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EDITORIAL

What's Happening with Wolak?

Energy Watch Editor John Blakeley

As reported in the previous issue of EnergyWatch (Issue 53, pages 14-15), after a great deal of delay, the Wolak Report was finally released on Thursday 21 May.

Energy Minister, Gerry Brownlee, then said that he was "advising" electricity companies not to raise their prices while the Government decides what to do about this report, which states that the four largest generator retailer companies have been profiteering, perhaps by as much as $4 billion or more over the six year period 2001 to 2007.

Mr Brownlee said that it came as no surprise that there was something fundamentally wrong with the way that the electricity market was working. He said that was why he set up in April 2009, a ministerial review, chaired by economist Brent Layton, to advise on what changes could be made.

Residential power prices rose by two thirds between 2000 and 2007, or 5% faster a year than general inflation.

In late June, Mr Brownlee said that a public discussion paper from the ministerial review will be available in late July. The paper will cover both governance issues and options for wholesale electricity market reform.

Mr Brownlee has also acknowledged for the first time the amount of industry criticism of the Wolak report's methodology and said that "some of that criticism is fair", without detracting from the conclusion that the wholesale electricity market model in NZ needs work.

Mr Brownlee said that *"we cannot continue along a path of electricity price increase at double the rate of inflation each year"*.

However it may be that the heart of the problem is that the wholesale electricity market is trying to deal with two hopelessly conflicting objectives at the same time. These are on the one hand, trying to ensure that there is an active competitive market for electricity helping to hold down price rises to the rate of inflation, **while at the same time** giving a market signal to ensure that future power stations, to meet increasing demand or replace ageing existing power stations, are built in time for when they are needed.

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In my view if electricity prices are rising each year at twice the rate of inflation as Mr Brownlee is suggesting, then this probably indicates that the cost of building additional or replacement electricity generating capacity is rising at that same rate.

Hence if the wholesale electricity market is now "tweaked" to try and ensure that electricity prices rise at around the rate of inflation from now on, more and more new generating projects will go "on hold" (as is already happening at the present time) because it is not economic for them to proceed, and within a few years we will encounter another major shortage of electricity supply issue similar to 1992 (probably during a winter) because investment in new generation capacity has not kept pace with what is needed.

In my view what is now required is some adventurous new thinking about this problem. How can we provide healthy competition in the wholesale electricity market to keep price rises down to the rate of inflation and at the same time provide market signals to ensure adequate provision for future generation?

My solution would be from now on, to pay a premium price for electricity generation produced from approved newly constructed power stations for (say) the first ten years of their life, with the premium added on to their actual bid price into the wholesale electricity market.

The premium would have to be paid for out of a fund set up from an annual charge on all electricity generation.

After ten years, the ongoing rate of general inflation in NZ would probably ensure that by that time, the recently constructed power station was economic to continue operating without being paid the premium.

There may be a number of other possible solutions to this problem, but unless an acceptable one is found, we will continue to go through cycles of electricity companies being pilloried for raising power prices above the general rate of inflation, leading to under-investment in new generation, leading eventually to a major electricity shortage situation, which will lead to a burst of investment in new power stations with electricity prices rising rapidly at the same time.

I will be waiting with great interest to read the forthcoming discussion paper from the ministerial review and what, if any thing, it says about the problem which I have outlined above.

John Blakeley.

Stop Press

The recommendations of the Ministerial Review were released on Wednesday 12 August

What's Happening to the Oil Price?

In the previous issue of EnergyWatch (Issue 53, pages 24 and 25), Figures 3 and 4 provided by SEF member, Neil Mander, plotted the international price of crude oil over the last 5 years and 12 months respectively. An update of the second of these diagrams is included in this issue (page 21).

In summary, the above Figure 3 showed the oil price rising reasonably steadily (but with peaks and hollows) from around US$35 per barrel in May 2004 to US$90 in January 2008. The oil price then increased very steeply up to US$147 in July 2008. It then plunged very steeply to just above US$30 in late December 2008 before rising to US$60 in mid-May 2009. In the following two months, it rose to nearly US$69 on 22 June, dropped to briefly just below US$60 again by 13 July and was back up to US$68 on 23 July. This is summarised in Figure 1.

I have been trying to explain to my own satisfaction this very peculiar behaviour in the oil price. If we assume that US$35 was the average actual price of producing oil in May 2004, then with inflation and increasing costs of production, that price may well have increased to (say) US$50 by January 2008, but in fact it had increased to US$90.

I think the difference can be explained by a growing global realisation over that near-four-year period that demand for oil was beginning to outstrip the world's ability to produce it and anxiety about this fact was causing a premium in prices obtained.

Then something amazing happened early in 2008 and the price rose steeply by US$57 (63%) in six months. What could possibly have caused such an increase when the world was already moving into economic recession? The only rational explanation I can find is that commodity speculation led to the rapidly rising price, not only of oil but other commodities as well.

Investors began to buy commodities like oil for a limited period to hedge against the weakening US dollar as the US economic troubles deepened during the final year of the Bush Administration. By mid-2008, it was observed that a large proportion of oil was being bought up by investors rather than by end users of the oil.

It was even observed that investment funds for superannuation schemes had begun to invest in oil during this period!

For such investments to pay off it was necessary for investors to have confidence that the oil price would continue to rise steeply over a period of time. However, by mid-2008, it was becoming increasingly evident that due to the oncoming economic recession, there was a surplus of oil production. This developing surplus was because of a drop in global oil demand, partly caused by the much higher price, plus increases

Figure 1. "Averaged" Crude Oil Price for the Last Five Years - US$/barrel.

in production being encouraged by the very high prices being obtained.

The "investment bubble" then burst in mid-July 2008, and the oil price plummeted back down to US$30 per barrel by the end of the year, a price even lower than in May 2004.

During this period oil producing countries whose economic returns were being severely hit by this sudden oil price downturn began to see the need to limit production. During 2008 Opec countries pledged to cut their oil production by 4.2 million barrels per day (bpd). Although this target has not yet been fully met, Opec has kept these output curbs in place and will next meet in September 2009 to discuss its oil supply policy.

These production cuts may be part of the reason for the doubling of the oil price from a low of US$30 per barrel at the end of 2008 to over US$60 during the first half of 2009, but this "bounceback" in price is also a result of an over-correction downwards in late 2008 when the price had dropped so steeply during the second half of 2008.

The Kuwait oil minister has recently said that his country wants to see the price of oil stay above US$60 per barrel to meet his country's budgetary requirements. He said that he would also like to see the price go higher, but that a price of over US$100 per barrel would hurt the global economy and would not necessarily lead to a boost in oil production unless oil producing countries were confident that the higher prices would continue in the longer term.

Clearly the sudden large increase in oil prices in mid-2008 greatly benefited oil producing countries but to the economic detriment of oil importing countries. When the price got well above US$100 per barrel, there may well have been behind-the-scenes pressure by major oil importing countries such as the USA to bring the price down to a more realistic level and which would do them less economic damage.

There were also suggestions that in the second half of 2008, when the oil price fell again so sharply, the USA was pressuring Saudi Arabia as one of the world's major oil exporting countries not to cut their production back by too much (in an Opec effort to try and raise the oil price again).

As the oil prices were falling from mid-2008, demands for oil production cuts from Opec countries became very strong and yet the oil price continued to fall, suggesting that in the second half of 2008, demand for oil was falling even faster than Opec countries could reduce supply.

Supply cuts agreed to by Opec countries since September 2008 were meant to take a daily 4.2 million barrels of oil per day off the market, but by March 2009 oil producers from these countries were still 800,000 bpd above that target.

However, by March 2009, the oil price was back to around US$45 per barrel having "bottomed out" at just above US$30 at the end of 2008.

Oil prices had risen above US$35 in February 2009 as investors had anticipated that Opec would cut production by up to a further 1 million bpd. The price had reached US$45 by March but the further cuts in production had not really eventuated.

Since March 2009 the oil price bounced back up to nearly US$70 per barrel in late June before falling off again. This price rise may have been due to confidence that some form of economic recovery was starting to occur which would lead to rising oil demand, but dismal unemployment figures released in the USA and Europe in June, sparked concern about whether a supposed early economic recovery is in fact occurring. Oil prices then fell back to US$60 per barrel before rising again in late July to around US$68.

All this may suggest that people are starting to realise that the road to global economic recovery is likely to be a slow and painful one. The economic changes taking place now are quite profound and debt-fuelled economic growth will be much more restricted in the future than in the recent past.

This should mean that the oil price will not move up rapidly in the near future, but when the

oil price does eventually rise again to around US$100 per barrel, this will cause an adverse economic reaction which could snuff out the economic growth which has occurred, leading to oil price falling again.

The present large US economic stimulus package is not likely to lead to significant economic growth globally if it is mainly funded by the printing of extra money, which will only lead to a weakening US dollar.

In summary, in my view the international oil price may go up in fits and starts over the next 6 – 12 months but it will only rise substantially when genuine global economic growth leads to a rising demand for crude oil.

A significant factor in all this is that until the international crude oil price is again well over US$100 per barrel, alternative technologies such as electric cars, solar and wind power solutions, the use of types of crude oil which are more expensive to refine, and extracting oil from tar sands or shale, are not likely to go into production on a large scale.

