

# BIODIESEL IN AUSTRALIA

## POLITICAL DECISIONS FOR THE 21<sup>ST</sup> CENTURY

### INTRODUCTION

Although biodiesel is well known, produced, used and specifically legislated for in Europe and the United States, it remains in the shadows in Australia. This is surprising, as an alternative fuel to petroleum products, especially as a liquid fuel, it is one of the best of the alternatives. Why then, hasn't an industry blossomed in Australia?

The answer lies more with legislative inaction, than with the fuel itself. Many times the Biodiesel Association of Australia has heard of the same concerns from industry and private persons – “Do I have to pay excise tax?” “I would go into production tomorrow, if I knew excise wouldn't be slapped on it in three years.” “Has anyone clarified the excise tax position?”

This submission is to try and clarify the present position and to make recommendations to make the biodiesel industry a reality in Australia.

The first issue to be dealt with is excise tax and how to achieve parity with the fuel ethanol industry. The second issue is the issue of a bounty to encourage the production of biodiesel, again on parity with the fuel ethanol industry. The third issue will deal with encouraging consumption through the “Diesel and Alternative Fuels Grants Scheme”, again seeking the recognition and parity with the fuel ethanol industry. The fourth issue relates to environmental concerns by the removal of sulfur content in diesel fuels and the substitution of biodiesel.

### EXCISE TAX

The Excise Tariff Act 1921 is the controlling document regarding the payment of excise tax. It is apparent from the document that, unlike ethanol, there is NO MENTION of biodiesel in the Excise Tariff Act. The Australian Taxation Office (ATO) has given preliminary advice that biodiesel by itself does not attract excise tax. That is, if the biodiesel is sold in the neat, or 100% pure form, then no excise tax is payable. However, the preliminary advice is also that a biodiesel “blend” attracts duty.

The omission regarding blending is significant. Overseas, biodiesel is primarily used in blends. In France it is mandated that all diesel be cut with 5% biodiesel. In the United States B20, that is diesel with 20% biodiesel, is recognised as an alternative fuel. As will be explained later, a small amount of biodiesel can be added to regular diesel to eliminate the sulfur that is presently used as a lubricant. Because of the limited amounts of biodiesel that would initially be manufactured in Australia, it is likely that the industry would start off by blending. Therefore, the issue of blending must be dealt with in the Excise Tariff Act. It is proposed that biodiesel be given parity with fuel ethanol in the Excise Tariff Act by way of a simple addition to Section 6G of the Act.

It is in Section 6G that the rates regarding “blending” of petroleum product and other products apply. In Section 6G there are two significant subsections the first, 6G(1), deals with gasoline and other additives; the second 6G(2) deals with gasoline and ethanol as a blend. In Section 6G(1) it states:

**6G(1)**

“Duty payable under this Act on an excisable blended petroleum product (other than an excisable blended petroleum product referred to in subsection (2)) is worked out using the formula:

$$[\text{Volume} \times \text{Blending rate}] - \text{Previous paid duties}$$

where:

**Volume** means the volume of the excisable blended petroleum product.

**Blending rate** means:

(a) if goods referred to in subitem 11(H) (other than subparagraph 11(H)(2)(d) or subitem 11J (other than subparagraph 11(J)(2)(c) of the Schedule are included in the excisable blended petroleum product – the excise duty tax rate that applies to goods classified to subparagraph 11(H)(2)(b); or

(b) if no goods classified to either of those paragraphs is included in the excisable blended petroleum product – the excise duty rate that applies to goods classified to subparagraph 11(C)(2)(a) of the Schedule.

**Previously paid duties** means the sum of excise duties (if any) already paid on products included in the excisable blended petroleum product under items 2, 11 and 12 of the Schedule worked out in accordance with subsection (4) “

It appears that the ATO is relying upon Section 6G(1)(b) as the authority that a blend of petroleum product with biodiesel should attract duty at the rate of diesel fuel. That is, if neither of those two previous paragraphs applies, then the rate defaults to 11(C)(2)(a) which is the diesel rate of \$0.38118 per litre.

Although nothing may turn on it, the drafting of the whole of Section 6G(1) is subject to adverse comment. First, subsection (b) refers to “either of those paragraphs” when the previous subsection (a) referred to subparagraphs (subitems?), further, the two subparagraphs that (a) has allegedly referred to, 11(H)(2)(d) and 11(J)(2)(c) – are no longer in the Schedule. Perhaps the next time Section 6G is rewritten the drafters could do some housekeeping.

