# Strengthening the Capacity of Business to Meet the Challenges of Climate Change

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In opening this afternoon, what I will do is frame the climate change debate, describe the standards, and perhaps explain how the debate is unfolding and what the implications are for Australia and the rest of the world. I'll also talk a bit about one of the important contributors to getting on top of the greenhouse gas situation, namely nuclear power, and conclude with some questions of my own to stimulate your thinking around this subject.

Where do we start? In my opinion the science of climate change is sound. The forecasts associated with global warming are the best forecasts available, completed by people with sophisticated models and true capabilities.

We are going through an extended warming period, and global warming is associated with emissions generated through the burning of fossil fuels. At the moment, greenhouse gas concentrations in the upper atmosphere are a little above 380 parts per million (ppm). This is increasing inexorably at about two ppm per year. The challenge is to stabilise the concentration in the upper atmosphere to between 450 and 550 ppm by which time, by the end of this century, the global average temperature will have increased by two to three degrees C, a point at which the global climate is believed to still be robust and resilient, albeit warmer.

Many of the vivid depictions of the consequences of global climate change —and Al Gore has been referenced, and the Stern report in Australia —are right. We will see more droughts, we will live through more water shortages, corals will continue to bleach, glaciers will recede, mountains previously covered with snow will have less snow, there will be species destruction, sea levels will rise, and we will have more intense and volatile weather patterns.

Let me give you a sense of the context of the debate. The demand for electricity around the world continues to grow. Use of electricity is in many ways a synonym for improving standards of living. In Australia the demand for electricity will double by 2050. In many of your countries, the growth will be even stronger. However, we all start with electricity being produced substantially from fossil fuels. In this country almost 90%of our electricity comes from coal and gas, and I suspect that across APEC that figure is about 90% as well.

The challenge is not how we produce electricity. The challenge is how we power our growth in prosperity and standards of living in an environmentally responsible way?

What environmental price are we prepared to pay? What trade-offs is each of our countries prepared to make to achieve its multiple and sometimes conflicting goals?

What is the status of the climate change debate? Probably it began in 1992 when the first Rio Earth Summit put climate change on the global agenda. In 1998 we saw the Kyoto Protocol attempt to put emissions targets in place for certain economies. I believe 2006 will be judged by history as the time when the alarm bells not only rang loudly but also were heard globally. This year —2007 —is the year most countries are trying to set their individual courses to combat climate change. Most countries understand what the components of the solution to global climate change are.

To get on top of global warming, what do we have to do? Firstly, conservation and the distribution and availability of more productive appliances is probably the most important thing the world can do to bring down the rate of growth of emissions.

Secondly, putting in place frameworks that measure —and provide incentives to change behavior —the reduction of carbon dioxide emissions, and by this I mean an emissions trading framework that has been available in some parts of the world and has this year been foreshadowed and started in Australia.

Thirdly, for all of our well-intentioned rhetoric, coal will remain the primary source of power for the globe for generations to come. Anything we can do to burn coal cleaner, at the front end with efficient use, and at the back end with capturing and storing coal emissions —mainly carbon dioxide —will have huge consequences for the world.

Fourthly, in our country —particularly around Asia —reforestation is critically important. Stopping deforestation and reforesting many of our lands will help absorb the carbon dioxide our many industries are generating.

Lastly, we need to consider nuclear power. This is what we found last year in Australia when we completed our review. Around the world there are already 31 nuclear-powered countries. There are also 443 reactors. The industry is 50 years old and generates about 15 per cent of the world's electricity. It is a big industry and a relatively mature industry but is also an industry that is a substantial player in energy stakes. In addition to the 31 countries that are already nuclear powered, there are about 20 more that expect to join the list in the next 15 years.

In our part of the world, these countries are already nuclear powered: China, Taiwan, Japan, South Korea, India and Pakistan. The next two that will likely join the ranks are Indonesia and Vietnam.