John Blakeley

Are Petrol Hybrids Cost-Efficient?

The latest model Toyota Prius has just been released in NZ and the Honda Insight will be released here later in the year. These two are at present by far the best selling petrol-electric hybrid cars in Japan.

The Insight is a small-medium sized car and the Prius is in the slightly larger mid-sized car range. The Prius has more features than the Insight and is more aerodynamic, but it is also more expensive.

At both the smaller end of the market in the "super mini" size range, and at the larger end of the market in the large car size range and the sports utility vehicle (SUV) range, the petrol-electric hybrid is likely to come under severe competition from new high-efficiency diesel cars on both economy and on price, because of the additional complexity of the two power sources of the hybrid.

In the "super mini" size range, in NZ at the moment, there is a special price being offered on the "Blue Motion" Volkswagen Polo high-efficiency diesel car of just under $26000, with a claimed fuel consumption of 3.8 litres per 100 km. This compares with a price of $47500 for the just-released third-generation Prius, a larger car with a best claimed fuel consumption of 3.9 litres per 100 km (but with a price of $62500 for the better equipped iTech model).

In the large car size range and SUV range, any fuel saving of a hybrid vehicle compared with a high-efficiency diesel is likely to be very modest, and the greater complexity of the hybrid will lead to a higher purchase price than a comparable new diesel vehicle.

In the expensive car market, Porsche is proposing to incorporate petrol-electric hybrid technology into its Cayenne and Panamera model ranges but says that petrol-electric models are expected to comprise only 15% of total sales. The main reason for introducing this technology seems to be to give customers an "expected level of performance together with social responsibility", because owners will no longer have to justify to those who ask, why they bought such a large fuel-hungry car!

John Blakeley

AUDITOR REQUESTED

The SEF Annual Accounts for the year ending 31 March 2009 will be tabled at the SEF AGM scheduled to be held in Wellington on Friday 6 November.

If any SEF member would be willing to volunteer to audit these accounts prior to the AGM, could they please contact the SEF Financial Officer, Steve Goldthorpe, at steve.goldthorpe@xtra.co.nz

SEF Feedback

Letter to Editor

Dear SEF

In his submission to the ETS Select Committee, John Blakeley says: "and those carbon-storing trees are eventually going to be felled, and the liability will just come with them when they're felled". NOT SO!

This is a common misunderstanding, but I was surprised that John hadn't graduated past this level. While it is true the STANDS of trees (i.e. even-aged plantings) sequester carbon during their growth and release the carbon at harvest, FORESTS do not work that way. Forests consist of many stands of different ages. In an extreme case, a forest can exist of an equal area of stands planted in successive years and harvested at a fixed rotation age. This situation (a 'normal' forest in the jargon) is at a steady state: the forest is continuously harvested but the stocks of carbon it contains do not increase or decrease. In other words, it is carbon neutral. So what advantage then is there in planting trees? Because - averaged over time or space - a forest contains considerably more elemental carbon per hectare than a non-forest. Indeed, in the NZ situation, it typically contains about 100 tonnes per hectare more than pasture - but this could be doubled with certain forestry practices. THE ADVANTAGES OF AFFORESTATION RELY ON THE ONE-OFF CONVERSION OF A NON-FORESTED LANDSCAPE TO A FORESTED ONE.

The problem, is NOT as John says, that trees have to be harvested thereby releasing their carbon. It is that eventually we run out of plantable land!

But this situation is not catastrophic, because if we have sufficient forests, they can be used to substitute for all products and materials currently made using fossil fuels. Wood-to-petrol for example. To put it another way, trees are a means of living off our income (i.e. sunlight in the last few decades) rather than our capital (i.e. sunlight that fell over hundreds of millions of years).

Piers Maclaren, Registered Forestry Consultant, 26 June 2009

Editor's Note: This letter is referring to my comment at the top of page 10 of EnergyWatch Issue 53. I accept Pier's point that if the credits for the forest can be received in such a way that allows for the forest to be sequentially felled and replanted at (say) 25 year intervals then the problem which I am referring to in my submission would not arise.

But what happens for the first 25 years until trees are ready to be felled? I assume that the credits would be correspondingly reduced to allow for periods of felling and replanting from that time onwards?

And what happens to the credits if in 25 years' time the forest owners then decide that they want to fell the trees and convert the land back to farmland pasture? Presumably at that time they have to refund the credits received.

Piers' comments seem to relate mainly to a large Kaiangaroa-type forest situation, or a collection of smaller tree planting areas where only a part of the forest(s) is harvested each year.

Road User Charges Submission

Clerk of the Committee
Transport and Industrial Relations Committee
Select Committee Office
Parliament Buildings
WELLINGTON

Sustainable Energy Forum: Submission on the Road User Charges Amendment Bill

The Sustainable Energy Forum supports the concept behind the RUC Bill's exemption of electric vehicles from Road User Charges. However, we consider that this measure does not go far enough, in three ways:

1. The initial period of the exemption should be longer, and hence the number of vehicles exempted greater, to encourage more electric vehicles to enter the light passenger fleet.

2. Other measures should be put in place to support and encourage the uptake of electric vehicles.

3. Further changes to the Road User Charges regime should be made to provide incentives for other classes of fuel-efficient vehicles.

1. Initial period/quantity of exemption
The Bill proposes to maintain the initial exemption until 2013, by which time it is estimated that 500 electric vehicles will be on New Zealand roads. However, 500 electric vehicles is far too small a number to form a base from which to replace of a high percentage of the present vehicle fleet with electric vehicles, and the foregone income from Road User Charges is minuscule.

SEF proposes that the exemption be maintained until there are a minimum of 5000 electric vehicles in the light passenger fleet.

2. Additional measures
Additional measures should be put in place to encourage the update of electric vehicles:

(a) Government support for the installation of public electric vehicle charging infrastructure in cities. Although it is intended, and desirable, that electric vehicles be recharged primarily at home and overnight, the provision of public charging infrastructure will help to overcome public fears over vehicles running out of charge during trips.

(b) A directive to Government departments that, if suitable electric vehicles are available for departmental vehicle fleets, they should be adopted as fleet replacement occurs.

(c) Adoption of home charging infrastructure, metering, and tariff rates that provide a strong incentive for electric vehicle owners to recharge these vehicles overnight. Overnight recharging both minimises the need for extra electricity generation, and ensures that electric vehicles are recharged from renewable electricity to the maximum possible extent.

3. Further changes to the Road User Charges regime

The performance of modern light diesel vehicles has much improved in recent years to the extent where, in terms of fuel economy and carbon emissions, all significantly outperform their petrol equivalents and some are now superior to petrol electric hybrids. In the interests of fairness and in order to promote the benefits of this technology, SEF suggests that another tier of RUCs be created for vehicles weighing 1800kg or less. We suggest that the rate be fixed at $15 per 1000km for the same time frame as the electric vehicle exemption and, in order to minimise transaction costs, the minimum amount to be purchased at one time set at 20,000km.

Tim Jones
Convenor, Sustainable Energy Forum
16 July 2009

Moratorium on Smart Meters

Joint Statement on Smart Meters, 29 July 2009, by the Domestic Energy Users Network (DEUN) and SEF

DEUN and SEF call for a moratorium on the installation of "smart meters" until electricity retailers agree on how to make them really smart.

What's wrong with the new "smart" meters?

Electricity retailers have started installing what they describe as "smart" meters. They plan to install 800,000 of these over the next three years, at a cost of about $300,000,000.

But these meters are far from smart. They may help the companies make more money, but they will not help consumers to cut their power consumption or keep their power costs down.

A report by the Parliamentary Commissioner for the Environment explains why. It is available

at http://www.pce.parliament.nz/__data/assets/pdf_file/0007/3895/Smart_Meters.pdf

1. No communication with consumers or appliances:

These meters lack the capacity to communicate with the householder or, down the track, with "smart" in-house appliances. This means that no capability is being created for consumers to modify their consumption in response to real-time prices.

2. No standard protocols for meters:

There is no agreed way for meters to communicate with each other or with the meter reading infrastructure. This means that meters installed by one company will not be compatible with the meter-reading systems of other companies, setting up a serious barrier to competition.

3. High costs of retrofitting later:
It will cost substantially more to retrofit communications capabilities to meters, or to exchange meters, than it would to provide these capabilities now. Consumers should not have to meet this cost.

Smart meters have been promoted as a vital means to reducing electricity consumption and supply costs by empowering consumers to control their use more effectively. But the meters being installed now do not have the capability to do that.

The Parliamentary Commissioner for the Environment concluded that companies

"are planning to omit the functionality that is key to delivering the environmental and consumer benefits".

Meters are long-life assets. Rolling out a fleet of these deficient meters now will lock New Zealand into a half-way house.

Decisions need to be made and implemented on common protocols and standards for smart grid architecture. All meters should be required to adhere to these before new meters are rolled out. To prevent New Zealand being caught up a dead-end, **there must be a moratorium on new meters until the essential ground work is done.**

Smart meters alone are not enough

The shortcomings of the planned meters are only part of the problem. Smart meters are only one component of what is needed for:

comprehensive modernisation of the electricity industry

empowerment of consumers to control their electricity purchases.

Other smart grid technologies involve adding two-way communication capabilities and control systems to the electrical transmission and distribution systems. These can result in improved home energy management for the household, greater demand control for the electricity retailer, and a more reliable electricity supply overall.

