



## Highway of diamonds

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Topic: [Environment/Sustainability](#)

This is a transcript of an address given March 4 to the [Brisbane Institute](#) by the Honourable Andrew McNamara, Minister for Sustainability, Climate Change and Innovation. Introduction from the Brisbane Institute (via [Energy Bulletin](#)):

In the twenty first century the human race must finally confront the reality that in the closed system that is planet earth, there are limits to growth. No matter how clever we are, there is no escaping the physical limits of the world's resources of oil, wood, water and arable land.

Andrew McNamara is a member of the Queensland State Parliament and the Minister for Sustainability, Climate Change and Innovation in the Anna Bligh government. He comes to the role with a reputation for confronting inconvenient truths and conventional thinking. Andrew was first elected as the State Member for Hervey Bay at the 2001 election. Prior to his election he was a solicitor. He has a long history of interest in issues of contemporary importance such as peak oil, clean coal technology, and climate change . He is also a strong opponent of whaling.

I'd like to pay my respects to the traditional owners of the land on which we gather this evening.

I want to thank the Board of the Brisbane Institute for the invitation to address this gathering.

Tonight I want to talk about capital S Sustainability.

By that I don't mean the usual narrow environmental concept of sustainability in agricultural production and land use.

I mean the future of our society, our economy and our environment; the structure of our cities, their energy and water sources and demand profiles; the treatment of these sources of our wealth; the imminent peaking of world oil supplies; our use of finite resources like gas and coal; and the way we dispose of those resources when we're finished with them.

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I will begin by considering what sustainability means to me.

It's a word that means different things to different people and is a word used in connection with everything from nappies to mining companies.

I will look at sustainability in the context of today's hottest issues – the crouching tiger of climate change and the hidden dragon of peak oil.

We can't talk about sustainability without talking about waste and resource efficiency.

We talk a great deal about becoming a more efficient economy, but we really need to ask what we are becoming efficient at when we throw away more and more.

And finally I want to touch on the problem of population distribution.

Until we start talking about population distribution, we can not honestly claim to have the whole problem on the table.

And that I suspect will well and truly fill the 18 minutes I have left!

In 2002 the US national Academy of Sciences concluded that humanity's collective demands first surpassed the earth's regenerative capacity around 1980.

Today, global demands on natural systems exceed their sustainable yield by an estimated 25 per cent.

That means we are meeting current demands by consuming the earth's natural assets, setting the stage for decline and collapse.

With a population expected to top 9 billion this century, sustainability is the crucial social, economic and political issue facing the world today.

With some notable exceptions, policy makers have been guilty of allowing sustainability to be cast as a peculiarly environmental issue, marginalised from the main game of economic development.

In 1949, Australia's greatest economist, Colin Clark presented the keynote paper "World Resources and World Population" at the UN Scientific Conference on Conservation and Utilisation of Resources.

He noted that the "conservation of soil, forests, stream flows and natural biological equilibria is certainly one of the most important and urgent tasks which faces us today."

Sustainability is the ultimate whole of government - indeed, whole of society - issue.

Pigeon-holing it as a narrow environmental concept has led us down a path of accepting unsustainability in the name of jobs and economic development.

But as the world is now showing us, we can not forever trade off sustainability for short term profits.

Meadows and her colleagues in Limits to Growth (1972) defined a sustainable society as one that is "far-seeing enough, flexible enough and wise enough not to undermine either its physical or its social systems of support."

Sustainability must be the foundation upon which we build economic strength and natural resilience.

It's the beginning and the end of any discussion about society's future... the purpose and the process for what we do... the aim and the outcome of our deliberations.

Sustainability isn't something to be considered in isolation, almost as an afterthought.

It must be central to our planning, thinking and acting as we seek to live in harmony with the planet, and leave it in better condition than when we arrived.

What the science of climate change is now demonstrating is just how badly Australia's approach of "borrowing from its past and its future, to sustain its current population and lifestyle" (Foran, 2003) has undermined those systems of support.

Due to my self imposed time constraints I do not propose to say too much tonight on climate change per se.

Let me assure you it is not for lack of interest or an appreciation of the urgency of the task.

