



Speech at the National Party's *Bluegreens* Forum 2012, Takapuna, Auckland

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I want to focus on some of the conceptual issues that need to be considered in understanding the concept of green growth.

Green growth is a term that means different things to different people. The meanings can extend from a limited focus on so-called green technologies and even more narrowly on clean-tech or green-tech to a broader focus on trying to achieve economic growth in a more sustainable way for everyone. In many ways the former, technological, definition has become the mantra of much innovation in the ICT and manufacturing sectors worldwide, driven by consumer and marketing trends. But green-tech is not an economic sector *per se* – there is little in common between a computer program that underpins a smart grid, the work Lanzatech is doing and the development of an organic detergent – and in that sense we have no particular advantage; any advantage we have comes in different ways.

To pretend that New Zealand will be any better or have any particular place in green-tech is no different to arguing about our overall entrepreneurial and innovative capacities, both of which need a lot of work to reach their promise. But the simple reality is that anything designed for the modern industrial or consumer market will need to demonstrate its sustainability to its end-user. I think this is an irreversible shift in global attitudes – one associated with the rising popular understanding of the interaction between human activity and the quality of the planetary ecosystem. This change in attitudes is as fundamental as the shift in attitudes our ancestors developed with respect to each other that occurred during the Enlightenment.

That does not mean, of course, that we should not be thinking about how to advance our economy through technological green growth; we should do so because we need to enhance our technological and manufacturing outputs and we have a brand that sells.

But we have no innate technological advantage in New Zealand, although we have the educational substrate to exploit; we have to create an ecosystem of innovation and entrepreneurship in general, and where our clever entrepreneurs can find advantage they will. This requires a fundamental culture change in our universities, in our research system and in our private sector. We need to value a spirit of enquiry and a spirit of innovation. We need to value and protect that kind of risk taking in each of these sectors.

But let me turn to the other end of the definition of green growth, that of striving for economic growth in a more sustainable way. I think this comes closer to what the population in most of the Western world is now demanding – and that attitude is rising in Asia as well – namely that it wants economic growth, but not at an unacceptable cost to the world around us. In many ways, defining what is the acceptable balance is the fundamental challenge for the 21st century political process. It will be a dominant issue in virtually every democracy over the coming decades. The problem is that there is a fundamental tension between resource extraction and resource preservation, be it in mining, managing fish stocks, dairy intensification, water use and so on.

In none of these issues is scientific certainty possible, and so what we have is a tension between knowledge (based inevitably on incomplete science) and values (whether they arise from public opinion, fiscal priorities, or diplomatic or political considerations). And that tension is made worse because of the naturalistic fallacy that assumes what appears 'natural' must obviously be better or different. That is not always the case. And the problem is then encapsulated in the variable perception of risk that people have and the many biases that creep into that perception of risk. We underestimate some when it suits us and overestimate others.

I highlight this issue because it has led to great confusion about risk management, and unless we do better in communicating about risk we will become paralysed by unnecessary precaution. We have seen numerous recent examples where precaution is assumed to mean nothing can be done. But equally we have seen examples where appropriate risk management was not in place. We also need to appreciate that understanding of risk changes – when genetic modification as a laboratory technique was first developed it understandably had a high-risk profile. After 30 years the risk profile is known to be very different, even though we still regulate as if the earlier perceptions remained valid.

Different people try and find points of equilibrium along the two axes of economic growth and resource conservation. The problem is complex because the time dimensions are different – we need economic growth now, but most people also want long-term environmental sustainability. They are very different domains and thus cannot be seen as opposite ends of a spectrum – we have to progress along these two orthogonal axes. We will not have a constructive national conversation if we see these as inevitably in conflict – they need not be.

And the debate can be surrogate and readily confused, as we have seen in climate change. The debate about climate change is not really about science, but is actually a debate about intergenerational equity – do we act now or leave the problem and its solution to future generations? But that is an uncomfortable question, and thus heated debate in the public domain of the complex science of human-induced global warming becomes the proxy for the real issue.

The debate around genetic modification has many similarities – there is no deep controversy about the science, the issue is about people’s perceptions of what “natural” means. And in both cases the debate has been captured by advocates of particular positions not necessarily informed by what we know and do not know. The media-fuelled drive for controversy has confused matters further – debate about the science is created where little or none actually exists.

Pity the politician who has to find a way through this mire.

People such as myself can have a critical role in assisting governments and the population to find their way to an appropriate balance. In large part our role comes in separating the knowledge from the values dimensions. To quote with some minor additions from a [recent editorial in Nature](#):

Scientists can help to understand what is known and, critically, what cannot be known about a situation. In the absence of certainty [which will always be the case], they can help to understand the risks involved. They can help to explain this cogently and clearly to people at large. They can [or should] do this from an unbiased and apolitical perspective, so that even if circumstances change they can change their assessment with less risk of being criticized for political motives.

It is clear to me that separating scientific advice from other domains of policy formation is more likely to lead to inclusive decision-making across a raft of issues that we need to consider, including those around the technologies needed for sustainability.

Whether we like it or not, economic progress is essential to sustain our wellbeing – it is how we do it that determines its long-term impact. And that is where green growth has another implication as well. It is not just about a particular product, it is about a systemic approach to valuing the environment while we grow. Denmark is perhaps the best example – it has focused on energy sustainability and as a result found a common public and private sector goal which has driven innovation. It is not that it was sustainability *per se* that drove innovation – any coherent marketable goal could have – but a focus gives a chance for an innovation ecosystem to emerge.

We have a real chance in New Zealand. While we have a 30 year deficit in our science and innovation systems, key leaders in business and particularly in government are starting to recognise that we have to catch up to survive and thrive. This means attention to the whole ecosystem for innovation. There are many elements, and we need to create ways of supporting entrepreneurs, mentoring them, assisting in finding capital and promoting exports. And we have to create entrepreneurs and that means a lot of focus on how we treat the most important assets we have – the brains of our students and our ‘digital natives’ – that is, the people of the younger generation who think very differently.

I believe that the shift in attitudes to the environment is one that is both visceral and irreversible. On one hand it provides a path to economic growth, but only if we focus on rebuilding all the elements of the innovation ecosystem – that is the challenge for government and the business community. On the other it requires improving the quality of the national conversation about understanding risk and technology – perhaps that is a challenge for me.

Thank you.

ENDS