EnergyWatch

The Journal of the Sustainable Energy Forum

"Facilitating the use of energy for economic, environmental and social sustainability"

Issue 37, August 2005

Published by The Sustainable Energy Forum Incorporated, PO Box 11-152, Wellington
Email: info@sef.org.nz Editor: John Blakeley
Web: www.sef.org.nz ISSN: 1173 5449

Changing of the Guard

EnergyWatch Issue 37 marks a change of editorship from our long-serving previous editor, Kerry Wood, who had served with distinction in this role since Issue 9 in February 1999, a period of just over six years.

Kerry's major contribution to the Sustainable Energy Forum (SEF) in this and other ways was acknowledged at the AGM of SEF held in Wellington on Monday 4 July, when he was awarded a Life Membership of SEF in recognition of his outstanding service. He will be a hard act to follow.

Issue 37 contains two major features, one on "Peak Oil", and the other on "Politician's Views – on Sustainability and Energy", together with some other contributions as well.

Peak Oil

This feature covers the recent media release of the SEF statement on Peak Oil, available on our website. This release was picked up by the Dominion Post who obtained an alternative viewpoint from the Petroleum Exploration Association of New Zealand, although in fact there was some measure of agreement, especially that the availability around the world of light sweet crude oils will soon start declining, leading to the greater extraction of tar sands and heavy oils with considerable economic and environmental implications.

Following this is a note that the global oil refinery business is increasingly going to have to process heavier crude oils, and also that much of the present spare oil capacity in Saudi Arabia (the only country in OPEC which presently has significant spare capacity) is made up of heavy oil, for which Saudi Arabia claims that there is currently no demand.

A recent speech from the Minister of Energy, Pete Hodgson, is noted, which acknowledges the challenge of Peak Oil, followed by a summary of three recent meetings held in Wellington each broadly on the topic of future oil shortages.

There follows a brief note on President Jimmy Carter's 1973 proposals on US energy policy, views of a man who was sadly many years ahead of his time, and then an alarming future forecast by a Russian writer, Dmitry Orlov, giving a comparison between the collapse of the Soviet Union around 1990 and a suggested impending breakdown of the US and world economies. His view is that once oil and gas become expensive and in ever shorter supply, economic growth will stop and the US economy will collapse.

Politician's views on Sustainability and Energy

This feature records the fact that in this pre-election season in NZ, panels of politicians can be assembled relatively easily to talk on any issue, including energy and sustainability.

There is a detailed record of the NZPVA/SEF Forum held on Monday 4 July, and a brief note

on the Energy Federation of NZ "Energy Policy Forum" held the previous Wednesday, 29 June 2005. Many of the speakers were the same at these two events and gave substantially the same presentation to each, so the note focuses on the views of two parties represented at the EFNZ Forum who did not present at the NZPVA/SEF event.

The third event was a more philosophical discussion on sustainability and addressing a wide range of sustainability issues, but the partial summary presented herein focuses on the energy and related matters which were covered. This event was held in Wellington on Tuesday 12 July with video links to Auckland, Christchurch and Dunedin, and arranged by the Institute of Chartered Accountants of NZ.

It was notable that only one political party (the Green Party) directly addressed the vexed issue of whether continuing economic growth (both nationally and globally) is compatible with the principles of sustainability, saying that there must be physical constraints on the capacity of Planet Earth to absorb continuing economic growth at current levels.

Response from Derek Wilson

That theme was taken up further in a response received by SEF from retired Wellington architect, Derek Wilson who attended both the NZPVA/SEF forum and also the Chartered Accountant's event, and notes that the information and views expressed by many politicians greatly disturbed him. He felt that the term "sustainability" as used by politicians during these discussions seemed to be brushed aside by some as being one of those loose words with little real meaning, and he notes how convenient this is for those who insist on "business as usual".

At the two panel discussions of politicians which he attended, he had expected some solid discussion on sustainability and notes that "instead we were met by that hoary myth that technology will save us".

Contributions Welcome

Under my editorship, EnergyWatch will aim to be controversial at times. Alternative viewpoints will be welcomed, either in Letters to the Editor, or in contributed articles.

John Blakeley

Contents

California's largest corporate PV installation

PV modules are powering 80% of the energy needs at the Oakland International Airport depot of the courier company FedEx.

The 904 kW system of Sharp modules is the largest corporate solar-power installation in California.

Kyoto Alternative Is A "Claytons" Agreement

By John Blakeley

The recently announced Asia Pacific Clean Development and Climate Partnership, which involves the USA, Australia, India, China, South Korea and Japan is really a "Claytons" agreement – the sort you have when really you don't have an agreement to do anything very much.

At the G8 meeting held near Edinburgh in early July, there was continued resistance by the USA to signing on to forceful measures to combat global warming. This looked likely to jeopardize one of UK prime minister Tony Blair's major goals for his year-long presidency of the G8 group.

Instead Blair focused on his other major goal for the group of relieving African poverty, saying that "America is not going to sign the Kyoto treaty so let's leave that to one side." At the end of their meeting, the G8 leaders released a watered-down agreement calling for voluntary carbon dioxide emission reductions, with the US administration wanting technological fixes to reduce global warming without limiting economic growth.

Earlier this year, since March the USA had been secretly negotiating a separate agreement from Kyoto and was involved in talks with the other five countries which have now signed up to it. This agreement focuses on accelerating the development of new technology to capture or reduce carbon dioxide emissions and increasing access to affordable, reliable and clean energy.

However the plan does not require specific commitments nor does the US administration predict what emission reductions will be achieved. Instead the goal is to establish a framework to allow the countries involved to co-ordinate a host of voluntary programmes, some of which the US has already started to pursue domestically.

The view is that under these voluntary programmes, India and China, the world's most populous countries with fast-developing economies, will be able to deliver real reductions in carbon dioxide emissions with the use of good technology, whereas they would never agree to curtail their development under Kyoto's quantitative emission limits.

The biggest problem now facing the Kyoto Protocol is what will happen when the first stage of the agreement ends in December 2012? The European countries have been very keen to draw both non- participating developed countries (USA and Australia) and developing countries into either an extension of the existing agreement or a new agreement, in order to offset the competitive disadvantage which the existing treaty imposes on its members.

In December 2004, representatives of 194 nations met in Buenos Aires to lay the ground for such an agreement to take effect in 2013. The European Union had been working hard among developing countries whose previous blanket opposition to binding targets was softening, China and India then split from the other developing countries to join the USA in opposing new negotiations on a replacement for the first stage ofKyoto. When China, India, USA and Australia opposed, there was no consensus for new negotiations when the conference ended.

This was the chance which the USA had been looking for to flesh out a pact that would focus on efficient use of technology and then to discuss this with the other countries which had joined it in opposing the proposals in Buenos Aires.

South Korea and Japan took more time to persuade to join the group. Japan only agreed to join very recently because it first wanted to be convinced that the deal would not undermine the Kyoto Protocol. The recent announcement of the pact stated that it will complement, but not replace Kyoto.

However the reality is that this new pact is likely to undermine Kyoto. Most European countries are now finding that it will be extremely difficult to meet their binding Kyoto targets by 2012, as also are Canada and Japan. New Zealand has also recently announced it may now possibly have a billion dollar deficit in required carbon credits during the first five year commitment period to the end of 2012, a sudden turnaround from predicting a credit surplus in that period.

Most of these countries agree that a successor to Kyoto can only be arrived at if more countries join, especially developing countries, in accepting binding emissions targets. This will be less likely with the advent of the new pact.

At present, the developed countries committed to Kyoto only produce about 35 percent of the world's greenhouse gas emissions and by the year 2020 may make up only 20 percent of these emissions, due to the fast economic growth of some developing countries, particularly China and India.

By contrast, the new pact already includes countries producing over 40 percent of the world's greenhouse gas emissions and this percentage is expected to rise by 2020, especially if other countries join it.

No country is likely to accept binding greenhouse gas emissions targets beyond 2012 with the financial penalties involved and the resulting competitive disadvantage, while countries with such a large proportion of the world's greenhouse gas emissions stay outside the Kyoto agreement.

The world is going to need cleaner and more efficient technologies to counter increased greenhouse gas emissions and maybe this new pact will actually lead to some development and dissemination of new technologies. However it does not involve even the softest of targets. With no baseline for assessment proposed to measure from, it could not have targets.

The pact includes some of the world's largest exporters and users of coal. They plan to develop new clean coal technologies but will take no responsibility at all if these do not work in reducing greenhouse gas emissions.

Meanwhile, the chances of the Kyoto Protocol surviving beyond 2012 now look extremely slim. The European Union countries are still talking of a new agreement to follow the existing Kyoto treaty in 2013 and they want it to have legally binding targets but are not at all specific.

However, the EU is not unanimous, Italy is back-pedalling and the ten new EU members are not wanting to get involved. No other country has come out strongly in support and now Japan has opted to go with other Asian countries, USA and Australia into this new pact.

The next international meeting on the Kyoto agreement to be held in Montreal in November 2005 is likely to be fraught. It must be no coincidence that the parties to the new pact have scheduled their first ministerial meeting to be in Adelaide two weeks before the Montreal meeting.

Another View

Shortly after the above opinion piece was written, an article appeared in Time Magazine (NZ Edition, 8 August 2005) expressing similar views entitled "A Real Fix or Just Hot Air?"