Global warming is a symptom of the problem of living unsustainably. Consuming fossil fuels without considering the waste is a sustainability issue.

Industrialised society's failure to minimise waste and emissions, and neutralise those necessary for continued industrial development in a sustainable manner has created today's diminished environment.

Ice core records show that at the time of the beginnings of agriculture and the development of the first cities 8,000 years ago, CO<sub>2</sub> in the atmosphere stood at around 280 parts per million.

The Industrial Revolution commenced in 1780, literally got up a head of steam, and by 1930, CO<sub>2</sub> in the atmosphere had risen to 315 ppm (May, 2007).

Lord May, the Australian born, former President of the Royal Society (2000 – 2005) and Chief Scientific Advisor to the British Government (1995 – 2000) makes the point that the rate of increase in greenhouse concentrations is unprecedented in the 10,000 years since the end of the last ice age and if current trends continue, we will see atmospheric CO<sub>2</sub> levels reach "at least 500 ppm" by 2050 (May, 2007, p7).

The Intergovernmental Panel on Climate Change, which is made up of the leading climate scientists from 169 countries concluded in their February 2007 report that by 2100 we will see warming in the range of 1.1° to 6.4°, with the likelihood of settling at 2.0° to 2.8° (IPCC 2007).

It is worth noting that the IPCC's predictions have consistently underestimated the rate of change.

What is still not widely understood is just how significant that apparently small change in global average temperatures is in effect.

As Lord May noted, "the difference in average global temperature between today and the depths of the last ice age is only around 5°C."

We are looking at a rate of extinction that is of the same order of magnitude as the one that wiped out the dinosaurs.

The challenge of climate change, or human induced global catastrophe as it should be known, might be the clarion call that heralds another threat caused by our careless consumption of fossil fuels.

I spoke earlier of climate change as the crouching tiger; the danger we can see. It is real, dangerous and imminent.

I suggest that we face an even graver threat, that is even more imminent than global warming, and in response to which we have chosen to look the other way for 50 years.

The hidden dragon I speak of is resource depletion; of the peaking supply of those sources of energy that have enabled our explosion from around 2 billion people on the planet in 1900 to 6.5 billion today.

This is truly the unseen threat that will confront us all soon enough, whether we choose to see it or not.

I was here last year when Dr Roger Bezdek, one of the authors of the Hirsch Report (2005) on peak oil written for the US Department of Energy addressed the Institute on the topic of the inevitable peaking world oil and gas supplies.

His is one of a growing group of voices predicting that sometime between 2006 and 2020 the world will pass a point after which we will never have as much oil at our disposal as we did the day before.

What began as a whisper from Shell's chief geologist M King Hubbert in the 1950s, is now a shout which can't be ignored.

The US CEO of General-Motors, Rick Wagoner, stated publicly in January this year that in GM's view the world has now passed peak oil.

Official world production figures released by the International Energy Agency in its World Energy Outlook (2007) show that November 2006 is firming as the possible peak of production, with the world's daily average in that month of 85.5 million barrels per day (mbpd) of oil and condensates not having been exceeded in the 14 months since.

The high stakes humanity is playing for in the environmental poker game where the chips come from our own declining resource base were summed up by renowned astronomer, Sir Fred Hoyle, in 1964 in "Of Men and Galaxies" who declared:

"It has often been said that, if the human species fails to make a go of it here on Earth, some other species will take over the running. In the sense of developing high intelligence, this is not correct. We have, or soon will have, exhausted the necessary prerequisites so far as this planet is concerned. With coal gone, oil gone, high grade metallic ores gone, no species however competent can make the long climb from primitive conditions to high level technology. This is a one shot affair. If we fail, this planetary system fails so far as intelligence is concerned. The same will be true of other planetary systems. On each of them there will be one chance and one chance only."

High stakes indeed.

Yet what have we done but draw upon the Earth's non renewable resources as if they were limitless, and create an economy that assumes - indeed demands - cheap energy to sustain the national and international movement of food and goods and water and people in ever greater volumes and numbers.

We have laid out our cities and built our suburbs and resumed agricultural land as if it were our purpose to live as far as possible from where we work and further than we can imagine from where our food is grown.

