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Editorial

Biofuels Sales Obligation in Disarray

As reported in the NZ Herald (28 March 2008) growing concern about the merit of biofuels is threatening to derail the Government's initiative to get a biofuel blend to start flowing through NZ's petrol pumps in about 2 months time.

At present Gull Petroleum is the only oil company selling biofuel blended petrol. It has been selling a 10% ethanol-petrol blend since last August at only 12 petrol stations in NZ.

The biofuel bill, now before a select committee of Parliament, proposes to make oil companies begin selling a small but progressively higher amount of biofuels each year from 1 July 2008 rising to 3.4% of total petrol and diesel sales by 2012.

While the bill passed its first reading comfortably, widespread political support is no longer assured because of worries that the legislation does not deal strongly enough with questions about whether biofuels will come from sustainable sources.

Global debate about biofuels has shifted in recent months, and in Britain - where the fuels are set to start flowing on 1 April - a dispute is raging about whether or not biofuels will do more harm than good by leading to rainforest destruction and food shortages.

National MP, Dr Nick Smith, said on 27 March that his party would not back the biofuel bill unless the issue was sorted out and it was

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made clear that the fuels coming into New Zealand would be from sustainable sources. He suggested that a delay to the bill's start date might be needed.

He said that National would not support the bill unless they are satisfied that the biofuels used are going to make a positive contribution to the environment.

Several months ago, the Green Party moved to get a reference to sustainability put into the biofuel bill, allowing Cabinet to set environmental standards for the biofuel sold. But with a launch date only about two months away now, no clear standard is yet available.

Dr Smith stated that officials had advised the select committee examining the bill that the earliest such a provision could come into effect was in 2010 and they did not expect to introduce regulations until 2011. It was likely that until then at least some of the biofuels coming into the country would be from unsustainable sources.

Climate Change Minister, David Parker has acknowledged that some submitters to the select committee want the bill to go further in its sustainability criteria (and SEF was one of the first submitters to make that point to the select committee in its submission on 6 March 2008).

Also the push towards biofuels is expected to increase the price of petrol and that too is concerning some political parties. BP submitted to the select committee that the price of petrol and diesel would rise between 7.5 and 15 cents per litre as a result of the added cost of biofuels.

NZ First Deputy Leader, Peter Brown, admitted on 27 March 2008 that his party was "a little nervous" about whether the biofuel bill was going to do what it was meant to do at a reasonable cost. He said that concerns raised with his party ranged from the increased cost of petrol to whether biofuels would influence the price of food.

Responding to Dr Smith's criticisms on National Radio's Nine to Noon programme (28 March 2008), David Parker disputed that it would take until 2011 before a sustainability standard could be applied to biofuel being imported into NZ. He also said that he thought that biofuel from local sources could be introduced within the next year but gave no indication as to where within NZ such biofuel would come from.

Earlier in correspondence with your editor, Mr Parker had suggested that 28,000 hectares of land in NZ could be used to grow maize for biofuels by 2012 (see EnergyWatch Issue 47, page 18). But maize is one of the least efficient crops in energy terms for conversion to bioethanol. Figures from the USA suggest that intensively farmed maize results in only a 10% reduction in greenhouse gas emissions (compared with corn at about 18%), and at the expense of the loss of much valuable land which should be used for food production.

In his correspondence last year with your editor, Mr Parker also suggested that at a cost of NZ$700 per tonne, it would still be just economic to use tallow, a by-product from livestock processing (and especially from the beef industry) as a feedstock for biodiesel production.

But SEF member Stephen Heubeck has recently advised me (18 March 2008) that for several weeks now, various grades of tallow have traded above NZ$1000 per tonne, with higher grades at substantially higher prices, which means that the raw product for biodiesel manufacturing is more expensive than the mineral fuel it could replace.

Also it is most unlikely that bioethanol from whey, produced as a by-product from the NZ dairy industry will be available, as this product is already in demand elsewhere and in any case, the amount available would be nowhere near sufficient to meet the requirements of a 3.4 percent overall biofuel use by 2012 as required in the biofuels sales obligation.

So it looks like most of the biofuel required to meet this obligation up to 2012 will have to be imported into NZ, and without clear sustainability standards which must be met for such imports, the biofuels sales obligation

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20th NATIONAL ESR CONFERENCE

Responding to Oil Depletion and Climate Change

Hosted by the School of the Built Environment, Unitec New Zealand

Saturday 26 July 2008

Oakridge House, Unitec, Mt Albert, Auckland

The 2008 joint conference of Engineers for Social Responsibility and the Sustainable Energy Forum provides a line-up of knowledgeable speakers who will address likely consequences of depleting resources of oil and climate change, and how society might change to adapt to a very different future.

8.30 - 9.00	Registration
9.00 - 9.15	*Opening Address* by Professor Thomas Neitzert (ESR President)
9.15 - 10.00	Simon Tegg and Neil Jacka - *Setting the Scene – Oil Consumption and Depletion*
10.00 - 10.45	Garry Law - *International Progess on Kyoto*
10.45 - 11.00	Morning Tea
11.00 - 11.45	John Blakeley - *Energy, Climate Change and Carbon Neutrality*
11.45 - 12.30	Arthur Williamson - *The Energetics of Carbon Capture*
12.30 - 1.15	Archer Davis - *Planning Issues for Transport in the Face of Energy Depletion*
1.15 - 2.00	Lunch
2.00 - 2.45	Tim Jones - *National Responses Linking Energy, Transport and Emissions*
2.45 - 3.30	Cameron Pitches - *Auckland SustainableTransport*
3.30 - 3.45	Afternoon Tea
3.45 - 4.30	James Samuel - *Transition Towns*
4.30 - 5.00	*General Discussion*
5.00 - 5.15	*Summing Up and Conclusion* by Tim Jones (SEF Convenor)

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Payment and registration may be made on line to our Account ASB Bank No 12-3151-0159047-00
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Wellesley Street
Auckland 1141

Note from Conference Secretary

At Engineers for Social Responsibility (ESR) we have been putting our efforts into broadening our understanding of the issues around energy risk and climate change and drawing more people into the discussion. Last year's ESR conference on Peak Oil was part of a series with evening talks and interactions covering these (and other) topics.

But we believe that oil depletion is now being increasingly recognised as a significant and real risk to the way we live. The timing of a crisis is not known and many argue their points of view on this. But we think it is time to move on to examine the impacts and responses that might mitigate the worst side effects.

At this stage, we have tended to draw the attention of people who already know something about these topics. As time goes by we understand that we must draw in a wider community, with a wider experience and skills base, to move things forward. Managing and mitigating the impacts of energy depletion and climate change will certainly be more than can be derived from engineering concepts.

This year we have teamed up with the Sustainable Energy Forum (SEF) for the conference, and we hope to attract others who have not engaged with us before.

This year's conference will start with a recap of the main issues and then build onwards to review current responses. The outcome we hope will be a plan for a way forward: - how to respond to the challenges; how to broaden the base of our initiatives; and how to communicate these difficult topics to constituencies outside our professions.

John La Roche, Conference Secretary

Editorial continues ...

is unlikely to have any significant global environmental benefit, but will raise fuel prices here by between 7.5 cents and 15 cents per litre according to BP's submission.

On Sunday 30 March 2008, Radio New Zealand reported that the Government may be considering a delay to the proposed starting date of 1 July 2008 for the Biofuels Sales Obligation because of difficulties in defining what biofuels are sustainable. In response, Mr Dickon Posnett, NZ Managing Director of Argent Energy and a leading advocate of local production of biodiesel in NZ, said that it would be a shame if the introduction of biofuels was delayed because of problems with the sustainability definition for imported biofuels.

Changing Our Ways?

After initially deleting an entire chapter from a report about the state of the NZ environment, the Ministry for The Environment has done a u-turn and released the sensitive section of the report.

The chapter details the most intense pressures on the NZ environment and in particular, identifies, dairying, over-fishing, wasteful consumption and the growth of cities.