The article noted that from the start, there were doubts about the effectiveness of the Kyoto agreement because developing countries, such as China and India, were let off the hook so their economic progress wouldn't be impeded. The USA and Australia signed the Kyoto Protocol in 1997, but ultimately chose not to ratify the treaty saying that their economies would suffer too.

The article states that the countries taking part in this new six-nation initiative are responsible for 48 per cent of the world's greenhouse-gas emissions and that environmentalists see the initiative as being less of a complement than an insult to the Kyoto pact.

Some fear that it will deliver a fatal blow to Kyoto because it will attempt to lure in other countries from the Asia-Pacific region and expand its influence until it is big enough to ignore the Kyoto treaty.

Environmentalists also point out that the new agreement spells out no concrete goals to reduce global warming, sets no emissions targets for countries, and can't even be called a pact because the six countries merely endorsed a vision statement.

The next apparent step is for the six nations to meet in November in Adelaide to start work on a "nonbinding compact" that emphasizes consensus, co-operation and advanced technologies as the means to reduce greenhouse-gas emissions.

Environmental groups defend Kyoto and see nothing but backpedalling in the new agreement – if not something worse, like a protection of coal industries in Australia, the USA, China and India, which are four of the world's biggest coal producers.

One environmentalist notes that a single advantage to the new approach is that the Bush Administration in the USA is finally acknowledging that global warming is real and that fossil fuels play a role, but the dual pact approach is not helpful as the entire world community needs to come together on this issue.

Source: Time Magazine, 8 August 2005, pg. 40.

NZ Minister's Response

Climate Change Minister, Pete Hodgson was diplomatic in his response, noting that the language used in the new six-nation agreement indicates that they don't see the new agreement as replacing the Kyoto Protocol but working alongside it.

Hodgson said that we should welcome anything that might assist the further development of technology that will be good for the climate change issue.

He pointed out that NZ is also working on several research projects alongside its Kyoto commitments, including one with Australia on agricultural emissions and another with the USA including extracting hydrogen from coal.

Source: NZ Energy and Environment Business Week, 3 August 2005, pg. 2

NZ's Kyoto Commitment

By John Blakeley

The commitment is to add no more greenhouse gas to the atmosphere on average annually over the five years from 1 January 2008 to 31 December 2012 than we did in 1990 (the base year).

It now looks like we will exceed this by **36 million tonnes** of carbon dioxide equivalent over five years, which will have to be covered by buying credits from countries with a surplus. Previously we were thought to be in a credit situation of **33 million tonnes** over the five years.

A 16 June 2005 statement from the Climate Change Minister, Pete Hodgson, said that the principal reasons for this 69 million tonne turnaround are:

- Emissions, particularly from transport and also from electricity generation, have grown "as a result of NZ having one of the highest performing economies in the world". The emissions forecast is **up 38 million tonnes** over previous predictions.

- The way in which forest sinks are assessed. The benefit from sink credits has been revised **down 24 million tonnes** or 25 percent.

Kyoto Story Continues on page 26

Feature on Peak Oil

By John Blakeley

Brief Definition

Peak Oil – The point when oil production meets its maximum and begins to decline.

As global demand exceeds supply, oil will become increasingly scarce and expensive.

The end of cheap abundant oil represents an unprecedented challenge for humanity. It heralds the end of many things to which we have become accustomed; the ever growing economy, transportation as we know it, cheap food and goods from around the globe.

Source: Taken from a posting to SEF News from Anne FitzSimon dated 27 July 2005. Information on the "Second U.S. Conference on Peak Oil and Community Solutions" to be held in Yellow Springs, Ohio, USA on 23-25 September 2005.

SEF Statement On Peak Oil

On 8 July 2005, a statement dated June 2005 approved by the SEF Management Committee was posted to the SEF Website entitled "Peak Oil: An Urgent Issue for New Zealand", available at www.sef.org.nz

In a follow-up press release on 10 July entitled "Roads to Nowhere Leading Us Astray" the SEF Convenor, John Blakeley, noted that NZ is poorly prepared to meet the coming peak in world oil production and the resulting serious impacts on our way of life.

Tim Jones, co-ordinator of the SEF Transport and Peak Oil Group noted that most political parties agreed that, sooner or later, world oil production will peak and then decline, meaning that supply can no longer keep up with demand. He noted that "world oil production and refinery capacity is barely keeping pace with demand and prices are steadily rising. Once demand consistently exceeds supply, prices will rise even more sharply, and oil will become increasingly scarce. That's bad news for a country like NZ at the end of a long supply chain".

The statement notes that SEF wants the incoming Government to focus on Peak Oil as an urgent priority. All sectors of our society from agriculture to industry and transport will be affected.

"We need to develop strategies to help these sectors reduce their dependence on oil. We need a major expansion of public transport and rail freight options. We need to stop wasting money on new roads. We need to put in place effective vehicle fuel efficiency standards, and stop importing inefficient gas-guzzling vehicles".

"All New Zealanders need to think about this issue because it will affect them and their children. The longer we put this issue in the too-hard basket, the harder will be the transition to an era when oil is no longer cheap or plentiful. It's time to take action" concluded Mr Blakeley.

Response To The Statement

On Thursday 14 July the Dominion Post (in an article by Marta Steeman) picked up the SEF statement. It noted the SEF comment that the peak in production of light crude oil would lead to a sharp and sustained rise in world oil prices and there might be physical shortages of oil. Harder-to-extract and dirtier fossil fuels would be used but they had financial and environmental downsides.

The article then quoted a response from Dr Mike Patrick, executive director of the Petroleum Exploration Association of NZ calling the predictions of a Peak Oil crisis "oversimplified and alarmist".

"The critical thing is that it's going to be the end of cheaper oil" Dr Patrick said. But oil prices are still not as high as after the oil shocks of the 1970s when a barrel of oil was the equivalent of US$90 in today's prices.

"It's the end of light sweet crudes. There will come a time, it won't be 2007, when those resources will start declining" Dr Patrick said.

With the advent of higher prices, oil from different sources – such as tar sands from Canada or heavy oils from Venezuela – would become more economic to extract and refine.

"The peak in world oil production including these heavy oils would be decades away" Dr Patrick said. "The oil industry suggested 30 to 50 years away and SEF did not factor in the tar sands and heavy oils. Dearer oil would be produced from these sources and the world economy would not crash as a result".

Also technologies would enable diesel to be extracted from other sources such as coal. Such technologies were proven but expensive. Other technologies would replace the use of oil gradually.

Source: Dominion Post, Page C5, Thursday 14 July 2005

Recent News Items

Likely Changes In The Oil Refining Business

Refineries around the world are already having to process increasingly heavy crudes, while supplying a market that wants more and more petrol and middle distillates, but shrinking quantities of heavy fuel oil. The result is a present glut of heavy, dirty, bitumen that needs to be turned into something saleable.

Recent Changes In Global Oil Production Figures

In June 2005, OPEC countries produced an additional 80,000 barrels per day (b/d) of crude oil to push up average production over the month to 30.1 million b/d. Five countries increased output by a combined 140,000 b/d but this was partly offset by 60,000 b/d of reductions.
The inability of OPEC to produce much more is perhaps indicated by this relatively small overall increase at a time of high oil prices.

Saudi Arabia is the only member of OPEC with a significant volume of spare capacity, but much of this is made up of heavy oil for which Saudi Arabia says there is presently no demand.

Iraqi volumes rose by 30,000 b/d to a total of 1.85 million b/d, being about 6% of total OPEC production, but ongoing infrastructural problems in the South of Iraq continued to limit output and exports.

Source: "Platts Guide to OPEC"

Recent Statement By Energy Minister

In a recent speech (19 July) to Transport Operators, the Minister of Energy, Pete Hodgson, noted a near six-fold increase since 1999 in the government's passenger transport budget from $41.4 million to $250 million annually over six years. "The reason for this is that we know public transport is a vital component of a sensible transport future" the Minister said.

He then went on to talk about the challenge of Peak Oil. He noted that when he first started including this in his speeches, it was something few people had heard of and fewer still understood. He noted that this did not mean the end of oil. Instead, it is the end of the era of cheap oil to power vehicles. It will put into sharp focus who is prepared to pay what for the oil that is available.

The Minister noted that "The big debate is .... when this will occur and the range of viewpoints is substantial. However it will be this century and more likely the first half than the second".

He then went on to emphasise the need for greater efficiency in transport fuel use and also the introduction of biofuels. "It is time to

make a start on this issue. We already have a feedstock for biodiesel, even though the level of substitution will inevitably be modest for the first few years" the Minister said.

Source: Posting to SEF News from the SEF office dated 19 July 2005, based on speech notes provided in a media release from the Minister's office.

Summary Of Recent Meetings

Saving Oil in a Hurry

On 2 June, Heather Staley, the head of EECA, reported back on the International Energy Agency workshop Saving Oil in a Hurry, which she'd attended in March (see http://www.iea.org/Textbase/work/2005/oil_demand/FinalAgenPresentations.htm). At the time of this workshop, there had been a lot of speculation that it was the IEA's response to concerns about the imminence of Peak Oil, but Heather Staley was careful to assure her audience that the focus of the seminar was strictly on measures which countries could take to deal with short-term disruptions to oil supply, such as those which might be caused by terrorism, natural disaster, or strike or blockade action.