For the past week West Texas Crude has been consistently trading between US\$100 and US\$102 a barrel and we now stand on the threshold of an upswing in global oil prices that will have a significant impact on the economy of the world and for which we are seriously unprepared.

Unsustainable consumption has a price, and we will soon pay it.

I am however not as worried about the impact on our economy of rising oil prices feeding into higher transport, packaging, pharmaceuticals and food costs - as serious as these will be - as I am about the cause of these impacts.

Peak oil is not a theory.

Since commercial oil drilling started in Pennsylvania in 1859, country after country has gone through the same depletion curve.

Oil, when first discovered, literally shoots from the ground, due to the pressure built up in the reserve over millions of years.

As more wells are sunk, production rises exponentially, but inevitably, when between one third and a half of the oil in the field has been extracted the pressure drops away and the oil stops flowing.

Oil can still be extracted but at much greater cost and much more slowly. Once the peak of production is passed, it is irreversible.

Australian oil production peaked in 2000.

There was a brief period in the 1990s when we produced 100% of our domestic oil needs, Australia now is producing less than 70% of our needs, and the balance of payments is showing the strain.

Notwithstanding our substantial coal, gas and uranium exports, Australia is on the verge of becoming a net energy importer as a result of our reliance on imported oil products.

The International Energy Agency in 2007 warned of serious global supply disruptions starting in 2010.

Just as we have changed the way we view and use water, I suggest that our current liquid fuel usage patterns are about to change as well.

What both peak oil and climate change will impose upon us is a requirement to use less energy, not just petrol but all forms and carriers of energy, in order to produce less greenhouse gasses and to allow for the greatest degree of energy substitution possible.

We will need to live closer to work, schools and shops or the public transport nodes that can link us to those destinations.

The town planning concepts that arose out of the justifiable desire during the industrial revolution to not live next door to what Blake described in "A New Jerusalem" as "dark satanic mills" and which gave rise to residential urban sprawl 30 minutes drive away from the so called "business park", have become redundant - if not downright indulgent - in a world where energy efficiency and restraint will be the guiding considerations for business, its financiers, customers and regulators.

Cabinet recently asked me to oversee the production of a Queensland strategy to mitigate the impacts on the state of severely reduced oil supplies.

The dragon is now out in the open with the tiger, and we are in between.

We have the capacity with existing technology and intellect to adopt more sustainable policies and practices to bring greenhouse gas emissions under control through greater use of renewable energy sources and mitigation strategies, and to reduce our reliance on oil.

The Government has directed its attention to these issues already with the ending of broad scale land clearing and forest acquisition and restoration programs such as are underway in Springbrook and the Daintree.

More sustainable lifestyles for Queensland families are being supported by Transport Orientated

Developments which my colleague John Mickel is driving in the Transport portfolio, and new programs such as the \$100 million Renewable Energy and Smart Energy Funds that I jointly administer with Mines and Energy Minister Geoff Wilson, and the \$430 million Climate Change Fund.

We face a huge task, one that Lester Brown in his "Plan B 3.0" (2008) describes thus:

"The challenge for our generation is to build a new economy, one that is powered largely by renewable sources of energy, that has a highly diversified transport system, and that reuses and recycles everything. And to do it with unprecedented speed."

An economy that recycles everything is a long way from where we are.

In Cradle to Grave, William McDonough and Michael Braungart say that:

" Humans are condemned as the one species on the planet guilty of burdening it beyond what it can withstand; as such, we must shrink our presence, our systems, our activities.... The goal is zero: zero waste, zero emissions, zero "ecological footprint."

Queensland has a big backyard.

We have never thought of ourselves as being short of land in which to dump stuff.

The idea of zero waste and extended producer responsibility is something that has taken off overseas, but is only sputtering to a start here.

Consequently, in Queensland we have among the worst rates of recycling and highest rates of landfill in Australia.

We must do better, and we will do better.

This all actually presents a new opportunity.

It is a great opportunity to lead the world in new technologies, new industries and new green collar jobs.

Looking to the horizon is not just about seeing the threats, we can also prepare for the opportunities.

As daunting as the work we have to do is, there is however still one piece of the puzzle not yet on the table.

In an energy-constrained world dedicated to massively reducing greenhouse gas emissions, it's time we spoke its name; population.

