FOMC
PO Box 10-410
Hamilton 3241
www.fomc.org.nz

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WHEEL TORQUE

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Biofuels and classic vehicles

By Mark Stockdale, FOMC Secretary

So, what's this fuss about biofuels that you've heard about? What are they? What difference do they make? Should you even care?

Well, yes you should – because they could affect the performance of your pride and joy. Let me explain why.

You may be aware that the Government recently passed a Bill requiring oil companies to sell a percentage of retail fuels as renewable, or bio-fuels. The so-called Biofuels Sales Obligation means all oil companies – BP, Caltex, Gull, Mobil and Shell – have no choice but to comply. Although the sales target itself is small, it could lead them to blend a percentage of biofuels in all petrol you buy.

Gull have been selling a 10% ethanol blend at its North Island outlets since August 2007

The Biofuels Sales Obligation

When the Bill was originally drafted, it proposed a graduated sales target that would reach 3.4% by 2012, meaning that much of all fuel sold must be biofuel. But 3.4% doesn't mean no more than 3.4% of the stuff you put in your tank will be renewable fuel. Far from it. For a start, most oil companies are initially concentrating on introducing ethanol into petrol. And since half of all fuel sold is diesel, that means twice as much will need to be sold in petrol just to meet the target.

There was little opposition to the Government's plans – why would there be, when the idea of a clean, green, renewable fuel is the holy grail of transport? But many of the submitters expressed concerns about the level of the obligation, which in turn could lead to imports of less-sustainable biofuels. Both of these matters were addressed in the final Bill, which, in addition to specifying strict sustainability standards, recommended a lower BSO starting at 0.5% in the first year, rising to 2.5% by 2012.

What are biofuels?

There are two types of biofuels:

- **Bioethanol** – blended with petrol. Mostly sourced from sugarcane and corn, can be derived from whey in NZ. Retail blends will range from 3% (E3) to 10% (E10);
- **Biodiesel** – blended with diesel. Most common feedstock is palm oil, but in NZ could again be sourced from a by-product of agriculture, namely tallow. Not permitted to be retailed in blends above 5% (B5).

New Zealand has plentiful feedstocks of tallow – almost enough to meet the BSO – although much of it is committed for export to China for soap manufacture. Alas, the poor performance of tallow-based biodiesel in cold temperatures is one reason why oil companies are devoting their energies to introducing bioethanol instead.

Although the BSO only came into effect in October, Gull has been selling a 10% ethanol blend at most of its 35 North Island outlets for a year, supplied by Fonterra from whey. And in August Mobil commenced retailing both E3 (91) and E10 (98) blends at several Wellington stations, sourced from Brazilian sugarcane.

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All biofuels have a slightly lower energy content than mineral fuels, particularly ethanol, which is 30% less efficient. So at a 10% blend, that equals a 3% reduction in performance, meaning you'll consume slightly more to travel the same distance. At least that's the theory – a test by the AA using the same car on an identical route produced no discernable difference between Gull's 'Force 10' and a conventional 98 grade.

Despite the lower energy content of biofuels, there are performance benefits – biodiesel improves lubrication while ethanol boosts octane ratings. That's why, when Gull moved to sell E10, it did away with 95 octane and replaced it with 98 octane Force 10. At a 10 percent ethanol blend in the old 95 mineral fuel, it boosted octane by nearly 3 points without having to import a special high-octane fuel like BP and Mobil do.

Compatibility with your vehicle

So what do all these figures signify? E3, E10, 2.5%? What does any of this mean for classic car or 'bike owners? What you really want to know is, 'can I use this stuff in my classic?'. Well, the short answer is, no.

According to AA Technical Advice Manager Jack Biddle, vehicles fitted with carburettors are "highly unlikely to be able to use E3 or E10." That's an estimated 378,400 incompatible cars, or 14% of the fleet.

As for the rest, a Government-commissioned study by Transport Engineering & Research NZ suggests that up to half the fleet (over one million cars) are not compatible with ethanol blends above 3%. This is largely because Japanese manufacturers won't endorse the use of blends above E3 in their domestic models – which arrive here as used-imports.