SEF AGM & Seminar 2009

The provisional date is Friday 6 November in Wellington (Date and venue to be confirmed).

AGM: 10.30am

Seminar: 12noon-2pm

Seminar topic: Electric Vehicles and Transport: The State of Play

• What has changed since the last SEF seminar on electric vehicles in 2007?

• How is the technology of electric transport developing?

• What effect has the economic recession had on the development of electric vehicles?

• How ready are we for the transition to a transport system based on electricity?

The 2009 SEF seminar will look at these questions and give you a chance to participate in the debate.

Electricity Matters

Another Electricity Pricing Rort

1. Background

For years now people have known that the electricity pricing and marketing system is full of rorts, but the Government has chosen not to do anything about it because the electricity industry provides it with a very handy source of income.

A paper just published in the journal of the Institute of Chartered Accountants of NZ has highlighted a rort relating to the ongoing revaluation of generating assets, as described in Section 3.4 below.

2. Recent Pressures from the Government

As pointed out recently in EnergyWatch (Issue 52, page 13), the SOE Minister, Simon Power has been issuing "perform now" instructions to all SOE's, saying that the Government is looking for efficiencies and substantially higher returns from Government-owned businesses to help offset the impact of economic recession on the tax take

More recently it has been pointed out that this places all the electricity SOE's in the invidious position of being instructed by Energy Minister, Gerry Brownlee not to raise tariffs at the same time as improving their return on capital.

Meridian is in the worst position because its attempts to raise its tariffs by more than 10% before Christmas last year were rebuffed by Mr Brownlee and they finally had to settle for a 7% rise announced in early February 2009 (see EnergyWatch, Issue 52, Page 12). To Meridian it was made clear that double digit power price rises would be politically intolerable.

It has also been made clear to Meridian that it is one of the worst performing SOE's in the Government's stable. Meridian earned a return on capital of 3% last financial year compared with 5.6% for Mighty River Power, 7.3% for Genesis and 9.7% for Solid Energy.

Several rorts in raising the price of electricity sold on the wholesale electricity market have come to light in recent times as follows:

Rort One – The Wolak Report
In May this year the Wolak report said that there is evidence of market power being exercised by the four largest generator-retailers between 2001 and 2007 and they have been profiteering, perhaps as much as $4 billion over the six year period being considered. This related particularly to years when the inflows to the hydro lakes were low, as they were in 2001, 2003 and 2006.

Rort Two – Marginal Costing
Then there is the ongoing rort in the wholesale electricity market of all electricity being priced at the marginal cost of producing the next unit of power to be required, and all lower bids into the market being raised up to this level.

What would the average motorist think if next time he went to the petrol pump to fill up his car, the price of refined fuel had been raised to reflect the level of the marginal cost of producing the next barrel of oil to be pumped out of the ground over and above global supply requirements, in order to fund ongoing oil exploration and production development costs?

Rort Three – The Emissions Trading Scheme
Rort Two is soon to be compounded by the Emissions Trading Scheme being designed to raise the cost of **all** electricity from 2010, not just the quarter or so of electricity produced from thermal sources.

So all our electricity produced from "clean green renewable energy" will be subjected to the same emissions tax as electricity produced from thermal power stations, whereas the generator-retailers will only have to pass on that tax to the Government for the quarter of the electricity generation coming from thermal sources. They can pocket the other three quarters of the tax themselves.

Rort Four – Revaluing Assets

The latest rort to come to light is in the constant revaluation upwards of electricity generating assets. This has been a characteristic of the electricity industry over the last two decades.

Every time the price of electricity goes up, the generator-retailers want to revalue their assets to reflect the rising electricity price. The return on capital as a percentage then becomes lower and so the pressure then goes on to increase that return either by cutting cots or by raising electricity prices yet again.

In a recent paper by Professor Paul V. Dunmore of Massey University, Wellington, written with a final-year student and an assistant lecturer, the relationship is explored between the profitability of NZ electricity companies and revaluation of their assets.

The paper notes that Contact Energy had a return on equity of only 8% in the year ended 30 June 2008 under fair value accounting but if fixed assets had been valued at depreciated costs, the return would have been 70%.

The 8% rate of return has then been used as a justification for raising electricity prices; but if the rate of return is really 70% then there is no such justification

The paper analyses the profitability in the year ending 30 June 2008 for the four major electricity generator-retailers as follows:

	Reported return on equity	Return on equity based on cost of depreciated assets
Contact Energy	8.2%	70.1%
Genesis Energy	7.0%	9.8%
Mighty River Power	4.9%	30.3%
Meridian	3.1%	38.6%

The paper notes that two different kinds of decisions are underpinned by measurement of profitability in electricity generators:

• Strong public interest in ensuring that companies do not abuse any pricing power to make excessive profits.

• It is important in the long term that new generating investments needed to meet demand are expected to be profitable, since otherwise companies will not make these investments.

Therefore the profitability as expressed in the rate of return on investments is a key measure in the electricity generation industry and it is very important to decide on which basis the profitability should be measured.

Reference: "Generating Good Profitability Information" by Paul V. Dunmore, Courtney Twist and Judith Pinny, Chartered Accountants Journal (published by the Institute of Chartered Accountants of NZ), July 2009, pp 36-39.

Stop Press: Commenting on the above, SEF member, Murray Ellis, noted that Rorts One , Three and Four are not cumulative, but are basically different ways of looking at the same abuse of market power issue. However, the ETS Rort will be cumulative.

Transpower Upgrade Programme

Transpower is moving into the building phase of a ten year upgrading programme and has projects worth $2 billion now in various stages of development or construction as part of $3.8 billion of capital expenditure planned for the next five years.

Two projects, each costing over $600 million are of critical importance. These are:

• The upgrading of the North Island grid by building a new transmission line from Whakamaru through the Waikato to Otahuhu near Auckland.

• The replacing of Pole 1 of the high voltage direct current transmission link across Cook Strait.

Other major works include:

• Upgrading the Otahuhu substation south of Auckland at the eventual terminal of the new line (although initially the new line will terminate at Pakuranga).

• Improving the transmission grid to accommodate new geothermal generation being developed around Taupo and Wairakei; and

• Reinforcing and complementing existing transmission lines through Auckland to Northland. (The NAaN project)

Transpower says that it also believes that ripple control technology as applied to water heating could be extended to refrigerators to assist in coping with peak electricity demands.

The growing use of heat pumps as air conditioners has reduced the gap between summer and winter peak loads, making it more difficult to take lines out of service during the summer for maintenance.

Transpower expects that national electricity demand, which typically tracks GDP growth, will decline over the next year (see footnote below).

However, in the longer term, national electricity demand is expected to continue to rise and the critical issue for a transmission company is to build sufficient capacity to meet demand peaks.

The cost of under-investment, or investing too late outweighs the potential cost penalty of building extra transmission capacity too soon.

Reference: NZ Energy &Environment Business Week, 22/7/09

Footnote: In the previous issue of EnergyWatch (Issue 53, page 13) it was noted that information supplied by the Parliamentary Library shows that for New Zealand:

• The maximum national peak electricity demand was 6483.6MW recorded on 20 June 2007.

• The maximum amount of electricity energy ever supplied in a single day is 136.8GWh recorded on 28 June 2007.

By comparison maximum electricity loads recorded in 2008 were significantly lower (6274.8 MW peak on 18 August 2008 and approximately 120 GWh per day maximum energy in late June 2008), probably as a result of the energy savings campaign that was running until about early August 2008 during the winter electricity shortage.

Millions Wasted on Publicity

In EnergyWatch, Issue 53, page 18, Geoff Robinson "an ageing NZED engineer and cardy wearer" noted in a letter to the NZ Listener, among other things, that NZED had "no PR or advertising expenses" being incurred in promoting what is an essential public service – the provision of a reliable supply of electricity.

Genesis Energy is now poised to go ahead with a third television commercial featuring its energy-conscious pukeko. Genesis would not say how much the two advertisements to date have cost, or how much it has budgeted for the next one.

But figures obtained by the Sunday Star-Times show that Genesis has recently spent more money advertising itself than any other electricity company - $1.6 million between January and May 2009. Next was Meridian ($690,000), then Contact ($486,000) and Mercury ($447,000). All but Contact are Government-owned.

Energy companies have been heavily criticised since the Wolak report (see EnergyWatch 53, pages 14 and 15) suggested that New Zealanders were being overcharged $4.3 billion for electricity between 2001 and 2007 by using market dominance to keep wholesale prices high – especially during the winter power crisis when hydro lake levels were low.

Rick Stour a Senior Lecturer in the marketing department of the University of Auckland said that electricity companies went to great lengths to associate themselves with "cute" symbols to get customers to like them. Because it makes no difference which electricity company supplied the power when people turned on a light, people

thought about their electricity company only when they get a power bill – which meant they risked people hating them.

The electricity companies have the problem of how do they make people like them if all they are seen to be doing is sending bills to people. And the answer is to advertise and attach something "cute, warm and feathery" to improve your brand image.

It is to be hoped that people struggling to pay their electricity bills during a cold winter are not impressed by such advertising, especially if they know how much it costs.

Reference: Sunday Star-Times, 28/6/09.

Money Wasted on Sponsorships?

