



EnergyWatch

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IN THIS ISSUE

Your editor recently returned from a six week visit to Europe and the UK before completing this issue. The plus side is some articles giving more of an international perspective on energy matters, based on perusal of UK and US newspapers. The minus side is that this issue may not be quite "up to speed" with the latest energy issues of the day in New Zealand.

This issue contains four major features.

Alternatives to a 400kV Transmission Line

In June this year, peak electricity demand in the upper North Island (north of Huntly) reached a record level and alarmingly close to the present maximum electricity supply.

Transpower is proposing a new 400kV transmission line (at a cost of around \$500million) between Whakamaru in the South Waikato and Otahuhu to help overcome this problem. This proposal has stirred up a great deal of opposition from affected landowners. A decision was to be made by about now on proceeding with this project, but in mid-year, the government decided to defer a decision until about mid 2006, while the Electricity Commission gave further detailed consideration to alternatives to this proposed transmission line.

New large scale power generation proposals north of Huntly depend mainly on sufficient availability of natural gas, which is still open to very considerable doubt beyond the next few years unless liquefied natural gas (LNG) is imported to New Zealand.

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Some emergency power generation alternatives are discussed to cover the period 2007 until 2010 (at the earliest) when either the transmission line alternative or new long-term generation alternatives within the Auckland region might be in place.

A background discussion paper prepared by Molly Melhuish in July this year is presented, strongly advocating that demand side alternatives be given fair consideration in comparison with the 400kV transmission line alternative.

Peak Oil/Energy Conservation

Perusal of recent US newspaper articles shows a much greater understanding of the seriousness of the energy situation, both within the USA and globally, than your editor previously thought to be the case. Some of those views are summarised herein.

In recent weeks the US administration has taken some first steps towards advocating energy conservation to the American public, but as yet shows little inclination to take firmer measures such as taxing gasoline more heavily to discourage its excessive use, or seeking to impose minimum fuel consumption requirements on US automobile manufacturers.

Oil from Iraq is unlikely to assist very much. Production is presently around 1.5 to 1.8 million barrels per day, only about 2 per cent of total world oil production. This might double by 2009 to about 4 per cent, but in the longer term would still only be likely to reach 5.5 to 6 million barrels per day or about 7 per cent of total world oil production, and this would involve opening up new oil fields.

Climate Change/Global Warming

At present a NZ Climate Change Policy Review is being carried out by a group of officials, to be submitted to the Minister by 31 October.

When the intention to undertake a review was first mentioned by Energy Minister, Pete Hodgson on 18 June, your editor hoped that it might address the issue of how to get New Zealand out of the (then recently-announced) deficit situation within the first five-year commitment period of the Kyoto Protocol.

However the Briefing was full of words like “strategic stocktake”, and “high level option review of climate change policy”. So although the issue of how to “bridge the shortfall” in carbon credits available within NZ during that five-year commitment period will undoubtedly be addressed, it is perhaps unlikely that the Review will come up with recommendations on firm measures to get New Zealand out of that deficit situation.

Further comment is given on the “Kyoto alternative” – the Asia Pacific Clean Development and Climate Partnership. The first meeting of the six countries in this Partnership (foreign, environment and energy ministers) is to be held in Australia in mid January. The next conference of the Parties to the Kyoto Protocol in Montreal commences on 28 November. They should both be interesting meetings!

Recent views expressed by UK Prime Minister, Tony Blair are also mentioned. He now seems to be backing away from his position on climate change at the G8 summit in July and hinting that Britain may pull out of attempts to draw up a successor to the present Kyoto treaty because the economic price of cutting greenhouse gas emissions is too high. He also now seems to be promoting the President Bush view that the solution to the climate change issue is “technology-led solutions”. A review of the economics of climate change has since been announced by the UK Chancellor, Gordon Brown.

Meanwhile, back in New Zealand a report by the economic consultancy Castalia has recently been released suggesting that adopting cleaner technologies rather than a carbon tax is the best way for New Zealand to seek to meet its obligations under the Kyoto treaty. The report notes that price-based policy measures like a carbon tax or carbon trading are only effective in triggering a switch to cleaner technologies if those alternative technologies are close to being commercially viable. Otherwise, such measures only act to suppress demand and therefore economic growth.

This report was commissioned by the Greenhouse Policy Coalition whose executive director, Catherine Beard, noted that even Britain’s Tony Blair has recently conceded that technology is the

answer to the problem and that no country will willingly sacrifice its economic growth. The key question is how long will it be before “technology-led solutions” are readily available?

Petrol Electric Hybrids/High Efficiency Diesels

As it becomes clearer that hydrogen fuel cell-powered cars are unlikely to be on the world’s roads in significant numbers before at least 2020, the petrol-electric hybrid car is increasingly being touted as the interim solution to the world’s problems with rising fuel prices, security of future fuel supply and limiting greenhouse gas emissions.

But are hybrid cars the solution? This is doubtful because:

- Their rate of uptake will be limited because the additional costs of purchasing such cars are unlikely to be compensated for by reduced fuel costs for a number of years after purchase, especially if the purchaser is prepared to consider a lighter and smaller conventional car.
- Their main advantage is in stop-start inner city driving. On the open road the hybrid’s fuel consumption is not so significantly different from conventional cars, and not as good as some high-efficiency diesel cars, especially in SUV applications.
- In the very important US car market it is projected that hybrid vehicles will still only achieve a 4% market share of new car purchases by 2010. This is despite the present rapid increases in sales in that market (but starting from a very low base).

Labour Greens Agreement

Just as this issue was going to press, details became available of the working arrangement between the new Labour-led Government and the Green Party on items related to energy and climate change, as outlined below.

John Blakeley

Labour – Greens Agreement

The Greens identify their objectives are to significantly reduce the projected \$0.5b Kyoto

deficit by 2008, meet the government’s NEECS target of 2% pa improved energy efficiency, improve living conditions with warmer, drier homes and solar hot water, and slow the increase in the cost of oil imports.

The agreement asks Government to clarify the mandates, working relationships, gaps and overlaps between EECA, the Electricity Commission, the Climate Change Office and Ministry for the Environment. This has been an area of confusion for many recent commentators, and has been included in recent SEF submissions.

The main implementation measures that Labour and the Greens have agreed will be supported during this period of Government are:

1. Build capacity in the solar water heating manufacturing and installing industry through economies of scale and bring down the price of units with a bulk order mediated by the government;
2. Significantly raise the fuel efficiency of vehicles coming into New Zealand with a mandatory market based mechanism;
3. Increase and extend support for insulating and damp proofing homes;
4. Urgently upgrade the building standard for new homes to reflect what is efficient at today’s electricity prices;
5. Change the culture of energy efficiency with a greater sense of urgency and drive and spread the message that it has a whole of government support;
6. Move beyond research into demonstration and commercial projects in biofuels in co-operation with industry.

If these measures are implemented with a reasonable level of support, then energy efficiency and solar water heating initiatives will finally be taken seriously in New Zealand and some significant business developments could progress.

Source: Government announcement on website <http://www.beehive.govt.nz/ViewDocument.aspx?DocumentID=24256>

Alternatives To A 400KV Transmission Line

Background to the Problem

At 5.30 pm on Friday 21 June 2005, electricity demand in the upper North Island (north of Huntly) reached a record level of 1955MW, breaking the previous record of 1947MW set on 17 August 2004, according to Transpower, who also noted that an industry working group had been established to monitor and plan for power demand.

(Note that 1955MW is about 22.5 percent of NZ's total present generating capacity of 8720MW)

Transpower said that this industry working group had agreed that demand in 2005 in the upper North Island was likely to peak at around 1990MW, but it was still prudent to plan for a level of 2060MW, whereas the present maximum electricity supply is 2130MW. Therefore the 23 June peak was around 92.5 percent of present maximum supply. The "prudent planned for" level of 2060MW is 96.7 percent of present maximum supply.

Earlier in the year, Auckland energy network company, Vector, had told the energy minister, Trevor Mallard, that it thinks that power cuts could hit the region as early as 2007 if any part of the system, such as a power station, became unavailable for any length of time.

Mr Mallard rejected this outlook, saying fears of 2007 power cuts were "well off the mark".

Transpower says that the proposed \$500 million 200km transmission line from Whakamaru to Otahuhu is needed by 2010 to avoid power cuts in the upper North Island. The Electricity Commission is undertaking public consultations on this plan and will make a decision by the middle of 2006.

Source: NZ Herald, Thursday 23 June 2005

In July, Vector again warned of possible power outages by 2007. In its submission to the Electricity Commission, Vector said that it does not wish to be "alarmist" but it thinks

that the "supply crunch" could come as early as 2007. CEO of Vector, Mark Franklin, had told energy minister, Trevor Mallard of his "ever growing concern" at the lack of generation and transmission investment to ensure a secure and reliable supply of electricity into the Auckland region, noting that Transpower wants its new 400kV line to be built by 2010.

In its submission, Vector had suggested that any "transmission alternatives mechanism" should be put aside "at least until the immediate security of the supply situation in Auckland is addressed".

"Given that we are told that new capacity is required into the Auckland region by 2010, the process seems to cut things extremely fine" Mr Franklin had told Mr Mallard earlier in the year.

The 2010 date was based on projections of load growth and assumptions surrounding existing power station plant availability and production. "There seems to be little recognition that should, for example, a generation plant in the region become unavailable for an extended period of time (as has happened many times in the past) then consumers may face outages as early as 2007."

Mr Franklin said "significant security-of-supply issues were worsening each year, with Vector on the brink of being forced to shed customers because of transmission and generation constraints".

Source: NZ Herald, Friday 22 July 2005

Some Short-Term Solutions

In a letter to the NZ Herald on Tuesday 16 August, Murray Dear of Hamilton noted that it is becoming increasingly clear that Auckland will soon face an electricity supply shortage and that although long-term solutions will no doubt be found, this is unlikely to be a quick process.

