

## **The Energy Sector and its Environment**

### **Introduction**

There was a time when engineers were the Heroes of Society. They built the roads, the railways, and the hydro-dams. City Engineers ran councils with slide-ruled hands. People paid their rates – and in return, the engineers delivered water, treated the sewage, and sealed the roads.

Civil and structural engineers built hydro dams and electrical engineers made sure that when we turned on the switch, the lights went on. Even as we began to buy washing machines, and driers, and had a bath once a day instead of once a week, the energy continued to flow.

All was well in the universe.

Then our heroic engineers were recast as despoilers of the planet, playing fast and loose with the forces of nature, while their beloved technology threatened to destroy “the planet”.

Engineers in local bodies have all but disappeared. They were told to look up to the reformers, but when they looked down they found they were out on the street. Councils are now run by managers who take their instructions from a new breed of people who describe themselves as “Environmental Transport Planners”, or “Sustainable Development Managers” or “Environmental Soil Ecologists”, or whatever other discipline you can preface with the word “Environmental”.

My rule of thumb is that anyone who puts the word “environmental” in front of their discipline is actually a graduate of some kind of school of theology – a school where they worship nature rather than reason.

Finally, the generators and distributors of energy have found that governments are no longer even sure they want the people to enjoy more of your goods. They would rather “manage demand” than increase supply. “Don’t generate more electricity”, they say, “we should save or conserve it! Make do with what we have got!”

We used to call it rationing.

You can be forgiven for believing that the world has gone stark raving mad.

However, it's worth remembering that while we are told *ad nauseum* that New Zealand is known for being "Clean and Green", it seems the world takes real notice when a country lad walks down a cliff with a woolly merino on his back. He wasn't nibbling an organic carrot.

And an early Minister for the Environment<sup>1</sup> once said "We are all environmentalists until the lights go out."

So take heart. The madness too may pass.

But how did we get to where we are today? And how should you respond?

### **The Industrial Society and the Risk Society**

During the late sixties, at UC Berkeley, I was fortunate to study under Aaron Wildavsky, whom many regard as the father of public policy. He trained us well in the art of policy analysis. Then, several years before his death in 1994, he began to realize that much policy debate was driven more by a clash of cultures than by minor differences of emphasis within an essentially rational process of analysis. We had recognized, then, that most analysts worked within "a framework of bounded rationality". But later, many of us found ourselves working in a world in which policy debate was dominated by "unbounded irrationality".

Wildavsky teamed up with people like Mary Douglas to focus on these clashes between cultural titans, and produced many books. They are fun to read.<sup>2</sup> Others have taken up the theme – but from the other side of the fence. One of the best known, in academic circles at least, is Ulrich Beck, who wrote *Risk Society, Towards a New Modernity*, in 1992.

Beck proposes that society is in the process of moving from the culture of the "Industrial Society" to a "New Modernity" which he calls the "Risk Society"<sup>3</sup>. I see this new conflict as just the most recent playing out of the ongoing conflict between the Enlightenment and Romanticism.

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<sup>1</sup> Anecdotal. Some believe it was Duncan McIntyre, at the Human Environment Conference in Stockholm, 1972.

<sup>2</sup> For example, *The Real World Order, Risk and Culture, Searching for Safety, and But is it True?*

<sup>3</sup> For a summary and extension of Beck's ideas see *The Politics of Risk Society*, Jane Franklin ed, Polity Press, 1998.

Beck characterizes the “Industrial Society” and the new “Risk Society” as follows:

### **The Industrial Society**

- 1    **The Role of Science:** Science is the keystone of the Enlightenment Tradition – science is in the service of man and generates wealth for all.
2.   **The Major Concern:** Having generated so much wealth the major problem is how to distribute the wealth among the people, and among different communities and nations.
- 3    **The Nature of Risk:** Risk is an external factor subject to objective analysis. Risk analysis is one of the triumphs of mathematics. We manage risk by weighing benefits against risky side effects.<sup>4</sup>
- 4    **Civilization and Nature:** Civilization is safe and Nature is dangerous. The aim of the Industrial Society is to tame and harness nature for the benefit of people.
- 5    **Democracy:** Industrial Society exports democracy along with the benefits of the Industrial Economy.
- 6    **Awareness of Risks:** Members of the Industrial society are aware of the risks they must deal with – such as loss of job, accident, and death, and these risks are assessed and managed by experts.