As noted above, ex NZED engineer, Geoff Robinson, has pointed out that in the days of NZED there were no PR expenses being incurred by the electricity industry in expensive sponsorships.

Also, as pointed out recently in EnergyWatch (Issue 52, page 13), the SoE Minister, Simon Power, has been issuing "perform now" instructions to all SoE's, saying that Government is looking for efficiencies and substantially higher returns from Government-owned businesses to help offset the impact of economic recession on the tax take.

Hence it is no surprise that expensive sponsorship by the electricity industry of opera and ballet are coming under scrutiny. The question may well be asked *"what on earth are electricity companies doing sponsoring opera and ballet which have nothing whatsoever to do with the provision of electricity as an essential service?"*

In a recent address to SoE directors, the CEO of the New Zealand Stock Exchange (NZX), Mark Weldon, suggested that one powerful signal of a change in commercial focus of SoE's would be to axe politically motivated elite sponsorships such as ballet and opera, and focus instead on local communities of interest.

Mr Weldon suggested that sponsorship involving free entry in Wellington for "powerful policy mandarins and politicians" would only be logical if SoE Boards believed that business and politics are as one.

Meridian Energy is a major sponsor of the Royal NZ Ballet while Genesis Energy sponsors NBR Opera.

Meridian Energy is now regarded as one of the poorest performing of the electricity SoE's in terms of return on equity and is in the process of overhauling its internal cost structures.

Reference: NZ Energy & Environment Business Week, 1/7/09

Thermal Flexibility Needed

Contact Energy estimates that by 2015, about 10% of all electricity generation will come from wind power. Other generation, mainly thermal baseload, will back off when the wind is blowing and require fast-start capacity when the wind stops blowing.

NZ has little existing fast-start thermal capacity and Contact says that thermal flexibility will be critical to meeting this need, which is contrary to the prevailing wisdom which says that it is the hydro capacity which will be turned on and off depending on whether or not the wind is blowing.

To assist with thermal flexibility, Contact is installing two 100MW gas turbines as part of a fast-start peaker plant in Stratford alongside its Ahuroa gas storage facility.

The $250 million investment which should be ready to produce electricity in time for the winter of 2010 represents a substantial opportunity for Contact which until now, counted on the ageing New Plymouth power station to exploit periods requiring "fill in" thermal capacity, which will increase as NZ builds more wind farms.

The new peaker plant can be running at full load, from cold, within 10 minutes, compared with a 15 hour start-up time for the generators at New Plymouth.

Reference: NZ Energy & Environmental Business Week, 2/6/09

New Compressor for Ahuroa Field

In June a huge compressor arrived at New Plymouth's port which will pump gas into the Ahuroa gas field near Stratford. The project, called the Ahuroa gas storage facility, will cost Contact Energy $250 million.

The Ahuroa field is a near-depleted gas reservoir about 3km deep and 2km long in an area of porous rock surrounded by non-porous rock.

Through a combination of new gas being pumped in from new wells, and compression, this reservoir will be re-pressured and able to store gas until it is economic to use it. The system is used overseas, but this is the first time that it has been used in NZ.

Relatively cheap Maui gas contracts are now terminated, although some gas continues to be available from the Maui field at higher prices. Contact is being faced with increasingly onerous take or pay contracts or other arrangements. The company spends about $400 million a year on gas and has little ability to bank it.

The Maui gas field was a world-scale field with almost unlimited flexibility provided at no extra cost, but Contact says that newer gas fields in NZ had not been designed to provide such flexibility of taking gas only when electricity demand was high. Having gas storage available at Ahuroa, will help to alleviate this problem

Reference: NZ Herald, 29/6/09

Future of Reserve Generation

Among the many issues being addressed in the present Ministerial Review of the electricity market is the future of the Crown-owned Whirinaki reserve electricity generation plant near Napier, and the future of the ageing Huntly power station.

Around mid-June, Huntly had one of its 250MW generators down with problems believed to be of a serious nature.

SEF Member, Murray Ellis, has commented that the problems developing at Huntly make the issue of sufficient reserve generation immediate. It is also understood that there are long-standing concerns over the boiler at the Otahuhu B power station and that two other combined-cycle power stations also have boiler concerns.

Wind power has proven to be almost entirely ineffective in coping with peak electricity demands, resulting in the Whirinaki power station recently running on diesel fuel.

The four 250MW generating units at Huntly were installed between 1973 and 1985 and have become costly to maintain. Genesis Energy owns this 1000MW power station which can use either coal or natural gas.

Genesis signalled earlier this year that its past willingness to make the Huntly plant fully available should not be assumed in future. Genesis sees Huntly as a high-cost benefit to the nation for which it has been inadequately compensated in recent years.

Genesis may be taking as an example the elderly New Plymouth power station which was kept going for years longer than expected by keeping some but not all of its four generating units available, allowing Contact to balance the high cost of maintaining old plant with the opportunities created by occasional peaks in demand, with resulting high prices which made it profitable to run.

In the new environment, as the SoE Minister, Simon Power, pushes state companies to improve their commercial performance, Genesis will be tempted to only offer some of Huntly into the market at reasonable prices, while demanding to be paid for what it regards as reserve capacity, currently provided at sub-commercial costs from the Huntly plant.

A related set of issues is the willingness and commercial viability to invest in new thermal peaker plant, such as the new Contact peaker plant under construction near Stratford. Peaker plant will become more important to fill in

gaps in generation, particularly because of the variable output from the increasing number of wind farms.

The electricity companies fear that investment incentives will be blunted if electricity market reforms unduly cap wholesale electricity prices during times of market stress. If this happens, the profitability risks being compromised of short-run, fast-start peaker plant.

From there it is but a short step to threatened blackouts and the attendant political pressure to tinker with the market again.

Reference: NZ Energy & Environment Business Week, 10/6/09

Huntly Power Station's Future

Genesis Energy is calling on the Government for a policy decision over the future role of NZ's biggest thermal power station at Huntly.

This combines four ageing 250MW generating units fuelled by coal or natural gas, a 385MW high-efficiency combined-cycle gas turbine previously known as e3p which became fully operational in 2008, and a 40MW open-cycle gas turbine commissioned in 2004, giving a total capacity of 1425MW.

Discussions are taking place between Genesis and Parliament's Commerce Committee, the Electricity Commission and other stakeholders about the commercial implications of maintaining Huntly as the country's reserve generator.

Considerable capital and operating expenditure is required to keep the original 1000MW Huntly power station on call, yet its usage in an average year is declining.

As new generation comes on stream over the next 2 years, it will become less economic to run the original Huntly power station except in a very dry year.

Genesis says that it continues to underpin the risk exposure of hydro generators by maintaining, without compensation, coal reserves; and old generating plant being available on call.

Genesis says that the time is coming when a decision will have to be made about Huntly's future role in the light of the company's commercial mandate to operate as a successful business.

Reference: NZ Energy & Environmental Business Week, 8/7/09

Ministerial Review of Electricity Sector

The Cabinet is expected to get an early look at proposals to improve performance in the electricity sector when the Energy Minister, Gerry Brownlee, presents it with options from the Ministerial Review which he set up in April. This is likely to happen in the first two weeks of August..

The Review has not looked at ownership of the SOE's or economic regulation of electricity lines. Ministers have also ruled out splitting retailing activity from generators and have also indicated that they do not want to return to a more centrally controlled approach in the electricity market, which some lobby groups have favoured.

There will be some consideration given to the value of the Electricity Commission (EC) which costs around $90 million per year. There is scope for rationalisation of the regulatory powers it exercises alongside those of the Commerce Commission.

The EC has too many roles including those of formulating rules and then enforcing them, as well as being the market manager , reserve energy manager, and also being the approval authority for pricing and contracts.

Once the Cabinet approves the results of the Review, a discussion paper will be issued and final recommendations developed for Cabinet decision. Then legislation could be prepared for introduction in February 2010, with the aim of any variation in market governance and rules being implemented by June 2010.

Reference: NZ Energy & Environment Business Week, 29/7/09.

Climate Change/Global Warming

Consultation Meetings on Emissions Target

In recent weeks, the Climate Change Minister, Dr Nick Smith, has been holding a series of public meetings in urban centres to discuss what greenhouse gas emissions targets NZ should adopt.

These public meetings will have left Dr Smith under no illusion that there is a well-organised lobby for the Greenpeace/Oxfam sponsored greenhouse gas emissions target of a 40% cut from 1990 levels by 2020. In heavily attended consultation meetings in Wellington, Auckland and Christchurch, there were lively crowds packed with supporters of this campaign.

The consultation meetings precede a decision by the Government on a 2020 target which is required before a meeting in Bonn commencing on 10 August, ahead of December's post-Kyoto Protocol negotiations in Copenhagen.

While Dr Smith was given credit for fronting up, he nevertheless had a hard sell in arguing that 40% on 1990 levels by 2020 – a cut of more than 60% below 2009 emissions levels – is unrealistic because of its impact on the wider economy.

The meetings also exposed the gulf between supporters of a tough target and the farming lobby, parts of which believe agriculture should be permanently exempted from Emissions Trading Scheme (ETS). Federated Farmers say that primary food production "sustains life" and therefore should have no role in the ETS. However farmers will pay through fuel, electricity, building materials, fertiliser and many other farm inputs they consume. "What we are seeking is an end to this biological calculation nonsense".