Mr Dear suggested that there now appeared to be a need to identify short-term measures that

could supplement present supply capacity during periods of peak load and suggested one possible answer could be to lease decommissioned gas turbine-powered warships for use as floating thermal power stations, as was done with the Union Rotorua during the Auckland CBD electricity crisis in 1998.

Mr Dear said that these ships could be towed to Auckland and berthed to generate electricity directly into the local grid as and when required. The Royal Australian Navy will soon retire two of its Adelaide-class frigates. These each have two turbines producing 33MW in total. Alternatively the United States Navy has a number of decommissioned Spruance-class destroyers, each with four turbines producing 66MW in total.

However inquiries indicate that all US and many other naval warships generate enough electricity at 60Hz, so this idea is a “non-starter”.

Another possibility is using diesel-fuelled generators housed in storage containers. The Dominion Post of Thursday 21 July reported that a Christchurch company has imported three generators which can provide enough electricity to light up a small town and has ten more on the way. The \$500,000 container-sized units can provide an output of 1.6MW each and can be used individually or in a group. The rental store providing these units operates out of Wellington, Nelson, Christchurch and Auckland.

In response to Mr Dear’s letter, electricity industry consultant, Bryan Leyland, wrote to the NZ Herald (Wednesday 17 August) noting that if the next year is dry or one of our large power-generating sets breaks down, New Zealand is at risk of shortages and blackouts, and the Auckland region has additional risks because the transmission lines have very little spare capacity.

However Mr Leyland notes that there are better short-term measures than bringing in gas turbine ships (as suggested by Mr Dear) and put forward the following proposals:

- Refurbish two old gas turbine units at Otahuhu to generate 110MW.

- Transfer the 150MW Whirinaki gas turbines from Hawkes Bay to Auckland.
- Re-commission the 250MW Marsden B power station on oil to do the job as it was originally built to do (back up the supply to Auckland in an emergency)

Mr Leyland said that if these things are done, Transpower could take the two oldest 220kV lines feeding Auckland out of service and upgrade them from 200MW to 600MW – or to 330kV to give them a capacity of 900MW

This would secure the supply to Auckland for the immediate future and give time to think about alternatives to the 400kV line. “All that is needed is a government that understands the situation is serious and is prepared to make the changes needed to expedite these solutions” Mr Leyland said.

Some Generation Alternatives

In a front-page story on Wednesday 6 July, the NZ Herald stated that State-owned power company, Genesis Energy, is drawing up plans to build a \$500 million gas-fired power station on the Kaipara Harbour, north of Auckland and that if built, this station could delay Transpower’s plan for new power pylons running through the Waikato to Otahuhu.

Genesis has been investigating potential sites for a power station in the Helensville and Wellsford areas. The proximity of these locations to both the natural gas pipeline and electricity transmission lines makes them attractive.

The Rodney District Council is understood to have been approached about the need for changes in its district plan to allow construction of a new power station, which could also affect plans by Mighty River Power to reinstate the Marsden B Power Station as a coal burning plant.

However, the NZ Herald notes that Genesis CEO, Murray Jackson, said that the project is not yet at the “build stage” as the company was working on developing gas reserves. Progress on the Kaipara station was dependent on good results coming

from the Cardiff natural gas well in Taranaki, which is 40 percent owned by Genesis.

Genesis says that a combined-cycle gas turbine (CCGT) station at Kaipara would have an “ultimate capacity” of 360MW but current pipeline capacity would allow initial output of 240MW.

The NZ Herald states that getting resource consent to build a new CCGT station should be relatively straightforward, as they do not take up much land use and, apart from carbon dioxide emissions, do not emit much pollution.

The NZ Herald notes that if local (NZ) gas supplies run dry, CCGT stations can run on imported liquefied natural gas (LNG) and that Genesis and Contact Energy are in the early stages of planning for LNG, which they say could easily be injected into the North Island gas pipeline system.

Source: NZ Herald, Wednesday 6 July 2005

In another front-page story (Tuesday 2 August) the NZ Herald states that Todd Energy has proposed building up to three power stations in Auckland to meet projected electricity shortages, which could also make the projected \$500 million South Waikato to Otahuhu transmission line unnecessary.

These proposals are contained in a Todd Energy submission to the Electricity Commission (on transmission alternatives) and two of the three sites are in “the heart of Auckland” close to demand. Another was south of Auckland but close enough to provide the power close to demand.

Todd Energy’s submission rejects the logic behind Transpower’s 400kV transmission line proposal, saying that Todd’s proposed 200MW plants, likely to be gas-fired, could be built close to areas of demand, making additional transmission capacity unnecessary.

Todd Energy stated that this year, they had been looking into alternatives to the transmission line and had “identified some potential generation projects”. They were proposing to build power stations “in a modular way”, adding extra capacity when needed, stating that this approach offered greater security of supply than a single, larger station.

“Two of the sites are sufficiently large to accommodate multiple 200MW modules, thus providing sufficient capacity for the foreseeable future”.

Todd noted that although it was capable of developing the project in its own right, it was talking to two other parties about the plan. The initial 200MW plant would take between 24 and 30 months to build. Cost estimates were being developed but “initial indications are that some form of additional funding will be required” (i.e. a subsidy?)

On the topic of fuel for these stations, Todd goes against the prevailing industry opinion by stating that “some parties in New Zealand have continued to promote the notion that there is insufficient gas to fuel new power plants. Todd Energy has good knowledge of the gas market and available reserves in three producing fields”.

Todd said that existing gas reserves were sufficient to supply a 200MW plant (but Todd made no comment on for how many years that this is likely to be the case, and prevailing industry opinion would be that this would only be for a very few years).

This industry opinion is typified by Contact Energy who are not proceeding with their Otahuhu C CCGT power station because of uncertainty over future gas supply availability. Contact have told the Electricity Commission that the need for a new transmission line into Auckland would not be delayed by any new power station. “It may, however, provide some ability to manage risk to system security, in case the transmission upgrade is delayed or estimates of demand growth or system capability prove to be overly optimistic”.

Source: NZ Herald, Tuesday 2 August 2005, Page A1

Emergency Power Alternatives

As became very evident during the 1992 winter electricity shortage the “cost of non supply” of electricity can be very many times the cost of supply, **both in financial but also in political terms** (e.g. such matters as closing down an aluminium smelter, and paying many other

industries handsomely not to use so much electricity for a while; severe water heating cuts leading to cold baths and showers; loss of confidence to invest in new projects and industries, because of uncertainty about future electricity supply).

The much less-serious 2001 and 2003 “winter electricity shortages” also demonstrated how a market spot price for wholesale electricity could drastically increase under such circumstances, leading to the demise of one company (On Energy) caught without sufficient hedge cover.

Therefore the need for sufficient emergency cover for Auckland’s peak electricity needs beyond 2007 does need serious investigation. This is especially the case since Transpower’s transmission line proposal cannot now be built until 2010 at the earliest, and with possible further delays due to the government deferring a decision until mid 2006.

Any new generation proposal in Auckland is also unlikely to be built before 2010 even if sufficient natural gas can be found. (The 360MW Otahuhu C station is the most logical project to proceed as it already has resource consent, is located next to an existing power station, and in Auckland. However Contact Energy states that the project lacks sufficient certainty in gas supply availability, pricing and transport for them to proceed).

Some of the emergency alternatives discussed above may need serious consideration to cover potential Auckland power shortages between 2007 and 2010, especially since emergency power stations require limited energy use over only short periods of time and can therefore operate on relatively expensive fuels. These alternatives include:

- Refurbish two old gas turbine units to generate 110MW at Otahuhu.
- Re-commission the 250MW Marsden B power station on oil (assuming the proposal to convert it to being coal-fired does not proceed).
- Relocate the 150MW gas turbines at Whirinaki to Auckland or Marsden Point where

there is an existing power station with both grid connections and easy access to fuel from the adjacent oil refinery.

- Establish a "cluster" of container-sized diesel generation units costing about \$0.5 million each somewhere near downtown Auckland (perhaps in the tank farm area near Viaduct Harbour?)

Demand Side Alternatives

In July this year, Molly Melhuish provided to EnergyWatch some background notes to a submission being prepared for SEF an “Options for Enabling Transmission Alternatives”, which are summarised below.

Auckland keeps on growing. The Mayor of Auckland City, Dick Hubbard, says he is extremely concerned about threats to the power supply. Hubbard says that the problem must not be downplayed and that leaving infrastructure investment decisions until it is too late is an emerging pattern in New Zealand.

The electricity industry insists that the most economic solution to Auckland’s problem is to upgrade the transmission lines with a new 400kV line **and** build more power stations to meet the growing load.

From a long-term perspective, this is not the least cost option for New Zealand. Demand does not have to keep on growing. Energy efficiency is cheaper, though it takes years to take full effect. Dispersed small-scale power stations provide greater security.

And from an environmental prospective, new big power stations and power lines guarantee increasing carbon dioxide emissions, and conflicts between water use for hydro, irrigation and in-stream values.

The Electricity Commission (EC) is required to consider alternatives to the proposed transmission upgrade projects. But the “Grid Investment Test” which is used to compare the costs and benefits of alternatives uses a lower economic test that only counts benefits to the electricity sector, not the New Zealand economy as a whole, let alone the environment!

Guaranteed regulated transmission pricing can not be used to fund an alternative solution which would be in direct competition to the proposed upgrades. Accordingly, any such solution would face considerable financial difficulties in the current electricity market.

Government officials foresaw these problems, and recently removed the “least cost” requirement from the electricity governance policy, opening the way to more expensive, more “profitable” large-scale solutions.

The other problem facing the EC is that the cheaper alternative solutions are being proposed by numerous, diverse and uncoordinated smaller companies, not a big corporation or one of the SOE power companies.

Previous submissions by SEF on the consultation documents released by the EC pointed out those elements of bias in the transmission decision process. “Transmission planning is power planning”, we said, because wherever big power pylons are built, large-scale remote power generation will be needed to justify the capital expenditure.