**6G(2)**

“Duty payable under this Act on an excisable blended petroleum product comprising a blend of gasoline classified to subparagraph 11(H)(2)(b) or (c) of the Schedule and of

ethanol classified to sub-item 2(R) of the Schedule, with or without other substances, is worked out using the formula:

$$[\text{Volume of gasoline} \times \text{Gasoline rate}] + [\text{Volume of ethanol} \times \text{ethanol rate}]$$

where:

**Volume of gasoline** means the volume of gasoline in the excisable blended petroleum product.

**Gasoline rate** means the excise duty rate applicable to gasoline classified to subparagraph 11(H)(2)(b) or (c) of the Schedule whichever is appropriate.

**Ethanol rate** means the excise duty rate applicable to denatured ethanol classified to sub-item 2(R) of the Schedule.”

Most significantly to the interpretation of Section 6G(2) is the ethanol rate under 2(R) of the Schedule. 2(R) says:

“(R) Denatured ethanol for use as a fuel in internal combustion engines, as prescribed by law – Free”

Thus the present position of ethanol in gasoline is that the ethanol proportion is free of excise tax. It is submitted, that the biodiesel industry should have the same advantage in producing alternative fuels. This can be accomplished by the insertion of a Section 6G(3) in the Excise Tariff Act. The present Act does not have a 6G(3), apparently having been omitted during a previous re-drafting of the Act. The new 6G(3) could read:

### **6G(3)**

Duty payable under this Act on an excisable blended petroleum product comprising a blend of diesel classified to subparagraph 11(C)(1)(a) or (b) of the Schedule and of biodiesel classified to item 22 of the Schedule, with or without other substances, is worked out using the formula:

$$[\text{Volume of diesel} \times \text{Diesel rate}] + [\text{Volume of biodiesel} \times \text{biodiesel rate}]$$

where:

**Volume of diesel** means the volume of diesel in the excisable blended petroleum product

**Diesel rate** means the excise duty rate applicable to diesel classified to subparagraph 11(C)(1)(a) or (b) of the Schedule, whichever is appropriate.

**Volume of biodiesel** means the volume of biodiesel in the excisable blended petroleum product

**Biodiesel rate** means the excise duty rate applicable to biodiesel classified to item 22 of the Schedule.

Of course, it will be necessary to have an item inserted into the Schedule regarding the excise tax on biodiesel. Perhaps at the end of the Schedule there might be added:

“22. Biodiesel for use in internal combustion engines and gas turbine engines, as prescribed by law – free”

The provision “as prescribed by law” will take in the biodiesel fuel standards that Environment Australia is developing and that will become compulsory in 2002.

## **BOUNTY**

The structure of the Bounty (Fuel Ethanol) Act 1994 could apply to the development of the biodiesel fuel market. As stated in the **Object** of that Act “The object of the Act is to provide for the payment of bounty on the production in Australia of certain fuel ethanol to assist the development of a competitive, robust and ecologically sustainable fuel ethanol industry.”

Conceptually, there is little difference between developing an ethanol fuel industry or developing a biodiesel industry, both fuels are derived from biomass. The biodiesel industry should be given the same incentives as the ethanol industry. The concept of “parity” would prevent any suggestion of favouritism between the industries.

In the Bounty (Fuel Ethanol) Act it provides that when a producer reaches a minimum production of bountiful fuel, the producer receives a bounty rate of 18 cents per litre. The bounty continues for three years to help subsidise the development of the producer.

The principles and structure of the Bounty (Fuel Ethanol) Act could be incorporated into a new Bounty (Biodiesel) Act 2000.

## **DIESEL AND ALTERNATIVE FUELS GRANTS SCHEME**

Although the “Bounty system” may encourage the production of biodiesel, it is another issue as to how to encourage the consumer to consume the product. With each new product introduced in society, there is always a market resistance. The market resistance can be more easily overcome by a short period of grants to the consumer. Once the product is accepted, then it can stand on its own merits. Further, the use of “alternative fuels” should be encouraged, the receipt of a grant for the use of an alternative fuel will act as an incentive for such use.

The Diesel and Alternative Fuels Grants Scheme Act 1999 includes in Section 5 the definitions section of the Act:

“**Alternative fuel** means:

- (a) compressed natural gas; or
- (b) liquefied petroleum gas; or
- (c) recycled waste oil; or
- (d) ethanol; or
- (e) canola oil; or
- (f) such other fuel as is specified in the regulations.”

While subsection (e) **canola oil**, is in the legislation, it is less than desirable as a fuel or fuel additive (due to the glycerine within the oil – which has the same long term effect as sugar in the fuel tank) – unless the engine is specially designed or modified. However, biodiesel (alkyl esters) can be made from canola, other vegetable oils and animal fats. This token reference to a vegetable oil in the legislation is of no assistance to the biodiesel industry. The legislation should be changed so that (e) refers to biodiesel. In the short term, the regulations could be used to specify biodiesel as an alternative fuel.

