal level? There is only one conclusion in the short term. We must change our behaviour and aspirations as our lifestyles are unsustainable. We must cut energy usage to buy time to change our infrastructure and to allow research and development to provide new solutions. Every molecule of carbon dioxide released today sits in the atmosphere for about 100 years. I am optimistic and believe that mankind has the ingenuity to adapt and find solutions but time is needed to translate these into global actions. Much can be done that will make a difference. Some are simple and others are more complex, taking time and money to implement. I often hear the comment, why should we start first given our small population and the fact that our greenhouse gas emissions are only a very small percentage of the global production. First, we are not the first to start. The countries of the European Union are way ahead of us in many ways. It is critical that the developed nations who are responsible for the major proportion of greenhouse gases already in the atmosphere take the lead by introducing a variety of measures to urgently reduce future emissions. Time does not allow me to detail these actions, so let me try to set some principles and illustrate them with a few examples.

Clear communication and consistent messages are critical and here, coordinated planning and action across different sectors of our economy and life style is required for maximum effectiveness.

Community education is critical to enable the stage to be set for government action to legislate to change people's life-style, otherwise, with short electoral time-frames, governments are reluctant to enact unpopular legislation. Unlike war-time approaches where people have tangible evidence of life-threatening issues, climate change is insidious and slow to demonstrate its effects.

How do we get this information out to the public?

- Websites
- Advertising
- School education, as children can also influence their parents

- Local government through newsletters and forums
- Community organisations eg Rotary, Lions, Country Fire Authority, Landcare, environmental groups
- Committed and educated company directors could stimulate their employees to take action as a company and also as individuals. For instance companies such as Toyota, whose factory I visited recently have implemented policies that are making a difference over and above the introduction of hybrid vehicles.
- In Government House, my emphasis on this issue and education has reduced our energy usage by 20%.

A personal commitment to undertake a more sustainable lifestyle can start to make a difference within the family, in the workplace and local community and the ripples of these actions can make a difference.

What might be some examples happening across Australia?

- Increased use of public transport and bicycles and walking for short journeys.
- Walking kids to school, the walking bus and less use of cars for short journeys.
- Increasing the set point on air conditioners and wearing more clothes to keep warm.
- Did you know that Melbourne has one of the purest water supplies in the world yet we have a vast use of bottled water. It takes 200ml of oil to make the bottle and get it to you to drink. Is this a sensible and sustainable use of oil, a finite resource? Do take a close look at all you do.
- Reducing power usage by turning off lights not in use, turning off appliances that remain on standby and using more energy efficient appliances.
- Here is one that you could assist. Each night, the view from Government House shows countless burning lights in city buildings in unoccupied rooms. We could save large sums of money if these lights

were turned off, and considerable energy savings and reduced greenhouse gas emissions would result. What's more, measures such as this, implemented across the community could even delay the need for additional power stations for a period of time until cleaner technologies became available.

Check out another book, "Climate Change: What you can do about it at work, at home and at school" by Holper and Torok from CSIRO.

What about areas where our behaviour and actions are driving unsustainable developments?

As an example, if you travel beyond the airport along the improved Calder freeway, you will see suburbs where the houses virtually occupy almost the entire block of land and for about 500 metres I noted that about 50% of their backyards, visible from the freeway, contain a tennis court with lights. These large houses, with no overhanging eaves or shady trees are air conditioned, most likely occupied by the average family of mum and dad and 1.8 children. The same occurs along the Berwick-Cranbourne area.

Is this sustainable development? Is there transport not reliant on petrol with its ever increasing price? What happened to our sense of community that enabled us to share such things as tennis courts? What ever happened to sustainable housing design?

It is critical that decisions and actions are taken that support innovation driven by human ingenuity to provide solutions that impact on greenhouse gas emissions and initiate new industries. These developments could defray the costs associated with the management of the consequences of climate change, leading to employment and revenue generation.

For instance, the cement industry generates substantial emissions accounting for about 5% of the greenhouse gas emissions in Australia. I recently heard of a new material called geopolymers cement that does not use calcium

carbonate, does not emit greenhouse gases and offers very significant potential for a new industry.

To date, the only global action plan for response to climate change is Kyoto, which did not engage the USA, and was only recently ratified by Australia. It also did not involve the developing giants China and India which are critical players given their populations, their continually growing energy needs and the size of their economies. While Bali was an important meeting, Copenhagen next year will be crucial in obtaining global agreements, and every approach to brokering such an agreement is worth exploring.

Action based on the concept of global equity would assist the development of an international climate change agreement. Perhaps a bold initiative as proposed last year by Prins and Rayner, from the London School of Economics, may help broker global agreements. They estimate the cost of providing power to all households in India by 2030 at about \$US 120 billion, and this would double if it came from renewable sources. That translates into \$20 billion per year for 15 years or just 3% of the \$700 billion annual military and intelligence budget of the USA in 2007.

Without entering into the arguments about how a carbon trading scheme may be managed, the benefits lie in the definition of the relative costs of different forms of energy generation. In turn such costs can be factored into the other activities comprising the lifestyle of developed countries. Cost issues can change behaviour as shown by the increased use of public transport and the jump in bicycle usage driven by the surge in petrol prices. Revision of our lifestyle in the context of this new economic analysis will set a positive example to developing countries. It must also lead to sustainability based actions in our personal, community and national lifestyles. Views that Australia should not initiate a carbon trading scheme until others commence seems strange given that similar schemes are already in existence in the European Union and several American states.

I have struggled for some time as to how to finish this speech. We need urgent action based on the available information. Clearly many today are focussed on the economic downturn affecting the globe and some seek to postpone the required actions to manage climate change. In reviewing past history, each economic downturn has had a finite duration, albeit with a clear recognition of the hardships. In effect, these downturns challenge the value systems on which economics is based. Consequently, in trying to determine whether a transitory downturn in the global economy is more or less important than managing climate change, we all need to place a value on the latter. What is the value we place on having an inhabitable planet in the future? What is the value we place on the diversity of the flora and fauna of this planet? What is the value we place on the barrier reef, the alpine environments, the oceans and the marine life that are dependent on the availability of krill as a food source? Which is more important: a reversible economic downturn or a progressive warming of the global environment resulting in irretrievable losses of the biodiversity of this planet which threaten the survival of many human beings? I will leave you to contemplate the answer. You, as influential company directors can make a difference personally, as well as through your businesses. Don't leave it to someone else.