These and other submissions have finally borne fruit. The EC’s consultation document on “Options for Enabling Transmission Alternatives” (submissions due 22 July) shows that the EC has put on hold its final decision on transmission pricing. It has recognised the bias created by the pure-market environment, against transmission alternatives, contrasted with the regulated funding for Transpower’s proposed transmission upgrades. And it has set out several options for partly removing that bias.

Also the office of the Parliamentary Commissioner for the Environment (PCE) has just released its first assessment of the EC and the electricity sector in general, ‘noting that the EC has not made public its proposed environmental sustainability framework, nor has the EC had meaningful interaction with environmental and consumer-focussed agencies or non-government organisations. The EC has not met the Government Policy Statement requirements of overcoming barriers to full demand-side participation in the electricity market.

The PCE recently released its first report into the environmental sustainability of the electricity industry.

The report specifically recommends that demand-side initiatives and distributed generation be considered as alternatives to transmission upgrades and that the Grid Investment Test be revised accordingly. The next assessment of the EC by the PCE will give priority to the areas noted above.

If these recommendations are progressively supported and pursued, there is reason to hope that more sustainable alternatives to “Think Big” power planning will rise head and shoulders above the horizon and take their rightful place in the sun.

“Electricity, Energy and the Environment: Environmental performance Assessment 1 March – 30 June 2004”.

Source: Email from Molly Melhuish to the SEF Management Committee, 13 July 2005.

Conclusions

- It seems likely that the Auckland Region will have insufficient electricity supply to cover some limited periods of peak electricity demand from 2007 until 2010 (at the earliest) when either the 400kV transmission alternative or new long-term generation alternatives might be in place.
- New large-scale power generation alternatives north of Huntly mainly depend on sufficient availability of natural gas, which is still open to great doubt beyond the next few years, unless LNG is imported to New Zealand. Such proposals are at present also restricted by inadequate gas pipeline capacity north of Rotowaro (near Huntly).
- Some short-term (emergency) power alternatives during the period 2007-2010 have been discussed, which may need to be considered to cover insufficient peak power availability.
- Demand side alternatives need to be given fair consideration in comparison with the 400kV transmission line upgrade alternative being proposed by Transpower.

Peak Oil/Energy Conservation

Riding On Empty?

Some time ago, National Public Radio in the US collected the recorded voices of the last five or six American presidents and broadcast them each with his own distinctive tone, all saying exactly the same thing: America has to end its dependence on foreign oil.

Today President George W Bush makes much the same kind of statement as his predecessors did, but the measures he recommends hold only a little promise. And today the problem is rapidly becoming not just foreign oil, but oil itself.

To be fair, the President is absolutely right when he says that our energy problems cannot be solved overnight. These problems have developed over decades and it will take years of focussed effort to alleviate them.

His critics have said that the US\$14.5 billion energy bill is a giveaway of tax breaks to energy companies. The world is going to need all the oil it can get in the next three or four decades and alternatives have to be financially encouraged. The trouble comes when focussed effort wanes, and politicians become unwilling to pay even a short-term price for a long-term gain.

The disappointing and weak side of Bush's approach is symbolised by the disinterest in both the White House and the Congress in imposing better fuel consumption requirements on the automobile industry.

The USA, the world's largest oil importer, consumes 20 million barrels a day, and 40 percent of that goes out the exhaust pipes of cars and trucks. Car manufacturers however, complain to the Republicans that mandatory fuel efficiency might hurt their flagging businesses, and organised labour complains to the Democrats that jobs might be endangered.

Experts disagree on when the world's oil production will reach its peak and then start its downward slide. But they do know that demand is rising quickly. In 2002 the world consumed 79 million barrels of oil per day. In 2003 the

figure had risen to 82.5. Last year it was 84.5 – much of that due to China's industrial revolution.

Some say that in 20 year's time, the world will consume 40 per cent more oil than it does today. At the same time, many of the world's oil and gas fields are "maturing", which really means running out. Predictions of US\$100 a barrel or more in the not too distant future are becoming common.

Unlike the oil crisis of 1973, the current rise in prices is not coming as a result of war or boycott, but because of high demand and not enough supply. This is a delicate balance which a hurricane can too easily upset.

And although the world's economy has survived petroleum price increases remarkably well so far, it is now beginning to show the inevitable strain.

Optimists put their faith in improved extraction technology to save the day, but this can only temporarily slow petroleum's depletion and will do nothing to curb demand – unless alternative energies are found and conservation is implemented.

While one can sympathise with President Bush for wanting to apply the brakes slowly, he needs to glance at the petrol gauge too, which may be falling towards empty more quickly than he knows.

Source: Article by H.O.S. Greenway in the International Herald Tribune, Sat/Sun 10-11 September 2005

Iraq May Be Years Away From Returning To Full Oil Output

Big oil companies have no concrete plans to develop the Iraq oil industry, meaning that it will be several years before the country has a hope of returning to its 1979 peak in oil production, and probably a decade before Iraq could pump the 5.5 to 6 million barrels a day suggested by its reserves.

The prospect of raising oil production to improve the lives of its people was a central vision held out by the US administration and other supporters of the invasion to topple Saddam Hussein in 2003.

But much equipment was looted from pipelines, pumping stations and other facilities in the immediate aftermath of the invasion and continuing extreme insecurity has kept even plucky foreign oil companies away. In addition there has been a lack of clear institutions and laws to manage the oil industry.

Looking at current oil production, Issam al-Chalabi who was oil minister in Iraq in the late 1980s and before the 1991 Gulf War said that Iraq will be lucky to maintain its present level of around 1.5 million barrels a day.

In what he called the medium-term, he doubted that Iraq could return its record 1979 production level of 3.5 million barrels a day until 2009.

As for long-term production which would involve opening up new fields that could raise production to 5.5 or even 6 million barrels per day, Chalabi said “we can only pray” and he said his guess was that it would be 2013 or 2014 before this could be achieved.

Source: International Herald Tribune, Thurs 22 September 2005

An Alternative American Viewpoint

Americans will change their long-term energy habits and companies will develop green products only if they are certain that the price of gasoline will not go back down.

A gasoline tax and stronger regulation would force US companies to innovate in what is going to be one of the most important global industries of the 21st century; green technologies.

By coddling auto and industrial companies when it comes to fuel consumption standards and the environment, all the Bush team is doing is ensuring that these companies will be dinosaurs and that Chinese, Japanese and Indian companies will take the lead in green technologies.

Recently Jeff Immelt, the Chief Executive of General Electric said “America should strive

to make energy and environmental practices a national core competency and by doing so, create exports in jobs. America is the leading consumer of energy. However we are not the technical leader. Europe today is the major force for environmental innovation. European governments have encouraged their companies to invest in and produce clean power technologies. And government policies that encourage this with subsidies and other incentives are giving European companies a leg up. While Europe has been a driver for innovation, China promises to be its market”.

Setting the goal of energy independence along with a gasoline tax could help to solve so many of America’s problems today – from the financial deficit to climate change and national security. And Americans would pay it if they thought that the extra money was going to renew America.

And if the Texas-oilman president became the energy-independence president – now that would snap heads and make this a truly relevant presidency.

No way you say? Probably right. But either Bush does a “Nixon-to-China” or his next three years are going to be Bush-to-Nowhere.

Source: Column by Thomas L. Friedman entitled “Staying the Course”. International Herald Tribune, Thursday 22 September 2005

Visions Of Carter’s Past?

In the previous issue of EnergyWatch, reference was made to President Jimmy Carter’s 1973 views on US energy use (EW Issue 37, pp 10-11).

Recently thermostats were turned up two degrees to 22 degrees Celsius in the West Wing of the White House and staff members who relinquished their coveted parking passes got free fares on the Washington Metro.

Over in the White House residence, the lights went off earlier at night and were turned on later in the morning, at least in the rooms that no one was using.

President George W Bush has not yet been spotted in a Jimmy Carter-like grey cardigan, but otherwise his call to Americans to conserve petrol by driving less had a strangely familiar ring.

Bush sent out orders directing all federal employees to cut back on non-essential

travel, and also encouraged them to carpool, telecommute and use public transportation. White House staff were under orders to turn off copiers and computers at night. Discussions were under way about making space for cycle and motorcycle racks.

So far there are no plans for Bush to give an energy-conservation fireside chat like Carter did in his cardigan.

To Bush's critics, the call for conservation smacked of showmanship. After all, the President has spent the past weeks dropping into the hurricane region from the fuel-guzzling Air force One, which the US Air force estimates costs US\$40,000 an hour to fly.

More significantly, Bush's energy policies have long emphasised new energy production over conservation, and he has opted not to impose higher fuel consumption standards on most American automakers.

But some energy experts said that Bush's call for conservation could be more than symbolic and actually do a lot of good.

Source: "White House Letter" column by Elizabeth Bumiller in the International Herald Tribune, Monday 3 October 2005

Is The US Administration Going Green?

During the California electricity crisis, US Vice President Dick Cheney called energy conservation a "mere sign of personal virtue", but recently US energy secretary, Samuel Bodman declared that "the main thing that US citizens can do is conserve energy".

Is the Bush administration going green? No, not really. This administration's idea of encouraging energy is an advertising campaign centred on a cartoon pig. When it comes to substantive energy policy the administration is still thinking "drill-and-burn".

The background to Mr Bodman's remarks is growing public anger over high energy prices. Polls suggest that many people blame energy companies for high energy prices and blame the present US administration for failing to control price gouging. During the California crisis there

was evidence that electricity shortages were artificial, the result of market manipulation by energy providers and traders. This deduction was later confirmed by the Enron tapes.

In the absence of an effective US conservation policy, prices will do all the persuading: the cost of fuel will rise until people drive less and turn down their thermostats. The problem is that high prices will impose serious hardship on many families.

And that is why US administration officials are sounding vaguely greenish: they hope to limit the price pain by persuading people to curb their energy consumption out of a sense of public duty. Done right, such a campaign really could make a difference. In fact, energy conservation played a significant role in ending California's crisis four years ago.