The workshop looked at various countries' experiences of imposing sudden energy demand reduction measures, including New Zealand's experience of demand reduction measures during electricity shortages. The UK experience during the blockades of oil depots in that country in 2000 was also discussed; when this emergency arose, the UK discovered that its plans for dealing with such a situation dated back to the 1950s.

Because the demand for oil is very price-inelastic over the short term - that is, consumption doesn't drop steeply and immediately when prices rise sharply (although consumption will drop over the longer term) - price rises by themselves will not be sufficient to reduce short-term demand. Some form of rationing measure will therefore be needed; a radical suggestion from the UK is that, in the event of a serious supply disruption, petrol and diesel sales should be banned completely at first, and then selectively reopened as the supply situation becomes clearer. I suggest that public reaction to such a move would be interesting to observe - from a safe distance.

Some causes of supply disruption - destruction of a major production facility, tanker accident in a vital waterway - are readily visible. But I asked, in the event of a less spectacular supply disruption, how countries would know whether the disruption was caused by short-term factors, or by the advent of Peak Oil. In discussion, no-one seemed quite sure how to tell the difference, although many of those present - mainly from the oil and transport sectors - were dubious about the concept of Peak Oil in any case. Nevertheless, even the Peak Oil sceptics saw short-term supply disruptions as a serious risk, and supported efforts to put a plan in place to deal with such disruptions. Some of the measures included in such a plan may also be appropriate as an initial response to the onset of Peak Oil.

Source: Tim Jones

The End of Oil

On 14 June, Dr Bob Lloyd, of the Energy Management division of the Physics Department, Otago University, delivered his presentation "The End of Oil" to the Energy Management Association of New Zealand (EMANZ) in linked teleconference locations: Christchurch, Wellington, and Auckland.

I attended this presentation on behalf of SEF, and was very impressed by Dr Lloyd's ability to explain the complex issues surrounding oil depletion with balance and clarity. I have asked Dr Lloyd to make his presentation available online, but in the meantime, here are some key points from his presentation - these are taken from my notes, so any errors of fact or interpretation are mine.

Oil is a finite resource. No-one knows exactly how much oil the world has, but most estimates range between 2000 and 3000 billion barrels in total. In 2000, the United States Geological Service estimated 3000 billion barrels. Dr Colin Campbell of the Association for the Study of Peak Oil (ASPO) estimates 2400 billion barrels.

The 1000 billion barrel difference between the lower and upper estimates sounds like a lot, but it makes surprisingly little difference to the date at which half of all the world's oil will have been used - although that difference may be crucial in terms of preparation time for the decline which lies on the far side of this peak. At the end of 2004, 1055 billion barrels had been extracted and used. Current world consumption is 84.7 million barrels per day, or just over 30 billion barrels per year. At the current consumption rate, the remaining oil would last between 30 and 60 years, but the rates of oil production and consumption are increasing at between 2% and 4% per year.

Therefore, if total world oil reserves (T) = 2000 billion barrels, we have already extracted and used more than half the world's oil. If T = 2500 billion barrels, then we will have used half the reserves in 2012. If T = 3000 billion barrels, then we will have used half the reserves in 2018. Because of the way oil is extracted from oil fields, the peak in world oil production will be reached at or around the point at which half the total oil has been extracted.

There are some caveats here. The figures given above refer to "conventional oil", and some oil resources, such as tar sands and oil shales, are not included. However, these resources are far more energy-intensive to extract than is conventional oil, and there comes a point at which the energy cost of extracting "difficult" oil exceeds the energy value of this oil. Essentially, these non-conventional resources do not significantly change the overall oil depletion picture. Furthermore, because of the ways in which some conventional oil fields have been managed, it may not be possible to extract all the oil which is in them.

A report recently produced for the US Government, Peaking of World Oil Production: Impacts, Mitigation & Risk Management (commonly referred to as the Hirsch Report), concludes that it would take the US between 10 and 20 years to ramp up the production of alternative fuels, both fossil (e.g. oil from coal, unconventional fossil oil) and renewable, to the point where, combined with demand reduction measures, they could meet the transport energy needs of the US. When combined with the conclusion that we have somewhere between no time and thirteen years to prepare for the peak in world oil production, the implications are clear and disturbing.

Note: Dr Lloyd's presentation, in the form of an essay with illustrations, is now available online at http://www.physics.otago.ac.nz/eman/The%20End%20of%20Oil%20essay%201.pdf

It's a 750KB PDF file, which takes some time to download, but is well worth reading.

Peak Oil: The New Zealand response

On the evening on Monday 4 July, Jeanette Fitzsimons, co-leader of the Green Party, addressed a meeting of over 120 people at Aro Valley Community Centre in Wellington on Peak Oil, its implications for New Zealand, and what we should do about it. After Jeanette's cogent presentation, the questions went on for almost an hour. It seemed that many in the audience had moved on from arguing the merits of the Peak Oil case, to questioning what New Zealand could do to mitigate, and adapt to Peak Oil and its aftermath.

I asked Jeanette what the incoming Government, whatever its composition, should do about Peak Oil during its first twelve months in office. Here's my synopsis of what she suggested:

1. Carry out a sectoral analysis of the NZ economy, looking at each sector's vulnerability to Peak Oil.

2. Ban the importation of motor vehicles older than seven years unless they meet appropriate fuel economy & efficiency standards, and set energy efficiency standards for motor vehicles.

3. Major spending on rail.

4. Major spending on public transport - mainly urban, but also rural public transport systems where these still exist.

5. Accelerate work on biofuels, especially on including biofuels in the wood processing strategy.

6. Solarisation programme.

7. Farming energy use investigation/ programme.

8. Look at NZ's trading relationships in the light of Peak Oil.

I will be delighted if the incoming Government undertakes all, or even most, of this programme of work.

Source: Tim Jones for all three meetings.

A Man Ahead of his Time?

In 1973, at the time of the first "oil shock" and a little over three years before he became US president, Jimmy Carter proposed a new energy policy for the USA. "We simply must balance our demand for energy with our rapidly shrinking resources. By acting now, we can control our future instead of letting the future control us" he said. "The most important thing about these proposals is that the alternative may be a national catastrophe. Further delay can affect our strength and our power as a nation."

"Ours is the most wasteful nation on earth" he said (a point that is still true). "We waste more energy than we import. With about the same standard of living, we use twice as much energy per person as do other countries like Germany, Japan and Sweden".

"We can delay insulating our houses and they will continue to lose about 50% of their heat in waste. We can continue using scarce oil and natural gas to generate electricity and waste two-thirds of their fuel value in the process. If we fail to act soon, we will face an economic, social and political crisis that will threaten our free institutions".

"From now on, every new addition to our demand for energy will be met from our own production and our own conservation. The generation-long growth in our dependence on foreign oil will be stopped dead in its tracks right now, and then reversed as we move through the 1980's. In addition we need to develop a long-range strategy to move beyond fossil fuel" Carter said in 1973.

Subsequent Events

In the late 1970's and early 1980's think tanks emerged – many of whose names are familiar today – to suggest that there was really no energy problem.

When Ronald Reagan became US President early in 1981, one of his first official acts in office was to remove from the White House roof solar panels which had been put up by Jimmy Carter. He also reversed most of Carter's conservation and alternative energy policies.

Today, under President George W. Bush, young American men and women are becoming casualties almost daily in Iraq, a country with the world's second largest store of underground oil. In a recent energy bill, President Bush proposed US$8 billion of subsidies to the US oil business, just as the nation's oil companies were reporting their highest profits in the entire history of their industry.
While American people now struggle to pay for gasoline, the Bush administration refuses to increase fuel efficiency standards for motor vehicles and to stop the substantial tax breaks

for buying vehicles such as Hummers (which may not achieve 10mpg or 28.3 litres/100km, whereas today a small hybrid motor car can readily achieve about 51mpg or 5.5 litres/100km, over five times more fuel efficient).

Source: Posting to SEF News from Paul Bruce on 22 July 2005.

An Alarming Future Forecast

A recent article published in the journal "From the Wilderness" by Dmitry Orlov entitled "Post-Soviet Lessons for a Post-American Century" gives an alarming comparison between the collapse of the Soviet Union around 1990 and a suggested impending breakdown of the US and world economies.

However an important difference between the collapse of the Soviet Union and the "dissolution which now confronts us" is that Russia was able to survive the collapse and stage a comeback, because it was largely a political and economic collapse. Russia still has a rich resource base, and most importantly, vast energy reserves. Moreover it was a regional collapse; there was a healthy world outside Russia to which it could turn for aid.

Following the global peak of oil and worldwide irreversible decline in energy production, there will be little left on which to stage a comeback. Any economy which is dependent on hydrocarbon energy will be slowly constricted.

The article notes that the USA is now desperately dependent on the availability of cheap, plentiful oil and natural gas, and addicted to economic growth. Once oil and gas become expensive (as in already starting to happen) and in ever-shorter supply (a matter of one or two years at most), economic growth will stop, and the US economy will collapse.

The article considers wars over resources and notes that wars take resources, and when resources are already scarce, fighting such wars becomes a lethal exercise in futility.

"Take for example the last two US involvements in Iraq. In each case, as a result of US actions, Iraqi oil production decreased. It now appears that the whole strategy is a failure that has left Iraqi oil fields so badly damaged that the "ultimate recoverable" estimate of Iraqi oil is now down to 10-12% of what was once thought to be underground (according to the New York Times).