It is unlikely that Dr Smith and the Prime Minister, John Key will be will be willing to push harder than the current ETS timetable, which at best sees agriculture entering the ETS in 2013, with full costs of emissions not borne until 2030.

The recent Informetrics - NZIER review of the ETS suggested that the difficulty of measuring greenhouse gas emissions from the agricultural sector justified leaving it out of the ETS altogether while better measurement methods were established.

However the counter argument is that large reductions of greenhouse gas emissions are already available to the farming sector through the use of nitrification inhibitors and other new technologies.

Reference: NZ Energy & Environment Business Week, 15/7/09

Commenting on the Auckland meeting, Eloise Gibson of the NZ Herald said that Dr Smith got a hard time for talking tough on climate change when his Government had reversed Labour's ban on incandescent light bulbs, overturned rules banning new fossil fuel electricity generation, and supported sending coal to developing countries.

The Government's relationship with the ACT Party, whose climate-change-rubbishing leader, Rodney Hide, is a minister in the National-led administration, also came in for scrutiny.

Reference: NZ Herald, 13/7/09.

Climate Change Minister, Dr Nick Smith, has been working hard to soften us up for a greenhouse gas emissions reduction target much smaller than environmental groups have been pushing for.

Rather than a 40% reduction on 1990 levels by 2020, they will probably go for a 20% reduction (on 1990 levels) by 2020, because it makes a nice tidy slogan.

Reference: The Business Herald, NZ Herald, 24/7/09.

Footnote: Radio NZ's Morning Report on 27 July suggested that the Government's target may be a 15% reduction (on 1990 levels) by 2020.

Stop Press: On Monday 10 August, the Government announced a target of 10% to 20% below 1990 levels by 2020, dependant on a number of conditions being met.

Minister on Television

Speaking on the TV1 Q+A Programme, Climate Change Minister, Dr Nick Smith said that officials now estimate that on the basis of the present estimated price for the purchase of carbon dioxide emissions credits, the increases in the cost to consumers "to reflect a price on carbon" will be 6 cents per litre on petrol and an increase of about 10% on the cost of electricity (see footnote).

Dr Smith said that he would like if possible to get a consensus amongst the politicians of various political parties about the details of the proposed amendments to the ETS, to be introduced into Parliament later this year. (This probably excludes the ACT Party who seem to be on a different planet as far as climate change policy is concerned). Dr Smith said that the choice of Mr Peter Dunne to chair the ETS Review Committee was a very carefully made and deliberate decision.

Dr Smith noted the importance of getting measures in place to reflect the cost of greenhouse gas emissions is very important in NZ's international trading relationships, especially with Europe and the USA. The USA is already talking about imposing tariffs on imports from countries which do not take sufficient measures to reduce greenhouse gas emissions.

Dr Smith believes that if people can be persuaded to use energy more efficiently, there are substantial emissions reductions to be obtained at low or no cost (see footnote). He said that this is not allowed for in most of the economic reports to date which have been produced on the costs of implementation of emissions reduction policies.

Dr Smith said that the setting of the level of the emissions reduction target is very important (and hence the need for widespread consultation). If the target is too tough and unachievable, this will have bad effects and NZ will lose credibility, so it must be realistic. Dr Smith said that in his view the Greenpeace/Oxfam proposed target is unrealistic and so the agreed target will be less than this.

Reference: Interview with Guyon Espiner on TV1 Q+A Programme, 26/7/09.

Footnote 1: The ETS seems to be based on the assumption that a relatively modest increase in the cost to the consumer of basic items like petrol and electricity will have the effect of causing a significant reduction in consumption of those items. The suggested increases under the present ETS of 6 cents per litre in the price of petrol and 10% on electricity bills are unlikely in themselves to cause a substantial reduction in consumption. As shown in EnergyWatch Issue 52 (Figure 1 on page 3) the 6 cents per litre expected rise in the price increase on petrol is extremely modest compared with the price fluctuations in petrol price which have taken place in recent years without a great deal of impact on petrol demand.

The ETS will not in itself reduce carbon dioxide emissions by very much, but only as part of a series of complementary measures.

Dr Smith also noted his belief that there are significant emissions reductions to be obtained at low or no cost if people can be persuaded to use energy more efficiently. The key issue here is the method of persuasion to be used. Putting up the cost to the consumer, within politically acceptable levels, will not on its own be sufficiently persuasive.

Also, while two arms of Government (Environment and Trade) are pushing for measures to reduce NZ's carbon dioxide emissions, other arms of Government (Transport and Energy) are removing the recently introduced ban on new fossil fuel electricity generation (which is at present the fastest growing area of energy-related carbon dioxide emissions) and proposing billions of dollars of infrastructure spending on new roads and motorways, which will encourage the greater use of transport fuels.

Is this a case of the left hand not knowing what the right hand is doing?

John Blakeley

Footnote 2: During the television interview on the Q+A programme on 26 July, Dr Smith stated that the Greenpeace/Oxfam greenhouse gas emissions target of a 40% reduction from 1990 levels by 2020 was actually a 64% reduction (from +24% to -40%) compared with 2009 emissions. During the public meetings he was also reported as saying that a cut of 40% on 1990 levels by 2020 equalled a cut of "more than 60%" below 2009 emissions levels. This is mathematically incorrect as shown below.

With reference to Figure 1 in EnergyWatch Issue 51, page 19,:

1. Assume NZ's gross greenhouse gas emissions in the base year of 1990 are X (actually 61.9 million tonnes of carbon dioxide equivalent).

2. Then NZ's gross emissions are now about 1.24X (latest figures).

3. If the target 2020 figure is a 15% reduction on 1990 (0.85X).

Then reduction on 2009 emissions is:

1.24X – 0.85X/1.24X
= 0.39/1.24
= **31.5% cut**

4. If the target 2020 figure is a 20% reduction on 1990 (0.80X)

Then reduction on 2009 emissions is:

1.24X – 0.80X/1.24X
= 0.44/1.24
= **35.5% cut**

5. If the target 2020 figure is a 40% reduction on 1990 (0.60X) which is the Greenpeace/Oxfam suggested target

Then reduction on 2009 emissions is:

1.24X – 0.60X/1.24X
= 0.64/1.24
= **51.5% cut**

So the Minister's statement that this is a "more than 60% cut on 2009 emissions" is in error.

John Blakeley

Difficult Road to Copenhagen

The latest round of climate change negotiations leading up to the crucial Copenhagen meeting in December 2009 were held in Bonn, Germany ending in mid-June amid signs that the developed and developing world are still poles apart in their negotiating positions.

At Copenhagen a replacement agreement for the Kyoto Protocol is supposed to emerge but that is now looking increasingly unlikely to happen.

Speaking at the end of the twelve days of talks in Bonn, Yvo de Boer, Executive Secretary of the UNFCCC (United Nations Framework Climate Change Convention) said that delivery on "four political essentials" required for success in Copenhagen was proving "difficult" to achieve.

The four so-called "difficulties" are:

- Clarity on industrialised countries' required carbon dioxide emissions reductions up to 2020.

- Developing countries' actions on emissions reductions.

- Industrialised countries' financing for adaptation and mitigation in the developing world.

- The governance regime for a new agreement on climate change mitigation.

In 2007, emissions cuts of between 25 and 40%, compared with 1990 levels, were identified as the necessary contribution required from industrialised nations, but offers from industrialised nations ranged from 17-25%. De Boer says that this is not enough to address climate change.

One indication of the rocky road ahead for the post-Kyoto negotiations is the fact that the 21 page negotiating draft taken to Bonn had grown to 200 pages during the twelve days of talks.

Earlier it had been reported that brinkmanship was occurring between the USA and China. Between them, those two countries account for around half of the total global carbon dioxide emissions which need to be addressed under a successor agreement to the Kyoto Protocol. So a crucial issue is for China and other major emitters from the developing world to make meaningful emissions reductions commitments of their own.

As one US climate change negotiator put it, "*I would not say that the USA is going to race forward (with emissions reduction commitments), with major players like China on the sidelines".*

Reference: NZ Energy & Environment Business Week, 10/6/09 and 17/6/09.

No Ratifiable Treaty at Copenhagen

NZ's International Climate Change Negotiations Minister, Tim Groser, has confirmed that there is no way that there will be a "full and ratifiable treaty" produced at the world climate change talks in December, in Copenhagen, where a post-Kyoto Protocol treaty is meant to be finalised.

Mr Groser said that decisions on how to finance climate change mitigation and adaptation in the economies of developing countries will be the key to obtaining a wide reaching global agreement.

Mr Groser is optimistic that NZ is starting to make headway on the most difficult agricultural issues. These are crucial for developing countries as well as for NZ, whose emissions profile is unusual compared with most OECD countries which have much greater reliance on thermal electricity generation and industrial production, and have a much smaller agricultural sector relative to their whole economies.

Mr Groser is indicating commitment to a much-needed boost in agricultural research to reduce NZ's greenhouse gas emissions, saying that this is also the key to bringing developing nations into a post-Kyoto agreement.

Reference: NZ Energy & Environment Business Week, 22/7/09

China/India Pressured to Reduce Emissions

The USA is urging China to join in setting mid-century targets to cut greenhouse gas emissions. However an appeal is unlikely to make much headway as China is demanding that developed countries impose tougher emissions reductions goals for themselves.