### **The Risk Society**

- 1    **The Role of Science:** Science is the destroyer of the environment and society. Science is the problem. Science has no monopoly on “truth”.
2.   **The Major Concern:** How to deal with the undesirable abundance and dangerous knowledge generated by unconstrained science. Waste is the problem.

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<sup>4</sup>    An excellent book on the subject is Peter L. Berstein’s *Against the Odds: the Remarkable Story of Risk*, John Wiley and Sons, New York, 1996.

- 3 **The Nature of Risk:** Risk is internal and an outcome of modernity – rather than an external and manageable problem. These threats are unknowable – and all risk must be eliminated. (e.g. the zero molecule approach)
- 4 **Civilization and Nature:** Civilization is dangerous and Nature is safe. The key task is to protect nature from humanity and preserve its harmony and balance.
- 5 **Pollution:** Industrial society exports pollution to underdeveloped societies and puts all at risk.
- 6 **Awareness of Risks:** ‘Victims’ cannot determine their level of unknowable risk. Hence risk is assessed by “self knowledge” and internal conviction. Precautionary principle protects us from the unknowable risks of change. Chernobyl is the turning point. We calculate the future dead rather than count the existing bodies.

At the root of Beck’s manifesto is the fear of a world “out of control”. The Socialists believed that the economy was too fragile to be left to Smith’s invisible hand or “spontaneous order”. Environmentalists and planners (by definition) believe the biosphere is too fragile to be left at the mercy of selfish individuals. Beck declares:

*Society has become a laboratory where there is absolutely nobody in charge.*<sup>5</sup>

As always, hordes of willing “controllers” are waiting in the wings.

### **The Energy Sector and “the New Modernity”.**

There is a measure of truth in Beck’s comparative schema. We can agree with Beck that the emergence of the industrial society marked a transition – a watershed in human history. The Industrial Society removed us from a human condition where naturally occurring hazards (disease, flood, famine, and the like) – along with socially determined hazards such as invasion and conquest – moulded the fate of individuals and groups. Members of the Industrial Society take control of their own fate by deliberately undertaking risky behaviour for the sake of the benefits conferred. Achieving these benefits requires technologically mastery of nature. So far, so good.

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<sup>5</sup> Ulrich Beck, “Politics of Risk Society”, p 9. Essay 1 in *The Politics of Risk Society*, op cit.

Thereafter Beck's arguments get murkier and it is difficult to tell whether he endorses the thinking of this New Modernity or whether he is merely describing the world as many see it. The key position is that Risk Society begins where nature ends. We switch the focus of our anxieties from what nature can do to us to what we have done to nature.

Surely in the age of AIDS, BSE, SAARS, as well as earthquakes and eruptions, we must acknowledge that we are still subject to nature's hazards. Nature is NOT safe.

Beck makes much of the new "manufactured" risks, such as "pollutants in foodstuffs". Yet I suspect that most of us are irritated when we read of "GE contaminated corn" as though the presence of some GE seeds makes the corn as dangerous as corn contaminated by anthrax. Beck accepts that many see little difference between GE seed and anthrax. Both scare some people witless – or further aggravate their witlessness.

Yet the food supply is far safer than it has ever been, mainly because we are now protected against naturally occurring deadly toxins such as botulism. Serious food poisoning is comparatively rare. It used to be one of the great killers. These "risks" are largely manufactured by doomcasters. Who, other than Meryl Streep, now remembers the great "Alar on Apples" scare?<sup>6</sup> The deaths from Mad Cow Disease make headlines precisely because they are so rare.

Beck also seems to share the new bias against benefits. While he quotes, with evident approval, the Risk Society's claims about "the toxic threat", average life expectancy continues to increase almost everywhere. How can this be? Pesticides and pharmaceuticals, and many other useful chemicals (e.g. chlorine), are toxic by nature, and their utility depends on our being able to specify acceptable levels of exposure to humans, other animals, and the environment.

Many of the "new modernists" aspire to zero risk or perfect safety, and yet we know that if we pursued this to its logical conclusion we would ban all human activity, including conception.

After all, life is a sexually transmitted terminal disease.