Source: Posting to SEF News from Brent Efford on 26 July 2005

One Man's Response To Peak Oil

A man who had spent more than $4,500 of his own money in the last six years to highlight the impact of an impending oil shortage saw his campaign costs go up by $1,500 after appearing in the Levin District Court.

The Te Horo resident was found guilty of willful damage and the fine in reparation costs was to cover damage to a National Party billboard. He was also ordered to undergo 60 hours of community service.

The man pleaded guilty on legal advice. He had plastered his website address (www.oilcrash.com) on National Party billboards, but also in many other places from the Mt Victoria tunnel in Wellington to power poles in Waikanae.

He said that he was one of an increasing number of people concerned that politicians are not alerting the public about Peak Oil and that the recent rise of oil prices to US $60 per barrel was just an inkling of a major shortage to come.

Source: Posting to SEF News from Anne FitzSimon on 18 July 2005. News item taken from the front page of the Kapiti Observer on 18 July.

Feature on Politician's Views, on Sustainability and Energy

By John Blakeley

Introduction

Below EnergyWatch presents summaries of three recent events involving politicians talking about sustainability and energy issues. With a general election looming, it is very easy at present to assemble a panel of politicians to talk on any issue if they can be provided with an audience, but it was nevertheless pleasing to see them all coming and making a good effort to present their views on behalf of their parties.

The first summary presented in detail is from the joint forum on Sustainable Energy Issues arranged by the NZ Photovoltaic Association and the Sustainable Energy Forum, and held in Wellington on Monday 4 July. The second brief comment is by Tim Jones on the Energy Federation of NZ "Energy Policy Forum 2005" held in Wellington on Wednesday 29 June. Because many of the speakers were the same at both these events and gave substantially the same presentations to each, Tim has focused on the views of the two parties (NZ First and Progressive) who did not present at the NZPVA/SEF event.

The third (partial) summary is from a "Politician Dialogue on Sustainability" arranged by the Institute of Chartered Accountants of NZ on Tuesday 12 July in Wellington, but also with video links to Auckland, Christchurch and Dunedin. The dialogue ranged over a variety of sustainability issues, but this partial summary focuses on energy and related matters which were covered.

General Comments

There was a surprising unanimity between the political parties on some issues. In particular, with energy consumption of transport in NZ being over 40% of our total consumer energy consumption, there was good agreement that our national vehicle fleet must become more fuel efficient. This was in terms of present vehicles needing a higher level of maintenance and tuning (from both a fuel efficiency and vehicle emissions viewpoint), but also the continuing importation of large numbers of secondhand cars whose fuel efficiency is far from optimum causes considerable concern. As other countries tighten up their standards, the prospect causes much anxiety that NZ is likely to become a dumping ground for secondhand vehicles which are non-complying elsewhere (on both fuel efficiency and emissions requirements). However when it came to considering what to do about this prospect, the political party's views tended to disagree considerably.

Note: As an aside, in a letter to the NZ Herald on 19 July a correspondent, Chris Willy of Dargaville suggested that whereas "...high-tech, super-clean, computer-controlled diesel cars have become the new car of French choice, in NZ less than 1 car in 10 is diesel and invariably these are smoky, abused Japanese imports, with archaic injector technology that the Government does not have the stomach to ban, while it pays lip service to cleanliness and the Kyoto Protocol."

Likewise there was broad agreement that NZ houses needed to become much more energy efficient, but when it came to considering what to do about this, the views diverged considerably, with some parties being very much opposed to any form of subsidization (but United Future NZ has a very bold plan for up to $5 billion to be made available from the private sector to make all our homes more energy efficient).

However on the major issues of Peak Oil and Climate Change/Kyoto Protocol, there was a large gulf between the views of parties broadly to the right of the political spectrum and those to the left. For the former there was only a vague acknowledgement that there might be major problems in the future and with one

party (ACT) almost in complete denial. For the latter, there was much more awareness and acknowledgement of future problems, but views on specific actions to be taken now were rather variable.

Finally on the vexed question of whether continuing economic growth is compatible with the principles of sustainability, only one party (Green Party) directly addressed this issue, saying that there must be physical constraints on the capacity of the planet to absorb continuing economic growth at current levels. Some other parties seemed to be under the delusion that somehow technology will solve all our future problems, enabling the world to have continuing rapid economic growth and sustainability at the same time.

This growth issue is further addressed below in a response which SEF has received from a retired architect, Derek Wilson.

NZPVA/SEF Forum Of Political Parties On Sustainable Energy Issues

The Forum was held in the Auditorium in the National Library in Wellington at 12.30pm on Monday 4 July.

Speakers and their parties were:

ACT Party	Ken Shirley
Green Party	Jeanette Fitzsimons
Labour Party	Harry Duynhoven
National Party	Phil Heatley
United Future NZ	Gordon Copeland
Maori Party	Monte Ohia

Each speaker was given ten minutes to give an address and suggested topics to be covered included the impact of "Peak Oil" on New Zealand, a sustainable energy strategy for New Zealand, improving the fuel efficiency of vehicles, the Kyoto Protocol, and community involvement in energy issues. Questions were then invited from the floor.

Ken Shirley – Act Party

On the issue of Peak Oil, he challenged the basic premise as there is another view which needs to be put, and there is an issue of balance. He believed that there was now more recoverable oil known about in oil fields around the world than there was 35 years ago.

He stated that in 1971 there was an estimated 1500 billion barrels of oil available to recover around the world and only 800 billion barrels of oil were extracted over 30 years to 2001.

He acknowledged that oil price continues to be a concern but is very reluctant to buy into the "Woe the end is near" argument.

On the question of a sustainable energy strategy, he believed that the question had an inherent "oxymoron" aspect to it as from the late 1980s, successive governments have moved away from centralised planning in energy towards free market policies. However political interference over the years since has meant that the market has been shielded from receiving the right price signals.

On the fuel efficiency of vehicles issue, he noted that New Zealand is at present importing used vehicles which wouldn't meet acceptable standards in some other countries. Also there is a need for better maintenance of our motor vehicle fleet.

On the Kyoto Protocol, it is a "politicised instrument" which even if fully implemented would not fulfill its basic objective. He also rejects the notion that it is a first step towards meeting climate change concerns and ACT would advocate withdrawing from the Kyoto agreement.

Jeanette Fitzsimons – Green Party

She said that the energy policy of the Green Party is based on sustainability and more rapid development of renewable energy. We must prepare for the onset of Peak Oil and a transition has to be planned. There is a need to analyse each sector of the New Zealand economy and

its particular vulnerability. She believed that there is a particular need for fuel efficiency standards for motor vehicles and to develop the use of biofuels.

With regard to the Kyoto Protocol, she said that her party does accept the reality of climate change and the need for New Zealand to now change its energy policies to seek to meet our Kyoto targets, rather than having a big deficit by 2012. The Green Party policy is to have no new coal-fired power stations, and it supports the carbon tax and wants more renewable energy.

She said that her party feels that transport policy is crucial, in moving away from "one person, one car" to much better provision of public transport. If we do find new gas fields it will be absurd to use the gas in power stations at less than 50% efficiency so new gas must be used directly as a fuel.

She said that there is a need to fix the present "turf war" between the Electricity Commission, EECA and the Climate Change Office as to who is responsible for developing government policies on energy efficiency and renewable energy. Also there is a need to boost plantation forestry.

On energy strategy she said that her party's policy is to turn the Electricity Commission into a Sustainable Energy Commission with an ability to look more widely across energy forms.

With regard to photovoltaics, she commented that they will not be the next renewable form of energy "off the block". There is a need to arrange the rules of the electricity market to not in any way penalize distributed generation. At present it is best to use solar energy for direct heat. The Green Party have developed a scheme for 0.5 million solar water heating panels to be manufactured over five years to enable the local solar energy industry to improve its capacity. When photovoltaics become more economically competitive, the Green Party will probably promote the same concept of producing 0.5 million solar PV panels, as otherwise it will be difficult for the local industry to produce economies of scale.

The Green Party want most new cars being imported to be smaller and more fuel efficient and New Zealand should ban importing older used cars which are fuel inefficient. The Green Party also want to provide a "one stop shop" advisory system for householders around the country wanting to be more energy efficient, and also to completely abolish fixed line charges for the primary residence of householders.

Harry Duynhoven – Labour Party

He said that Labour is committed to provide efficiency in energy use and security of supply for all users. The government's focus is on sustainable energy but that doesn't mean that environmental concerns are given priority above all else.

He noted that internationally, the IEA has seen a change in approach towards encouraging renewable energy. Also he noted that in 2003, the Government's "Sustainable Management Programme of Action" had identified sustainable energy as one of the first four priorities and the Government is now working on a policy document on "Sustainable Energy."

Also, Labour has created the Electricity Commission to provide light-handed regulation of the electricity industry on behalf of the Government.

As far as Peak Oil is concerned, he doesn't know when this will occur but by moving towards more uptake of sustainable energy solutions now, New Zealand will be better prepared for it when it does come.

He said that promoting more energy efficiency is an important component of New Zealand's energy policy and the Government wants to make us 20% more energy efficient as a country by 2012, with a focus on renewable energy as well.

He said that for electricity generation, new projects using renewable energy are likely to dominate over new projects using other energy sources for the next twenty years, but there will always be some thermal energy used and the Government is committed to the more efficient use of gas in particular.