Amongst its findings are:

Green Transport

The need to reduce greenhouse gas emissions from transport, one of the fastest growing greenhouse gas emissions sectors, is likely to drive greater effort to improve vehicle technology (hybrid vehicles and greater fuel efficiency) and increase the use of alternative (non-fossil) transport fuels (such as biofuels and electric vehicles).

Conserving Energy

A sustainable energy future - and the prospect of long-term rising energy costs and the need to control climate change - demands a further intensification of the current emphasis on energy efficiency, energy conservation and on renewable energy.

Key issues identified in the chapter include:

1 Clean and Green?
This issue is at the heart of the sensitivity over the release of this particular chapter of the report, because of the impact of our "clean green" image on marketing export products and attracting tourists to visit NZ.

The "100 percent pure" image is used to promote NZ internationally, attracting overseas visitors through marketing our unique scenic landscape and outdoor activities. This image creates an expectation of a clean and healthy environment.

Consumer attention to the *carbon footprint* of goods and services is an emerging value for the environment which has implications for NZ, as a nation a long distance from any of its major markets.

In carbon footprint terms, NZ products compare favourably to their international counterparts, but incorrect consumer perceptions about "food miles" in some key markets do have the potential to damage consumer confidence in some of our export products.

2 The Impact of Cities
Out of the total population of NZ, 86% now live in towns and cities. This makes NZ one of the most urbanised nations in the world and presents some significant environmental pressures.

3 Urban Sprawl
The challenge of NZ decision makers is to lighten the impact of an increasing urban population by encouraging higher density buildings and more sustainable urban lifestyles, particularly in our main centres.

Auckland is a particular case in point, with over a third of NZ's total population residing in an area larger than Los Angeles (a city of more than ten million people).

While good progress has been made in Auckland in investing in public transport and rejuvenating urban centres, a new approach may be needed to tackle the pressures of a growing population.

4 Cars, Cars, Cars *John Blakeley*
With the fourth-highest rate of vehicle ownership among OECD countries, NZ now has three times as many vehicles as we did in the 1950's.

We are also tending to buy larger vehicles and use them more; the total distance travelled annually on our roads has more than doubled over the last 20 years. This is putting pressure on the environment and human health.

However, recent years have shown large increases in the use of public transport (but public transport still represents a very small proportion of total vehicle journeys made).

Editor's Comments:
Reading between the lines, it seems that the pressure to take firm action on NZ's environmental issues is now coming much more from a worry about damage to our "clean green image" internationally, than from an actual determination to do something about environmental deterioration in NZ.

The problem is highlighted by the fact that at the same time as this chapter was being withheld from the Ministry for the Environment report, hugely expensive new roading projects were being announced and debated in both Auckland and Wellington, while many people now believe that other solutions must be found to our present traffic problems.

Also at about the same time as the chapter was being withheld, the Government was announcing proposals for affordable housing. These included the idea that the Auckland Regional Council (ARC) should make more land available by zoning for housing subdivisions on the urban periphery and which would be in contravention to present ARC "Green Belt" policies.

Living in these new subdivisions would involve a long distance for commuting to likely workplaces, and this affordable housing proposal does seem to run counter to the need to try and control urban sprawl.

Reference: NZ Herald, 13/2/08

Overseas News Items

Future Energy/Oil Wars?

In early February the Pentagon asked the US Congress for the biggest defence budget since World War II. It asked for US$515 billion, plus an extra US$70 billion to cover the costs of the wars in Afghanistan and Iraq for part of the coming year.

This is more money than the US spent annually at the height of the Cold War against the Soviet Union, quite apart from the running costs of the wars in Iraq and Afghanistan. And yet almost all the commentary and analysis has focused on the spending on those two particular wars.

There is probably three times as much money in the proposed defence budget that has nothing to do with the so-called "war on terror".

If you look at this new budget it calls for vast spending on new weapons systems that can only reasonably be justified by what they call a "peer competitor", a future superpower that could threaten the United States. Only China conceivably can fill that bill.

It is obvious when you think about it. If the USA had no present or prospective "peer competitor", how could the Pentagon justify spending huge amounts of money on next-generation weapons?

For beating up on "rogue states", last-generation - but - one weapons are more than adequate, so there has to be a peer competitor, whether it understands its role in the scheme of things or not. And only China can fill that role.

So what is the competition about? Energy, of course, and *mainly oil*. The Pentagon and US strategists talk openly about US-China competition for energy in Africa, in the Caspian Sea basin, and in the Persian Gulf. And they talk about the danger of a China-Russia strategic alliance that the US has to be able to counter.

What the US military are not doing for the moment, is telling the American public that China is why they want all that money. The amorphous, infinitely expandable "war on terror" can be used to cover all sorts of expenditure as well. *Nobody is required to prove that China really does pose a strategic threat to American oil supplies*, or to demonstrate that a China-Russian alliance is a serious political possibility.

As the "terrorist threat" gradually sinks down towards its true rather modest dimensions in the minds of the American voters - and even American politicians - the wisdom of spending so much money on a strategic confrontation with China that does not yet exist (and may never actually come to pass) is bound to come under question.

This year's US defence budget will probably go through more or less uncut because few members of the Congress who face re-election in November will want to leave themselves open to accusations of being "soft on terror". But with the present economic downturn situation in the USA, next year will be a different story. For the Pentagon the good old days of massive defence funding are coming to an end.

Reference: Article in NZ Herald, 13/2/08, by Gwynne Dyer, a London-based independent journalist.

Editor's Notes:

Speaking during the US primary election campaign, at a General Motors (GM) factory in Wisconsin the day after GM announced a record annual loss of US$38.7 billion, the Democrat candidate, Senator Barack Obama said his plans would be paid for by closing corporate tax loopholes, ending President George W Bush's tax cuts for the top 2 percent of earners, and ending the war in Iraq.

"We know that all of this must be done in a responsible way, without adding to the already obscene debt that has grown by US$4 trillion under George Bush. We know that we cannot build our future on a credit card issued by the Bank of China" he said, referring to Chinese ownership of US debt.

Reference: NZ Herald, 15/2/08.

US film director, Stephen Spielberg has recently resigned from his role as artistic advisor to the Opening Ceremony of this year's Olympic Games in Beijing in protest at the failure of China to exercise more influence over the policies of the Sudanese government in regard to the carnage in Darfur.

It has been pointed out that China now imports almost two thirds of all the oil exported from the Sudan, one of the major oil producing countries in Africa, and is increasingly exporting weapons to that country, many of which find their way to the conflict in Darfur.

It has also been pointed out that China is increasingly importing oil from a number of other oil producing African countries to help cover its own rapidly rising oil demand as a consequence of economic growth.

Reference: NZ Herald, 15/02/08.

Report Says Biofuels Unsustainable

A report to the House of Commons in the UK by its Environmental Audit Committee says that biofuels can reduce greenhouse gas emissions from road transport - but most first generation biofuels have a detrimental effect on the environment overall.

In addition, the report notes that most biofuels are not an effective use of bioenergy resources in terms of either cutting greenhouse gas emissions or value-for-money.

The committee says that clearing large tracts of land to grow biofuel crops, such as sugar cane or rapeseed, could be more damaging than the saving made from reduced greenhouse gas emissions.

The committee also says that the large areas needed to grow crops may have a wider negative impact on the environment, and that this was not considered by the European Union (EU) when it set its target of 5.75 percent biofuels on the roads of Europe by 2010 and 10 percent by 2020.

The committee proposes "In general biofuels produced from conventional crops should no longer receive support from the Government".

"Instead the Government should concentrate on the development of more efficient biofuel technologies that might have a sustainable role in the future".

The committee goes on to suggest "This means implementing a moratorium on current targets until technology improves, robust mechanisms to prevent damaging land use change are developed, and international sustainability standards for biofuels are agreed".

Reference: Information in New Civil Engineer, 21/1/08.

CCS Technology Not Viable?