Mobil are selling both E3 and E10 blends at several Wellington service stations

At a 10% blend (E10), potentially 1.7 million vehicles are at risk, not including recreational boats or planes, which even the Energy Efficiency & Conservation Authority advises not to use ethanol blends. That's because ethanol is anhydrous, meaning it can separate from the fuel if it's tainted with water.

According to Jack Biddle, "the lower the percentage of ethanol in the fuel, like E3, the higher the risk of phase separation when it is added to a tank contaminated by water. If that occurs, straight water can be drawn into the engine, causing a 'no start' situation."

In two-stroke engines, the potential for damage is even greater, as any water introduced by ethanol will cause the essential lubricating oil in the air/fuel mix to separate before it reaches the engine components.

EECA also recommends that ethanol blends not be stored for long periods, making it even less compatible with classic cars, which tend to go weeks if not months between fills.

Gull concedes that its Force 10 is "better suited to newer vehicles", while Mobil cautions owners of pre-1986 (i.e. carb-fed) cars to consult the vehicle manufacture before using an ethanol blend.

To help you find out, the Motor Industry Association have compiled a list of NZ-new cars' suitability for ethanol, published on the AA website. Not all older cars are incompatible however, but then again, not all late model cars are suitable either. For example, Nissan won't endorse any ethanol blend in models built before 2004, whereas Mercedes-Benz say E10 can be used in all models built after 1985.

Now I don't know about you, but if multi-billion-dollar oil companies and auto manufacturers, with all the research and development expertise in the world, warn me not to put a certain fuel in the tank of my old car – I'm gonna listen!

Jack Biddle says "it's about minimising risk. Ethanol could corrode the fuel lines and carburettor body in older cars, which were never designed with biofuels in mind. Ethanol's affinity to water is further exacerbated by older cars which have the potential to absorb or generate moisture because they don't have sealed fuel filler caps and plastic tanks like modern cars."

Such damage could cost $800 to repair, although there is no guarantee that replacement components will be ethanol-compatible either. Oh, and by the way – neither the oil companies nor Government are liable for fuel system failures resulting from biofuel use.

But as I have explained, in order to meet the BSO, oil companies are relying on ethanol-blended petrol, rather than biodiesel, which – annoyingly – is readily compatible with diesel engines of any age. To sell enough, they'll have to blend more than a mere 3% by the time the mandate reaches its zenith in 2012. Hence we have a dilemma, given half the fleet are not compatible with blends above that.

Be vigilant

In its submission on the Biofuel Bill, the AA said "it is unacceptable for the Government to potentially compromise the operability of the national vehicle fleet in this way, and to risk imposing such high repair costs on motorists."

Mike Noon, AA's General Manager of Motoring affairs, says the solution is quite simple. "One of our minimum conditions for the introduction of biofuels was that consumers have a choice between biofuel blends and mineral fuels. We want oil companies to be required to supply an unblended fuel for incompatible vehicles."

Under the original target of 3.4%, the oil companies would have had to blend ethanol in all petrol grades – probably at the maximum 10% – just to meet the target. It is hoped now, under the reduced 2.5% mandate, that they will keep one grade unblended for incompatible vehicles. Since the bulk of petrol sales are 91 octane, we probably should expect it to be retailed up to E10, in order to maximise biofuel sales, leaving 95 or 98 octane for us enthusiasts.

Jack Hindess, President of the NZ Federation of Motoring Clubs says "classic car owners have to be vigilant regarding the blends of fuels they use, and pressure oil companies to continue to make neat petrol available nationwide for use by heritage vehicles."

- This article originally appeared in the August 2008 issue of *NZ Classic Car*. We encourage clubs to reproduce it for their own members (see www.fomc.co.nz for a PDF copy or email *editor@fomc.co.nz*).
- *More information: www.aa.co.nz; www.eeca.govt.nz.*

Executive Committee Report – 2 August 2008

The main issues continuing to tax the committee include the ongoing issues of re-registering restored vehicles and similar problems around complying heritage military vehicles or trucks which are no longer in commercial use. The committee has a number of tasks in front of it, including identifying the various legislative impediments and solutions that exist but which people may not know about, and a meeting between the FOMC and Low Volume Vehicle Technical Association with MoT and NZTA is being arranged. To help us, we want to hear from club members who have tried to get a restored car or 'bike registered in the last year and been rejected.