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<sup>6</sup> In case you have forgotten, read Wildavsky's "But is it True?" chapter 6, "*No Runs, No Hits, All Errors: the Asbestos and Alar Scares.*" Pp 201 – 222.

## What does this mean to your Sector?

It is tempting to keep pointing out the fallacies of the “New Modernists” and to dismiss them as a bunch of cranks. But I believe that we “Industrialists” cannot afford to do so. Indeed some of the challenges your sector now faces may have arisen because so many of you have taken this stand in the past.

There is a tendency for like-minded minds to gravitate to clusters of other like-minded minds. “New Modernists” are unlikely to enroll in schools of engineering or physics departments; they flock to schools of cultural anthropology, and planning. One of the reforms I propose for the Resource Management Act (RMA) is to move its administration into the Ministry of Economic Development. The Ministry for the Environment attracts “New Modernists” like flies to a honey pot. Hopefully, the Ministry for Economic Development attracts people who can do their sums.

Similarly you will find hardly any members of the Risk Society in an energy company. On the other hand, you will almost certainly find many in the Energy Efficiency and Conservation Authority. I make that judgment on the grounds that the Authority seems to know a lot about conservation but little about efficiency. If we follow their logic regarding electricity as an input of production, our farmers are great wasters of grass because we use more grass to produce a kilo of meat than Europeans do.

The end result is that your managers seldom have to deal, face-to-face, with New Modernists, and hence fail to appreciate their numbers, their level of commitment and their skill at organisation. The Devil you don't know doesn't exist.

This was Monsanto's error with GM corn. They presumed that their technological breakthrough would be welcomed by a food-hungry world, and never expected the hostile response. Had they understood the “Risk Society” view of the world they might have planned their press and seed releases better and captured and maintained the high ground.

We must learn that we have to deal with a clash of cultures, rather than argue over the divergent outcomes of rational analysis generated by differing interpretations at the margins.<sup>7</sup>

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<sup>7</sup> For a failure to understand a different culture see Richard Pipes' autobiography *Vixi – Memoirs of a Non-Belonger*. In Chapter 3 “Washington” he tells the story of the failure of the State Department to understand the Soviet Culture and their assumption that it mirrored their own. He writes; “In sum, the issue was one of understanding a different culture. The strategic balance was determined not just by the relative power of the two arsenals confronting each other but also, and above all, by the mentality and intentions of the people controlling them.”

## **The Resource Management Act and the Industry**

Members of the Risk Society are convinced that “Nature” is benign, and is in perfect harmony and balance. Their aim is to protect nature from human interference and to allow nature to run its course. Some of us describe this particular aspect of the *New Modernity* as “Nature Worship”.

While it is fair enough to say “We are all environmentalists now”, the nature worshippers want to move the goal posts so they can occupy an even higher moral high ground.

When the RMA was being driven through the Parliamentary process, and finally signed into law, there was general agreement as to what constituted an “adverse effect on the environment.” The politicians and bureaucrats accepted that, while all manner of activities could generate adverse effects, these adverse effects could normally be “avoided remedied or mitigated”.

Consequently section 5(2)(c) of the Act says that people are to be enabled to provide for their social cultural and economic wellbeing while:

*Avoiding, remedying or mitigating any adverse effects of activities on the environment.*

These adverse effects were tangible, such as polluting the air, dumping toxic wastes into a river, or making excessive noise. Economists might say that such adverse effects are a cost of production and those who generate them should internalize those costs.

The RMA was passed into law in 1991. Thirteen years later the “Nature Worship” subset of the New Modernists have adopted the credo that nature is in perfect harmony and balance and therefore any change to the state of nature is an adverse effect.

The corollary is that it is not possible to avoid, remedy or mitigate the adverse effects of an activity because any new activity necessarily involves some degree of change.

This may seem an extreme position to many of you. But evidence of the creed in action is all around us, as in statements that say something like:

*“Nature must be allowed to take its course”.*

When the Minister of Conservation elects to let the Ruapehu crater-lake burst its banks and send a Lahar surging down the river to Tangiwhai, he is acting as any nature worshipper would.

Similarly, the Department of Conservation is reluctant to renew the resource consent which has allowed marine researchers to drop artificial reefs into a marine reserve near Auckland.