Current EU legislation excludes carbon capture and storage (CCS) from the European emissions trading scheme (ETS), because stored carbon will not be classified as an emission.

Labour Member of the European Parliament (MEP) for Wales, Eluned Morgan, a member of the EU's industry research and energy committee said that currently CCS is not classified as an emission and is therefore not tradeable. He said that the carbon price will have to be very high for CCS to be attractive as an economic option and it is hard to believe that emissions trading will make this possible.

He said that if CCS technology becomes available, then legislation will be needed as this is not the sort of thing which can be solved through the market.

Conservative MEP for south-west England and Gibraltar, Giles Chichester agreed, saying that CCS will need to benefit from the European ETS in order to be adopted.

Note:
Phase 1 of the European ETS was completed in 2007. The next phase commenced in 2008, with emissions from internal EU air flights included from 2011. Phase 3 will begin in 2012, but the EU has yet to determine what form the scheme will take after that.

Reference: Information in New Civil Engineer, 12/12/07.

Coal Matters

Solid Energy Reports Loss

Solid Energy reported a $2.7 million loss for the first half of its financial year. The company yesterday blamed its poor first half results on "continuing production difficulties at Stockton", its main export mine, and coal demand from Genesis Energy's Huntly power station dropping to half the amount expected.

Reference: Carbon News media release, 26/3/08

Huntly Reduces Coal Use

Genesis Energy's new gas turbine (e3p) at Huntly has helped cut greenhouse gas emissions from electricity generation.

Figures just released by the Ministry of Economic Development (MED) shows that for the December quarter, emissions were almost 10 percent less than a year before despite thermal generation of electricity being nearly 17% higher.

The reduction in carbon dioxide emissions is attributed to Genesis Energy's e3p plant reducing its reliance on burning coal at Huntly.

Compared with the December 2006 quarter, electricity generated at Huntly from gas was up by 55%, while power generated from coal was down by more than 45%.

Emissions from thermal electricity generation account for about a quarter of the NZ energy sector's total greenhouse gas emissions.

Genesis said its figures showed a 27% reduction in emissions from Huntly between July 2007 - a month after e3p was commissioned - and January 2008.

When e3p was installed, Genesis said that it would reduce carbon dioxide emissions by about 1 million tonnes a year from Huntly.

MED figures also show NZ coal production down to the lowest level in five years and coal imports (nearly all Huntly-bound), down 40% on the previous year.

Reference: NZ Herald, 20/3/08.

NZ's Coal Reserves

In a covering letter dated 10 May 2007 sent out with a copy of Solid Energy's submission on the draft NZ Energy and Climate Change Strategies, their CEO, Dr Don Elder, wrote that there is "a thousand years of secure affordable indigenous energy available from coal". But how true is this statement?

The extent and future use of NZ's coal reserves has been the subject of recent political and media debate. It has been claimed that NZ has sufficient coal reserves to meet its energy demands for several centuries, and a figure of 800 years has been quoted elsewhere.

Solid Energy and other companies have proposed a massive programme to convert South Island lignites into diesel to meet concerns about the future price and availability of oil.

These proposals are highly controversial due to the amount of the greenhouse gas emissions which would result. But are the available reserves as extensive as has been claimed?

A recent commentary below by SEF member and energy analyst, Steve Goldthorpe suggest that they are not.

How much coal is really out there?

By Steve Goldthorpe, Energy Analyst, Waipu
Submitted to EnergyWatch - April 2008

Reports by the German Energy Watch[1] Group cited in the May 2007 Energy Bulletin[2] and also an Institute for Energy Studies report[3], point to Peak Coal. These reports highlight new analysis which indicates that globally coal might not be such an abundant, widely available, economically recoverable energy source as has been traditionally anticipated. This analysis is founded on a global review of coal resources by the World Energy Council[4], which distinguishes between proved reserves

and unproved resources. The international concern is based on uncertainty of the quantity and quality of the coal in unproved resources.

This global concern prompted a discussion last year on Sinews questioning whether the same concerns about the extent of exploitable coal resources applies in New Zealand. A recent statement in Parliament described coal as *"...a fuel resource that could, with full mitigation against excess greenhouse gas, provide us with an energy source for 800-plus years."*[5] This prompted further recent discussion on Sinews.

On the Solid Energy website[6] Don Elder claims *"New Zealand's coal reserves are estimated to represent 1000 years of supply at the current rate of coal use in the country's primary energy production."* New Zealand's domestic coal consumption in 2006 was 93 PJ[7], mostly for power generation and large industrial processes. That claim indicates existing coal reserves amounting to about 93 Exajoules (EJ). However, most of that NZ resource is lignite, which can't be used in Huntly Power Station or large industries.

The World Energy Council survey contains coal data categorised as bituminous, sub-bituminous and lignite coals reported in tonnes. The energy contents of these three categories of coal mined in New Zealand are reported in the Energy Data File[8] (EDF) . High quality export-grade bituminous coal has an energy content of 31.3 MJ/kg. General purpose sub-bituminous coal, which is supplemented by imported coal, has an energy content of 22.4 MJ/kg. The low grade lignite in South Island, which cannot be transported far, has an energy content of 16 MJ/kg.

Based on these calorific values, the proved and additional New Zealand data reported by the World Energy Council are expressed in energy terms in Table 1. The proved reserves are confirmed by BP data[9]. Also shown in Table 1 are the economically recoverable resources reported in Energy Data File in January 2006 and July 2007. The Jan 2006 EDF reported 8.6 billion tonnes of economically recoverable coal comprising 5% bituminous, 15% sub-bituminous and 80% lignite by weight. At 16 MJ/kg that lignite resource would correspond to 110,000 PJ. However, the July 2007 EDF reports economically recoverable lignite is *"... over 6 billon tonnes, equivalent to 72,000 PJ."* This indicates a calorific value of economically recoverable lignite less than 12 MJ/kg, which is similar to the calorific value of *"sawmill residues and fuel merchant fuel wood – undried"* [10] and about half the energy density of sub-bituminous industrial coal.

The data in Table 1 shows that 79% of total NZ coal is categorised by WEC as lignite. This low quality fuel cannot be used for either the current export market for high quality coal or most of the current industrial and power generation market for sub-bituminous coal.

For all three grades of coal, there is broad agreement shown in Table 1 between the total resource identified by WEC and the EDF data. However, the definitions of the additional unproved resources differ significantly.

The WEC report has the following definitions, which do not imply a high level of certainty about the existence or quality of the unproved coal.

Proved amount in place *is the tonnage that has been carefully measured and assessed as exploitable under present and expected local economic conditions with existing available technology.*

Estimated additional amount in place *is the indicated and inferred tonnage additional to the proved amount in place. It includes estimates of amounts which could exist in unexplored extensions of known deposits or in undiscovered deposits in known coal-bearing areas, as well as amounts inferred through knowledge of favourable geological conditions. Speculative amounts are not included.*

Estimated additional reserves recoverable *is the tonnage within the estimated additional amount in place which geological and engineering information indicates with reasonable certainty might be recovered in the future.*

In contrast, the resources reported in EDF[11] are described with much greater confidence as

"Of the economically recoverable coal 90% by weight (75% by energy content) is in the South Island. One-third is in existing mines, whilst the rest could be mined without significant investigatory work." However, the quality of those resources is not explicitly defined.

Notwithstanding this significant discrepancy in the certainty about the coal resources in New Zealand, the potential lifetimes of the three different types of coal can be considered.

The amount of high quality bituminous coal exported in 2006 was 85 PJ. At that rate the WEC estimate of proved reserves would last for 12 years. If the economically recoverable resources reported in EDF turn out to be of the same high quality, then that export market might be sustained for 150 years.

The amount of general purpose coal mined and used in New Zealand in 2006 was about 64 PJ, with a further 28 PJ imported. At that consumption rate the WEC proved NZ reserves would last for 54 years. The demand for general purpose coal in 2006 might be sustained for 315 years, according to the recoverable resources reported in EDF, but only 217 years according to the WEC figure for unproved reserves.

