

ETHANOL MANDATE CONSULTATION PAPER

TABLE OF CONTENTS

INTRODUCTION	1
MANDATE PROGRESS.....	2
Recent Decline	2
Compliance.....	4
OPTIONS FOR INCREASING ETHANOL CONSUMPTION.....	6
Option 1 - Broadening the Mandate.....	6
Option 2 – Premium Ethanol Blends.....	7
SUBMISSIONS.....	8

INTRODUCTION

The *Biofuels Act 2007* (the Act) requires primary wholesalers and major retailers to ensure that ethanol makes up not less than 6% of the total volume of petrol that they sell in NSW or for delivery in NSW.

The Act was subjected to legislative review in 2011, with a report being tabled in Parliament by the Minister for Resources and Energy on 12 July 2011. On 28 September 2011 the NSW Government announced that the scheduled increase in the ethanol mandate to 6% would go ahead.

On 31 January 2012, the Government announced that legislation would be introduced to remove the impending requirement for all regular unleaded petrol (RULP) to be E10 (petrol that contains 10% ethanol). The amending legislation was assented to on 29 May 2012. The 6% volumetric ethanol mandate remains in force. The mandate applies only to primary wholesalers – those who sell fuel from an oil refinery or major shipping terminal – and major retailers (those retailers who control more than twenty service stations).

A further amendment to the Act, which commenced on 1 January 2013, improved the Government's ability to manage compliance and exemptions under the Act by:

- making clear how exemptions from the minimum biofuel requirements under the Act are to be applied for, granted, varied and revoked;
- increasing the maximum penalties for certain offences under the Act and Regulation;

- clarifying the powers of investigators in administering and enforcing the Act and Regulation;
- modifying the constitution and procedure of the Expert Panel under the Act; and
- providing that proceedings for an offence against the Act or the Regulation must be commenced within 2 years of the date of the alleged offence.

MANDATE PROGRESS

Ethanol storage, blending and distribution infrastructure is now in place, and E10 is offered, either instead of or alongside RULP, at virtually all volume fuel seller-controlled sites where it is possible to do so.

The major retailers are the most advanced in rolling out E10 throughout their large networks. The few sites in their networks that do not offer E10 are either resupplied from interstate terminals that do not have ethanol blending facilities, or have unsuitable or insufficient tanks at the service station.

The primary wholesalers face greater challenges than the major retailers because they do not control all of the retail sites that they supply. Some control a significant proportion of sites but at the other end of the spectrum some volume sellers control none. The non-controlled sites range from franchises, to independently owned and operated branded sites, to fully independent sites that may or may not have an exclusive supply arrangement. Some fully independent sites are free to shop around and may even buy different fuels from different suppliers.

Almost all major oil company-controlled sites that can be converted without major tank replacements have been converted to offer E10. Independently-controlled sites which have no direct obligation under the Act generally will not replace ULP with E10, although many independents in metropolitan regions offer E10 as a choice. Independents in rural and regional NSW are often small-volume sites that do not have the infrastructure to offer an additional petrol choice.

Recent Decline

Since the Government's announcement on 31 January 2012, the process of replacing RULP with E10 in NSW service stations has stalled and a significant number of service stations have re-introduced RULP, usually as an additional choice on the forecourt. The NSW average ethanol content fell from a peak of 4.0% in the September 2012 quarter to 3.6% in the September 2013 quarter.