But the US administration's conservation push lacks conviction. President Bush has spoken in favour of conservation, but he seems to be more interested in justifying the Iraq war. And the administration's attempt to promote "Energy Hog" (a cartoon pig in a leather jacket) as a conservation mascot, verges on the pathetic.

So its going to be a long cold (northern hemisphere) winter. But what about the longer term?

The long-term case for energy conservation doesn't have much to do with the current shortages. Instead it's about national security, broadly defined – reduced dependency on Middle East oil supplies and reduced emission of greenhouse gases. But will the administration's new willingness to use the language of conservation spill over into long-term policy?

No such luck: Mr Bush has called for more refineries, but has said nothing about raising fuel consumption requirements for motor vehicles and efficiency standards for appliances. And as for a higher petrol tax, which would be possible only with broad bipartisan backing – don't be silly.

Conservation's day will come. But it hasn't happened yet.

Source: Article by Paul Krugman in the New York Times, Friday 7 October 2005,

Kicking The US Oil Habit?

At the recent Tokyo Motor Show car makers were actively promoting their hybrid cars in attempts to catch up with Honda and Toyota, the technology's pioneers.

The reason for this can be seen at the fuel pumps where prices are roughly 25 per cent higher than they were a year ago. Home heating oil is 50 per cent higher than last year and natural gas will probably jump similarly. Of the 21 million barrels of oil that are consumed daily in the US, 10 million are imported.

US Federal Reserve Chairman Alan Greenspan, said that this will create a significant drag on economic growth from now on.

Greenspan said that the "silver lining" is that as oil gets more expensive, other energy sources and technologies that use less oil will become more competitive.

As the price of crude oil has steadily increased, technological innovation has driven down the cost of alternative energy sources. In the US, wind farms cover hillsides near Palm Springs and Altamont Pass in California and are springing up in the breezy Midwest and on the Atlantic Coast.

Solar cells can produce electricity at around US25 to 35 cents per kilowatt hour, falling but still a multiple of the cost of energy from coal-fired power plants.

Canada is extracting oil from the tar sands of Alberta at an amazingly efficient price of US\$15 to 20 per barrel and the technology exists to convert the US's huge supply of coal into petroleum. This process, called coal liquefaction, creates a fuel that powers cars and is starting to look economically feasible.

At the same time, oil companies, worried that these changes could leave them behind are starting to think of themselves as broad-based energy companies. Shell and BP are already headed in that direction and Shell has become the largest seller of biofuels.

This explosion of innovation may have a problem in coming too late to allow a smooth transition to the post-petroleum era. Hydrogen fuel cells, ethanol from vegetable matter, solar

cells, wind-power, synthetic gasoline from coal – all could make a dent in oil demand once they are available in sufficient quantities. But that may not be for a number of years yet and twenty years into the future, regular oil may still be the dominant fuel albeit at a much higher price.

Things would have been different in the US if America had been pouring money into alternative energy for the last couple of decades as it did in the aftermath of the oil shocks of the 1970's. Back then despite the ribbing Jimmy Carter got for appearing on TV in a cardigan and calling for sacrifice, there was a clear sense of national emergency.

That crisis receded thanks in part to investments in conservation and energy efficiency, and in part to the worldwide recession the oil shocks helped to trigger. As a result, a barrel of oil costs 30 per cent less today, in inflation-adjusted dollars, than it did at its peak in 1981.

But whereas the two oil shortages in the 1970's were artificially induced, the present problem is because demand is starting to exceed supply due at least in part to the rapid expansion of India and China's energy needs.

Source: Article by Michael D Lemonick, Time Magazine (NZ Edition) 31 October 2005

Health Warning to SUVs

A warning that four-wheel drive sports utility vehicles (SUVs) are dangerous to the health of pedestrians, and the planet. This has been given official backing by the British Medical Journal.

The article comes a year after a controversial proposal to put tobacco-style health warnings on the side of all new SUVs and in their advertising.

Add in the hazard that SUV's pose to the wider environment and the case is even stronger. According to the conservation organisation, Sierra Club, the US vehicle fleet alone emits more carbon monoxide than all but four countries.

Source: Posting to SEF News by Paul Bruce, November 2005

Climate Change/Global Warming

Climate Change Policy Review

Background

On 16 June 2005, Climate Change Minister, Pete Hodgson announced a dramatic turnaround from a projected 33 million tonnes credit situation to a 36 million tonne deficit situation in the carbon dioxide credits which NZ has available to meet its obligations under the Kyoto Protocol during the first five-year commitment period from 1 January 2008 to 31 December 2012 (see EW Issue 37, page 5).

A key factor in the turnaround is an increase of 38 million tonnes in the emissions forecast over the five year period, particularly from transport but also from electricity generation. In his announcement, the Minister attributed this to be "as a result of NZ having one of the highest performing economies in the world".

The financial implications of the 36 million tonne deficit could be anywhere between \$310 million over five years (a recent NZ Treasury estimate) to \$1.5 billion over five years (based on the current price on the internal European market), which would be required for NZ to purchase carbon credits on an international market.

Two days after announcing this shortfall situation, the Minister stated that he had asked Government officials to report back by the end of October 2005 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 said that he felt 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.

Briefing on the Review

On 18 August, the Ministry for the Environment arranged a briefing in Wellington on the NZ Climate Change Policy Review. SEF representatives attended and noted that the material presented was rather sketchy but the discussion and questions from representatives of industry was interesting. Key points were as follows:-

- This Review is a "strategic stocktake" of where NZ is now and what the options are in the future to address climate change issues. It is not about re-evaluating NZ's commitment to meeting its existing commitments under the Kyoto Protocol.
- The Review is not designed to provide a detailed "blueprint" for all climate change policies over the long-term.
- The Review Team is a "whole of government" group from MfE, MED, MAF, MoT and Treasury. MFAT, EECA, TPK, DPMC and MoRST will also input.
- Other external experts and key stakeholders are being engaged to help inform the advice that the officials are formulating, but there is no public submission process.
- The Review will not be limited to analysing how we should "bridge the shortfall" in 2008 to 2012.
- The aim is to provide Government with the basis for strategic choices, including:
 - What are the options for NZ's long-term climate change objectives?
 - How, and how fast, should we pursue these objectives?
 - What are the implications of these choices for other Government objectives?
- The Review reports to the incoming Minister responsible for climate change by 31 October 2005, and it is expected that the Minister will then take a paper to Cabinet which will decide on next steps, including more detailed information on particular policy options.
- The Review is being done on a very short time frame, because the Government wants to consider the future direction of policy as soon as possible.

Comments and MfE Responses

- (Industry) This is not a “proper review” as the option of withdrawing (from Kyoto) is not included. Answer: The detailed terms of reference are on the website of the Climate Change Office.
- (Industry) There is a high level of stakeholder concern at the nature and substance of the Review.
- (Industry) Is the effectiveness of the Projects Mechanism up for review? Answer: Yes.
- (Industry) Are agricultural emissions included in the Review? Answer: Yes, country-wide and sectoral.
- (Industry) Is the carbon tax still on the table? Answer: Yes, it will be reviewed - but it is still current policy so development of the implementation plan will continue.
- (Industry) Will more consideration be given of the role of the Kyoto flexible mechanisms (CDM and JI)? Answer: Yes, these will be looked at.
- (NGO) How do you ensure that short-term thinking does not dominate the Review and particularly the assessment of costs and benefits? Answer: We intend to start the analysis looking at the longer term effects and cost-benefits.
- (NGO) Will the Review look at the costs and benefits from an “NZ Inc” perspective or will it look at where the costs and benefits lie? (This question was from a Maori group). Answer: “A very good question”. Yes, we need to look at this aspect.
- (NGO) How will you ensure that the process is not captured by “polluting interests”? Answer: That is the officials’ job. BUT we do not have all the necessary expertise so we will be asking some stakeholders for input where appropriate. We do not want the Review Team to sit in a “black box”. The outputs must be in the real world.
- (NGO) Will you be wanting to educate the stakeholders and the public about the issues? Answer: Yes - but not at this stage.

Concluding Comments

When this Review was announced by the Minister, Pete Hodgson on 18 June (see EW Issue 37, page 27) it appeared to be aimed at considering how to get NZ out of a deficit situation during the first five year commitment period of Kyoto, which would require detailed analysis of various options.

The thrust seems to have since changed to being a “high level option” review of climate change policy by a bunch of officials, with very little opportunity for input by concerned organisations or individuals.

Presumably the Review will look at the various interactions between the Government’s climate change policies and a raft of other government policies, including economic and taxation policies. The recently announced (in June) dramatic turnaround from a carbon credit to a deficit situation for NZ during the first five-year commitment period certainly seems to have been focussing officials’ minds on climate change issues at a “high policy” level.

Although it is stated that the Review will not be limited to analysing how we should “bridge the shortfall” from 2008 to 2012, the short time available for the Review is likely to limit detailed analysis of options for reducing the shortfall, and consideration of possible Government policy changes which might be necessary to achieve that objective.

It is also explicitly stated that the Review is not about re-evaluating NZ’s commitment to meeting its existing commitments under the Kyoto Protocol.

Independent Review Of New Zealand Kyoto Figures

As noted earlier in this issue of EW, in June this year revised estimates showed that NZ was likely to exceed its Kyoto target by 36 million tonnes of carbon dioxide between 2008 and 2012, during the climate change treaty’s first five-year commitment period.

The government will need to buy carbon credits from other countries which have ratified the Kyoto treaty to cover the shortfall.

That was a big turnaround from last year's estimate which had the country in a credit situation of 33 million tonnes over the five-year commitment period.

Climate Change Minister, Pete Hodgson, subsequently commissioned an independent review by a British consultancy, AEA Technology. It looked at methodologies used to estimate greenhouse gases emitted, or removed from the atmosphere by trees growing in "Kyoto forests", and found them "generally sound and reasonable".

AEA Technology said that the two main areas which could cause significant further revision of the projections were land use change/forestry and energy demand in the transport sector.