The Department officers argue that concrete should not be allowed within the reserve because concrete is not “natural”. The thousands of fish, mollusks, and sea plants inhabiting the synthetic reefs do not seem to mind. But some nature worshippers in the Department of Conservation are offended by this contamination of nature by the synthetic.

Many councillors I have spoken to are surprised to find that when dwellings are at risk because of foreshore erosion the staff response is that “nature must take its course”.

Presumably such attitudes are uncommon in the Netherlands.

Once you are alert to this new “natural absolutism” you will see it everywhere. And the more common it gets, and the more it is accepted within central and local Government, the more difficult it becomes to gain consent for anything like a *Project Aqua*.

## **No Power to the People**

When I was at UC, Berkeley during the late sixties, one of the catch cries of the radicals, and the Black radicals in particular, was “Power to the People.” They meant political power.

But the metaphor behind the cry had a solid left wing pedigree. After all it was Lenin who said:

*Communism is Soviet Government plus the electrification of the whole country.*

Today’s left-of-centre governments have clearly abandoned Leninism. Their preferred creed today would seem to be:

*No more power to the people!*

When we are told that we should not generate more power but should learn to conserve or save power instead we are being told to make do with what we have got.

What would Bob Semple make of such sentiments? Not much I suspect.

## **The Scope of the Environment**

During my time at UC Berkeley, the New Zealand Government appointed Duncan McIntyre as the world’s first Minister for the Environment. (Sadly they failed to get rid of the now surplus Commissioner.) Flushed with national pride I alerted Professor Wildavsky to the good news. He listened to my homily without noticeable enthusiasm. About twenty minutes later as he walked past me on his way to a meeting he put his hand on my shoulder and said:

*“You know, Owen, if you are Minister of the Environment, eventually you are Minister of Everything.”*

About ten years later I began to grasp his meaning.

I have called this paper “The Energy Sector and its Environment”. You may have expected me to talk about the RMA and the natural and physical environment and how the industry might manage its adverse effects. Wildavsky’s warning has encouraged me to focus on the social or ideological environment within which your industry now operates, whether we like it or not.

I have little truck with the strange beliefs associated with the “Risk Society” or those of the “Nature Worshippers”. But I have to recognize that their beliefs are strongly held, and that many in the news media and government are sympathetic to their views. I suspect the Emperors of Rome had little truck with the beliefs of early Christians, but they couldn’t ignore them.

Similarly, I believe that if the citizens of New Zealand are to continue to be able to turn on their lights, your industry will have to learn about the culture which contests your right to supply us with the energy we need.

The Forest and Bird Society is quite open about its aim to return the forest cover of New Zealand back to what it was in 1840. They are not concerned that this will destroy our rural economy – they are convinced this is a price we shall have to pay.

Similarly, many of those who object to new electricity projects are not objecting to your impact on the environment. They are objecting to the use of electricity to fuel this “out-of-control, consumer-oriented, capitalist society”.

## **The Kyoto Fraud and the Carbon Scam**

I could have written this whole paper about the curious consequences of our national enthusiasm and early adoption of the unworkable and irrational regime of the Kyoto Protocol. Some of you may have read my paper “That Kyoto is a Fraud”.<sup>8</sup>

I would be deeply grateful if someone at this gathering could explain to me the logic which allows us to export 2,000,000 tonnes of coal a year to countries which have not signed up to the Kyoto protocol and yet we are unwilling to burn 450,000 tonnes of coal a year in New

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<sup>8</sup> It has now been posted on over a hundred web pages, but you may prefer to go to the Centre Page at <http://www.RMAStudies.org.nz/>

Zealand to generate the electric power which would have come out of *Project Aqua*. When the Chinese burn our coal does it not burn? Does it not produce CO<sub>2</sub>? Are there really two atmospheres, one above China which creates no greenhouse effect, and one above New Zealand which does?

While we ponder this conundrum I would like to examine the viability of trading in carbon credits.