The FOMC is putting the finishing touches on its Vehicle Identity Card programme, ably led by Norm Pointon, and the committee agreed to exclude trucks and military vehicles from it at this time as we're dealing with these separately. We will publish more details on the VIC shortly.

The committee also discussed at length the MoT's proposal for a Compulsory Third Party Vehicle Insurance scheme. You can read more about that elsewhere in this issue.

Shortly after the meeting, FOMC secretary Mark Stockdale gave a presentation on biofuels to various Auckland car clubs. 65 members from some 22 clubs attended the event kindly hosted by the Chevrolet Enthusiasts Club a their Manukau clubrooms. The FOMC is planning similar seminars in Wellington and Christchurch – keep an eye on our website for details.

- *copies of meeting minutes are published in the newsletter section of our website: www.fomc.org.nz*

President's Report

2008 marks the centenary of the model T Ford of which some 16.5 million were built. Although Henry Ford founded the Ford Motor Company in 1903 it was the advent of the Model T that put the world on wheels. Another major achievement one hundred years ago was the formation of General Motors by Billy Durant who, having taken over Buick in 1904, used it as the cornerstone of the new company. Both Ford and General Motors are currently facing hard times due to the world's economic problems.

New Zealand's love affair with the motor car began in 1898 when member of parliament, William McLean and engineer Edward Seagar imported two Benz's from France. Under the law at that time, they had to be treated like traction engines, travelling at walking pace and with men ahead and behind. To overcome this problem, William McLean sponsored a new Act of Parliament, the McLean Motor Car Act 1898. The new Act specified a speed limit of 12 miles per hour, which was probably the top speed of these early motor cars. Other regulations followed. The Motor Car Regulations Act 1902, authorised local authorities to make bylaws for controlling traffic and the Motor Registration Act 1905, requiring cars to be registered. These early Acts were the beginning of the plethora of Acts, regulations and rules that underpin the motoring fraternity today.

Now, a little over 100 years later we have a new Crown entity, the New Zealand Transport Agency (NZTA), established on 1st August 2008. This brings together the functions of Land Transport NZ and Transit NZ to provide an integrated approach to transport planning, funding and delivery. Their website reveals that they are responsible for a Crown revenue of $2.8 billion and an operating budget of approximately $240 million. The Agency will have a stronger regional focus, and as such is divided into six regions matching regional authority boundaries:

- Auckland and Northland
- Waikato and the Bay of Plenty
- Taranaki, Manawatu-Wanganui, Hawkes Bay and Gisborne
- Wellington, Nelson, Marlborough and Tasman
- Canterbury and West Coast
- Otago and Southland

According to the new CEO of NZTA, Geoff Dangerfield, who used to head the Ministry of Economic Development, the agency has 5 key areas of focus:

- modal shift – getting freight and people to use a wider range of transport modes;
- streamlined funding process;
- safer travel;
- value for money;
- building stronger partnerships for better transport outcomes.

NZ TRANSPORT AGENCY
WAKA KOTAHI

We look forward to establishing contact with the new agency and working through the various matters that effect the use and enjoyment of our heritage vehicles.

Jack Hindess, FOMC President

Legislation Update

The following is a summary of some recent submissions we have completed on Member clubs' behalf. Copies of submissions are available on our website.

Compulsory Third Party Vehicle Insurance. In June the Ministry of Transport released a discussion document inviting comment on compulsory third party vehicle insurance (CTPVI). The discussion document was just that, and did not propose a particular scheme, but sought feedback on different ways in which one could be administered:

- included as part of the annual vehicle re-license fee;
- charged on petrol tax; or
- administered as part of the driver licence regime.

The discussion document was quite thorough and showed the Ministry had an open mind on the topic. It also debunked a lot of myths about CTPVI, such as NZ being one for the few modern countries not to offer compulsory third party insurance. In fact, most countries that mandate it, like Australia, only offer compulsory injury insurance, in effect the same as our ACC. The few countries which offer both compulsory injury and property insurance, like the UK, also have a much lower vehicle ownership rate, particularly among younger drivers, and this is no doubt due to their extensive public transport systems. In NZ, where the cost of car ownership is low, the higher CTPVI premiums that come with higher-risk younger drivers may unfairly discriminate against those who don't have access to other transport like they do in the UK.