The US Energy Secretary, Steven Chu, told students at Tsing hua University that *"We are all in this together, so we have to fix it together".*

Both the USA and China – now the world's largest emitter of greenhouse gases – agree that climate change is a major concern. But China says that developed countries have not set themselves stringent enough targets to cut greenhouse gas production and is rejecting demands on developing nations, including China, to set carbon dioxide emissions limits.

Steven Chu said that it is correct that developed nations were the first to emit greenhouse gases in large quantities but says that the developing world is fast catching up on the same course, as at present, *"the amount of carbon dioxide which China emits in the next 30 years will equal all the carbon dioxide which the USA has emitted in the life of that country".*

Meanwhile US Secretary of State, Hillary Clinton during a visit to India did not make much headway when she made suggestions that India should aim to cut its greenhouse gas emissions to 50% of 1990 levels by 2050.

Hillary Clinton took a conciliatory message to India on climate change, saying that the US and India have a common purpose in reducing emissions and on behalf of the US, offering a technology partnership to make it happen.

However India's Environment Minister, Jairam Ramesh, said that there is simply no reason why India, which has amongst the lowest emissions per capita in the world, should face pressure to actually reduce emissions.

He noted that India faced the threat of environmental tariffs on its exports to countries such as the USA relating to its greenhouse gas emissions and that India was simply not in a position to take on legally binding emissions reduction targets.

Reference: NZ Energy & Environment Digest, 14-21 July 2009 NZ Energy & Environment Business Week, 22/7/09.

ETS Delay for Stationary Energy

The stationary energy sector, including electricity generation, is scheduled to enter the Government's Emissions Trading Scheme (ETS) on 1 January 2010. This is estimated to lead to a surcharge on electricity costs to the consumer of around 8%.

However representatives of the stationary energy and industrial processers sector are stepping up pressure on the Government to delay implementation of the ETS to their sector because they are increasingly concerned that slow progress on the revamped ETS, leaves major energy users with little time to implement changes in time for a start date of 1 January next year.

The Parliamentary Select Committee reviewing the ETS is now three months behind schedule for reporting back, and with less than six months to run until the commencement of the application of the Labour-legislated ETS to the stationary energy sector, together with considerable uncertainty surrounding the outcome of global climate change talks in Copenhagen in December 2009, there is growing doubt that the 1 January commencement date can be achieved. It is also noted that entry of the transport sector to the ETS has already been delayed for two years by the previous Labour-led Government until 1 January 2011.

However the Minister for Climate Change Issues, Dr Nick Smith has recently indicated that sectors due to come into the scheme should expect that the only dates that have already been announced should continue to apply and the only significant change will be the dates by which they are required to start reporting their sector's emissions.

Dr Smith announced in mid-June that the forestry sector will not now be required to report emissions until 31 January 2010, a year later than envisaged. However the start date for forestry's entry into the scheme remains at 1 January 2008.

Meanwhile, forest owners are expressing frustration at the delays, pointing to wasted investment in seedlings which in many cases have been ploughed back into the ground as anticipated demand for forestry credits under the ETS has failed to materialise in the absence of clear rules for treatment of forestry under the ETS.

A further complication is that the NZ government wishes to harmonise its ETS with the Australian scheme as much as possible. As noted in EnergyWatch Issue 53, page 22, Dr Smith has said that the new Australian timetable for the introduction of its Carbon Pollution Reduction Scheme (delaying the introduction of its ETS by one year to 2011) does not affect NZ's desire or ability to harmonise its ETS with Australia's scheme.

Reference: NZ Energy and Environment Business Week, 17/6/09 and 24/6/09.

Climate Change Minister, Nick Smith's acknowledgement that the ETS cannot be implemented from 1 January 2010 for the stationary energy and industrial processes sector, is intended to give certainty to those sectors. Dr Smith made this admission to the Parliamentary Select Committee hearings.

Reference: NZ Energy & Environment Business week, 1/7/09

FUELS

New Plymouth LNG Terminal Cancelled?

Two energy companies, Contact Energy and Genesis Energy have "pulled the plug" on plans to build a $600 million liquefied natural gas (LNG) terminal at Port Taranaki. The plans are now officially "on hold".

Instead their 50:50 joint venture, Gasbridge, is turning its attention to developing LNG facilities out to sea - and well away from New Plymouth residents deeply concerned about the safety of the terminal being located at the city's port.

On 1 July 2009 representatives of Contact and Genesis were busy outlining their new plans to organisations and individuals in Taranaki and Wellington. They were pointing out that the change of mind was not so much the result of public concern over the project, but because development of the latest technology meant that it would be more cost-effective to develop the LNG facilities offshore.

Genesis said that technical options had moved along at pace since Gasbridge began the feasibility study and the offshore floating option is now far more attractive and feasible. Gasbridge had reached the stage with planning for the Port Taranaki terminal where it was poised to file resource consent applications for the project with the Taranaki Regional Council.

The joint venture had forecast that LNG imports would be required by 2014, which would be when local (North Island) natural gas demand would overtake local supply.

But over recent years several new gas sources have been brought to market - primarily Turangi (onshore) and Pohokura, further Maui gas, and soon Kupe (offshore) **- which have pushed out to 2018 the projected date for gas to have to begin to be imported.**

Genesis said that Gasbridge has been monitoring LNG technology developments worldwide, with particular emphasis on offshore floating options. These days, many large LNG carrying ships had their own regasification facilities, which meant that instead of discharging the LNG in liquid form to storage facilities on the shore, they simply anchored offshore where they converted the LNG back to gas and pumped it into sub-sea pipelines. Such facilities had been developed offshore in the USA, the UK and Italy.

Also the development of offshore LNG facilities would be less expensive and take less time. Whereas it has been estimated that the Port Taranaki project would take four years to complete, an offshore project would take around 18 months and at half the cost.

Genesis concluded that Gasbridge believed that it had a few more years now to evaluate its options. It still believed that a natural gas shortfall will develop, meaning that NZ is likely to have to import LNG, but there is now less immediate pressure.

Reference: Taranaki Daily News, 2/7/09.

Economic Recovery Closely Linked to Oil Price?

In its daily commentary on the price of oil, the NZ Herald (25 July) notes that on 24 July, oil prices drifted below US$67 per barrel in Asia but mostly held on to gains made overnight amid signs of an improving US economy.

The report noted that evidence that the recession-hit US economy is strengthening has bolstered investor optimism and triggered an oil price rally from US$59 per barrel two weeks ago.

"While the demand for crude oil hasn't rebounded yet, traders have more faith that consumption will eventually pick up".

One Sydney commentator and energy analyst said that he expected the oil price to rise over

the next few weeks and test an eight-month-high of US$73 per barrel reached on 30 June 2009.

Commenting on the above, SEF Member, Neil Mander, said that the underlying assumption in those comments by journalists and energy analysts is that there is a very direct link between global economic growth and recovery, and rising international crude oil prices. Neil questioned the inherent assumption here that increasing prices and consumption of oil are necessarily a good thing, especially as far as global warming/climate change are concerned.

We seem to have moved a long way backwards from the fond hope being expressed several years ago that somehow the world would soon "decouple" economic growth from energy consumption, through greater use of new technology and greater efficiency in the end use of energy.

In fact it seems that a rising international crude oil price has come by default to be the most likely indicator of signs of some economic growth now starting to take place around the world?

Neil Mander has provided Figure 2 below which is an update of Figure 4 in the previous issue of EnergyWatch (Issue 53, page 25). Comparison of the two graphs shows that the 12 month time span has now just chopped off the peak of the mid-July 2008 oil price "bubble" so the latest graph starts on the downward slope from that peak.

However the mid-July 2008 oil price peak had nothing to do with global economic boom and bust, but rather was caused by a speculative rush to invest in oil as a commodity in the early months of 2008 (See earlier article on page 3 of this issue).

Reference: Associated Press, as reported in NZ Herald, 25/7/09

Higher Prices Needed for Oil Investment

Oil prices need to be higher, costs lower and credit easier to revive exploration and development of oil and gas projects, which have been hit hard by economic downturn, industry officials said.

Oil and gas industry executives told Reuters Global Energy Summit that most of the oil majors such as France's Total and BP continued to invest in future oil and gas output despite severe recession across most of the world.

But many smaller upstream oil producing companies, the petroleum services sector, and firms in costlier regions of the world have been hard hit by recession, lack of finance and a collapse in the oil price.