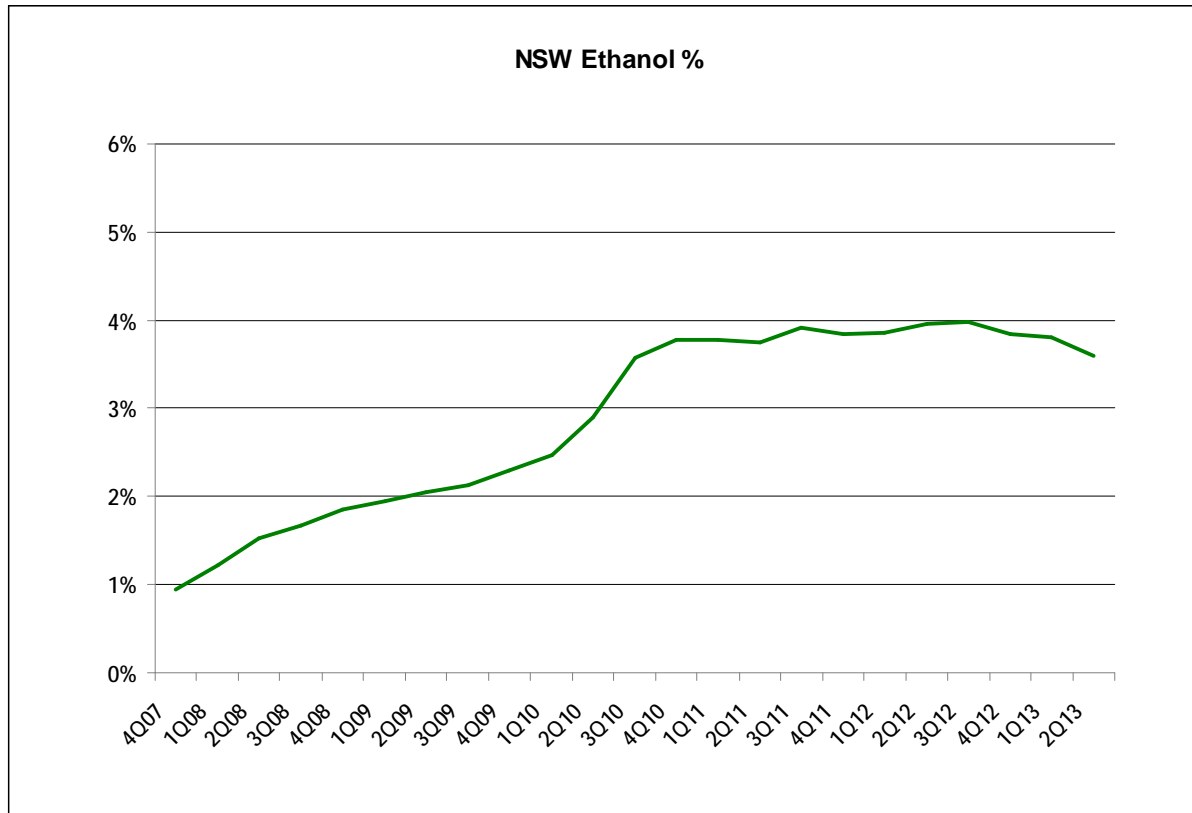


Figure 1 – NSW Quarterly Ethanol Percentage

The increased availability of RULP at volume seller fuel stations and the ongoing availability of RULP at independent service stations are affecting sales at nearby competing E10-only service stations, putting increasing pressure on them to reintroduce RULP in order to recover lost market share of both petrol and associated convenience store sales. RULP has therefore been reintroduced at a number of service stations that had lost significant market share but, where possible E10 has been maintained as a choice.

The previous requirement for all RULP to be E10 from 1 July 2012 had led a few independently-operated service stations that are not directly impacted by the Act to convert to E10. With the repeal of that requirement on 29 May 2012, those independents that had converted are now likely to be under significant market pressure to reinstate RULP.

The impact on ethanol sales of the recent declines in ethanol percentage is exacerbated by a decline in the overall petrol market, reflecting improved fuel economy of new vehicles entering the fleet and increasing proportions of diesel-engine light vehicles, particularly SUVs. NSW consumption of ethanol has fallen from a peak of 60ML in the September 2011 quarter to just under 50ML in the September 2013 quarter. The proportion of base grade (RULP/E10) sales is also declining as more new cars require 95RON or 98RON premium unleaded petrol (PULP). These fleet-related trends are expected to continue, and forecasts indicate that within perhaps 10 years 95RON PULP will become the base grade fuel, with 91RON RULP no longer being available.