The current use of lignite is about 4 PJ/year. However, there are plans to convert lignite into 50,000 barrels per day of diesel (equal to NZ's diesel consumption of 108 PJ in 2006). In view of the indicated calorific value of less than 12 MJ/kg for NZ lignite and with CO_2 capture and storage, the full fuel cycle energy conversion efficiency is likely to be in the range 20% to 40%, giving a lignite demand of at least 270 to 540 PJ/year. At that rate the proved lignite reserves according to WEC would be consumed in 9 to 18 years. Even if all the 72 EJ of economically recoverable lignite reported in EDF could be converted to diesel, the entire resource would only last for 130 to 260 years.

Table 1 Coal Reserves and Resources in New Zealand (from WEC 2002 data and Energy Data File)

Exajoules (1000PJ)	Bituminous	Subituminous	Lignite	Total
WEC proved recoverable reserves	1	5	5	11
WEC Additional recoverable reserve in 2002	10	15	113	138
EDF 2006/07 economically recoverable resources	13	29	72	114

Table 2 Estimated lifetime of NZ Coal Resources

Years	Bituminous coal exported at current rate	Subituminous coal used at current NZ consumption rate	Lignite converted to diesel with CO_2 capture and storage
Proved reserves (WEC and BP)	1	5	5
Total projected resources (Energy Data File)	10	15	113
EDF 2006/07 economically recoverable resources	13	29	72

1. Coal: resources and future production; EWG paper 1/2007
2. http://ww.energybulletin.net/29919.html
3. The future of Coal by B Kavalov and S.D Peteves of the Institute for Energy Studies
4. http://www.worldenergy.org/wec-geis/publications/reports/ser/coal/coal.asp?mode=print&x=16&y=18 (accessed June 2007 , but now unavailable - published in 2004 based on 2002 data.)
5. Gerry Brownlee MP - 20th March 2008
6. http://www.coalnz.com/index.cfm/1,134,0,49,html/About-Solid-Energy
7. Energy Data File July 2007. All energy data in this note are quoted on the gross calorific value basis.
8. New Zealand Energy Data File July 2007 2006 Appendix M
9. BP Statistical Review of World energy 2007.
10. New Zealand Energy Information Handbook – JT Baines 1993
11. Energy Data File – September 2006 – page 33

In summary, the claim that New Zealand has 1000 years, or even 800 years, of coal supply is unrealistic. It is based on counting lignite as equivalent to industrial coal. The internationally acknowledged proved reserves in New Zealand are sufficient only for about 10-50 years. Beyond that, coal resources may last no more than a few centuries.

NZBCSD Opposes Green Party Views

The NZ Business Council for Sustainable Development has 71 member companies with $44 billion in annual sales which equates to more than 34 percent of NZ's GDP. Solid Energy is a member of this group.

On 23 April NZBCSD put out a press release stating that NZ would be better to encourage clean coal technology than to ban the fuel, noting that while the Green Party's concern over the environment and climate change is understandable and shared by the NZBCSD, if NZ wants an international agreement covering greenhouse gases post-2012, we need to understand that coal will be part of the energy mix for the foreseeable future.

NZBCSD Chief Executive, Peter Neilson, said that most major greenhouse gas emitting countries (including China, India, USA, South Africa and Australia) rely heavily on coal and you can't deny other countries their use of the fuel. "What we can do is to help make sure that clean coal technology is developed and that greenhouse-gas emissions from coal face a price around the world".

He was commenting on the policy announcement by the Green Party advocating an end to new coal mines, a ban on thermal coal exports, instructing state-owned coal company Solid Energy to "stop pouring money into lignite to liquid fuels" and to shut down SOE Genesis Energy's gas and coal-fired power stations over time.

NZBCSD, an advocate of emissions trading since 2003, says putting a price on greenhouse gas emissions from coal, through the emissions trading scheme, will send a strong enough signal to coal users about lowering their emissions, or paying for them.

NZBCSD said that the emphasis should go on delivering commercially viable clean coal technology in the next 10 years and that Solid Energy's $100 million 20-year investment in renewables and clean coal should be encouraged, not stopped.

Mr Neilson said that if we can find a way of capturing and storing coal greenhouse-gas emissions, then we open up the option to use 400 year's worth of coal supply in this country. (Note: this is less than half the period of years recently claimed by Solid Energy).

NZBCSD says that coal industry sales are worth more than $680 million a year, employ more than 1200 people directly, earn valuable export income and coal is an essential fuel for many export industries, including dairy, timber, steel and processing.

Reference: NZBCSD Press Release, 23/4/08.

Green Party Modifies its Stand?

The Green Party has told Carbon News that closing down the coal industry would not be a bottom-line issue for their party in post-election coalition talks - but genuine measures to cut greenhouse- gas emissions will be.

On Tuesday 22 April, the Green Party delivered a shock message to the coal industry, saying that exports of thermal coal would be halted and the Huntly coal-fired power station phased out as part of the party's six-point plan to cut climate-damaging emissions from the burning of coal.

The following night Green Party Co-Leader, Jeanette Fitzsimons was "pouring oil on the troubled waters" saying that what really mattered was that NZ made real reductions in greenhouse-gas emissions.

Reference: Carbon News media release, 24/4/08.

Electricity Matters

Huntly - Another 20 Years?

As well as the new 400MW gas-fired combined cycle e3p power station, Genesis Energy is the owner of Huntly's original 1000MW coal-fired and/or gas-fired power station. Genesis says that it will be at least 20 years before it is shut down.

The Green Party is calling for the closure over time of the Huntly power station and a moratorium on consents for new coal mines to reduce greenhouse-gas emissions.

But Genesis Energy's spokesperson, Richard Gordon, says that NZ's largest power station is still the "backbone" of the country's electricity supply.

Mr Gordon said that in time, the carbon emissions trading scheme should ensure a full transition to renewable energy

Reference: Radio NZ News, 26/4/08.

Statement on Electricity Governance

The government has proposed an improvement to the way the Electricity Commission monitors the country's energy reserves. This involves partial revisions to the government policy statement (GPS) on electricity governance (which is how the government sets objectives and outcomes for the Electricity Commission).

The government intends to update the GPS to reflect the New Zealand Energy Strategy and New Zealand Energy Efficiency and Conservation Strategy. Related issues include the target of generating 90% of electricity from renewable sources by 2025 and looking at how wind generation can best be integrated into the system, alongside geothermal and other forms of generation. This will include considering where grid upgrades are necessary to transmit renewable electricity from the point of generation to where it is used. Reserve energy policy is also being updated.

The revised reserve energy policy includes the following highlights:

• A requirement for the Electricity Commission to continue to improve the quality of information it provides on security of supply, risk management and the actual level of risk.

• The "1-in-60 dry year" standard for security of energy supply in the GPS is replaced by a "winter energy margin" (the margin between forecast capacity to supply in a mean hydro year and forecast demand) of 17% for New Zealand and 30% for the South Island. This new standard provides a similar level of security as the 1-in-60 standard, but is clearer and easier to calculate and understand.

• In addition to monitoring peak capacity, the Commission is required to develop a standard for "peak capacity adequacy" - the ability of the system to supply electricity on those relatively infrequent occasions when demand for power is greatest (typically a few hours during the coldest days of winter). The Commission will be required to continue to closely monitor new generation build and security of supply projections, and to make recommendations on policy responses, if required, to any identified systematic failure.

Reference: IPENZ engineeringdirect, 20/3/08.

Statement on Electricity Transmission

This month the government introduced the national policy statement (NPS) on electricity transmission. The NPS was issued on 13 March 2008.

The NPS recognises the national significance of our national grid in Resource Management Act plans and local decision making, and provides a high-level framework that will give guidance across New Zealand for the management and future planning of the national grid. More specifically it:

• Acknowledges the national significance of the national grid, which now has to be considered in local decision making on resource management.