Broadly, it is agreed that nuclear power is clean. It has very low emissions of greenhouse gases, arguably none in operation and some in constructing and decommissioning of reactors. It is a proven technology, but is not without its troubling aspects. The costs of nuclear power are high. Establishing a regulatory regime and building to the standards that we require take a long time —10 to 20 years. Community attitudes in many countries are not supportive, and there are continuing concerns about managing waste, terrorism, proliferation and accidents. Our review

concluded there are satisfactory answers to all of these concerns, but we still have to overcome historic attitudes to nuclear power.

What are the realities today with climate change and global warming in particular?

There are scenarios out there that say if we are going to stabilise the greenhouse phenomenon to the point where climate change does not become unstable —that is, limiting global warming to two to three degrees by the end of this century —we have to have a sharp reduction in emissions by the middle of this century. You will find a number minus 60% versus 1990 levels. That number is broadly right as a scenario. A number of countries have adopted that target but no country has a coherent plan to get there.

The world in the aggregate is still on an upward trajectory in emissions even though we have to end up in 43 years' time well below where we are today. There is an enormous gap between where we are trending at the moment and the mix of our activities versus the aspirations, goals and targets that many countries have expressed legitimately as what the world requires in order to get on top of global warming.

A second realistic observation is that nothing we can do is going to change the direction of climate change for the next several decades —at least 30 years. That is not an argument for doing nothing —it is simply stating the obvious. There is about climate change a momentum reflecting 200 years of build up of products in the atmosphere that live there for 100+ years. It cannot be easily reversed —in fact, we have no technology for reversing it.

We have to understand that the steps we take now are relevant to the lives of our grandchildren, but they will make little difference to our own environment for many decades.

When it comes to emissions and global warming, five countries plus the European Union make a difference. They are the biggest economies and the biggest emitters. The United States, China, India, Japan, Russia and the Economic Union are responsible for 70%of the emissions. What that collection of communities decides, matters. The rest of us are small —what can contribute, but do not have the leverage or size, to shift the direction of climate change in the absence of agreed collective action on the part of the large emitters. Here I would paraphrase Henry Kissinger in saying we are at the start of a long period of adjustment where change will be measured over decades, not one year at a time.

Let me leave you with a few questions. One question is to determine what the proper role of our governments in this area? Do we look to government for answers, or to pick the winning technology, or do we ask them to establish a consistent framework, a level playing field and a set of incentives that might apply to all the alternative technologies that are in front of us?

What are the responsibilities of developed versus developing countries? It is clear that climate change problems are created by the mature, western economies, yet the future of climate change is going to be driven by the fast-growing large new

economies —China, India and Brazil, for example. These economies legitimately argue that for them, climate change is less important than the fact that less than half their populations cannot access electricity, and that the current form of producing electricity is so polluting visually and from a respiratory-affecting point of view that this is a higher priority than the more sophisticated issue of carbon dioxide in the upper atmosphere.

Another question surrounds the role of small economies like many in this room, versus the large economies. As a small economy, what you do may not appear to make any difference in terms of climate change, but collectively it does. When the whole world makes global warming a priority it makes a big difference.

Lastly, when people talk about global warming and climate change, the debate gets intermingled between what we do as a globe, because this is a global issue where all of the emissions from all countries intermingle and affect us equally, more or less. What do we do about that? This requires a coordinated international response, versus recognising that we are going to live progressively and inevitably in a warmer climate. Therefore, there are a whole range of obvious things that are within our ability to influence in order for us to adapt to a relative scarcity of water, to a higher frequency of droughts and bushfires, to change our emergency response mechanisms to accommodate the extreme events like cyclones, and hurricanes. We need to think about what industries we support, particularly those that consume water and in doing so make that resource scarce.

It is now reasonably well documented that the atmosphere is getting progressively warmer, and that we are faced with more days per season that are above 20 degrees C (25 or 30 degrees). We, therefore, need to put in place health systems that have a direct correlation on the condition of the lives of the many in our community who are frail —particularly the elderly.

With that, I might pause to leave these questions hanging in the air. It's important that we think about them.