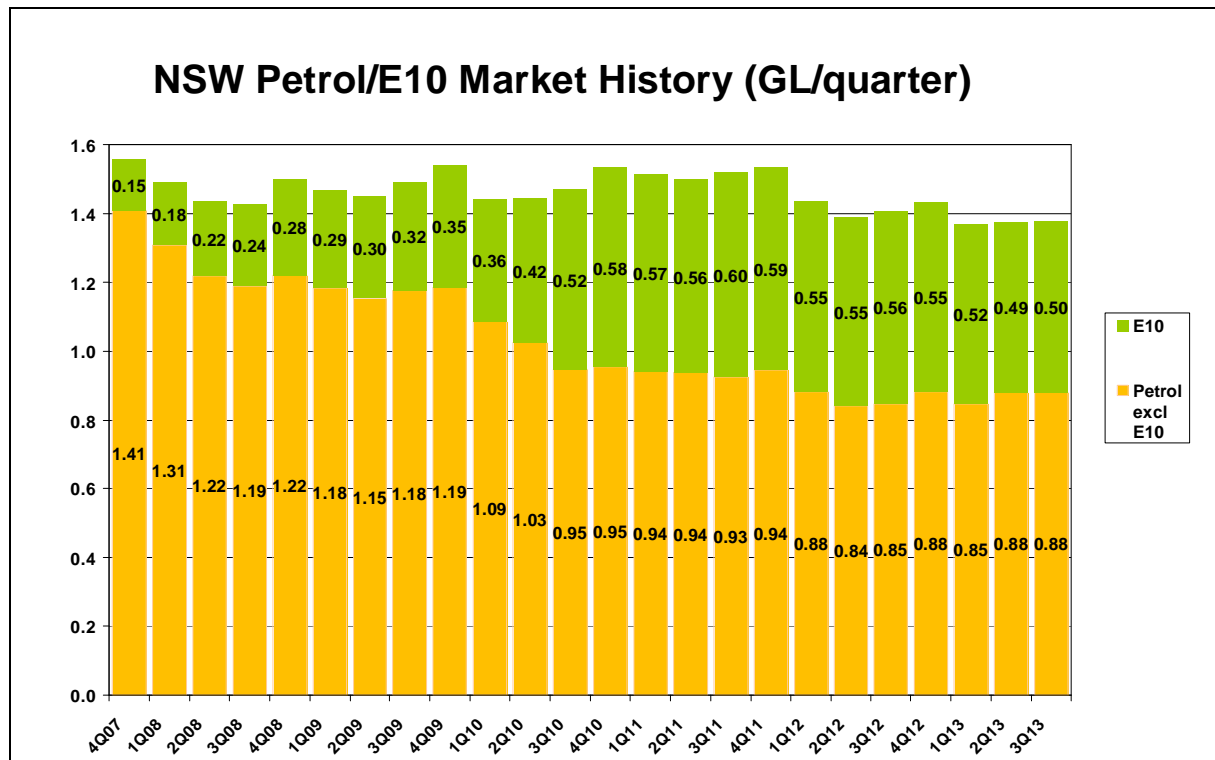


Figure 4 – NSW Petrol/E10 Market History

Compliance

The Act requires volume fuel sellers to take all reasonable actions to comply, and allows the taking of all reasonable actions as a ground for the granting of a partial exemption and defence against prosecution. The Biofuels Regulation 2007 (the Regulation) identifies five specific actions to be taken (on a reasonable steps basis):

- secure sufficient supplies of ethanol or petrol-ethanol blend,
- upgrade distribution infrastructure,
- provide facilities for the sale of petrol-ethanol blend at service stations controlled by the volume fuel seller,
- market petrol-ethanol blend,
- ensure that all E10 contains at least 9% ethanol.

Ethanol Supply

With the formerly-proposed ethanol mandate now seemingly off the agenda in Queensland there has been a significant decline in the distribution of E10 and consumption of ethanol in that State. All volume fuel sellers are able to obtain adequate supplies of ethanol or E10.

Distribution Infrastructure

Ethanol storage and blending infrastructure is now installed at all major fuel NSW terminals. E10 is also available from terminals in Brisbane that supply northern NSW. E10 is not available at most major terminals in Melbourne and Adelaide that supply southern and south-western NSW. The number of service stations involved is small, and the total potential volume is not significant enough to justify the expense of the terminal upgrades. Prices for E10 from Melbourne and Adelaide would be less

competitive due to the cost of transporting bulk ethanol. All volume fuel sellers are compliant with this requirement.