The discussion document was unclear about what the goal of CTPVI was – whether it should address road safety issues by reducing the risk posed by unsafe drivers or inexperienced young drivers in powerful cars, or simply reduce repair costs for innocent victims who might otherwise lose their no claims bonus or excess if making a claim where the third party is uninsured or unknown.

The subject was fully discussed by the FOMC Executive committee at its August meeting, and our subsequent submission reflected the FOMC's historic support for some form of CTPVI. In particular, we favoured having a driver-based compulsory scheme rather than per vehicle, as we considered this would especially benefit owners of enthusiast vehicles.

We said: *"this would have benefits for multiple vehicle owners, who would only need one policy, rather than multiple policies for all vehicles even though they can only drive one at a time. A [vehicle-based] CTPVI regime for car collectors would be a nightmare to comply with, especially if such vehicles presently have no cover at all, save for an all-encompassing 'fire and theft' policy for the premises in which they are stored."* However, this option is likely to be more complex to administer, especially considering we have 10-year driver's licences.

Despite our cautious support, our submission also noted that CTPVI may not address the issues of uninsured, unlicensed or unsafe drivers etc. (they'll just ignore the law), as well as concern that it is likely to raise the cost of current premiums, due to an expected increase in fraudulent claims (blamed on an unidentified third party when in fact the claimant was at fault), and the cost of insuring the 'uninsurable' (insurance companies could be prohibited from charging extortionate premiums, meaning the cost would be spread across all premiums). The FOMC suggested it was worth exploring better education about the benefits of (voluntary) third-party insurance before considering a compulsory scheme.

Following analysis of the submissions, the MoT will determine whether there is sufficient public support for a scheme – and what type – and if so they will develop enabling legislation which will then undergo another round of pubic consultation, probably in the next 12 months. The likelihood of any such regulation then being approved by Parliament will depend on the outcome of the election – National is known to oppose it.

- *A copy of the MoT discussion document can be found in the 'current affairs' section of the FOMC website.*

Road User Rule amendment. We also completed a submission on an update to this Rule which would see, by mid-2009, a ban on the use of hand-held cellphones while driving, a prohibition on parking on grass verges outside your home, and a requirement for motorbikes to operate their headlights at all times. The Rule also proposed other items such as setting a maximum speed for non-rigid towing, and mopeds.

The cellphone ban has widespread public support, and the FOMC supports it too. The NZTA produced research showing that using a mobile phone while driving increases the risk of being involved in a crash by up to four times, and statistics in which cellphones were a contributing factor in 411 injury crashes and 26 fatal crashes in the five years to 2007. Although hands-free kits aren't much better, the Rule will exempt calls made on them, as well as emergency calls, but focussing on hand-held phones is seen as a good first step to change behaviour. The offence will attract a $50 fine and 25 demerits.

We opposed the suggestion to ban parking on grass verges as nonsensical. This is common and accepted behaviour (such as parking your trailer, or visitors parking on the lawn instead of obstructing traffic), and should instead be enforced by local authorities in those locations where it is a problem. A blanket national solution to a local problem is not the answer.

The motorbike light proposal concerned many riders in Member clubs, who had contacted us about the plan. As we noted in issue # 1 of *Wheel Torque*, this is because many vintage 'bikes don't have lights, or only inadequate ones. The owners don't want to, or can't, modify the 'bike to make it comply, and neither should they have to. We had already taken this up with Harry Duynhoven, but it was clear that mandatory daytime lights would make 'bikes more visible to other traffic and that should have positive safety benefits for riders of the vast majority of 'bikes which do have modern lights (according to the Government, motorcycle crashes have increased 80% since 2001). Therefore, we considered the best outcome for club members with older 'bikes was not to oppose the ban outright, which would be unsuccessful, but to insist that there be an age-based exemption instead. The FOMC proposed that any 'bike more than 40 years old be automatically exempted – this would not require the hassle of applying for an exemption, but merely be enforced via the vehicle age on the licence label.

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