• Recognises the national benefits we all get from electricity transmission, such as better security of supply of electricity.

• Guides local decision makers in the management of the impacts of the transmission network on its environment.

• Guides the management of the adverse effects of activities from third parties on the grid, which will help reduce constraints on the operation, maintenance, upgrading and development of the grid.

• Ensures long-term strategic planning for elements of the national grid.

Reference: IPENZ engineeringdirect, 20/3/08

Wind Power Backup in NZ

In recent weeks an interesting debate has been going on in the columns of the Sunday Star-Times about how much reserve is necessary to cover for wind farm projects in calm conditions.

The debate was sparked by a full page article written by All Black, Anton Oliver, expressing his opposition to the proposed 600MW Project Hayes in Central Otago.

Responding to this debate Fraser Clark, Chief Executive of the NZ Wind Energy Association commented on how easy it is for information on wind energy to be misrepresented.

He noted that there is currently around 320MW of installed wind energy generated in NZ, with a further 165MW being installed over the next two years, and that we are still several years away from reaching the "theoretical" 1000MW capacity where the Electricity Commission (EC) suggests that more reserves may be needed.

Fraser Clark states that nowhere in the EC's reports does it say that reserve generation needs to be equal to the capacity of the wind farms. Nor do these reports say that reserves must be thermal. (In the form of a hydro generation we already have the ideal complement to wind generation).

"If reserves are needed and provided in the form of a thermal station what about the backup then required for that generator?" Mr Clark asks.

Also Mr Clark states that if a thermal peaking or reserve plant is ever required to back up wind farms, it would operate much less frequently than a baseload thermal plant and so reduce the total quantity of carbon dioxide emissions and optimise the use of NZ's finite gas resource.

Reference: Sunday Star-Times, 2/3/08.

Wind Power Overseas

The present total of 320MW of installed wind energy generation in NZ compares with a total wind power capacity in the world of 73900MW at the end of 2006.

During 2006, a total of 14900MW of new wind capacity was installed, an increase of 32% over the previous year.

In 2006, for the first time since the mid 1980's, the USA was the leading country with 2454MW new capacity installed, followed by Germany (2194MW), India (1840MW), Spain (1587MW) and China (1145MW).

In spite of the rapid growth of installations in the USA and China, half of the world's new wind power is still installed in EU countries.

The EU countries still have two-thirds (49300MW) of the total of 73900MW of wind power installed in the world at the end of 2006.

In Denmark, once a leading country for new wind power installation, the capacity was only expanded by 8MW during 2006.

Reference: World Wind Energy Association www.wwindea.org

Govt Rejects Power Price Forecast

The Government has said claims that its energy policy could drive power prices up by 50% are incorrect and driven by self-interest.

A report by the Centre for Advanced Engineering (CAE) based at Canterbury University says that electricity prices could rise by up to 50%,

after adjusting for inflation, because of the Government's ban on gas-fired power stations and its target of 90% of electricity generation from renewable sources by 2025.

The report said that the policy would suppress demand for gas for electricity generation by about one third. That would slow exploration and development of more gas fields, and mean a loss of flexibility and security of electricity supply.

Energy Minister, David Parker, said the gas industry had made up a scenario simply because it wanted to sell more gas.

"The steep rise in electricity prices that consumers have faced in the last decade have been caused mainly by the rise in gas and coal prices that have forced up the cost of fossil-fuelled electricity" Mr Parker said.

"To suggest that NZ gas prices will buck that recent history, and the overseas trend of increasing oil and gas prices, is optimistic and wishful thinking from a lobby group whose target lies in selling more gas".

Mr Parker said that NZ once had 90% of its electricity from renewable energy. He said that NZ could again achieve 90% renewable energy electricity generation by 2025. This could be done by building 175MW capacity of such generation each year. "This year 300MW capacity of renewable energy was being built", Mr Parker said.

"With renewable generators, once built their fuel is free. Wind and geothermal steam don't go up in price. The same can't be said of gas".

Dr George Hooper CAE, Executive Director said that the wholesale price of electricity would rise to about $100 per megawatt-hour under the 90% renewable policy. "That's almost double the current average price" Dr Hooper said.

Green Party Leader, Jeanette Fitzsimons said it was "astonishing" that CAE had let itself be captured by commercial interests. "The most power prices would go up by was about 15%" she said.

Reference: NZ Herald, 28/3/08.

The Major Electricity Users Group (MEUG) has said that the CAE report should be of concern to all Government Ministers.

MEUG Executive Director, Ralph Matthes says that persisting with the renewable generation targets and a ban on new thermal power stations will be costly for consumers because of higher and more volatile spot electricity prices, plus higher transmission costs.

Mr Matthes claimed that the difference between an all-renewables target and a "more balanced mix" of new electricity generation will add another 2 cents per kilowatt-hour to electricity bills.

The CAE report warns that the likely result of the Government's policy will be the closure of one of NZ's three existing combined cycle gas turbine plants (Otahuhu B, Stratford, Huntly e3p) which would see a loss of much needed back-up supply.

Reference: NZ Energy and Environment Business Week, 2/4/08

SEF Supports Renewables Target

On Thursday 3 April 2008, SEF released a media statement supporting the Government-imposed ban on new thermal generation and the target of 90% renewable electricity generation by 2025.

However SEF believes that in order for the expected electricity price rises to be accommodated without causing undue hardship, there must be an independent review of the method by which electricity is presently priced in NZ.

Reference: www.sef.org.nz

National Opposes Generation Ban?

National Party Energy Spokesman, Gerry Brownlee, said that National will not rule out scuttling the controversial 10-year ban on new thermal generation if it wins the election later this year.

Mr Brownlee said that the "blunt instrument" of a ban on thermal base-load generation

raised questions about the objectives of the Government's energy strategy. "If it really is to reduce carbon emissions then there are other things we can do besides the ban" he said.

"While we think the 90% renewables target by 2025 is laudable, we don't want to see the lights going out and water going cold to achieve that" Mr Brownlee said.

Reference: Sunday Star-Times, 30/3/08.

Todd Energy Criticises Ban on Gas-Fired Generation

Todd Energy says that the Government's ten-year ban on gas-fired base-load power stations is "ill conceived", posing risks of much higher power prices, and risks for the gas and oil sectors, electricity security and the economy.

The ban has been imposed to try to make sure that the Government's target of 90% renewable electricity by 2025 is reached and to conserve or "spin out" gas reserves.

But Todd Energy says that there is plenty of domestic gas for power generation, which will be much cheaper than renewable wind power.

Todd Energy says that bringing new wind power into production will cost more because it will also require extra investment in the NZ electricity grid and in back up generation for when there is no wind. "At 11 cents per kWh, wind power would be twice as expensive as gas, so there could be very steep power price increases to consumers".

Todd Energy says that there are enough proven gas reserves in NZ to last until 2020 at 150 petajoules (PJ) per year, and maybe till 2030, and there are no grounds for the Government's assumption that the gas price will increase by 50% from about $6 to $9 per gigajoule.

Government figures from early in 2007 suggest that there are gas reserves of about 2187PJ, but Todd Energy says that another 400PJ has since been added to the stated reserves in existing fields such as Maui, bringing the total to 2587PJ.

NZ's recent annual gas production has actually been up to around 180PJ per year. Recently released figures from MED show annual gas production in 2007 was 181PJ, up from 163PJ in 2006. (In the two years prior to that, it had been 171PJ and 159PJ). The increase in gas production from 163PJ in 2006 to 181PJ in 2007 has been attributed to the Pohukura field coming on line.

If the 2587PJ figure above is divided by (say) 180PJ this would give sufficient gas to take us another 14 years, through to 2021, comparable to the earlier of the two dates suggested by Todd Energy for using up proven reserves.

Editor's Notes: NZ's total natural gas production is usually about 15PJ more than total marketed gas production (i.e. consumption). The difference is made up of reinjected gas; LPG gas equivalent extracted (around 8 to 9PJ); flared gas; and production losses and own use. Refer Energy Data File, June 2007, Page 83.