E10 Availability at Controlled Service Stations

The Regulation requires “the taking of all reasonable action to ensure the availability of facilities for the sale of petrol-ethanol blend or biodiesel blend at those service stations at which the business of selling petrol or diesel fuel is controlled by the volume fuel seller or at which the person who conducts that business leases or subleases the premises from the volume fuel seller”. There is a “grey area” regarding the degree of control that a volume fuel seller can exercise over a franchisee, and a wide range of possible operating structures. Under the Trade Practices (Industry Codes - Oilcode) Regulations 2006 (Cth), a wholesale supplier of a declared petroleum product must not unreasonably refuse to supply the declared petroleum product by wholesale to a customer and cannot require a branded independent to stock any particular product offering.

All of the major companies controlling 20 or more service stations, with the exception of BP, have E10 available at 85% or more of their controlled sites. The main reasons given for not stocking E10 at particular sites are unsuitable tanks, and resupply from terminals in Victoria and South Australia where E10 is not available.

BP’s percentage is low, partly because it has removed E10 from 24 controlled sites that may not be compatible with ethanol. If E10 was reinstated at these sites, BP’s percentage would be 85% of controlled sites. Caltex also has some older sites with unsuitable storage tanks, which it is addressing site by site.

Overall, E10 is available at 798 (88%) of the 910 sites controlled by the volume fuel sellers.

Marketing of Ethanol Blend Petrol

All volume fuel sellers “market” their E10 to a degree by making the product available, service station signage, point of sale brochures, and website information.

The majority of volume fuel sellers address the question of compatibility with particular vehicles by referring customers to the Federal Chamber of Automotive Industries website, which collates ethanol compatibility advice for all brands of motor vehicles sold in Australia. Market research by volume fuel sellers indicates that a significant proportion of potential E10 users are still wary of possible vehicle damage.

Most volume fuel sellers recommend against using E10 in boats and small engines such as mowers and chainsaws. Although some outboard motors and small engines are compatible with E10, any positive recommendation needs to be caveated regarding operational factors (in the case of marine use) and shelf life. In general a recommendation against using E10 in boats and small engines is considered appropriate and less confusing for consumers. Boats and small engines represent only a small proportion of total petrol volume, so increased usage of E10 in them will not make a significant difference in overall ethanol percentages.

Volume fuel sellers generally state the environmental benefits of ethanol – less greenhouse gas and reduced exhaust emissions – and sometimes address fuel security and regional development however these are external benefits and are not compelling

marketing messages for many consumers. The negative information prevalent on the internet regarding the greenhouse outcomes and poor energy balance of US corn ethanol can offset positive messages, even if the differences between corn and local feedstocks are emphasised.

The possible requirement for a public information campaign coordinated by Government will be considered separately from this consultation paper.

Volume fuel sellers have indicated that the pricing of ethanol and E10 is a significant impediment to greater marketing. The 3% negative energy differential between E10 and RULP has been fairly widely published in the media and on-line. When E10 was first introduced RULP cost about \$1.00 per litre or less and E10 was available at about 3 cents per litre “discount”, providing a 3% price advantage for E10 and reasonable value for money for the average motorist. Since then RULP has risen to about \$1.50 per litre but the available average “discount” has fallen to about 2.4 cents per litre resulting in a price differential of about 1.6% and questionable value for money for many motorists. The practice of setting ethanol contract prices at a fixed discount to the Terminal Gate Price of RULP actually makes E10 less cost effective the higher the price of ULP. This pricing structure makes it difficult to market E10 on a value-for-money basis.

The price differential between E10 and RULP is also smaller than even the minimum supermarket loyalty discounts; and much smaller than both the more extreme loyalty discounts available from time to time, and the cyclical fluctuations in petrol prices.

E10 Ethanol Percentage

Between April and June 2013 the Office of Biofuels sampled E10 from 19 Sydney service stations. The testing program covered sites representative of all the major oil companies and all Sydney fuel terminals. All 19 of the test results were within the required 9% to 10% ethanol range.

As ethanol is cheaper than RULP and volume fuel sellers are required to report actual ethanol volumes, not estimates based on a nominal 10% ethanol content, there is no business case or reason for any volume fuel seller to under-blend. The Office of Biofuels may continue to undertake testing to monitor compliance from time to time.

OPTIONS FOR INCREASING ETHANOL CONSUMPTION

The NSW Government remains committed to achieving the legislated 6% ethanol mandate. As such, the Government is seeking feedback on two broad options to drive further uptake of ethanol blended product in NSW.