In an invited paper for the Second Asian Conference on Energy, Ferdinand E. Banks (BA, MSc, PhD), the energy economist, briefly explained the theoretical benefits of emissions trading, noting that:

*The government organizes a market where trading in permits to pollute can take place. A desired level of environmental quality or quantity of pollution emissions is then established, and a number of permits are distributed (or auctioned off) which sum to that level. The market is a private affair, but is regulated by the government to ensure that emissions do not exceed permitted levels, and that trading goes smoothly. Heavy polluters buy permits from light polluters, and ostensibly both have an incentive to suppress pollution: the heavy polluters in order to avoid purchasing large amounts of these – perhaps expensive – assets; and the light polluters so that they will have more permits to sell. This arrangement was tried and worked satisfactorily in reducing Sulphur Dioxide (SO<sub>2</sub>) levels in the US, and it is one of the reasons why the US took the lead in advocating emissions trading as opposed to carbon taxes as a device for reducing atmospheric CO<sub>2</sub>.<sup>9</sup>*

Now, when we look at the so-called Carbon Credit trading market in New Zealand we find that there have already been breaches in the principle.

First, they are not a substitute for carbon taxes but are in addition. Second, the government has seized unto itself all the existing credits. The private owners of forest carbon sinks currently have nothing to trade. The government is the monopoly dealer. Furthermore, the government has already begun to use these credits to pick generator “winners” such as windpower. We can also assume that anyone wanting to use nuclear power will have neither credits to buy nor government gifts. The market is already a pseudo-market.

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<sup>9</sup> *Economic theory and the Swedish deregulation experience: a warning and not an example.* Invited paper for the Second Asian Conference on Energy, Hong Kong Energy Studies Centre, August 24-25, 2003. Ferdinand E. Banks (e.mail: [ferdinand.banks@telia.com](mailto:ferdinand.banks@telia.com))

Also, these credits are supposed to be a currency, but they have no known value – unless they are in the form of a government subsidy for preferred forms of generation. The incentives which normally apply have disappeared from the trading calculus.

Banks goes on to say:

*But there is a great deal of difference between a domestic market and an international market. Economists claim to have successfully modelled the SO<sub>2</sub> market in the US, but they have not provided, and nor are they close to providing, an accurate theoretical representation of an international CO<sub>2</sub> market – even though it may turn out to be true that tradeable emission permits are a practicable method for helping to reduce the output of greenhouse gases.*

For markets to operate, the rules must be simple, clear and transparent. None of this currently applies.

Banks then puts his finger on the real problem:

*It might also be useful to remember that stupefying greed and corruption can be found close to the centre of government in many countries, not to mention incompetence, and from the beginning some of us have been dubious about establishing a programme for dealing with global warming in which these highly undesirable attributes are given a new outlet.*

I would even be prepared to consider that one day pigs may fly and that this stupefying greed and corruption will disappear. The fact is that this particular market requires honest brokers who have access to reliable statistics. If nations are going to be the main traders in credits how can we be confident of the carbon sinks claimed to exist in countries like Zimbabwe, Haiti, Burma, or Brazil? I also suspect that too many officials have bought into the assumption that the US is the world's greatest emitter and hence will be an enthusiastic buyer of credits. Recent science suggests that the US could well be a net<sup>10</sup> carbon sink and hence a seller. The effect on the value of the carbon credit currency would be catastrophic.

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<sup>10</sup> Notice that most commentaries focus on gross rather than net emissions even though it is surely net emissions which count. A ranking of net emissions favours those countries with large ratios of open space to urban areas – such as the US – while penalising those with high ratios of urban areas to open space – such as the EU. As you might expect, the EU sets the framework for the debate.

Freeman Dyson<sup>11</sup> continues to argue that we should focus on “roots not shoots” because more carbon is sequestered in the topsoil than in the wood and the leaves. Governments are not interested, mainly, I suspect, because they have not yet figured out how to steal the carbon credits off every composting gardener in the country.

Banks argues that the honest government would come down in favour of nuclear generation because the change in emissions is direct, measurable and cheat-free. Probably for precisely these reasons most Governments are reluctant to consider nuclear power as a carbon free option.

### **Your General Response to the New Modernity**

Finally, I want to open the debate on how your industry should respond to the advocates of the “Risk Society”, the “Nature Worshippers” and the other “New Luddite” clubs.

Early in May of this year I was invited to attend a conference in Portland, Oregon, organized by *The American Dream Coalition*, a group dedicated to upholding the Industrial Society and Americans’ generally positive view of the future.