American biologist Edward O. Wilson wrote:

"The rampaging monster loose upon the land is over-population. In its presence, sustainability is but a fragile theoretical construct."

Peter McDonald, from the Australian Centre for Population Research, estimates that over the next 40 years or so, Australia's population will grow to around 25 to 26 million.

Addressing the question of population sustainability requires recognition of the fact that there are two Australia's in terms of population.

There is the Australia in which 66% of the population live in just five large and disbursed cities

and there is the rest spread out over a huge land mass, but even then, overwhelmingly clinging to the coast line.

The Hon. Barry Jones (2003) referring to the unanimous House of Representatives Standing Committee on Long Term Strategies 1994 report, "Australia's Population 'Carrying Capacity': One Nation – Two Ecologies" and notes that:

"a serious examination of Australia's future population composition needed to be based on geographical, environmental and resource diversity."

The proposition remains as correct and as unstated today as it was in 1994.

In 1997, the then Premier of New South Wales the Hon. Bob Carr, in opening the National Conference of Australians for an Ecologically Sustainable Population said:

"I think people are ready to grasp the argument that the unsustainable growth in population numbers is degrading our planet and that Australia must begin to think of itself as a country with a population problem. Let's throw away for all time the notion that Australia is an empty space just waiting to be filled up. Our rivers, our soils, our vegetation won't allow that to happen without an enormous cost to those who come after us."

Half a generation after those wise words by Bob Carr, they remain just as true and just as unacted upon as they were in 1997.

In Queensland my Ministerial colleague Craig Wallace, the Minister for Natural Resources and Water is conducting a series of water planning studies to map the reserves of our water catchments and projected draws on those reserves over the next 50 years.

The Deputy Premier and Minister for Infrastructure and Planning Paul Lucas is reviewing the State's regional plans to ensure that there is adequate infrastructure provided for anticipated growth up until 2050.

What is now necessary, however, is recognition of the fact that while carrying capacity is expandable, it is never infinite.

Population is a topic for discussion at Kevin Rudd's 2020 discussion and I look forward to that debate.

The key to achieving a sustainable Australian population in the 21st century is population distribution - adopting policies which encourage and support population growth in areas where it can be supported sustainably, and discouraging it in those places where it can't.

Population maldistribution increases the stress on available resources and heightens the need for more stringent sustainable living practices, such as water restrictions.

Developed countries have the double whammy of increasing populations and rampant consumerism.

It's one thing to provide the necessities of life... quite another to provide the trimmings demanded by affluence.

Population distribution, standard of living and sustainability are linked inextricably.

They sit like three moons around a planet... separate, but part of the one system; influencing each other, intimately connected.

A long term study pointing out the appropriate population distribution for Australia, including

modelling of the impacts both of climate change and peak oil on our capital cities, our regional cities and rural areas must now become a priority.

This will of course be controversial.

As Butler (2003) notes, no academic or political consensus exists concerning the optimum population for Australia.

That is however no excuse not to start.

In the 21st century, the human race must finally confront the reality that in the closed system that is planet earth, there are limits to growth.

No matter how clever we are, there is no escaping the physical limits of the world's resources.

The laws of physics trump the laws of economics every time.

What we need above all is smart growth.

Growth that is low carbon.

Growth that is low pollution.

Growth that is resource neutral.

We need growth that actually adds to the natural capital, instead of destroying it.

The title of my talk tonight is "Highway of Diamonds."

The Bob Dylan tragi-comics in the room might have recognised the phrase from his 1962 classic, "A Hard Rain's A-gonna Fall."

In the song Dylan poses the question "Oh what did you see my blue eyed son?" and offers in part the reply, "I saw a highway of diamonds with nobody on it."

It has increasingly struck me as a perfect symbol for the choices we now face in dealing with climate change, peak oil and population; what to build and where; road or rail; seaport or airport; capital city or regional centre; balancing the enormous costs of providing infrastructure now in a time of momentous change against the undoubted costs of acting too late and in more uncertain times.

We need to get it right.

No one will thank us for a highway of diamonds with nobody on it.

Thank you once again for the Invitation to address the Brisbane Institute tonight.



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