The Government also wants to see more efficiency in the whole vehicle fleet, more use of biofuels and energy labelling of vehicles, but he noted that fuel efficiency labelling is not easy because New Zealand is an "information taker" in this regard, and because of the complexities of the various standards in different countries.

He said that the Government supports the Kyoto Protocol as the only global solution at present to climate change, and to ignore it would be irresponsible and by the end of this century, climate change is likely to cause serious harm in New Zealand because so much of our income is from land-based production.

He said that we can't afford to wait worldwide for lagging countries to sign up to Kyoto. We need to promote energy use which is less greenhouse gas intensive, to put New Zealand on a permanent downward path of greenhouse gas emissions by 2012 without affecting "business as usual". He said that Labour is also developing a project to reduce motor vehicle emissions. In conclusion, he said that Labour will work to promote for New Zealand a sustainable energy future with economic growth.

Phil Heatley – National Party

He commenced by emphasizing the importance of infrastructure development in New Zealand, which is essential if we are going to get back into the top half of the OECD in living standards.

He said that a secure energy supply is absolutely essential to economic growth. In his own electorate of Whangarei, there is a large forestry sector and it needs a secure energy supply for new forestry processing plants to be established. He said that the National Party supports energy conservation as a good and sensible thing to do, and it makes good economic sense to conserve energy.

He said that the National Party supports the work of EECA but not restrictions to energy use caused by under-investment in infrastructure. He also said that there is much to be said in favour of building new roads. Cars idling for an hour in a traffic jam each morning and evening do nothing to assist energy conservation or reduce vehicle emissions.

The National Party believes that there is a need to have a serious look at the RMA to help build these roads on time and to get road contracting firms up to full speed, and that the proposed carbon tax, and the RMA, are likely to become barriers to facilitating construction of new energy projects in time to meet future energy demand.

The National Party believes that New Zealand will need a combination of all economic sources of energy including energy conservation, renewable energy and distributed generation to meet its future needs. Wind power will not be a "silver bullet" and even that energy source has its objectors under the RMA and it won't solve our problems. Only a mix of energy sources will.

The National Party believes that with the rundown of the Maui gas field, New Zealand needs more exploration for gas and oil. Importing of LNG should only be considered as a last resort as his party would prefer New Zealand to use its own energy resources. Also use of natural gas as a direct fuel is much preferable to using it to generate electricity because of the much greater efficiency of energy use.

He said that technology solutions such as the hybrid car are promising, and greater vehicle energy efficiency is important, and he agreed that the issue of importing second-hand fuel-inefficient vehicles has to be addressed.

He said that National will allow electricity lines companies in New Zealand to invest

in new electricity generation plants without limit (noting that at present they can invest in electricity generation in Australia but not here in New Zealand). National will not introduce a carbon tax as long as countries with which we compete internationally do not have this tax. National will withdraw from the Kyoto Protocol at the end of the first commitment period in 2012 but will consider withdrawing in 2008 if it is seen to be harming New Zealand economically.

Finally he again emphasized that the RMA will be radically overhauled if National is elected as the government later this year.

Gordon Copeland – United Future NZ

He noted that copies of the United Future energy policy were available following the meeting. His party believes that the free market model provides the best solution to long term energy problems of security of supply, and economically competitive solutions are essential in providing for New Zealand's future energy needs, at the same time maintaining environmental standards.

His party will convert Transpower to become a public utility. Alternative energy options and future energy sources will be carefully considered and his party will set up a Future Energy Forum.

Technical solutions such as hybrid cars are important. The Toyota Prius had already been mentioned and he noted that the Honda Civic hybrid reduces fuel consumption by 30% over a normal Honda Civic car. His party would also promote the use of hydrogen as an energy source. He also noted that the EU and Japan have recently committed US$16 billion to developing a new nuclear fusion facility.

He said that his party strongly supports energy efficiency measures to reduce pollution and increase security of supply and lift economic profitability. They would make EECA the lead agency to reduce energy consumption in SME's and for retrofitting existing homes with energy efficiency improvements. They would develop a national strategy using private sector funding for upgrading all New Zealand houses to a better standard of insulation.

United Future NZ would boost research and development for new energy technology and proposes that all existing houses be assessed for their energy efficiency rating using a standardized system. They would provide new sources of housing money for this purpose, and propose making $5 billion available to make all New Zealand's homes more energy efficient.

They would also promote the use of LPG for home cooking and for transportation.

United Future NZ is opposed to New Zealand ratifying the Kyoto Protocol as it is based on "debatable science" and will provide little or not environmental gain. Accordingly United Future opposes the introduction of a carbon tax, but does support new measures to absorb carbon emissions, including planting new forests on marginal lands, and especially near rivers and streams. This would reduce pollution of waterways, and help the environment as well as absorbing carbon emissions. However to encourage such planting will require an incentive to be given to the forest owners.
United Future NZ do support energy labelling of cars and getting rid of old cars with excessive emissions, and would be happy to work with either National or Labour in the next government.

Monte Ohia –Maori Party

He commenced by stating that "Peak Oil" is coming and is a major issue, and will change life as we know it, so the time to act is now. The IEA predicts it will happen sometime between 2013 and 2037 but the Association of Peak Oil say it could occur in 2007. Whenever it occurs it will have a dramatic effect. The Maori Party believes New Zealand should act as though Peak Oil is upon us and in that way be better prepared to cope with it when it occurs.

He noted that New Zealand is a "minnow" in global economics and subject to economic forces beyond its control with very limited negotiating power and only producing a small fraction of the oil which we use, so we could lose as much as 84% of our oil supply and vehicle use would then have to be strictly rationed.

On 16 July 2005 the Maori Party will hold a meeting to discuss this topic and submissions include making the government itself less dependent on motor vehicles and using only new fuel efficient vehicles in its fleet.

The implications of Peak Oil need a very big education programme, as a dramatic reduction in vehicle use isn't going to happen without the commitment of the country as a whole.

He suggested that more use of photovoltaic electricity could help reduce peaks in electricity use and believes we need a New Zealand-wide strategy to average out peak electricity loads for all of us, rather than leaving this to individual energy companies.

The Maori Party would propose that solar water heating in all new houses be made compulsory and passive solar design be made compulsory for all new buildings. There should be incentives to install solar water heating in existing houses and energy efficiency improvements. The Maori Party would propose tax breaks to install solar water heating and also to use more efficient motor vehicles.

The Maori Party would promote energy labelling for all cars and wants to get all cars coming on to New Zealand's roads to meet a requirement of 5.8 litres per 100 kilometres (48.8mpg) by 2009. Without regulation, NZ is likely to become a dump for second hand imported vehicles not being admitted to other countries.

He said that we need a balance between new and second hand imported vehicles but they must all be fuel efficient. His party supports and encourages the Kyoto Protocol and would promote community-based energy solutions such as micro hydro, photovoltaics and wind power.

Finally, he noted that in the private sector, companies are not investing enough in cost-effective energy efficiency technology because the message is not getting through to them.

Discussion

1. Tim Jones asked Labour and National what investigation they've done as to when "Peak Oil" might occur.

In response, Harry Duynhoven said nobody knows. The IEA say 2037 but then hedges it by saying anywhere between 2013 and 2050. He noted that only one year ago in the USA, GM and Ford were churning out millions of SUV's (and other light utility vehicles used by private citizens). Now these companies are very worried as they think their market for such vehicles may disappear. He noted that EECA have been tasked with coming up with ideas for a more energy efficient future. We are already well down the path on appliance energy labelling, and vehicle energy labelling will follow. Technology will be the biggest decider, for example, the Kapuni national gas field has lasted much longer than originally expected due to better utilization of the resource. There are many things we can do and are doing.

Phil Heatley said that the National Party is not pushing any particular date for "Peak Oil". Technology will overtake any current estimate. In terms of achieving solutions, we need to address the exploration of our oil and gas reserves, address efficiency of energy use especially in the importation of used cars, and meet our future energy requirements from a mix of fuels.

2. A question was asked of the Maori Party as to how seriously they are investigating the nuclear power option.

In response, Monte Ohia said that it is just one of the options to be considered, and also the

issue of how to make it more acceptable in the New Zealand context.

3. A questioner asked whether old cars should be penalized. He has an old Triumph Herald which actually is more economical than his new Toyota Corolla.

In response, Harry Duynhoven agreed that classic cars should not be unfairly treated, as they are usually driven very sedately and are well serviced. However when achieving the same performance level, a modern car would be more fuel efficient. The government is not making getting rid of classic cars an objective. What they are going after is older cars which are not well maintained and not in good condition. The vehicle fleet in recent years has actually got older, not younger. Initially when imported second had cars first began to arrive in large numbers in New Zealand, it did happen that cars got younger, as all the very old (mainly British) cars were got rid of, but this is now no longer the case.

Gordon Copeland said he believed that this was not an "age thing" at all but mainly caused by lack of maintenance and tuning. He said that overseas visitors express amazement at seeing cars commonly emitting large amounts of black exhaust smoke which would not be allowed in other countries.

Jeanette Fitzsimons said that the Green Party is proposing a seven year age limit on second hand imported cars, as this marks the time when Japanese cars became more fuel efficient.

4. The same questioner noted that wind farms are the cheapest option for new electricity generation at the moment, but is there a problem with the wholesale electricity market as far as wind power is concerned?

In response, Harry Duynhoven said that gas prices have had a big influence on electricity pricing in New Zealand. The electricity reforms of the 1990s did not provide the anticipated competitive pressures, especially on price. He said that it is self evident that wind energy is now affordable, given the number of projects which are now being planned and being built.