Option 1 - Broadening the Mandate

Currently approximately 910 of a total of about 2,200 service stations in NSW are controlled by the registered volume fuel sellers. E10 replaces RULP in 59% of these sites and is available at a further 29% giving an overall availability of 88% at these controlled sites.

An analysis of service station directories listed on the seven largest volume fuel sellers' websites shows that together they supply fuel to a total of 1448 service stations,

representing about 70% of the NSW total. E10 replaces RULP at 617 (43%) of these sites, and is offered as a choice alongside RULP at another 296 (20%) of them. The overall availability is therefore only 63%, and E10 is available at just 21% of the non-controlled sites. Only 178 (12%) of the total sites sell three or more petrol grades but do not offer E10. 451 (31%) of the sites sell two or more petrol grades but do not offer E10

Over 50% of service stations are not controlled by volume fuel sellers. Clearly the availability of E10 could be increased by broadening the application of the mandate. There are several ways in which the mandate could be amended to broaden its application, including:

- Option 1A. Major retailers are defined in the Act as those controlling more than 20 service stations. The qualifying number of sites controlled could be reduced, for example to five.
- Option 1B. Require all service stations to offer an ethanol blended product. This could be phased in over a reasonable timeframe, and an exemption framework would need to be developed with suitable criteria.
- Option 1C. A new provision to require all service stations that sell more than a specified minimum annual volume of petrol to offer E10. This requirement could be phased in over a period by progressively reducing the volume threshold.

Option 2 – Premium Ethanol Blends

The E10 currently on offer in NSW is a blend of 90% RULP with 10% ethanol. The addition of 10% ethanol raises the Research Octane Number (RON) of the blend to 94-95, however the Federal Fuel Quality Standard for 95RON Premium Unleaded Petrol (PULP) imposes additional requirements before the fuel can be sold as PULP. The present format of E10 therefore does not meet the standard for PULP and so does not represent the optimum use of the octane-enhancing properties of ethanol.

The PULP standard requires a minimum RON of 95 and a minimum Motor Octane Number (MON) of 85. The addition of 10% ethanol does not raise the MON of a blend as much as it raises the RON, so the E10 petrol blend-stock will need to be reformulated if it is to produce a Premium E10 (PE10) product compliant with the PULP Petrol Fuel Quality Standard.

The Petrol Fuel Quality Standard also requires PULP to have a lower maximum sulphur content of 50ppm compared to 150ppm for RULP. The higher sulphur content for RULP has been permitted in order to align with the characteristics of Australian crude oil and the capabilities of local oil refineries. With the closure of the last oil refinery in NSW scheduled in 2014, all refined petroleum products will need to be imported to NSW so there could be an opportunity to upgrade the blend-stock for E10 to say 92RON, 84MON, and 50ppm sulphur to enable the PE10 blend to fully meet the PULP standard. If the appropriate specification blend-stock can be obtained at reasonable cost, PE10 would be competitive with both RULP and PULP, providing a much greater potential market.

A transition to lower-sulphur blend-stock for PE10 is likely to have significant environmental and health benefits. This would provide even greater environmental benefits than the current E10 blend and a significant marketing opportunity.

Up to 10% ethanol can of course be added to any PULP product and the resultant higher-octane blend will be compliant with the PULP standard. The only additional requirement would be the labelling of the blend to indicate that it contains up to 10% ethanol and (in NSW) that has a higher RON.

With PULP now comprising almost 40% of total petrol sales and increasing, the transition to importation of all refined petroleum products is an opportune time to consider options for ethanol-blend premium fuels.

Options that should be considered include:

- Option 2A. A new provision to require E10 blended in NSW to conform with the PULP standard. Unblended RULP and PULP and higher octane ethanol blend petrol could still be sold, as could the current E10 blend where it is imported as blended product from interstate.
- Option 2B. A new provision to require all primary wholesalers to offer at least one premium ethanol blend petrol. Current E10 blends, RULP and PULP could still be sold.

SUBMISSIONS

Stakeholder views on the two main options are sought. The sub-options are not exhaustive and alternative suggestions are welcome.

Submissions should be received by the Office of Biofuels by 14 February 2014.

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