On 12 May, Contact Energy stated that an estimated further 62PJ of Maui gas previously given a 50% chance of being recovered now has an 85% chance of being recovered. This supported Contact's view of the likely sufficiency of domestic sources of natural gas to about 2015 (and probably increases the 2587PJ figure above to 2649PJ).

Reference: SEF News posting, 25/3/08.

Power Companies in Advertising Battle

The power companies are battling for the rapidly growing "green" consumer market.

Genesis Energy is again taking TrustPower to the Advertising Standards Authority - just hours after it had won another battle with that company.

On 23 April 2008, the Authority released a ruling criticising TrustPower for trying to mislead Genesis customers into thinking that they would be supplied with renewable energy if they switched to TrustPower.

Biofuels Sales Obligation

The SEF Submission

SEF Convenor, Tim Jones, presented the SEF submission on the Biofuel Bill to the local Government and Environment Committee at Parliament on Thursday 6 March.

The submission focused on Clause 34(G) of the Bill, which provides that an Order in Council can restrict biofuels which meet certain criteria from the scheme, but does not specify what those criteria should be, or from when they should apply. As our supplementary submission material says.

"Despite such concerns, as further discussed in our submission, the Bill in its present form does not require that the biofuels used to meet the sales obligation meet any sustainability criteria, and nor are they required to contribute to reducing net greenhouse gas emissions. We believe that this is a fundamental flaw in the Bill, and that Clause 34(G) should be amended to make it clear that qualifying biofuels must meet a set of sustainability and greenhouse gas emissions criteria that will be tightened over time, rather than merely allowing for the possibility of introducing such criteria at some indefinite future point".

Tim says that the good news is that the Committee seemed responsive to this point of view, and said that they had been discussing this very issue with officials in a closed door session just before the public submissions (of which Tim's was the first). After completing his submission, Tim listened to the next one, by Dickon Posnett of Argent Energy, which made similar points from Argent's perspective - they plan to make biodiesel out of tallow in NZ, but not if they are going to be undercut by imports.

Biofuel Manufacturers' Comments

Subsequently, the NZ Herald reported on Friday 14 March that members of the NZ's fledgling biofuel manufacturing sector say that there are severe risks to its viability. Seven companies planning to supply biodiesel or ethanol have formed the Biofuels Manufacturers Association to deal with issues confronting the sector.

Spokesman Dickon Posnett said that the group was concerned that consumers did not fully understand the issues threatening the industry. Three main issues which biofuels manufacturers here faced were:

• The import of cheap biofuels from the USA. Mr Posnett said that subsidised fuels from the US had decimated the European biodiesel industry and become the focus of an international trade complaint. The NZ group was concerned that the Ministry of Economic Development was recommending relaxing proposed regulations for biofuel quality standards, specifically to allow entry for the US product.

• The quality and type of biofuels to be used by oil companies to satisfy the proposed sales obligations in NZ. Research showed that some biofuels did not improve greenhouse gas emissions levels, Mr Posnett said. And the use of food crops for fuel had caused a dramatic price rise for grains and oils.

Power Companies battle continues ...

Genesis complained that TrustPower couldn't possibly guarantee that the energy it supplied to its consumers was produced from renewable sources, because most of the electricity generated in NZ is mixed together in the national grid - irrespective of the way in which it was produced. The Authority agreed.

Genesis Energy's public affairs manager, Richard Gordon, said that his company had lodged a new complaint about TrustPower, but he could not say what it was about.

Reference: Carbon News media release 24/4/08.

• Dealing with the proposed fuel duty differential between ethanol and biodiesel, the group believes that with ethanol not subject to fuel duty and biodiesel taxed through the road user charge, oil companies would be encouraged to import sugar cane ethanol from Brazil for economic advantage at taxpayer's expense. The group concluded that without a level playing field being built into the proposed legislation to address these issues, there is little chance of a sustainable, renewable fuels sector being established here. NZ would also remain reliant on imports for its security of fuel supply.

Initial members of the group are Argent Energy NZ, Biodiesel NZ, Biodiesel Oils NZ, Ecodiesel, Biodiesel Australasia, Flo Dry Engineering, and Aquaflow Bionomic.

Subsequently in mid-April Dickon Posnett and the NZ Biofuels Manufacturers Association (NZBMA) made an additional submission to the Select Committee considering the Biofuels Bill and issued a press release essentially calling for a "middle way" between passing the bill as it stands and scrapping it. This involves inserting greenhouse-gas and sustainability criteria into the bill and then implementing the Biofuels Sales Obligation.

In his additional submission on behalf of NZBMA, Dickon Posnett said "Instead of implementing the bill (as it stands) and risking use of biofuels environmentally worse than fossil fuels, and instead of just scrapping the bill and doing nothing to improve the emissions of NZ fuels, I sincerely believe this third way, if you like, is a constructive way forward and will send you a submission which describes the concept as soon as possible for your use".

Oil Companies' Comments

BP is warning that the Government's biofuels sales obligation will add 7c to 15c to a litre of fuel, as oil companies face significant costs to implement the new regime. BP notes that ethanol and biodiesel will have to be imported, as not enough is available in NZ, and that this is counter-productive to carbon dioxide reduction.

The costs and time involved in creating the infrastructure will be substantial. For BP alone, it is likely to be NZ$20 million for terminal infrastructure.

Mobil also expressed similar concerns to the Select Committee, saying that the biofuel mandate would require it to build storage tanks and blending facilities in three or four facilities simultaneously, which would be a "significant burden".

But Gull Petroleum, which has been selling a 10% ethanol-petrol blend since last August at just twelve petrol stations, believes that its larger rivals are overstating the costs.

Comment from the AA

In its submission the NZ Automobile Association (AA) said that there are now in NZ about 1 million second-hand imported cars originally produced for the Japanese domestic market which could potentially suffer damage to their fuel systems if a 3 percent biofuel blend is implemented in all petrol sold in NZ.

The AA suggested it might cost as much as $800 per car to remedy damage caused to the fuel system by the biofuel blend.

The AA wanted to know who would take responsibility for this cost? Clearly the car manufacturers would not, as they specifically excluded using biofuel blends in their warranties.

The oil companies obviously would not as they were only implementing the biofuels sales obligation under pressure of severe penalties from Government if they do not do so.

It seemed that the Government did not want to assume responsibility for any such damage caused, so it would be left to the "poor old motorist" to pick up the tab!

Tests on Potential Biofuels Damage

Subsequently the NZ Herald (9 April) has reported independent tests are about to start to assess the ability of older Japanese-made cars to run on high biofuel blends in NZ.

The Ministry of Transport has awarded a $160,000 contract to international certification agency SGS to test on components of older cars, blends of up to 10 percent bioethanol.

That is the level contained in 98-octane petrol which Gull Petroleum has been selling in NZ since August 2007.

Motoring industry representatives say that any mix containing more than 3 percent biofuel could seriously damage up to 1 million imported Japanese vehicles.

Gull NZ General Manager, Dave Bodger says that his company has not received a single complaint from customers about the performance of their vehicle, despite making more than 10,000 sales a month of 10 percent bioethanol blended petrol (with the bioethanol coming from whey produced by dairy companies).

However cars using 98-octane petrol are likely to all be higher quality European sourced and/or NZ new vehicles, not cheap Japanese imported cars.

Submission by PCE

The Parliamentary Commissioner for the Environment (PCE), Dr Jan Wright, has said that the Biofuel Bill currently before Parliament should not proceed in its present form.

Dr Wright said that international concern about the sustainability of biofuels and their true environmental and economic impacts has heated up considerably in recent months - which signals a need for caution.

She noted that the Biofuel Bill has no inbuilt mechanism for ensuring that biofuels used in NZ would emit significantly less carbon dioxide over their life cycle than fossil fuels, and would require an Order in Council to set a minimum standard.