One session addressed the issue of communicating with the public on these kinds of issues.

The experts who addressed the conference agreed that it was all too easy to fall into the “Chamberlain Trap” of appeasement, rather than to confront the real issues head on.

Their complaint was that too many of the oil companies had adopted an appeasement strategy, running television campaigns in which they effectively apologize for past sins, and promise to do better in future.

They had only one example of a company (which happened to generate electricity) which promoted the benefits of energy to society at large. One advertisement featured a young black mother complaining that she was always being told to save electricity (a victim of California’s “Clayton’s Deregulation”) and yet she had to keep the house clean, wash the children’s clothes, and finally run the room air-conditioner prescribed for her asthmatic daughter. The voice-over ending said something like “What will she do when they turn out all the lights?” and the TV screen went dark. Powerful stuff.

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<sup>11</sup> See, for example, Freeman J. Dyson’s review of *The Earth’s Biosphere: Evolution, Dynamics, and Change*, by Vaclav Smil., in “The New York Review of Books”, May 15, 2003. He first raised this “roots not shoots” argument in his collection of essays, *From Eros to Gaia*, Penguin Books, 1992. See pps 143 – 144.

Why should electricity and gas companies apologise for delivering the cleanest, safest and most flexible form of energy the world has ever known? Your customers actually love your product. But they need the occasional reminder, or they might start deciding that the grass is truly greener on the other side of the neo-Luddite fence.

Public policy is the art of speaking truth to power. Your communications should also be built on truth, and you should demonstrate that it's your enemies who tell the lies and half-truths.

### **The Case Against the Language of Sustainability**

The language of energy is well understood. We know what efficiency means. We can define energy, work, power, force and so on.

But “sustainable” is the original weasel word. “Sustainable” means something when applied to a natural resource such as a fishery or a forest. Sustainable management of a fishery means that you do not fish at such a rate that the fish stock finally disappears. The moa hunters failed to sustainably manage New Zealand’s moa. Promoting “sustainable management” is fine in such contexts. This is why the authors of the RMA chose sustainable management rather than sustainable development within section 5 of the Act.

Once we incorporate “sustainable” word into broader terms such as “sustainable development”, or “sustainable cities”, or “sustainable economies” it has no meaning, and indeed promotes falsehoods.

The “New Modernists”, “Nature Worshippers” and all their friends and allies, have seized on “sustainable” because it is a wonderfully Orwellian word which can be used to distort the truth and promote any lie which happens to serve a particular cause.

The left and the new modernists have always been expert at high jacking the language of high moral tone. They promote “Smart Growth” – because who wants “Dumb Growth”? They promote “Fair Trade” – because who wants “Unfair Trade”? They promote “Sustainable Development” – because who wants “Unsustainable Development”?

But we should beware of those who claim to occupy the moral high ground while implying those who fail to share their lofty aspirations are rogues and villains. Roger Kerr made this point in a recent speech:<sup>12</sup>

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<sup>12</sup> *Making Sense of Corporate Citizenship*, Brightstar CFO Summit, April, 2004.

*Holier-than-thou behaviour should not be taken at face value. As Adam Smith put it long ago, "I have never known much good done by those who affected to trade for the public good". George Orwell was rather more blunt. "Saints", he said, "should always be judged guilty until proven innocent." 'Sustainable development' is now itself understood to be a term with only limited content. No one is for 'unsustainable development'. But the idea that future generations are at risk because the world is running out of resources is simply wrong. So too is the idea that economic growth is the antithesis of sustainable development. Growth typically leads to improved environmental quality by raising the demand for it and providing the wherewithal to meet that demand.*

I suppose I cannot ban the use of "sustainable" and "sustainability" between consenting adults in the privacy of their own homes, but it would be no bad thing if we chose to ban these words from our public discourse.

I would like to conclude by endorsing the words of Klaus Schwab, president of the Geneva-based World Economic Forum, who said:

*Shouldn't the men and women of business once again serve as ambassadors for economic growth? ... Business can and does play a positive role in our society. We should not be so shy about recognising and expressing this.<sup>13</sup>*

Otherwise, the day will come when the lights really will go out.

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<sup>13</sup> Klaus Schwab, 'Time for business to get back to basics', New Zealand Herald, May 5, 2003.