The benefit of forest sink credits has been revised downwards by 24 million tonnes or 25 per cent. Most of that, 15 million tonnes, is because pine trees planted on land previously growing scrub (especially manuka/kanuka) are not now counted as eligible for credits.

But it also reflects a collapse in the rate of planting of new commercial forests and an increase to deforestation, to the point where the latest information suggests that total exotic forest is now shrinking.

AEA Technology suggests the pessimistic scenario on deforestation may in fact be too optimistic and that the estimate for afforestation (10,000ha per year, half the previous estimate) may be too optimistic as well.

Inconsistencies are noted between estimates of land use change in the context of forest-sinks, and in calculating agricultural emissions.

AEA Technology also has reservations about the modelling of energy demand and related emissions, describing the treatment of the transport sector, and especially diesel use, as relatively simplistic.

Source: Article by Brian Fallow in NZ Herald, Tuesday 11 Oct 2005

Further Views On "Kyoto Alternative"
EW Issue 37 (pp 3-4) discussed the Asia Pacific Clean Development and Climate Partnership announced at the end of July.

A further view on this agreement (NZ Herald, 26 August 2005) is presented by Michael Richardson, former Asia editor of the International Herald Tribune who examines claims that an alliance of countries working outside the Kyoto Protocol can develop cleaner and better energy policies.

Mr Richardson notes that the new partnership between the USA, Australia, China, India, Japan and South Korea has been widely criticised by environmentalists for allegedly undermining the Kyoto Protocol, which makes cuts in carbon dioxide emissions and other global warming gases compulsory for many developed economies.

He notes that this new pact has also been lambasted for being long on vision and short in detail about how the harmful effects of burning ever more coal, oil, natural gas and other fossil fuels can be reduced without sharply slowing economic growth.

He also notes that of the six nations involved, only Japan is committed to a Kyoto Protocol target of limiting greenhouse gas emissions by 2012, and that the USA and Australia refused to ratify Kyoto, partly because major carbon emitters such as China, India and South Korea were not classed as developed economies and therefore did not have to implement cuts. It seems that the six countries are starting to shape a deal even before formal discussions on a post-Kyoto regime take place in Montreal in November.

USA President, George W Bush, says the six countries, together accounting for about half the world's economic output, population, energy use and greenhouse gas emissions have formed a results-oriented partnership that will allow them to "develop and accelerate deployment of cleaner, more efficient energy technologies to meet national pollution reduction, energy security and climate change concerns in ways that reduce poverty and promote economic development". Mr Richardson notes that this looks like a tall order!

Questions which need to be addressed include:

- Does the cost-efficient technology needed to bring about those results exist, or can it be developed and applied in the near future?

- How much will the technology cost those who don't have it?
- Who will pay, and will it be transferred from one pact country to another, especially if it is proprietary and confers competitive advantage for a national company, industry or economy?

Answers to some of these questions and other details will be fleshed out as officials of the six governments in the partnership prepare for the first meeting of their foreign, environment and energy ministers in Australia in mid-January.

A plan of action is expected to emerge from that meeting.

Source: NZ Herald, Friday 26 August 2005

And a view taken from “The Australian” newspaper was briefly described in the NZ Herald on Monday 22 August under a headline “Kyoto may lead to rethink”. The article was mainly about the NZ economy and the forthcoming general election but it included the paragraph: “But news that the country (NZ) could be as much as \$1.2 billion in a hole as a result of signing on to the Kyoto Protocol – a heavy price to pay for farting sheep – could lead to a rethink of its international posture and redirect it, under Dr Brash, into the Australian – US camp on climate change”.

Source: NZ Herald, Monday 22 August 2005

Blair Changes His Mind?

At the G8 summit at Gleneagles, Scotland in July, British Prime Minister, Tony Blair, made a strong plea for international agreement on global warming initiatives but without much success (see EW Issue 37, page 3).

Since then, he now seems to be cooling towards the Kyoto Protocol, especially post 2012, and has hinted that Britain may pull out of attempts to draw up a successor of the present treaty because the economic price of cutting greenhouse gas emissions is too high.

Blair’s comments were made on September 15 at the Clinton Global Initiative, hosted by the former American President in New York.

Blair told this international meeting that he was changing his thinking about a successor to Kyoto, stating that “we have got to start with the brutal honesty about the politics of how we deal with it. The trouble is that no country is going to cut its growth or consumption substantially in the light of a long-term environmental problem. To be honest, I don’t think people, at least in the short term, are going to start negotiating another major treaty like Kyoto.”

Blair’s words will undermine the efforts of Margaret Beckett, his environmental secretary who is drawing up plans for continuation of the treaty. She is due to fly to Montreal in November to begin talks on the new treaty, to take effect when the present Kyoto accord ends in 2012.

In his comments Blair suggested that he no longer had faith in global agreements as a way of reversing rising greenhouse gas emissions. Instead he appeared to place his faith in science, technology and the free market – a position which President George W Bush has adopted since he repudiated the Kyoto treaty in 2001.

“How do we move forward and ensure that, post-Kyoto, we try to get agreement?” Blair said. “I think that this can only be done by the major players in this, coming together and finding a way for pooling their resources, their information, their science and technology”.

“The real issue is how do we put these incentives in the system so that the private sector, as well as the public sector says let’s start getting behind this?”

Blair’s suggestion that the answer to climate change lies in the free market has alarmed environmentalists. They were already fearful that the issue was slipping off the agenda of world leaders after the July G8 meeting at Gleneagles.

A Communiqué issued by those leaders downgraded climate change from a global “threat” to a “challenge”. It also suggested that reducing greenhouse gas emissions, a key element of Kyoto, was no longer an immediate aspiration.

Over the weekend of 24-25 September, a Downing Street spokesman declined to comment further on what Blair had said in New York, and the Department for Environment, Food and Rural Affairs also declined to comment. In a recent speech, Margaret Beckett had re-affirmed Britain's commitment to cut greenhouse gas emissions to 60 per cent of 1990 levels by 2050.

Tony Juniper, director of Friends of the Earth, said Blair appeared to be "losing the plot" on climate change. "Only three months ago at Gleneagles, every country there except the USA still supported Kyoto" he said. "Labour's credibility on climate change is already collapsing at home and now appears to be disappearing abroad".

Source: Sunday Times, London, 25 September 2005, Article by Jonathan Leake, Environment Editor

Mr Blair's U Turn

A year or so back, Tony Blair said that climate change was "long term, the single most important issue we face as a global community". He placed it with Africa at the top of his agenda for the G8 and insisted that "it can only be fully addressed through international agreement".

Earlier this month in New York, the Prime Minister told a conference on global challenges "I would say probably I'm changing my thinking about this in the past two or three years". Later in the month at the Labour Party Conference in Brighton, UK, he promoted President Bush's insistence that the solution was "technology-led solutions", which environmentalists – and even Mr Blair's own minister for climate change – have rejected as insufficient. Britain now emits more carbon dioxide, the main cause of global warming, than when he took power."

This is a disastrous U-turn by the Prime Minister.

Source: The Independent, UK, Thursday 29 September 2005, Editorial

UK Review Of The Economics Of Climate Change

UK Chancellor (Gordon Brown) has recently announced (16 Oct) a major review of the economics of climate change to understand more

comprehensively the nature of the economic challenges and how they can be met, in the UK and globally.

The review is to be led by Sir Nick Stern and will be taken forward jointly by the Cabinet Office and the UK Treasury and will report back to the Prime Minister (Tony Blair) and the Chancellor by about September 2006. It will take place within the context of existing national and international climate change policy.

The announcement states that the review is a further demonstration of the importance which the UK Government attaches to the issue of climate change, and follows its decision to make climate change a priority for the UK presidencies of the G8 and EU.

Source: UK Treasury Media Statement

Reduce Air Travel To Aid Environment?

Britain should drastically reduce the growth of travel to bring greenhouse gas emissions within levels that will avoid disastrous climate change, a report by leading environmental scientists said on Wednesday 21 September.

The U.K. Government says it wants to cut carbon dioxide emissions to 60 percent of 1990 levels by 2050. But the Tyndall Centre for Climate Change Research, which includes scientists from universities across Britain, said that the target was incompatible with the current expansion rate of the aviation industry.

"If aviation continues to grow at its present rate, then it won't be possible to meet the reduction to a 60 percent target unless we all massively reduce our consumption of energy in other ways" said Simon Shackley of the Tyndall Centre.

Source: International Herald Tribune, Thursday 22 September 2005

Castalia Report Criticises Proposed Carbon Tax

The present Government intention is to introduce a carbon tax into New Zealand. The proposed date of introduction is April 2007. One of the objectives of this tax is to make energy from renewable sources more economically competitive

with fossil fuels. Its introduction is now to be the subject of a review as a result of recent negotiations to form the new Labour-led Government.

A recently released report by the economic consultancy Castalia has suggested that adopting new energy efficiency technologies rather than a carbon tax is the best way for New Zealand to seek to meet its obligations under the Kyoto Protocol.

The report was commissioned by the Greenhouse Policy Coalition, which represents large industrial emitters of greenhouse gases blamed for global warming.

The report's author, Alex Sundakov, questions the assumption that because the New Zealand economy is energy-intensive by international standards, it is therefore energy-inefficient. Instead he argues that it reflects a preponderance of energy-intensive industries such as dairy processing and a relatively low population density. The structure of the New Zealand economy therefore limits the scope for reductions in greenhouse gas emissions.

Sundakov argues that big "smokestack industries" need special treatment on the grounds that if the Marsden Point oil refinery or the Tiwai Point aluminium smelter were put out of business by climate change policy (such as a carbon tax), the demand for the fuels and metals they produce would simply be met from other plants overseas. It would be an "economic own goal" with no benefit to the atmosphere from a global perspective.

The report suggests that price-based policy measures like a carbon tax or carbon trading are only effective in triggering a switch to cleaner technologies if those technologies are close to being commercially viable. Otherwise they only act to suppress demand and economic growth.