Jeanette Fitzsimons said that the wholesale electricity market sales need a bit more "tweaking" especially as far as distributed generation and small renewable energy projects are concerned and transmission charges also need to be looked at. She noted that because of the nature of the wind resource in New Zealand, wind power has a higher load factor than any other country, which has helped to now make it competitive on cost for electricity generation.

5. Steve Goldthorpe noted that Phil Heatley is his local MP, and asked him if he supports the Marsden B coal-fired power station proposal?

In response, Phil Heatley said that if this project is not environmentally "clean" then it shouldn't go ahead, so it must meet high environmental standards.

Jeanette Fitzsimons said it is important to make the distinction between local air pollution and climate change issues. She said that there is nothing that anybody can do about Marsden B to reduce its climate change impact. Even if carbon sequestration eventually comes, it cannot be retrofitted to existing power stations, so in her view, because of the severe implication of climate change, no more thermal coal fired power stations such as this should be allowed in New Zealand.

Phil Heatley and Ken Shirley confirmed that neither the National or ACT parties will close down thermal power stations.

Harry Duynhoven said that the electricity market is what we have to deal with, and it is difficult to directly influence people in how they use energy resources. There is a need to utilize the most advantageous energy sources (or fuel) and then convert it to electricity in power stations with the most efficient use of these resources.

Jeanette Fitzsimons said that all presently confirmed natural gas reserves are at present

under contract to existing proposals for gas-fired power stations, even though these have a 50% energy loss on conversion to electricity. We should be using more natural gas as a direct fuel. She then briefly described the proposal of the Green Party to make 0.5 million solar water heating panels over five years in a competitive tender process to enable the solar water heating industry to achieve economies of scale and thus reduce the price.

Ken Shirley said that the ACT party had no plans to subsidise such an industry.

Harry Duynhoven noted that a small amount of money is in the next budget for financial assistance for those wishing to install solar water heating.

6. A questioner asked why the public are not taken into confidence and given more information about future energy issues?

Gordon Copeland said that United Future believed that the government should make all energy information available to the public.

Jeanette Fitzsimons said that the days of cheap oil are numbered and the Green Party's policies are driven by knowledge of the Peak Oil issue. There is a need to get on with making New Zealand more energy efficient and putting out more information to people on things like energy efficient light bulbs.

However politics is "the art of the possible" and there is a need to take the people with you in measures which a government wishes to implement.

The speakers were thanked for their contributions and the meeting closed at 2.20pm.

Notes prepared by: John Blakeley

Notes From The Energy Federation Of New Zealand (EFNZ) Forum On Political Parties' Energy Policies, 29 June 2005

Two parties which presented their energy policies at the EFNZ forum did not take part in the NZPVA/SEF forum on 4 July. Here are summaries of their presentations to the EFNZ forum.

For New Zealand First, Peter Brown MP dealt almost entirely with electricity generation. He said that there should be more generation, and that all possibilities should be considered (although he ruled out nuclear power) and a range of energy sources should be used. He expressed scepticism about the public acceptability of wind energy. New Zealand First believes that lines companies should be allowed to get involved in new generation.

New Zealand First's three key priorities for the electricity sector are:

1. Security of supply
2. Greater investment
3. Reasonable prices

New Zealand First sees coal-fired generation as the best means of achieving these priorities.

On the Kyoto Protocol, Peter Brown said that New Zealand First was not committed to imposing a carbon tax ahead of our major trading partners. He also said that he does not share the fatalistic view that many of the world's energy resources are doomed.

For the Progressive Party, James Palmer spoke on behalf of party leader Jim Anderton. He started by saying that the Kyoto Protocol is central to a sane energy policy, and the Progressives support it, and think we should do more to reduce emissions. A "head in the sand" approach will be discredited by history.

We also need to reduce dependencies on fossil fuels. We are heavily exposed to price rises and shortages of transport fuels, and we need more leadership from Government in this area, and more measures to increase fuel efficiency. (In 2001, he said, Labour opposed a proposal by the Progressives for mandatory fuel efficiency standards.)

We need to reduce public sector energy use and update the building code to require more energy-efficient buildings. By 2050, we should reduce New Zealand's greenhouse gas emissions by 60% below the present level.

Source: Tim Jones

Politician Dialogue on Sustainability, 12 July 2005

Dr Nick Smith – National Party

A lot of environmental problems are caused by poor environmental pricing. National's policy is based on the principle that economic and environmental success must go hand in hand, as much as possible, giving people choice and incentives rather than dictates, and it needs to be science-based.

In regard to infrastructure, the RMA does need major reform as it leads to costs and delays. The first phase will be process issues and the second phase will address more complex issues, such as the need to move to tradeable water rights.

Ken Shirley – Act Party

The RMA evolved from the same thinking as the Rio "Earth Summit". The sustainability concept is flawed as it doesn't say how long it means by "future generations". The concept of sustainability makes no allowance for innovation and you can't match innovation with finite resources (e.g. the internet can now replace copper wire with fibre optics). "Peak Oil" is another example of centralised thinking and the facts don't support it. A recent article in "The Economist" says that in 1970 there were an estimated 1500 billion barrels of oil reserves globally and only 800 billion barrels of oil have been used during the last 35 years. Also oil reserves will continually change with technological advances and the oil recovery rate has gone up from 20% to 35%. The unexplored Middle East oil potential remains vast. For much of the 1980s and 1990s world oil prices were stable and low and this led to less exploration. In his view, the most likely outcome over the next 20 years is stable oil prices of around $30 to $40 per barrel.

Jim Peters – NZ First Party

Some aspects of his party's policy have not yet been released. We need to develop a greater understanding of sustainability linkages with environmental risks and costs. The NZ image overseas of "clean and green" and more recently "100% pure" are brand names which NZ wishes to promote and enhance.

Monte Ohia – Maori Party

Peak Oil will occur. The IEA predicts somewhere between 2013 and 2037 but the Association of Peak Oil says that it could be in 2007. Oil prices will rise steeply and shortages may occur. The Maori Party believes that we must anticipate this and if we are wrong, we will have more time to prepare for energy restrictions. NZ is a minnow in global economic terms and we are subject to economic forces beyond our control. BP has predicted that oil prices could be $105 per barrel before the end of 2006 and this will cause a worldwide recession. We may lose up to 84% of our crude oil supply. There would then be a need to ration use to essential services.

We need to reduce both personal and business reliance on oil. We need to start importing fuel efficient small vehicles in bulk. Co-ordination will be needed to achieve these goals. We need to invest in integrated light rail systems and heavily promote public transport, car pooling etc.

The present electricity market has not led to our electricity utilities actively promoting more efficient usage. We need a NZ wide energy strategy to give a return to all of us rather than leaving promotion to a few national energy companies, and we need strong promotion of things like energy efficiency, net metering, solar water heating devices and passive solar design of new houses.

Pete Hodgson – Labour Party

Sustainability can go either the "Brundtland route" or triple bottom line accounting. He spends much of his time in trying to instill sustainability thinking into a variety of tasks which come his way. But sustainability has to be integrated with other objectives or it won't work.

Our electricity generation is largely renewable and the demand side of electricity is largely undeveloped. The Electricity Commission can purchase both on the supply side and the demand side. The government has used economic instruments (which Nick Smith likes) for carbon credits and a carbon tax in 2007.

The transport energy picture is grim for us and the rest of the world. As the price of oil rises, and it will, the case for biofuels becomes more compelling e.g. ethanol from the dairy industry and tallow (to produce biodiesel) from the meat industry.

Our transport system is at present unsustainable and the government's transport strategy wants to make it more sustainable. Public transport is increasing but from a low base. Transport growth at present is greater than GDP growth, so they are strongly linked.

Jeanette Fitzsimons – Green Party

Sustainability is a term invented in the 1970's. She used to discuss it then in the Values Party. Even at that time, they were concerned about the using up of resources and the rate at which we are discharging waste into the environment. She said that you cannot avoid the question of scale because it depends on population base and there are physical limits in the capacity of the planet, but sustainability is all about working within limits and if so, it is possible to have both sustainability and economic growth.

Energy is not sustainable at all and it is the first area in which we are reaching global limits – both the sink limit in terms of climate change and the resource limit, especially with oil. One could solve the other but the danger is that we will go to coal, and then the climate change problem goes "over the top".

Gordon Copeland – United Future NZ

He asked is energy finite? He thought about hydro and wind and then read about a recently announced US $16 billion nuclear fusion project and he thought about renewable energy from the sun, so he doesn't believe that energy is finite. Recently Dr Alex Malahoff (of IGNS) told him about exciting work being done in the Kermadec Islands. So to claim that energy is finite underestimates the creative innovation of mankind.

Discussion

1. A question was asked about NZ's commitment to the Kyoto Protocol.

Nick Smith said that it is going to become increasingly difficult for NZ to meet its commitment because of an increased rate of our emissions growth above that earlier predicted. He said National requires three pieces of information before deciding whether or not NZ should stay in Kyoto.

1. Reassessing the NZ commitment
2. Can we achieve our commitment by planting more forests?
3. Issues of competitiveness with our trading partners, a big concern.

Also he said that the science is still very uncertain but there are sensible things which NZ should

do including the development of more wind and hydropower. It is clear that our greenhouse gas emissions have been growing at a faster rate in recent years than in the 1990's, so this gives us a huge problem.