In the Regulations under the Act, in Section 7 of the Diesel and Alternative Fuels Grants Scheme Amendment Regulations 2000 (No.1) there are various rates per litre that relate to the grants available under Section 11 of the Act. In subregulation 7(1) it states: “the amounts per litre that are applicable to the following types of diesel or alternative fuel are:

- (a) for diesel fuel – 17.798 cents;
- (b) for compressed natural gas – 12,132 cents;
- (c) for liquefied petroleum gas – 11.466 cents;
- (d) for ethanol – 20.009 cents.”

It is in the following subregulation that the scope of the grant scheme becomes apparent. In subsection 7(2) it states:

“(2) An amount that is applicable to a fuel specified in subregulation (1) does not apply to a blend of that fuel and another fuel, whether or not the other fuel is specified in that subregulation.”

In other words, a blend of diesel and ethanol do not qualify for a grant **EVEN THOUGH BOTH ARE SPECIFIED IN THE SUBREGULATION**. You can use one or the other, but not combined – why? We are either encouraging the use of those fuels or not.

The result of the wording of the subregulation makes the use of ethanol virtually impossible. In order to use ethanol, a person would have to recalibrate their entire fuel metering system on their vehicle, a recalibration that would consume considerable quantities of ethanol (virtually double the consumption rate) to obtain the same caloric content of the previous petroleum product. Further, there are just not that many ethanol pumps available to the public. However, and significantly, if a person wanted to use 100% biodiesel in their diesel engine vehicle, they could without any recalibration or modification of their existing system.

On the other hand, the conversion to both compressed natural gas and liquefied petroleum gas requires considerable modifications (metering, tank, refill, and hoses). Simply put, the use of biodiesel is the least difficult fuel to use of the alternative fuels – curiously it is not even mentioned.

It is recommended that blends be acceptable under the grants scheme in order to promote the use of alternative fuels. Therefore, subregulation 7(2) should be omitted from the regulations.

Further, in order to achieve parity with ethanol, biodiesel should be listed under subregulation 7(1) it should read:

“(e) biodiesel – 20.009 cents.”

### **TIME CONSTRAINTS/STANDARDS**

All the above recommendations become superfluous unless certain time constraints are recognised. The fuel standards for biodiesel from Environment Australia are to become compulsory in 2002. However, the grants scheme under the Diesel and Alternative Fuels Grants Scheme Act is to terminate on 1 July 2002 (see Section 12 of Act).

It doesn't take too much imagination to see Australian biodiesel standards finally being proclaimed on or after the date the grants scheme ends. The better position would be to immediately proclaim the American standards as the interim standards until the Australian standards are formalised. To wait until the formalised Australian standard is accepted, is to effectively prevent grants being given for biodiesel use. There would have to be a compelling rational basis for such a position not to be taken, we can't think of any.

### **BIODIESEL AS A LUBRICANT**

The Australian government has now passed environmental legislation to follow the international community in eliminating sulfur emissions from diesel fuel. By way of background, sulfur is used in diesel fuel to provide lubrication to the injector system. The use of straight petrol diesel fuel provides no lubrication; its use results in rapid wear of the system. Over the years this problem was corrected by the addition of sulfur additives. Those additives are now coming under scrutiny as a source of pollution.

The lubricity of biodiesel can more than compensate for the removal of sulfur from the petrol diesel fuel. It has been discovered that as little as 2% addition of biodiesel will provide sufficient lubrication in both low sulfur and ultra-low sulfur fuel. The addition of biodiesel provides other benefits as well. Since it is a fuel, it will burn and contribute to the combustion process, unlike an additive that simply passes through the system and into the atmosphere. Secondly, even a small amount of biodiesel, with its oxygenated structure, will reduce the commonly observed black smoke emitted from the exhaust system.

In France, the low sulfur petrol diesel is cut with 5% biodiesel. This not only cuts down on emission problems, but also provides a boost to the local economy. It is submitted, that Australia could easily follow the French example and mandate that all petrol diesel shall be ultra-low sulfur content with 5% biodiesel. This would not only reduce emissions, but reduce Australia's dependence on overseas diesel (Australia imports ALL of the stock for petrol diesel from the Persian Gulf), it would also provide stimulus to the local economy.

Before such a legislative change could be made, there would have to be a local biodiesel industry capable of providing the necessary biodiesel. Hopefully, the above legislative suggestions will assist in providing the framework and incentive for the development of the biodiesel industry in Australia.