Sundakov therefore believes that a more sensible alternative to a carbon tax would be a suite of policies to encourage compliance with the world's best energy efficiency standards for new capital investment.

In a statement released with the report, the executive director of the Greenhouse Policy Coalition, Catherine Beard, notes that even Britain's Tony Blair has recently conceded that technology is the answer to the problem and that no country will willingly sacrifice its economic growth. She says that the recently announced (in late July) Asia-Pacific Clean Development and Climate Partnership advocates investing in technology solutions and asks if this is a more effectively path for New Zealand to take?

Source: Article by Brian Fallow in the New Zealand Herald, Monday 17 October 2005, page C15.

Mandatory Targets – Or "Technology-Led" Solutions?

This issue of EnergyWatch reports the views of Michael Richardson (see page 15) on the new partnership between the USA, Australia, China, India, Japan and South Korea proposing voluntary technology-led solutions to reduce greenhouse gas emissions as an alternative to mandatory targets to meet requirements under the Kyoto Protocol.

Richardson suggests that the questions to be addressed include:

- Does the cost-efficient technology needed to bring about those results exist, or can it be developed and applied in the near future?
- How much will the technology cost those who don't have it?
- Who will pay, and will it be transferred from one pact country to another, especially if it is proprietary and confers competitive advantage for a national company, industry or economy?

Long-time SEF member and energy economist, Peter Read, discusses issues relating to this debate in a recent article in the NZ Herald (Friday 21 October). He notes that the Kyoto process is in trouble, which is not surprising because its strongly cost-enhancing features impact mainly on the well organised energy industries.

Peter notes that the underlying economic doctrine of Kyoto – that putting a price on emissions will choke off demand in the short term (unless alternative "clean" technologies can compete on cost) – panders to the logical fallacy that the best way to cure a problem is to reverse it.

Peter suggests that this is rather like trying to ski uphill instead of using the chairlift.

Also, as a practical approach to getting greenhouse levels down, Peter says it is like the charge of the light brigade "magnificent but not how to win the war".

Peter hastens to add that he is not critical of NZ ratifying the Kyoto Protocol. "Otherwise we would align with the naysayers postponing action on this possibly urgent issue until it is possibly too late".

He notes the present uncertainty of the climate change science, "How can anyone maintain otherwise when the models show a discrepancy in the likely temperature increase this century from a possibly benign 1.5 to a certainly catastrophic 5.6 degrees Celsius? However he says that uncertainty is no reason for inaction.

Peter advocates a holistic approach that manages the overall flow of greenhouse gases into and out of the atmosphere. That approach involves investing in the land, shifting the balance of the natural fluxes through profit-enhancing change in food and fibre production and use in the agricultural and forestry sectors.

He says that investing in the land offers the prospect of low cost and multiplying the beneficial achievement of Kyoto targets.

The key to this approach is the co-production of bio-energy with food and timber, making use of currently wasted materials, and increasing their volume with appropriate incentives.

Peter notes that energy security is needed – with oil prices at current levels, such investments pay for themselves. In Brazil, motorists with dual fuel cars which adjust to whatever mix of petrol and alcohol is in the tank, are happily choosing to run them on pure alcohol.

He suggests that a smart policy for NZ would mandate importing an increasing proportion of such dual-fuel vehicles. He notes that this is an example of technology-oriented policy that the Greenhouse Policy Coalition is advocating for New Zealand as presented in the Castalia report and that in principle nothing is wrong with such policies – capping emissions at 90 per cent of demand is no different from mandating 10 per cent renewable energy supply, give or take demand elasticity.

What is open to criticism with the way such policies are being advanced overseas is that they are voluntary, not mandated.

Such a policy is not renegeing on Kyoto. The Kyoto target can be achieved more easily by technology-oriented investment (including in land as well as in wind power or the like), than by taxing fossil fuels.

However incentives would be required. A system of allocating permits usefully would promote desirable innovation and ensure the integrity of the emissions cap.

For the moment, Kyoto rules restrict investment in land to forestry-related schemes (meaning they are restricted to woody wastes for heating fuel until such time as emerging technologies for converting woody material to alcohol are commercial).

In the meantime a rapid expansion of wood-pellet home heating, and mandating a rising proportion of wood fuel firing at Huntly (and Marsden B if it goes ahead as a coal-fired station) could assist in meeting NZ's Kyoto commitment with minimal impact on energy prices.

In conclusion Peter argues that the government should abandon the carbon tax, get NZ firms better integrated into the emerging global carbon market and above all, "recognise the folly of stealing the Kyoto forest credits from the landowners who created them".

Source: Article by Peter Read in the NZ Herald entitled "Recognise the folly of our ways", Friday 21 October 2005, page A17.

Commentary

A central issue here is whether “technology-led solutions” will be effective in reducing greenhouse gas emissions if they are voluntary rather than mandatory.

The recent Castalia report has suggested that price-based policy measures like a carbon tax or carbon trading will only be effective in triggering a switch to cleaner technologies if those technologies are close to being commercially viable.

Peter Read has correctly identified that incentives are likely to be required to persuade people to switch to cleaner technologies, that is a “carrot” approach rather than the “stick” approach of the proposed carbon tax.

Whether a project is forestry-related or in the energy efficiency area, such “carrots” will have to be funded out of general taxation if the carbon tax proposal is discontinued, as voluntary action is unlikely to be sufficient.

Underlying this issue is the basic problem that at present there is no financial cost applied to those discharging greenhouse gases into the atmosphere, so energy users have the “freedom to pollute” without any penalty being applied.

John Blakeley

Carbon Tax Driving Nuclear Power Revival

The debate on the best way to counter the threat from climate change is heating up again in the build-up to the next international UNFCCC discussions in Montreal this month. The discussions will attempt to address the changes required to move forward when the Kyoto protocol expires in 2012.

Professor David King, the chief scientific advisor to UK Prime Minister Tony Blair, has weighed into the debate with criticism of the partnership between the US, Australia and several Asian countries that relies on developing new technology to reduce greenhouse gas emissions. He then went on to suggest that new nuclear power stations may be needed if

the UK, as Europe’s second-biggest greenhouse gas emitter, is to reduce its reliance on fossil fuels.

King told the Guardian newspaper that unless new reactors are built, the UK would only be able to rely on nuclear for 4% of its energy needs by 2020, a fraction of the present figure of 24%. Many of the UK’s nuclear power stations are decades-old, and building new ones is a major problem, as the private sector is unwilling to invest the massive upfront capital costs required to build the next generation of reactors, unless the government guarantees a base price for electricity generated from new reactors.

This debate may see a significant shift in big business opinion in support of active carbon trading and carbon taxes, as this was the one way that nuclear energy could be seen as “economic”.

King said that the introduction of carbon taxes would make nuclear power a cheaper option than coal. “People are concerned about nuclear energy in terms of its expense, but if we had just EUR23 [NZ\$40.00] per tonne on carbon dioxide then you already switch the economic argument in favour of nuclear.” The current price of carbon in Europe is around EUR22.00 [NZ\$38.60 – which makes the proposed NZ tax of \$15 look very light.]

Another item of interest in the Guardian’s interview with King is his suggestion that declared objectives on CO₂ emissions beyond 2010 are needed.

The UK government has been required to clarify repeatedly its stance on a successor to Kyoto ever since Tony Blair told a climate change conference in New York in September that a successor to Kyoto was unlikely to be negotiated in the short-term.

“The British government’s position is that we believe emissions trading is absolutely vital. We believe that capping processes are vital and we believe that declared objectives for 2010, 2020 etc are necessary,” King said.

Source: Ian Shearer (extracted from The Guardian 21 Oct, 2005)

Petrol-Electric Hybrids/High Efficiency Diesels

Fuel Efficiency of Petrol-Electric Hybrid Cars

The fuel efficiency of hybrid cars was highlighted in the 2004 EnergyWise Rally around the North Island, which finished on 5 November after 1619 kilometres of challenging driving conditions.

The Toyota Prius hybrid of Chris Amon and Sarah Duke took outright victory with a fuel consumption figure of 4.02 litres/100kms (70.3mpg). Second place overall was a dead heat between another Toyota Prius hybrid and a conventionally powered Daihatsu Charade, both recording 4.39 litres/100km (64.4mpg).

The above Toyota Priuses also took the first two places in the medium/executive car class. The compact car class was won by a Honda Civic hybrid recording 4.99 litres/100km (56.6mpg) with another Civic hybrid second on 5.09 litres/100km and a conventional Civic third on 5.67 litres/100km).

The small car class was won by the above Daihatsu Charade, with a conventionally powered Honda Jazz second on 5.09 litres/100km (55.6mpg).

Source: EnergyWise Rally media release on 6 November 2004. Note only petrol powered cars are included in the above figures.

Conclusions from the above results

In summary, although a top flight driver may achieve 4 litres/100km (70mpg) with a hybrid car, a more realistic figure for a good driver would be 5 litres/100km (56.5mpg).

However with a good driver, a small conventionally powered petrol car may also achieve very good fuel economy, for example up to around 5 litres/100km (56.5mpg) for a Daihatsu Charade and 5.5 litres/100km (51.5mpg) for a Honda Jazz.

NZ Market Penetration

A Radio NZ "Insight" programme in March 2005 noted that under normal driving conditions a hybrid car should be able to achieve 5.5 litres/100km and under optimal conditions 5.0 litres/

100km. It also noted that to date, 270 hybrid cars have been sold in NZ, 175 of them being the Toyota Prius and the other 95 being Honda Civics. Companies purchased 33 percent of the Priuses and 50 percent of the Civics, the balance being purchased privately.

The programme noted that hydrogen fuel cell cars are seen to be the "holy grail" in reducing dependence on oil for transportation but are a long way into the future.

Compared with an "average" conventional car in NZ, the hybrid car can cut fuel use by up to one half by stop-start city driving, but pollution by as much as 90 percent. The problem is that even with the present increasing oil prices, it is difficult to economically justify their purchase.