Gordon Copeland said that United Future does not agree with Kyoto. He doesn't know whether or not it will fall over before the end of the first commitment period in 2012, but almost every developed country committed to Kyoto is finding that it cannot meet its targets. Also if there are incentives for people and organisations to reduce a carbon tax after 2007 by being more energy efficient, why are there no incentive to plant new forests?

Jeanette Fitzsimons said that the Green Party want to make it clear that their policy is to stay in Kyoto, to meet the required targets and not to have to pay any deficits. To do this, we must get really serious about energy efficiency. The National Energy Efficiency and Conservation Strategy (NEECS) is only "fiddling around the edges" and needs more funding.

Pete Hodgson said that the real problems with Kyoto begin after 2012 because there is as yet no agreement as to what will happen then. He wants to see concerted global action and not "freeloading". He said that the numbers for our Kyoto commitment up to 2012 have recently changed because of changed assumptions. All Western European countries and Japan and Canada have had to change their accounting as we have. Only Russia and a number of Eastern European countries are now likely to have credits to sell.

Ken Shirley said that the Kyoto Protocol is a fundamentally flawred document. It is distortionary and even its own proponents concede that it will make very little difference to greenhouse gas concentrations in the atmosphere over a 100 year period. Forest sink credits should be available to forest owners rather than be appropriated by the government.

Jim Peters said NZ First has always opposed the Kyoto Protocol. The climate has always been changing and his party would want to review NZ's commitment to Kyoto.

Monte Ohia said that the Maori Party proposed more research to support our commitment to the Kyoto Protocol, especially in energy and waste management and would encourage many small sustainable energy initiatives. His party believed that there should also be more investment in education, enabling NZ'ers to understand the importance of energy use in the future, and also much more investment in new forestry and with carbon credits being returned to the forest owners.

2. A question was asked about what is a sustainable transport system for NZ?

Nick Smith said that the first thing we must do is to get the right financial signals. It is not for the State to tell people whether to live on lifestyle bocks or in intensive housing. Transport solutions will be a mix. The National Party has indicated its intention to implement a policy within six years that all petrol tax should be spent on the roads. They will also look at more tolls for new roads.

Jeanette Fitzsimons said that sustainable transport needs active government involvement rather than just relying on financial signals, such as raising the cost of fuel or taxing greenhouse gases. The rail system must be revitalized to be used much more for the transport of goods, and also coastal shipping which is even more efficient. We also need much better public transport to develop new urban forms which will preserve open space, while allowing greater population density than the traditional quarter acre section.

Ken Shirley said that sustainability is mentioned in the Transport Act and nobody seems to know why it is there. It is the same with the RMA.

Gordon Copeland said that the basic goal of transport is to get people and goods from point A

to point B, so sustainability in transport doesn't help to achieve this goal.

Jim Peters said that we need to have more understanding and appreciation of the transport needs of smaller towns and rural areas versus the needs of the big cities.

Pete Hodgson said that in developing a transport strategy you need to think long term and think about integration.

Monte Ohia said a sustainable transport system needs to be about fuel efficiency and "less numbers of vehicles on the roads", but still able to transport people and goods from A to B. There needs to be more integration between modes of transport and a main consideration is what is the effect of transport on the environment?

3. A question was asked about the Kyoto rules allowing the export of coal to China and why don't we impose on farmers the greenhouse gas costs of the methane and nitrous oxide arising from farm production?

Pete Hodgson said that the idea of the carbon tax is to encourage change in the efficiency of fuel use and away from fossil fuel use, and you cannot do this with farm production. The policy of the present government is to "socialize" these emissions, in exchange for which the farming sector will help fund research which is showing a lot of promise. He noted that no other country has devolved credits for forestry, or debits for farming, to the producer.

Ken Shirley noted that 65% of greenhouse gas is actually water vapour, and we export coal to Japan at 3 times the price of importing coal from Indonesia.
Jeanette Fitzsimons said that in regard to the question of exporting coal to Japan, the Green Party would concentrate first on the burning of coal in New Zealand, especially at the Marsden B power station which is only 34% efficient at converting energy into electricity. However she noted that the Green Party did have other concerns about Solid Energy's environmental programmes.

Jim Peters said the NZ First agree that it would not be a positive thing to do to penalize farmers for producing greenhouse gases when they can't do anything about it to change. However he did question what population of cows on NZ farms is sustainable, both in terms of methane production and in the runoff into streams. He suggested that NZ needs more land planted in trees and less land for cows.

Nick Smith said that the coal export issue illustrates problems with the lack of international agreement over Kyoto, and if NZ coal is not sold to Japan then some other country will sell it, so the amount of coal used will remain the same. He noted that Project Aqua was a significant renewable energy project and the RMA "killed it off". It is ironic that it is now easier to get resource consent under the RMA for a thermal power project than for a renewable energy project.

4. Finally a question was asked about the relationship between economic, environmental and social goals.

Pete Hodgson said that the overall goal of sustainability is to provide for the needs of this generation while not preventing future generations from meeting their own needs. There is a need to maximize all three of economic, environmental and social sustainability without unduly prejudicing any one of these three.

Gordon Copeland said that there had to be accepted standards for taking of resources to ensure that future generations are able to raise their own children.

Ken Shirley said that sustainability is a socialist-type policy. He can't buy into the philosophy of central government telling people what to do, rather than relying on an open and transparent market mechanism which will allocate resources much more efficiently.

Jeanette Fitzsimons said that sustainability is about providing for future needs in a way which takes care of the environment and without plundering resources which cannot be maintained.

Nick Smith again emphasized the need for the right economic incentives. An example of this not being done is a solid waste charge to all households equally, rather than according to how much waste they produce. He said that issues such as water allocation and use, and waste management, will need the right market incentives but he is not naïve enough to think that some regulation will not be required as well.

Jim Peters said that the test of what we can achieve in sustainability will be what we can provide for our children and our grandchildren to use.

Monte Ohia said that there is a need to monitor the effect of government policies on the environment and on people. To aim for sustainability, it is necessary to test the effect of policies on the economy, the environment and on people.

Notes prepared by: John Blakeley

Response By Retired Architect: Derek Wilson

Derek Wilson of Wellington has commented to SEF on his thoughts after attending both the NZPVA/ SEF Forum on "Sustainable Energy" on 4 July and the Chartered Accountant's "Politician Dialogue on Sustainability" on 12 July.

He notes that the information and views expressed by many politicians greatly disturb him. He sees growth as the main problem confronting the world. He observes that during the past century, world population grew from 1.6 billion to 6 billion and is predicted to grow to 9.4 billion by 2050, and if we prevent the present unsustainable growth, then the present dysfunctional world economic system will collapse. He believes that the answer is an entirely new and rational economic system, but all indications point to rapidly increasing growth on this finite Earth which is unable to grow, and which has mainly finite resources and sinks, which can only regenerate at certain rates which we are already exceeding.

He feels that the term "sustainability" used by politicians during these discussions, seemed to be brushed aside by some as being one of those loose words with little real meaning, and he notes how convenient this is for those who insist on "business as usual".

He suggests that the "Ecological Footprint" of the Western and westernized world – that is the amount of land and water needed to produce our resources and absorb our wastes – is now 20 percent greater than the productive land and water base of the planet.

At the above two panel discussions of politicians, he expected some solid discussion of this crucial subject, which is critical to our ability to sustain life on Earth. "Instead we were met by that hoary myth that technology will save us."

He says that the "Forum" and "Politician Dialogue" were disturbing, mainly because there seemed to be a real lack of understanding of the full scale of our worsening situation, and no one mentioned the Precautionary Principle, which rational and responsible people would surely have put in place many years ago to better cope with our future.

Climate change was taken by some speakers to be something which might happen in the distant future rather than as a reality which is already with us. The fast approaching energy crisis likewise received little real acknowledgement from most speakers, in spite of the fact that there is an on-going war over oil. China's growth last year was 10 percent. Link this to world population growth and the constant demand for more and still more growth at 2, 3, 4 or more percent, which requires a substantial increase in energy supplies might across the board, and the impossibility and unsustainability of our present situation should become crystal clear.

Source: Email communication from Derek Wilson to the SEF office dated 18 July 2005.

Project Tui

Below are some notes provided by Ian Shearer on the 11 August launch of Project Tui, intended to replace the National Energy Efficiency and Conservation Strategy (NEECS).

A number of senior energy company people attended the presentation, which provided a brief summary of the detailed information made available earlier to consultants wishing to submit a proposal to assist EECA with analysis and modelling of energy usage.

An encouraging aspect of the presentation was a recognition of that there has to be more ownership within the "energy community" of this replacement strategy (intended to be released in September 2006), than was the case with the present NEECS launched in September 2001. Because the present NEECS has been seen primarily as a Government strategy, many people have felt that it was a Government responsibility alone to see it implemented.
Whether Project Tui can actually do anything to achieve more "buy in" of the replacement strategy remains to be seen, but it is noted that at present there is no one except government officials plus one EECA Board Member on the steering group for the project, which is not an encouraging start.