Dr Wright said that she does not see domestic production of biofuels as a viable significant source of transport fuel in the short term. "And it may well be that before second generation biofuel technology is fully developed, electricity will have provided a better way to power our transport fleet. We need to focus on our ever-increasing consumption of transport energy. Curbing its rate of growth needs to be done with at least as much enthusiasm as the production of alternative fuels".

"Demand reduction is a difficult area; aspirations are easy, but results require more" Dr Wright said.

Reference: Press Release by PCE, 3/4/08.

Green Party's Response

"The Green Party agrees with the Parliamentary Commissioner's advice that biofuels should not proceed in NZ unless they are sustainable" Green Party Co-Leader, Jeanette Fitzsimons, said.

However the Green Party wouldn't agree that domestic production of biofuels is not a viable significant source of transport fuel in the short term.

Ms Fitzsimons said that biofuels are currently made in NZ from whey and used vegetable oil. Both are small but sustainable sources.

The largest opportunity in NZ is to make biodiesel from tallow, currently being exported but can be used here once there is a plant to process it. Investors are ready to build such a plant but understandably will not invest unless the Biofuels Sales Obligation is there.

Ms Fitzsimons said that if, when second generation biofuel from wood or algae is ready to go into production, we have a functioning blending and distribution system already available, we will be able to adopt it much faster. "If we do this right, there will be little need for imported biofuels about which the Commissioner is rightly concerned".

However, Ms Fitzsimons said that the Green Party disagrees with the Commissioner's view that a biofuel standard would be impossible to enforce for imports. "We think it can be enforced as with any other border issue".

Reference: Green Party media release, 3/4/08.

Conclusions

(a) Biodiesel
In my view, the only biofuel which can be justified economically or environmentally in NZ at present is biodiesel produced from tallow as a by-product of the meat industry. But this product is in demand as an export product at NZ$700 per tonne and recently as high as $1000 per tonne, mainly for soap production overseas, so it is unclear how much of this would be available for local biofuel production. Also if this product was not exported as at present, then an oil-based substitute is likely to be used for the overseas soap making, so there may be no net savings of carbon dioxide emissions from a global perspective.

BP is obviously of the view that biodiesel will have to be imported and the other oil companies probably are also of that view.

(b) Bioethanol
It seems to me that using, on a large scale, locally produced bioethanol from whey in the dairy industry as a biofuel in a blend with petrol does not make any sense at all. There are already good markets for all the ethanol produced locally and in any case, this would only provide a small fraction of the ethanol required to meet the biofuels sales obligation.

It therefore seems likely that BP and other oil companies (except Gull) plan to import nearly all of the ethanol they require to meet the biofuels sales obligation.

To me, it is plain crazy to contemplate growing maize to produce ethanol on 28,000 hectares of NZ land suitable for sheet and beef production (refer EnergyWatch Issue 47, Page 18), when maize is one of the least efficient crops in energy terms for conversion to bioethanol. Figures from the USA suggest that intensively farmed maize results in only a 10% reduction in greenhouse gas emissions at the expense of the loss of much valuable land which should be used for food production.

(c) Economic and Environmental Impact
I agree with Mr Peter Griffiths of BP Oil when he says that ethanol and biodiesel will have to be imported, as not enough is available in NZ, and that importing the biofuel is counter-productive to carbon dioxide emissions reduction.

And this is going to be done at an additional cost of 7c to 15c per litre on all petrol and diesel for no perceptible environmental, technical or economic gain, at a time when from an economic point of view, NZ should be doing everything it possibly can to control inflation and rising prices for essential products. And whether we like it or not, petrol and diesel are essential products, not just for personal transportation but because of the flow-on effect of rising fuel prices on the cost of other goods and services.

John Blakeley

Biofuel Bill Update

The Biofuel Bill is due to be reported back to Parliament on Wednesday June 4.

At the time of going to press, it was reported to be still languishing in the select committee as international concern grows about the new fuel' s impact on food prices around the world and the clearing of rain forests to grow crops.

And unless the biofuel used is subject to firm sustainability criteria, the Biofuels Sales Obligation will do very little to reduce greenhouse gas emissions.

Political commentators are now saying that unless the Biofuel Bill is given priority, it is unlikely to be passed into law before Parliament finishes for the election later this year. And if that happens, the future of the Bill will be left to the whim of the next Parliament.

Vehicles

Emissions Penalty for V8 Engines?

The cost of the V8 versions of two of NZ's most popular cars - the Holden Commodore and the Ford Falcon - could rise by 35 percent if the Government introduces one of the options put forward in a discussion paper on the proposed exhaust emissions legislation, to come into effect in 2015.

At today's cost figures, standard V8 versions of these two cars would go up in price from around $55,000 to upwards of $70,000 because both carmakers would be forced to pass on to buyers a price penalty of $200 for every gram of carbon dioxide above the planned 170 grams/km ceiling.

A 6 litre V8 Commodore or 5.4 litre V8 Falcon emitting, say 250gm/km of carbon dioxide in 2015, would be hit with an emissions penalty of $16,000 on top of the retail price.

By comparison a six cylinder Commodore or Falcon, emitting say around 200 to 220gm/km in 2015, would go up in price between $6,000 and $10,000.

These figures assume that with technological advances, there will be reduction in emissions produced between now and 2015. The present Holden Commodore 6 cylinder emits 273 gm/km.

At present only a handful of new vehicles in NZ - nearly all of them small models - meet the 170gm/km requirement.

Reference: NZ Herald, 19/4/08.

New EU Emissions Regime

European countries want negotiations on a tough new carbon dioxide emissions regime for Europe's new car fleet to be completed by the end of 2008.

Heads of State from the 27 EU countries agreed during a mid-March summit to finalise the new emissions regime during France's six-month EU Presidency, which begins on 1 July 2008.

The leaders of the European Parliament have accepted the new timetable, marking a rare consensus in what will be difficult negotiations.

Much of the pending battle will be fought in the Parliament, where pro-automotive industry politicians have expressed strong reservations over the Commission's proposal to cut carbon dioxide emissions on new cars to an average of 120 grams per kilometre by 2012.

The European Parliament has previously supported car-maker's demands to move the deadline to 2015. It has also expressed concern over the Commission's plan to impose heavy fines on car-makers missing carbon dioxide emissions targets.

Companies such as Germany's Mercedes-Benz, BMW and Volkswagen sell more high carbon dioxide emitting luxury cars than French and Italian car-markers Renault, PSA/Peugeot-Citroen and Fiat, whose fleets have lower average carbon dioxide emissions.

President Sarkozy of France argues that the EU must enact strict standards if it hopes to play a leading role in continuing global climate negotiations.

Reference: NZ Herald, 3/4/08.

New NZ Emissions Rules

New vehicle emissions rules came into effect at the start of 2008. The rules apply to vehicles when they are first registered for use on NZ roads but would not affect vehicles already registered.

Commenting on this, the Independent Motor Vehicle Dealers' Association (IMVDA) said that the cabinet should instead be promoting tough new emissions testing across the entire NZ motor vehicle fleet.

The IMVDA has been very critical of the Government's plans to introduce new restrictions on fresh imports only, which they have dubbed the "crazy car policy" and they have run cartoon advertisements in daily newspapers.

A Government spokesman for Associate Transport Minister, Judith Tizard said that the IMVDA had been consulted early in the process and some steps were taken to accommodate their concerns.

However, the Government still pressed ahead with the rule applying only to fresh imports rather than cars already on the road in NZ.

Prime Minister, Helen Clark, said that despite the protests of the imported used car dealers, the policy had broad support. "We have tremendous support across the broader transport and tourism sectors for what we are doing with the age and standards of cars imported into NZ".

Ms Tizard's spokesman said there would be a phased-in implementation of the new emissions rule. Various campaigns have been staged to get old cars off the road, such as the "choke the smoke" trial and a vehicle scrapping trial, both in Auckland. The Ministry of Transport is looking at how the vehicle scrapping scheme could be implemented nationwide in 2008.