In the case of the Prius, it is said to have equivalent interior space and the same combined power from its petrol and electric motors as a Toyota Camry. However a basic Camry costs \$37,500 compared with the purchase price of a Prius of \$43,500 and it would take many years of saved petrol consumption for most motorists to make up that difference.

The Honda Civic hybrid at \$33,000 has similar fuel consumption to the smaller and lighter conventionally powered Honda Jazz at \$20,500, so if an owner is prepared to accept the smaller interior space of the Jazz, there would be no fuel saving in purchasing the Civic hybrid at a considerably higher price.

A representative of the Christchurch City Council said that his Council had recently invited tenders for some small fuel efficient cars. Eventually they had purchased 15 Holden Barinas instead of hybrids. The Barina would consume 7 litres/100kms compared to 5 to 6 litres/100km for the hybrids, but the fuel saving of the hybrid would only be about \$150 per year for each car, which wouldn't justify the higher capital cost (although the hybrid cars would provide more interior room than the Barina).

Source: Radio NZ "Insight" programme, broadcast at 8.00am on Sunday 13 March 2005.

Competition from Conventionally Powered Cars

In launching a new model of the Daihatsu Sirion car in March this year, Bob Field, Managing Director of Toyota New Zealand said that company fuel consumption tests show it will achieve 5.8 litres/100km (49mpg). The Sirion is a 1.3 litre four cylinder petrol car with fuel consumption figures quite close to those achieved by hybrid cars, yet the base model sells at \$18,900, **only about half the price of a hybrid.**

Mr Field suggested in his address that in order to make New Zealanders give more thought to their car-buying decisions, and in turn contribute to sustainable mobility and efforts to reduce global warming from greenhouse gas emissions, petrol should be more highly taxed.

He suggested that a carbon tax of about 80 cents per litre be applied so that the price of petrol in New Zealand would rise “to around European levels” of about \$2 a litre, from the present price of \$1.20. He estimated that such a carbon tax would increase the cost of a tankful of petrol by \$50 for large six cylinder cars and more than \$70 for a V8 powered four-wheel-drive.

Mr Field believed that such a higher pump price would change driving habits and buying decisions. “Drivers of gas-guzzlers should be encouraged to think of alternative choices or be prepared to pay more for the environmental damage which they are causing”.

Source: NZ Herald, Weekend Edition, Saturday 12 March 2005,

Note: Since this article was written, the price of 91 octane petrol at the pumps has risen from \$1.20 per litre to about \$1.40.

A New Development: The “Plug In” Hybrid

The NZ Herald has reported (20 August) that Auckland’s Mayor, Dick Hubbard says that he is achieving 4.96 litres per 100km (57mpg) in city traffic in his recently purchased Toyota Prius. This is about a quarter of the fuel consumption around town of a big V8 car, which may use as much as 20 litres of fuel to cover 100km.

However the Herald reports that enthusiasts in the USA are obtaining anywhere between 80mpg and 230mpg out of a Toyota Prius by putting

on additional stacks of batteries in the boot and charging all the batteries overnight from the mains electricity supply. Although this is not yet cost-efficient, there is a small but growing movement in the USA promoting “plug in” hybrids, with the advantage that these vehicles can dramatically reduce petrol consumption for the first few kilometres travelled every day, meaning very low petrol consumption for short-distance daily commuters.

The article notes that a Southern Californian company has converted two Priuses to get up to 230mpg of petrol used (by using powerful lithium ion batteries) and is forming a new company that will convert normal hybrids to “plug ins” for about US\$12,000 (NZ\$17,000), starting next year.

Security of fuel supply

US promoters of “plug in” hybrids acknowledge that the electricity to boost their cars’ petrol economy generally comes from fossil fuels that create greenhouse gases, but they say that the process still produces far less pollution than oil. They also note that the electricity could be generated “cleanly” (from solar, wind, hydro etc.)

They are supported not only by environmentalists but also by conservative foreign policy “hawks” who insist that Americans are encouraging terrorism through their gas guzzling. These “hawks” have joined a group called Set America Free that wants the US Government to spend US\$12 billion over four years on “plug in” hybrids, alternative fuels and other ways to reduce foreign oil dependence. They say that high US fuel consumption and oil imports contribute to oil-rich governments who may be supporting terrorism.

Instead of putting research effort into “plug in” hybrids, the major US carmakers are at present focusing much of their research effort on hydrogen-powered vehicles hailed by US President, George W Bush and California Governor, Arnold Schwarzenegger, even though backers of hydrogen cars acknowledge that fuel cell cars won’t be widely available for years and will require a vast infrastructure of new fuelling stations.

The “plug-in” hybrid promoters suggest that “the US Government and carmakers would rather target their research into something that won’t be seen in their lifetime, and that is this hydrogen economy stuff. Essentially they are picking this long-term research target to get the public off their backs”.

Source: NZ Herald Weekend Edition, Saturday 20 August 2005,

Fuel Efficiency of Diesel Cars

Although not included in the above article, cars with high efficiency diesel engines also performed very well in the 2004 EnergyWise Rally.

In the small car class, although not eligible for ranking a Hyundai Getz diesel achieved 4.18 litres/100km (67.5mpg), a comparable result with the class winning Daihatsu Charade.

In the compact car class, a Peugeot 307 diesel achieved 4.51 litres/100km (61.3mpg) for third place in the class (behind two Honda Civic hybrids).

In the Large Lifestyle/Leisure Vehicles class, first and second places were taken by a Hyundai Terracan with 7.29 litres/100km (38.8mpg) followed by a Volkswagen Touareg 2.5 with 8.25 litres/100km (34.2mpg)

Source: EnergyWise Rally media release on 6 November 2004.

Diesel Car Sales Increase In Britain

While the automobile industry in the UK has been “feeling the pinch” this year, new diesel cars continue to defy a drop in sales.

From January to July, the market for new diesel cars in the UK rose 4.9 per cent, compared with an overall market downturn of 5.9 per cent. (Diesel car sales over that period increased from the previous figure of 489,272 to 513,275 units).

Since 1999, new diesel car sales in the UK have almost trebled as buyers enjoy 20-30 per cent better fuel economy, as well as more model choice and greater engine refinement.

While fuel price rises continue to hit British motorists, the good news is that fuel consumption

is improving for all new cars. In 1998 a new car averaged 34.5mpg (8.2 litres/100km). In 2004 this figure had risen to 37.8mpg (7.5 litres/100km), an improvement of nearly 10 per cent.

Source: Stratford-upon-Avon Herald, Thursday 22 September 2005

Fuel Efficiency of SUV’s

An interesting contest in developing in the four wheel drive SUV market between high-efficiency diesel engines and petrol-electric hybrids as to which offers the best answer to rising fuel prices.

Petrol-electric vehicles are more efficient in city traffic, where their stop-start operating mode burns less fuel and gives off fewer emissions, but on the open road they pretty much run on the petrol engine alone.

Diesel engines are more efficient and economical than conventional petrol units and they are best on the open road, carrying the car along on a fuel-thrifty wave of torque. But they can’t beat hybrid fuel usage in the city.

Toyota acknowledges that its petrol-electric hybrids lose their competitive edge on the open highways but is forging ahead with the technology, **largely on the basis of petrol’s greater appeal in Japan and in the important US market** (whereas the diesel is increasingly becoming the engine of choice for new car buyers in Europe).

Diesel engines produce less carbon dioxide emissions than petrol units, but they can produce black soot from exhausts, including particulates, which consists of unburned carbon compounds like sulphur and is almost always from older and poorly maintained engines.

Modern diesel engines catch the soot in a particulate filter, which when saturated burns off the particles. Next year NZ will be getting lower sulphur diesel fuel which should mean cleaner diesel exhaust emissions.

The German magazine Auto Bilds compared a Mercedes Benz M-Class CD1 diesel against a petrol-electric Lexus RX400h in a trial across the USA from New York to San Francisco,

over a 5200km journey. Both vehicles are four wheel drive.

The M-Class had a 3 litre V6 turbo-diesel engine and the Lexus a 3.3 litre V6 petrol engine plus electric motor, with another electric motor at the rear giving the vehicle an electric four-wheel drive capability.

Overall the M-Class consumed 11 per cent less fuel in the coast-to-coast comparison, returning an average fuel consumption of 9.1 litres/100km (31.1mpg), compared with 10.2 litres/100km (27.7mpg) for the Lexus.

The test also showed that the hybrid technology is only marginally more fuel-efficient in urban traffic, where it is most effective in reducing consumption. In cities the M-Class consumed 11.7 litres/100km (24.2mpg) and the Lexus 11.0 litres/100km (25.7mpg).

What was not included in this trial but which would have been very instructive, is what fuel consumption an “average” SUV four wheel drive would have achieved over the same journey.

Source: NZ Herald, Saturday 27 August 2005

European Car Makers Shift to Hybrids From Diesel?

Diesel is still king in Europe, powering 57 per cent of cars on the road. Providing there is access to sulphur-free diesel fuel (which also minimises environmental hazards), diesel engines use 25-30 per cent less fuel than petrol engines, thanks to pressurised fuel-injection technology that was developed in the 1990's. Also diesel is significantly cheaper at the pump in Europe, thanks to lower taxation.

Over the last 10 years, the number of new cars in Germany capable of achieving 6.5 litres/100km (43.5mpg) has risen tenfold to 50 per cent of total sales in 2004. Since 1990, the average fuel consumption of new cars has dropped by 25 per cent – a figure that includes the luxury segment for which German manufacturers are famous worldwide.

But as petrol-electric hybrid cars gain traction in other markets, particular in the USA, and diesels struggle in places like China, where the

fuel is less readily available or of poor quality, European automakers are suddenly worried about missing out on hybrid technology.

Because hybrids rely on braking to harness energy that recharges batteries, they are especially well suited for stop-and-go traffic, usually in urban settings.

Analysts agree that European interest in hybrids seems largely defensive, a result of a Japanese competitor having obtained a vital advantage not only in developing hybrids, but proving they can sell.