John Blakeley, Editor

Project Tui Launched

EECA's review of the National Energy Efficiency & Conservation Strategy (NEECS) was launched at a presentation by EECA CEO, Heather Staley on 11 August 2005. EECA have named the NEECS review exercise "Project Tui". TUI is seen as a positive acronym for Energy Efficiency, EE, or 2E, "because NEECS is such and ugly acronym". The National Energy Efficiency & Conservation Act 2000 requires the Strategy to be reviewed within 5 years of the September 2001 launch.
The project timetable aims to provide the Minister of Energy with a draft replacement strategy by March 2006, so that a revised strategy can be approved by September 2006. So Tui is a name we will be hearing much more over the next 12 months.
NEECS is a key implementation strategy within the Government's broader sustainable development framework. It needs to be integrated with current and developing government strategies including:

- Sustainable energy (MED and PCE reports)
- Growth and innovation framework
- Waste strategy
- Sustainable transport strategy
- Building Act requirement for more sustainability in the Building Code
- Review of climate change programmes
- The Electricity Commission's sustainable energy value and electricity potentials projects.

The project structure has a steering committee reporting directly to the EECA Board. Members of this committee are Geraldine Baumann (EECA Board), Bill Bayfield (Ministry for the Environment, Sustainable Industries & Climate Change Office), Jo Buckner (Ministry of Transport), David Smol (Ministry of Economic Development).

Heather Staley concluded her presentation with a description of what a successful Project Tui would achieve:

- A replacement strategy
- More partners committed to the implementation of the strategy
- More players creating more opportunities
- A clarification in the roles and responsibilities of EECA
- More investment in energy efficiency and renewable energy

Notes by Ian Shearer

Most of that decrease (almost 20 million tonnes) is because officials now believe that much more than they previously thought of the 670,000 ha of post–1990 plantation forest was planted on land previously in scrub rather than pasture, and therefore not classified as a new forest under Kyoto's rules. But it also reflects a dramatic reduction in the rate at which the area under commercial forestry is growing. New planting annually has dwindled from a near 100,000 ha peak in 1993-1994 to an estimated 10,000 ha last year. Also some forests being cleared are not being replanted and instead replaced by pastures for farming, which is now seen to be more economically attractive.

At an indicative price of NZ$15 per tonne of carbon dioxide (the value used to set the carbon tax due to come into force in 2007), that turnaround will mean a switch from a gain of nearly $500 million to a cost of **more than $500 million** over the five years.

It may be much more. If the current price under the Clean Development Mechanism (CDM) is used (NZ$27 per tonne), the estimated cost which the taxpayer would have to find is **about $1 billion** over the five year period. However the current price on Europe's internal market is much higher than this (and up to NZ$41 per tonne) which would increase the NZ taxpayer commitment to **$1.5 billion** over the five years.

An alternative view is put by the NZ Treasury (NZ Herald, 12 July 2005). For the first time, the latest government accounts for May 2005 quantify the cost of NZ's international Kyoto obligations. The figure which Treasury uses as a "best estimate" is US$6 per tonne (NZ$8.50 per tonne). This is based on a report from the Allen Consulting Group in Australia, giving a liability of **around $310 million** over five years.

Allen Consulting says that current prices on the European market are unlikely to be a reliable indicator of future prices in the Kyoto community as a whole. The European market is still undergoing a bedding down process and crucially does not include large "Kyoto Countries" such as Russia (expected to be a major seller), Japan (a major buyer) and Canada.

Allen Consulting argues that supplementary sources of credits allowed under Kyoto's rules, including credits for carbon dioxide taken out of the atmosphere in new forests established since 1990, and credits from certified projects in developing countries which reduce their emissions (the CDM), are a more reliable indication of where carbon prices will settle when the system is finally up and running and the different kinds of credits are fully interchangeable. This forms the basis of their indicative price of US$6 per tonne of carbon dioxide equivalent.

Sources:

1. Posting to SEF News from the SEF Office dated 16 June 2005, based on a media release from the Climate Change Minister, Pete Hodgson entitled "Climate Change Challenge Increases in New Zealand".
2. Article in NZ Herald by Brian Fallow entitled "Kyoto: the root of our problem", Saturday 9 July 2005, pages C1 and C4.
3. Article in NZ Herald by Brian Fallow entitled "Kyoto may cost $300 million plus" Tuesday 12 July 2005, page C1

Comments following Minister's Announcement

Speaking on the TV1 late news "Tonight" on 16 June, Minister Hodgson said that the revised figures for the NZ commitment to Kyoto were a result "not so much of a miscalculation as a reallocation of assumptions". As an example, he quoted the proportion of Kyoto forests in NZ planted on land previously in scrub which do not qualify, rather than on cleared land which does.

On the same programme Alex Sundakov of Castalia commented that "we've never had a debate in NZ about whether the cost of Kyoto is a price worth paying, especially in relation to other expenditure on education, health etc. and what our priorities are. This deficit announcement will make us face up to that debate".

In a further television interview the following day, Alex Sundakov confirmed that he had written a report a year earlier which predicted that there would be a deficit so he was not surprised by the Minister's announcement, because of the trends of emissions going up and available carbon credits being reduced.

On the same programme the National Party spokesperson, Dr Nick Smith said that since the then Minister, Simon Upton, first signed up to the Kyoto agreement in 1997, the rate of increase of carbon dioxide emissions in NZ has gone up by 2.5 times, despite the Government's efforts to reduce them.

On National Radio News on Saturday 18 June, Minister Hodgson said that he had asked government officials to report back by the end of October 2005 (after the general election) on measures which could be taken to try and get NZ out of a deficit situation during the first five year commitment period of Kyoto. However he felt that it was unlikely that if implemented, such measures could now have sufficient time to be fully effective in getting NZ out of a deficit situation during that period.

Latest SUV Accessory - Spray on Mud

The ultimate accessory for the 4x4 driving city dweller is spray on mud. Sales of the product which retails at UK£7.95 (about NZ$ 21) per bottle are going well, particularly in America and in London.

News item from the UK 14 June 2005

Large solar thermal power project planned

Edison International and Stirling Energy Systems have signed a power purchase agreement for the development of a 500 MW solar thermal power project using Stirling dish technology. The project will result in a 4,500-acre generating station that would be the world's largest solar facility, capable of generating more electricity than all other U.S. solar projects combined.

Stirling dish technology converts thermal energy to electricity by using a mirror array to focus the sun's rays on the receiver end of a Stirling engine. The internal side of the receiver then heats hydrogen gas, which expands and causes the pressure to drive a piston, crank shaft and drive shaft assembly similar to internal combustion engines. The entire conversion process takes place within a canister the size of an oil barrel.

(Refocus August 17)

MiniWhat - Gas Guzzlers

In the USA, Ford not only ranks lowest of the six car manufacturing companies for overall fleet economy, but its figures have shown no improvements for over 20 years. The average fuel consumption of Ford cars and light trucks/ SUV's is 15.7 mpg giving it the lowest placing from 1998 onwards. Ford's current fleet of vehicles gets on average less mpg than its famous Model T did over 80 years ago. (Note: 1 US gallon = 0.83 imperial gallon)

Source: Greenpeace Business, May 2005

Join our sustainable energy news & discussion group!

SEF Membership provides discounted access to the annual SEF conference, and a copy of our quarterly EnergyWatch magazine. However many members find the SEF email news and discussion facility an easy way to keep up to date with news and views as it happens. And the discussion by the 200 sustainable energy "experts" who have joined the service offers an interesting perspective.

Non-members are invited to join the SEFnews email news service for a trial. To do this send a blank email to: <SEFnews-subscribe@yahoogroups.com>. To help us stop scammers, non-members need to supply a name and contact details before their trial is approved.

As with all Yahoo groups, SEFnews emails can be received "individually" (as they are sent) or as a "daily digest" (grouped into one email per day). If you have a Yahoo ID you can also switch emails on and off, or read the news on the web – a handy option for travelling Kiwis. And YahooGroups saves all of our text emails for later reference, and there is a search function so that you can review the thousands already stored over the last 5 years.

Some busy people using a work address prefer to use the Rules function in their email software to automatically save SEFnews emails to a separate folder for later reading. If you do not want a Yahoo ID, the SEF Office <office@sef.org.nz> can select the 'daily-digest' option for you.

EnergyWatch

Permission is given for individuals and educational or not-for-profit organisations to reproduce material published here, provided that the author and EnergyWatch are acknowledged.

While every effort is made to maintain accuracy, the Sustainable Energy Forum and the editor cannot accept responsibility for errors. Opinions given are not necessarily those of the Forum.

Publication is normally early in March, June, September and December, and material is posted on the SEF website (www.sef.org.nz) a PDF file, three months after publication.

Contributions Welcomed
Readers are invited to submit material for consideration for publication.

Contributions can be either in the form of Letters to the Editor or short articles addressing any energy-related matter (and especially on any topics which have recently been covered in EnergyWatch).

Material can either be sent to the SEF Office at PO Box 11-152, Wellington, or by email to editor@sef.org.nz, or by directly contacting the Editor, John Blakeley, care of School of the Built Environment, Unitec New Zealand, Private Bag 92-025, Auckland.

SEF membership

Memberships are for twelve months and include four copies of EnergyWatch. Membership rates, including GST, are:

Unwaged/student	$27.00
Individual	$45.00
Library	$56.25
Corporate	$225.00

Mail the form below, with your payment or order, to The Sustainable Energy Forum Inc, P O Box 11 152, Wellington. A GST invoice or receipt will be sent on demand.

Name: .....

Organisation: .....

Address: .....

.....

HomePhone: .....

Work Phone: .....

E-mail: .....

Membership type .....

Amount enclosed: $.....