The Government has a three-phase programme:

- It is taking steps on the quality of fuel being used.
- It is looking at the quality of vehicles on the roads (the objective of the new emissions rule).
- It is looking at how people used their cars, which included campaigns on smooth acceleration.

The new rules will mean that from the beginning of 2008, Japanese used imported vehicles that run on petrol and were built before 2000 will be banned, and diesels will be restricted to those built since 2003.

Reference: NZ Herald, 26/11/07.

Editor's Note:
In EnergyWatch it was earlier reported (Issue 46, page 22) that a new minimum requirement for second hand imported petrol vehicles would come into force in 2008 and that the minimum requirement for diesel vehicles would follow in 2009. This is not longer the case and the much tougher diesel requirement is now also being implemented in 2008.

It has recently been noted on radio that the new requirements will have a significant impact on the number and price of petrol vehicles being imported, but will almost completely decimate imports of second hand diesel vehicles including vans, pickups and SUVs. However a Government spokesman said that this action is justified because of the much higher environmental impact of pre-2003 diesel vehicles.

Petrol Prices Impact US Car Sales

Overall new vehicle sales in the USA for the year ending April 2008 are expected to be 14.7 million vehicles, down from 16.2 million vehicles in the year ending April 2007.

This sales decrease is largely attributed to rising fuel prices. In 1928 a US gallon of petrol (3.8 litres) cost only 21 cents. By 1968 it was up to 34 cents.

Fast forward to 2008 and the price is up to around US$3.50 (NZ$4.40) and expected to go through US$4 within months, according to the US Energy Information Administration (EIA).

The EIA says that the price of crude oil, up above US$117 this week accounts for 72 percent of the pump price of petrol in the USA (a much higher percentage than in many countries and especially those in Europe).

The oil price hike has made sports utility vehicles (SUVs) in the USA hard to sell, both new and used. Average prices for full size SUVs in the US in March 2008 fell by 15.4 percent from a year earlier.

Reference: NZ Herald, 26/4/08.

American Cars Need to Downsize

General Motors (GM) believes that higher fuel prices are the only way to bring about consumer change and cut back on the use of petrol in the USA.

GM sees biofuels generally and E85 in particular as the best near-term solution to lowering the use of petrol in the USA. GM believes that a refusal in the US to let the price of fuel rise gradually causes a failure to induce change in consumer behaviour.

New US federal laws requiring a 35 mile per gallon national average by the year 2020 would not inspire consumers to purchase more fuel-economic vehicles. Only petrol prices at the level which Europeans paid would cause Americans to rethink their vehicle size - such prices were around US$8 per gallon compared with prices of around US$3.50 in America.

Because Americans will not buy smaller vehicles, GM says that they will end up having to raise new vehicle prices, because of the increased use of lightweight materials and fuel-saving technology in order to meet the new US federal laws.

Higher prices for vehicles would cause more people to hang on to their vehicles for longer, slowing down sales growth of new and more fuel-efficient vehicles, which is exactly counter to the intended effect.

GM says that Europeans with their much higher fuel prices are willing to pay premium prices for premium small cars that deliver terrific fuel economy, which is not the case in the USA.

Reference: NZ Herald, 6/2/08.

India's New Car Sales Rise

As previously reported (EnergyWatch 46, pg 21) annual new passenger vehicle sales in India are forecast to nearly double from around 1 million in 2006 to 2 million in about four years time. More than two thirds of the market is for small cars. The new car market in India is growing at an average of 20 percent a year, outpacing even the growth in China.

However in China, because of already-clogged city arteries, the Government is reluctant to see car ownership extend to the masses (conveyed by punitive taxation) - which means that the demand for baby cars remains small.

However, car sales in India were 1.1 million in the year ended March 2007, with compact hatchbacks accounting for nearly three quarters of the sales.

India's demanding but frugal consumers want inexpensive and fuel-efficient cars, durable enough to withstand potholed roads and roomy enough to take a family of five or six. Spurred by Tata Motor's ambitions for a super-cheap car, Nissan and Renault are also exploring the viability of a vehicle that will cost less than US$3,000 (NZ$4,000) new.

The Tata car has recently been unveiled and environmentalists are very concerned that over time, this will encourage millions of Indian families (for their safety and convenience) to move from their present cycle or motorcycle transport to a new small car, with consequent major congestion and air pollution impacts.

Reference: NZ Herald, 13/10/07.

V8's Are Now "Junkyard Dogs"?

Widespread use of the V8 petrol engine in the USA is doomed since President George W Bush recently signed into law a required 40% reduction in the use of fossil fuel products in transport in the US by 2020.

The V8 engine that has powered big American sedans for the past 70 years is now heading for the junkyard, a victim of the worldwide move to fuel efficiency, although the large American pick-up truck market has stayed with V8 petrol power plants for the immediate future.

There were 2.4 million new gas-guzzling pick-ups sold in the US in 2007. Texas is the biggest

market for pick-ups - nearly 300,000 were sold in the Lone Star state last year. Across the US, last year Ford had 32% of the large pick-up market, Chevrolet had 28%, Dodge 16% and Toyota 8%.

General Motors (GM) announced two new initiatives at the recent Detroit Motor Show.

Smaller Engines

Cadillac, the luxury arm of GM, has announced that its 4.6 litre Northstar V8 engine which has powered Cadillac since 1993 will go out of production in 2010 and GM says that it will not be replaced.

The company's future mainstream sedans would likely be powered by the more fuel efficient 3.6 litre V6 motor that went on sale in 2007. The percentage of Cadillac buyers who want a V8 is declining. Only to 10 to 15% of Cadillac buyers now insist on a V8 while others choose the V6 powertrain. "You have such a narrow gap now in terms of performance that smart consumers are saying they don't need it", a Cadillac spokesman said.

In 2009, a new 2.9 litre diesel engine goes into production for Cadillac, to be sold in Europe and could also be used in US models. The same engine may also be available in Australasia (through Holden?).

While Cadillac could accommodate a diesel engine in its US car market offerings, it will probably remain a niche product in the US.

Biofuels

GM is investing in an Illinois company, Coskata that aims to make ethanol from wood chips and other waste products. The cellulosic ethanol is described as the "Holy Grail" of biofuels. Coskata, formed in 2006, aims to produce ethanol using non-food stocks for less than US$1 (NZ$1.30) a gallon. The company will begin with using woodchips as a feedstock.

GM says that using ethanol in all flex-fuel vehicles produced or planned by GM, Ford and Chrysler would cut the US petrol use by more than 80 billion litres - 22 billion gallons - or about 15.5% of annual consumption. One step towards achieving this goal was to "invest heavily in the development of advanced cellulosic ethanol".

GM produces more than 1 million vehicles a year that are capable of running on petrol or E85, which is 85% ethanol and 15% petrol.

Cellulosic ethanol comes from material that otherwise might be thrown away - such as plant stalks, straw, sawdust and even household rubbish. Proponents say making and using such fuel will generate 88% fewer greenhouse gas emissions than making and using petrol. For ethanol from corn, the figure is 18%.

In the US, corn is the most common source of ethanol. Making ethanol from cellulosic materials is more difficult, largely because it is difficult to open the tough cell walls of the plant waste.

Reference: NZ Herald, 19/1/08.

US Reluctant to Buy Diesel

Porsche will only build a diesel-powered Cayenne SUV if North Americans overcome their reluctance to buy diesel cars. US buyers would need to switch to diesel cars in big numbers to make it economic for Porsche to launch a diesel car.

It is not clear whether German premium car-makers will succeed in their efforts to sell diesel cars in the US in large numbers. Many Americans think diesel cars are noisy, dirty and lacking in power.

Only 3 percent of 16 million new vehicles (cars, SUV's, vans and light trucks) sold in the US last year were diesels.

Mercedes-Benz, BMW, Audi and Volkswagen are trying to persuade US car buyers to switch from petrol to new clean-diesel cars, especially now that fuel prices are rising in the USA.

Reference: NZ Herald, 3/4/08.

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