The Toyota Prius has sold briskly in the USA and Toyota is hoping for 1 million sales over the next decade, mostly in America. It plans to begin production of the Prius in China this year.

At their current rate, European carmakers may bring hybrids on to the market by 2009 or 2010, when they will begin what is bound to be a long fight against diesel-powered cars.

Source: Article in the International Herald Tribune, Sat/Sun 10-11 September 2005,

New Hybrid Technology Agreement

BMW plans to join General Motors and DaimlerChrysler in a joint effort to develop fuel-saving hybrid engines, the companies announced on Wednesday 7 September.

The BMW Group has signed a memo of understanding with GM and DaimlerChrysler and expects to finalise the agreement later this year.

GM and DaimlerChrysler had already finalised their own hybrid partnership in August this year, under which GM is the lead designer of hybrid engines for rear wheel and all-wheel drive vehicles, full size trucks, and sports utility vehicles. DaimlerChrysler is the lead designer of hybrid engines for rear-wheel-drive luxury cars.

The companies also said they would be able to make hybrids less expensive. At present they

cost around US\$4,000 to \$9,000 more than their traditional counterparts.

In a two-mode hybrid system, a vehicle can be powered either by electric motors or by the combustion engine, or the systems can be used simultaneously. Toyota and Honda now dominate the two-mode hybrid market. Ford Motor Company are now selling two sports utility vehicles using this technology (obtained under an agreement with Toyota).

Source: International Herald Tribune, Thursday 8 September 2005

Ford Gears Up Its Hybrid Lineup

Petrol-electric hybrid engines will be available in half of the Ford, Lincoln and Mercury model lineup by 2010, the Ford Motor Chairman and chief executive, Bill Ford, said on 22 September.

He said that Ford would be able to produce 250,000 hybrids in the next five years. It currently has two sports utility vehicles on the market.

“We know that our customers are concerned about energy” Bill Ford Said. “Our job is to alleviate some of their concerns with viable options in their choice of transportation”.

Source: International Herald Tribune, Thursday 22 September 2005

Will The USA Become A “Hybrid Nation”?

A real estate agent in Cleveland, Ohio found that the incredible bulk of a Hummer H2 was always oddly alluring, but just too “over the top”. For one thing, it wouldn’t fit in her garage, and with runaway fuel prices, owning a 12mpg (US) Hummer H2 just wasn’t an option.

But then recently General Motors came out with the slightly smaller Hummer H3, which can get 20mpg (US) on the highway and which she purchased. When friends ask her how much petrol it uses and she tells them, they grin and say they want one too!

So the SUV isn’t dead yet. Sure \$3 (US) per gallon petrol has sent sales of hybrids soaring and sunk sales of large vans and pickup trucks. But hybrids presently represent just 1.3 per cent of the US automobile market.

Breakdown of US Auto Market

Cars	43%
SUV’s	25%
Pickup Trucks	19%
Minivans	7%
Wagons	3%
Full-size vans	2%
Hybrids	1%

The real “action” remains in SUV’s which still account for 1 in 4 of all new vehicles sold in America. What’s changing is a downsizing from large models to more modest SUV’s including “crossovers” built on a smooth-riding car chassis.

By 2010, the number of SUV models on the market will increase 24 per cent to 109 models, while just 44 different hybrids will be offered by them.

Despite the pain caused by higher fuel prices at the pump, surveys suggest that 56 per cent of Americans refuse to downsize the vehicles they drive and still say they like “tough looking SUV’s”, regardless of all the hype about hybrids.

Ford Motor Co CEO, Bill Ford, has just announced a big hybrid push that could lead to a tenfold increase in sales – from a tiny number now – by the end of the decade. And Toyota is spending US \$60 million on a new advertising campaign to promote its hybrid drive system.

But hybrids, hot as they are, still represent only about 5 per cent of Toyota’s sales in the US, while pickups and SUV’s account for 29 per cent. By the end of the decade it is predicted that hybrids will still account for less than 4 per cent of total US automobile sales, while SUV’s grow from 24.6 to 26.6 per cent.

Why is this? One suggestion is that SUV’s remain the perfect complement to a brash culture that likes to live large. They satisfy a need Detroit researchers call the “maximum use imperative” – that rare occasion when you’re towing a boat while ferrying your child’s entire soccer team!

But with \$3 per gallon (US) the new norm, SUV makers are now seeking to optimise fuel consumption. A new General Motors model of SUV, due next year, aims to achieve 20mpg (US) which GM hopes is the new magic number for social acceptability. That's something SUV owners need these days to rationalise their driving choice to their neighbours.

Note: 1 US gallon equals 0.83 imperial gallons. Therefore to convert mpg (US) to mpg (imperial), multiply by 1.2.

Source: Newsweek Magazine (European edition), 10 October 2005

Other News

Distributed Energy on the RMA Map?

There have been several accounts of the outcome of the Awhitu peninsula wind farm development appeals brought by Genesis Power Ltd and EECA. They have focused principally on the balancing of positive and negative effects, the primary reasons for the decision to allow the development. Hidden away in the discussion of factors that were balanced in the decision on what is "appropriate" development, is a very significant matter, not just for renewables, but more importantly for distributed energy.

The Section 5 Purpose discussion puts "sustainable management of natural and physical resources" paramount, which is then balanced by consideration of Section 7 matters. While the Court found the wind farm development an "efficient use and development of resources" (Section 7(b)), it significantly found the development satisfied "the efficiency of end use of energy" on the grounds that;

"while the proposal generates rather than uses energy, the evidence has shown that the electricity would be supplied directly into the local network at the point of demand, so there is an aspect of efficient supply of electricity, as there are no transmission losses on the scale involved in the national high voltage network".

This finding derives from the Energy and Climate Change amendment to Section 7 of the RM Act made in 2004, specifically Section 7 (ba). The implication is significant, since it now means that distributed energy systems close to the source of demand, is a factor that can contribute to sustainable management under the RM Act. Perhaps a small point, but all heading in the direction of support for distributed energy systems close to demand. Of course this also means that any renewable, or for that matter, non-renewable distributed system could be supported by Section 7 (ba).

The primary benefit of this would be greater diversity of supply options and potentially a reduction in carbon dioxide through the displacement of carbon based supply if renewables are used. It is good to see the positive effect of the RM Act amendment so soon

Perhaps Section 7(ba) of the Act "*the efficient end use of energy*", in combination with Section 7 (b), "*the efficient use and development of natural and physical resources*", could be used to argue that large fossil fuel based generation developments are not an efficient end use of energy, as well as not an efficient use of natural and physical resources. This would have the effect of supporting appropriate renewable sources of energy with a lowering of carbon emissions nationally. This decision of the Environment Court needs a careful look by all those involved in energy supply developments.

Source: Judy Lawrence is Director of Policy and Strategy Consulting, Wellington

Japan's "Dress Down" Campaign

This campaign, which encourages workers to wear short sleeved shirts rather than turning on the air conditioning has been hailed as a success. The scheme is thought to have saved 70 million kWh of electricity and hence prevented the release of 27,000 tonnes of carbon dioxide.

Source: "Professional Engineering" Journal of the I Mech E in the UK, 21 September 2005.

White House Flirts With Conservation

Last week, the Bush administration unveiled its latest conservation initiative in the form of a cartoon pig pleading with consumers to save gasoline in their cars and energy in their homes.

The campaign is in response to oil supply limits due to hurricane-ravaged Gulf Coast refineries. Its mascot, the Energy Hog, offers radio-based public service announcement tips on conserving energy through moderating use, maintaining equipment and increasing efficiency.

“The situation we are facing is a very different one that we have faced in the past” Energy Secretary Samuel Bodman told reporters. “This is in response to significant damage that has been done to the country’s energy infrastructure”.

But those environmentalists critical of the Bush administration for not taking more substantive steps should bear in mind that shoring up the nation’s oil supply is the White House’s priority here, not conservation.

Underscoring the fact that this call for conservation is only a short-term effort, President Bush continued to push for approval to build several more oil refineries around the USA.

“It out to be clear to everybody” President Bush commented last week, “that this country needs more refining capacity to deal with issues of tight supply”.

But clearly a longer-term conservation strategy, such as raising fuel economy standards for vehicles and boosting sources of renewable energy, are not a big part of the Bush plan.

Source: Article by Roddy Scheer dated 11 October 2005 in “Our Planet” E/The Environmental Magazine.

Increasing Air Conditioning in Homes and Offices

Auckland’s electricity network is becoming increasingly stretched as more home owners install air conditioning systems.

This increase has been brought on by the growth of apartment dwellers and the increase in the construction of new commercial premises.

Vector is predicting it will need at least a 10 per cent increase in capacity over the next 15 years to deal with the demand which will follow the increase in home air conditioning units.

Vector’s concerns are backed up in an Auckland Regional Council (ARC) report released in October, which predicts worsening power shortages as a result of cheap air conditioning units and warmer summers. “Current peak electricity demand occurs in winter, but summer peaks are increasing largely as a result of increased air conditioner use, particularly for residential purposes” the report said.

Several projects are planned to increase Auckland’s electricity supply including a gas-fired power station near Helensville and Transpower’s proposal to upgrade the high-voltage electricity transmission network into Auckland. However all these proposals are likely to face objections from local residents, meaning most won’t be completed before 2010.

The Electricity Commission is calling on Aucklanders to start conserving energy or face the direct consequences in years to come.

Electricity Commission spokesman, Mervyn English, said “while new generation will always continue to be needed, making better use of the electricity we have is usually cheaper than new generation.”

In a bid to cut electricity consumption in Auckland, the ARC is considering promoting the use of solar water heating and double glazing in residential buildings. It is also looking at a home energy rating scheme for properties and encouraging new tariffs so people will shift electricity use to off-peak times.

EECA spokesman, Robert Tromop, said Aucklanders could take simple steps such as ensuring that their homes are well insulated.

Source: Article entitled “Keeping Cool Comes at a Price”, Herald on Sunday, 23 October, 2005

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