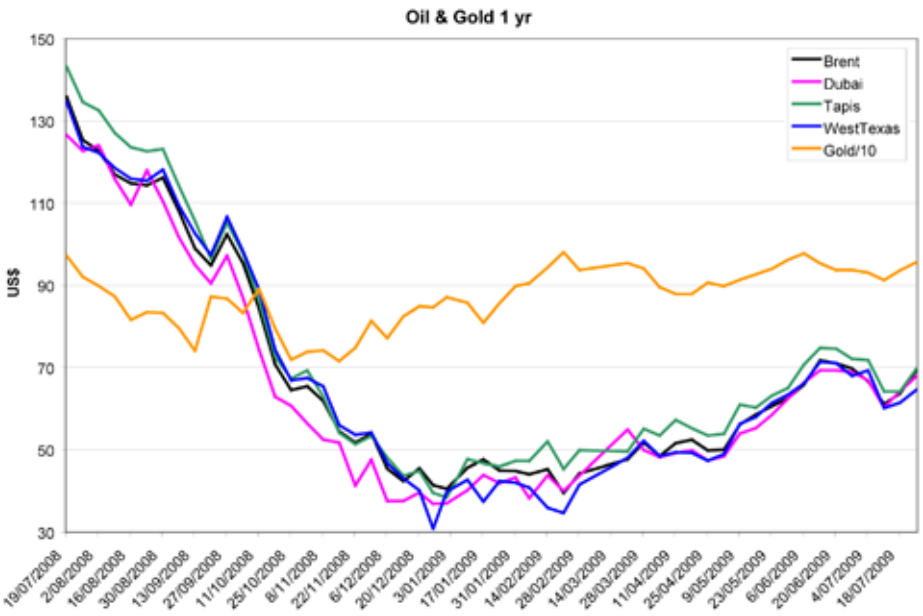

Figure 2: Crude Oil Prices for the Last Twelve Months – US$/barrel, Gold per fine ounce.

Oil prices have rallied sharply over the last three months (to as much as $70 per barrel) but they are still less than half their level in July last year when they hit all-time highs above US$147.

Many oil companies see US$70 to US$75 per barrel as the minimum price needed to revive investment in their industry.

Reference: Reuters as reported in NZ Energy and Environment Digest 3-9/6/09.

Oil Price Must Stay Above US$60

In the first week of July, the international price of crude oil fell nearly US$8 in four days to near US$65 per barrel on 6 July. By 10 July it was hovering at about US$60 per barrel.

One reason for this appears to be that dismal unemployment figures released from the US and Europe sparked concern about whether a supposed early economic recovery is in fact occurring.

There were also other signs that the economy of the USA, the world's top energy consuming country, was still struggling. Also, speculation and changes in the strength of the US dollar were playing a large part in oil price volatility and a weak US dollar could lead to a rise in oil price.

On 13 July, crude oil prices fell briefly just below US$60 before recovering the next day to US$60 again.

The Kuwait oil minister said that his country wants to see the price of oil stay above US$60 per barrel to meet his country's budgetary requirements.

In the same week this oil minister also said that a price over US$100 would hurt the global economy, but would not necessarily bring a boost in oil supply from the Organisation of Petroleum Exporting Countries (Opec). He said that his country cannot increase its oil production without taking into account both the present and likely future oil price and the condition of the world economy.

Last year, Opec member countries pledged to cut their oil production by 4.2 million barrels per day and Opec has kept those output curbs in place this year, and will next meet in September to discuss its oil supply policy.

Reference: Reuters as reported in NZ Herald 7/7/09

Kupe Commissioning by December

In EnergyWatch Issue 53, page 26, a start date of September 2009 was reported for the Kupe gas/condensate field off the south Taranaki coast. The latest information is that the first raw gas from the Kupe field is likely to be brought ashore in the fourth quarter of the 2009 calendar year.

Testing and pre-commissioning will not be finished as soon as earlier indicated, which might have seen the first gas produced in September.

The 15% stakeholder, NZ Oil and Gas had previously presumed three calendar quarters of Kupe production in its 2009/2010 financial year revenue estimates, but now notes that production during the December quarter will be reduced.

However, production forecasts in later years will not be affected and over the next 15-20 years Kupe will make a significant contribution to meeting NZ's gas supply needs. The operator of the field, Origin Energy, says that capital costs for the Kupe project "remain in line" with previous expectations.

Earlier it had been reported that construction on the Kupe gas/condensate project is nearing completion at its South Taranaki production station and testing of the first of many systems involved at the station, located west of Hawera, has begun. The $1.1 billion Kupe project has been employing about 900 workers on its various sites including new storage tanks and associated facilities at the Omata tank farms near New Plymouth, but this will reduce to about 20 workers when the project comes on stream.

Electricity generator, Genesis Energy has contracted to take 20PJ of gas a year from Kupe, which will also produce about 2 million barrels of light oil and 100,000 tonnes of LPG a year.

Reserves on which the project's financing were undertaken were put at 254PJ of gas, 14.7 million barrels of light oil and 1.1 million tonnes of LPG.

Reference: NZ Energy and Environment Business Week, 10/6/09 and 17/6/09.

Thirty Years of Maui Gas

On Tuesday 23 June, the operators of the Maui gas field celebrated 30 years of production and hope that new developments will keep it going for at least another five years.

This gas and oil field, 35 kilometres offshore from the Taranaki Coast at Oaonui near the town of Opunake led to the building of a number of gas-fired power stations in the North Island, and the "Think Big" projects of the early 1980's.

The field was discovered in 1969 and at the time, was the eighth largest gas field discovered in the world to that date, with reserves then estimated at 5400 petajoules (PJ). The field covers 157 square kilometres and lies 3000 metres below the sea floor.

Since it started producing gas at the Maui A platform in 1979, the Maui gas field has accounted for an estimated 80% of natural gas in New Zealand. Last month the sale was signed off to Contact Energy of the last gas under the 30-year old Maui gas contract.

The field is now in its "twilight" years, producing a third as much gas as it did in its heyday in the 1990's.

Shell states that all the easily producible gas has now been produced, so now it is all about targeting gas in tighter rock zones and gas that has been bypassed so far, with the possibility of Mai gas running out in the next 5-10 years.

Shell Todd Oil Services operates the field on behalf of the owners of the Maui field, which are Shell (83.75%), OMV NZ (10%) and Todd Energy (6.25%). About $60 million is now being spent of finding more gas in three existing wells at the Maui B platform.

Reference: NZ Herald, 24/6/09.

Editor's Footnotes:

• The latest available (June 2008) edition of the Energy Data file states that the figure for ultimate recoverable (P50) gas reserves in the Maui field as at 1 January 2008 was 4199.7 PJ of which 489.6PJ was yet to be recovered. Net gas production from the Maui field in 2007 was 51.93PJ. (In comparison, the Pohokura gas field production in 2007 was 69.58PJ, even though it only went into full production during that year, after starting producing in August 2006).

• On 7 February 2003 an independent expert determined that the estimated total Maui reserves of economically recoverable gas was 3562PJ compared with the original figure in the Maui contract of 4060PJ, so about 88% of what was originally estimated to be in the Maui contract is economically recoverable.

• Any gas over and above the 3562PJ figure can be sold at market rates by the owners of the field instead of through the Maui gas contract (which has now expired).

• As noted in EnergyWatch Issue 28, March 2003, the original reserves estimate of the gas in the Maui field was around 5500PJ of recoverable gas, but estimating reserves at a very early stage is inherently difficult and the agreed take-or-pay contract for Maui gas was for 4060PJ of gas over 30 years, an average of about 135PJ per year. This was originally signed as a development contract in 1973 and production started in 1979.

• The DSIR originally had the right under the Petroleum Act to monitor flow and pressure data from the Maui field. In October 1985, they reported that reserves were probably near or below 3930PJ, only 97% of the contract quantity, which in the light of subsequent data was a remarkably accurate forecast. However, at that time, the Government's consultants considered that the original estimate of around 5500PJ was correct.

Vehicles

NZ Car Fleet Gets Older

For twenty years from around 1986 to 2005, Governments in NZ promoted the benefits of imported old used cars.

These cars were said to be more economical on fuel use, and had more safety features than the cars which they were replacing.

It is only recently that the Government has been promoting the benefits of buying new cars with a series of advertisements advocating that buyers purchase cars fitted with Electronic Stability Control (ESC), telling us to make sure that our next car is fitted with the latest safety systems.

Around 53% of the NZ car fleet is now used imports and an estimated 93% of those cars do not have ESC fitted.

The mean age of the country's car fleet in 2008 was 12.5 years. In 1992 it was 9.93 years, in 1996 it was 10.42 years and in 1998 it was 11.2 years. The mean age in Australia is 9.7 years and in Britain 6.7 years.

One industry executive describes the flood of used, imported cars over the last 20 years as "a monumental fraud perpetrated on New Zealanders by Governments who said that they only wanted to give Kiwis the chance to buy cheap cars".

The promise governments made all those years ago that used car imports would rid NZ of old cars, is now shown to be a complete myth.

Reference: NZ Herald, 18/7/09.

Can General Motors Survive?

A bankruptcy judge has ruled that General Motors (GM) can sell the bulk of its assets to a new company, clearing the way for the company to quickly emerge from bankruptcy protection.

GM's Government-backed plan for a quick exist from protection hinges on this sale, which will allow the car maker to leave behind many of its costs and liabilities.

GM will leave the bankruptcy court with significantly reduced debt and labour costs, as well as fewer dealership and brands.

But it is still operating in an environment when fewer Americans are buying cars. At the current rate of sales, car makers will sell about 9.7 million cars in the USA during 2009 – a huge reduction from sales of more that 16 million as recently as 2007.

In June, GM captured 20.3% of the US motor vehicle market. The company has estimated that it can maintain a market share of 15% to 17%, meaning that it will sell around 1.5 million cars during 2009.

If the Obama administration had not rescued GM from bankruptcy, would the world be better off from a global warming point of view through less cars being produced? The answer is "probably not" because other manufacturers would soon fill the sales gap.

GM has several new cars coming to market in 2010 including the Chevrolet Volt, a plug-in hybrid electric car. The Volt may be a promising vehicle, especially from a global warming and Peak Oil point of view, but with an expected US$40,000 price tag, it might only be a micro player.

Reference: Associated Press as reported in NZ Herald, 7/7/09.

GM for years had neglected its small cars, unable to make money on them because of high labour costs. Instead, it focused more on high-profit light pickup trucks and sports utility vehicles (SUV's).

Its current small car products have not sold as well in the US as products from Toyota and Honda.

The newly reconstructed GM however is betting that US car buyers will shift to smaller cars as

fuel prices swing wildly, and GM is trying to upgrade its output of that type of vehicle. The company says that lower labour costs and higher sales prices should yield more profits.

Reference: NZ Herald, 8/7/09.

European Car Sales Figures Improve

New car sales in Western Europe could reach 13.3 million in the year 2009, only slightly down on the 2008 figure of 13.6 million.

This forecast is based on an optimistic message that Western Europe's car sales in June 2009 grew by 4.1% to 1.37 million, the region's first increase in more than 12 months. Scrappage incentive schemes and significant discounts from car makers are producing a market that may be on a par with 2008 once the full-year total is reached.

These incentives have had the effect of stabilising the car market and preventing what otherwise might have been a collapse. Germany showed the biggest June sales increase with volume up 40.5% compared with the same month in 2008. The scrapping bonus was launched by the German Government in June, with the German new car market now being predicted to be around 4 million units for 2009 as a realistic possibility.

The French market for new cars rose by 7% in June, while sales in Italy were up by almost 12% in the same month.

However sales were still down in June for both the United Kingdom and Spain, but incentive schemes launched in both countries in May are helping to moderate the rate of decline is sales.

The impact of scrappage schemes will likely be more modest in the UK and Spain than in other major European countries because they have been hit harder by the economic recession and also the incentives are not as generous as those in other countries.

However the European motor industry is likely to face a major challenge during 2010 to maintain sales when the scrappage schemes are scheduled to end.

Reference: NZ Herald, 11/7/09.

Rush to Introduce Plug-In Electric Cars

Nissan has joined the race to produce plug-in electric vehicles and will unveil in August 2009 such a plug-in electric car as its first step to globally mass produce zero emission cars from 2012.

Nissan will start selling the cars in Japan after April 2010 as it sets its sights on the potentially lucrative market with what it says will be "affordable" electric vehicles. Subsequently Nissan will sell the car in the USA, and then globally in 2012.

Nissan states that it will make electric cars in the USA at its plant in Smyrna, Tennessee, with initial output of more than 100,000 units per year. It has just received a US$2.1 billion loan from the US Government in a government-industry partnership to build "green cars".

Other car makers are also racing to produce fully-electric cars. US-based Tesla Motors has a prototype that is scheduled to be produced in 2011. Toyota has stated that it plans to build electric vehicles in the USA by 2012 while Chinese car maker, Dongfeng Motor Corp. has teamed up with a Dutch-based company to develop and make electric cars.

Nissan has said that its zero emission cars will come "with a very reasonable price because if it's not affordable, it is not going to work".

It's smaller rival, Mitsubishi, launched its electric vehicle, the i-Mi EV in June with a price tag of US$48,000 or NZ $74,000 (see EnergyWatch, Issue 52, page 23, when the price was said to be around NZ$60,000). Mitsubishi has acknowledged that the i-Mi EV is "too pricey" and said that it aims to cut the price in the future.

Meanwhile General Motors is putting its faith in its plug-in electric hybrid vehicle, the Chevrolet Volt, which it hopes to put into production during 2010. The expected US$40,000 or NZ$63,500 price tag, also looks to be far too expensive to sell except into a niche market.

Reference: NZ Herald, 2/7/09.

Editor's Note: Some people ask why the plug-in petrol-electric hybrid car is less expensive than the plug-in all-electric vehicle (which should be less complicated to manufacture)? The answer lies in the comparative range of the two vehicles.

The plug-in petrol-electric hybrid is designed with only enough battery capacity for a day or two of commuting before the battery needs recharging. As noted in EnergyWatch, Issue 52, page 24, the Chevrolet Volt, a mass-production car, is being designed to run 60km or more on a single battery charge without using its internal combustion engine.

On the other hand, to be fully useful, an all-electric vehicle needs to have considerably more range than 60km. The Mitsubishi i-Mi EV is stated to have a range of up to 160km, but of course this leads to a considerably greater battery cost, and a weight penalty, compared with a plug-in petrol-electric hybrid car.

The petrol-electric hybrid vehicle without a plug-in facility has a very much smaller range again, of about 1km or 2km operating on batteries alone.

Electric Cars in NZ by 2012?

The Electric Vehicles Team at Meridian Energy has suggested that the Mitsubishi i-Mi EV electric car will be available on NZ roads by 2012 but as a second-hand import.

The high cost now of the small five door hatchback (recently estimated at NZ$74,000) which has a range of a little over 100km fully charged and a top speed of 130km/hr, means that it is first likely to appear in any significant quantities in NZ as a used import option.

Meridian has convinced Mitsubishi to use NZ as its second-hand sales test market for the i-Mi EV, because of the tendency in NZ to do short trips, an optimal 230 volt electrical system for overnight charging, and the relatively low cost of electricity.

Also following a recent Government announcement, electric cars will have the benefit of being exempt from road user charges for several years (see footnote below).

However with the Meridian management at present taking a knife to non-core spending within the company, it is questionable whether or not there will still be a dedicated electric vehicles team at Meridian by the time that the i-Mi EV becomes available to NZ motorists.

Reference: NZ Energy & Environment Business Week, 22/7/09

Footnote: The Government is hoping to encourage electric car use by exempting them from road user charges for four years. The Transport Minister, Steven Joyce, says that light electric vehicles - those weighing up to 3.5 tonnes - are currently classed as diesel vehicles for the purpose of road user charges.

This means that at present such vehicles pay 3.6 cents to 4.0 cents per kilometre and the exemption will be effective from 1 October 2009 and will continue until 1 October 2013 when the Government will re-assess it.

Reference: NZ Energy & Environment Business Week, 24/6/09

Limited Market for Petrol-Electric Hybrids?

Nissan is Japan's third largest car maker after Toyota and Honda and so far, it has not introduced any models of petrol-electric hybrid cars.

Nissan has brushed aside criticism that it is falling behind Toyota and Honda in the increasingly competitive market for petrol-electric hybrid vehicles, stating that the global market for such vehicles remains too small, with petrol-electric hybrid cars accounting for

only 3.5% of the Japanese car market in 2008, and 2.3% in the US car market.

Globally the market for such cars is below 1% of total sales. Nissan is attributing hype over petrol-electric cars to heavy media coverage.

On the other hand, Toyota is closely monitoring increased production of its third-generation hybrid Prius. Following its introduction in Japan earlier this year, Toyota received 180,000 orders for the Prius in just over a month, greatly surpassing its target of 10,000 vehicles in monthly sales in Japan, and Toyota is currently producing 50,000 such cars a month, mainly for export.

Reference: NZ Herald, 2/7/09.

New Hybrid Models

The latest model (third-generation) Toyota Prius is expected to go on sale in New Zealand about August 2009 and is expected to be much more expensive than the Honda Insight, which will be on sale here later in the year.

The Insight replaces the Honda Civic Hybrid and is a distinctive hybrid model in its own right, rather than a hybrid version of a normal Honda Civic with just a few logos on the sides to distinguish it.

Some market research has apparently shown that people who own petrol-electric hybrid cars like to be seen by others to be driving a hybrid, which rather counted against the Honda Civic hybrid in the new car market place, even though it was a lot less expensive than the previous Toyota Prius model.

There is at present unprecedented worldwide demand for the petrol-electric car. Toyota plants in Japan are working at near full capacity to produce the recently-introduced new model Prius mainly for export, turning out 50,000 cars a month, an output 50% up on Toyota's sales target, as Toyota struggles to meet 140,000 orders in Japan alone.

Apart from the 660cc micro car segment, the Prius was the top selling car in Japan in May 2009 selling 10,915 units against the 8,183 Insights sold by rival Honda. The Insight had been the best seller in earlier months of this year.

In releasing its new model Prius, Toyota has been pushing the development envelope, at very considerable cost, whereas Honda has been endeavouring to keep costs down as close as possible to a comparable non-hybrid car.

The Prius has a planetary gear transmission mated to its 1.8 litre petrol engine, with improved fuel economy over the old model. The bigger engine is said to get better fuel economy at high speeds. Drive belts for the air-conditioning compressor and water pump have been eliminated and replaced by electric units. An exhaust-heat recapture system helps to keep the engine operating at optimal efficiency. Drag has been improved to 0.25, from 0.26 on the old model.

On the other hand, the Honda Insight is powered by an existing 1.3 litre four cylinder engine with a relatively modestly-powered electric motor as well. Some body parts have been taken from the Honda Jazz. This has limited possible styling and aerodynamic improvements and the Insight has a 0.28 drag co-efficient.

The new Toyota Prius has a claimed town-and-around fuel consumption of around 5.6 litres/100km (50.5mpg) whereas the Insight achieves around 6.8 litres/100km (41.5mpg).

Reference: NZ Herald, 13/6/09.

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EnergyWatch

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