



Dr Graeme Bethune, CEO  
EnergyQuest  
mob: +61 (0)419 828 617  
e: gbethune@energyquest.com.au

Mike Cochran, CEO  
Ecco Consulting  
mob: +61 (0)419 116 696  
e: biofuels@eccoaustralia.com

APAC BIOFUEL  
CONSULTANTS  
L 30/91 KING WILLIAM STREET  
ADELAIDE,  
SOUTH AUSTRALIA 5000  
ph: +61 8 8431 7903  
fax: +61 8 8431 6620

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## **Aussie motorists shun biofuels against world trend as local supply tightens and growth incentives fail**

### **New national biofuels report shows:**

- **Australian ethanol fuel sales and supply hit by COVID**
- **Motorists remain adverse to ethanol despite fuel mandates**
- **Minor growth in biodiesel sales after four-year slump**
- **Biofuels still only token contribution to national fuel security**
- **No new biofuel projects in 10 years despite Federal excise support**
- **At odds with Australia's position as major feedstock supplier to world biodiesel producers**
- **Local aviation biojet fuel development also lagging**

### **Summary**

As Australian motorists continue to shun the use of ethanol in their fuel, and combined with the impact of COVID on all petrol type sales, demand for biofuels declined in 2019-20.

Pre-COVID, Australia's little changed biofuel production is at odds with the growing overseas experience where biofuel production (more so biodiesel) continued to increase in 2019, year on year.

The findings are contained in the latest annual national biofuels overview by APAC Biofuel Consultants, a joint venture between consultancies, EnergyQuest and Ecco Consulting.

APAC found that while COVID impacts contributed to an easing in biofuel use, and all fuels generally, the drop in motorists' buying confidence was underpinned in the main by continuing consumer aversion to ethanol blended fuel - also called E10 - a blend of 10% ethanol with 90% petrol.

Exacerbating the domestic biofuel challenge mid this year was the closure of United Petroleum's Dalby Bio-Refinery in Queensland, dealing a major blow to the country's ethanol industry and regional development, despite considerable government assistance to stay open.

This left national ethanol production capacity relying on two refinery sites – the same scenario as far back as 2008, albeit now each with higher capacities.

The latest report did note, however, that biodiesel supply and demand picked up a little in 2019-20 following the recommissioning of Australia's largest biodiesel plant in mid 2019.

Overall, Australian biofuel (fuel ethanol and biodiesel) demand declined 3.8% in 2019-20 yoy, to 249 Megalitres (ML), representing only about 0.4% (by volume) of Australia's transport liquid and gaseous fuel consumption.

The 2020 statutory reviews of each the NSW and Queensland biofuel mandates acknowledged that both had failed to meet targets for ethanol and biodiesel and yet no major change has been recommended for either mandate.

APAC Joint Chief Executive, Mr Michael Cochran, said Federal excise/customs duty support for biofuels, the essence of which has been in place since the early 2000s, had failed to encourage new sustainable investment in the industry over the past decade.

"Australia is also a key supplier of feedstocks to the international biodiesel industry," Mr Cochran said.

"Overseas, new biofuel investment is now focusing on renewable diesel and aviation jet 'drop-in' fuel production as a direct substitute for some fossil fuels, with ethanol taking second place.

"This at a time, biofuels in Australia are facing new technological competition from other forms of renewable and emission reduction investment across such fields as hydrogen, solar and electric vehicles," Mr Cochran said.

"So, we are at a point the industry needs to regroup and replace outdated current policies with new initiatives delivering a biofuel future for Australia."

"The current development of the Bioenergy Roadmap offers a unique opportunity for the Federal Government to review Australian biofuel support schemes."

### **Ethanol infrastructure**

- The closure this year of the Dalby Bio-Refinery took 76ML (17%) of aggregate production capacity out of national supply. Seeking alternative investments to fuel grade ethanol production, Manildra has recently reconfigured its 300ML capacity refinery at Bomaderry, in NSW, to produce pharmaceutical and beverage grade ethanol, but maintaining flexibility to produce fuel ethanol.

### **Biodiesel**

- Biodiesel, the other key 'biofuel' produced in Australia, is blended (up to 20%) with mineral diesel, and has partly recovered from an industry collapse in 2016.
- The biodiesel market in Australia remains very small. APAC estimates biodiesel production in 2019-20 reached about 45ML, up from 15ML in 2018-19. Of that production, about 11ML was directed to the more profitable export market (Europe).
- The increase in biodiesel production, year on year, was due to recommissioning of the Barnawartha biodiesel plant in mid 2019 by Just Biodiesel.

### **Biofuel Mandates (ethanol and biodiesel)**

- Queensland and NSW, the only States which have ethanol and biodiesel mandates, command about 85% of the national E10 market. In both cases, motorists have a choice of fuel grades. Victoria (including very small volumes from other States) without a mandate, commanded the other 15% market share in 2019-20.

- Ethanol sales in NSW over the past few years have been around 2.6% of its total petrol market, failing to reach its 6% mandated target.
- Queensland has also fallen short of its 4.0% target of regular unleaded petrol sales, set in 2018. In 2019 (pre COVID-19), Queensland ethanol sales hovered between 2.5% and 3.0%.
- More aggressive marketing has lifted E10 consumption in Victoria over the past four years but the Dalby closure, APAC says, will probably see a decline in E10 sales in that State.
- On biodiesel, NSW has a mandate of 2% of total diesel sales and Queensland a 0.5% mandate. NSW achieved almost 0% of its targets since 2016, with Queensland faring marginally better with 0.2% target achievement over the past 12 months.

### **Other Government assistance**

- The APAC report found that despite Federal assistance which gives ethanol and biodiesel produced and sold into the Australian market, an excise advantage of 28.4cpl and biodiesel a 35.25cpl advantage over petrol and diesel excises respectively, the continual shrinking of the industry over the past decade is testament to the failure of this now outdated policy in Australia.

### **Feedstocks**

- Subject to seasonality and price, Australia has surplus feedstock to meet the capacities of both ethanol and biodiesel production facilities.
- Indeed, Australia has become a major supplier of feedstocks to international bio-based diesel producers in Europe, Singapore and the US. In 2018, Australia exported sufficient feedstock into the international bio/renewable diesel market to produce in excess of 1,000ML of biodiesel/renewable diesel – begging the question of the lost value-adding opportunity for Australian industry.

### **Producer economics**

- Feedstock price is generally the key cost component in the greenfield manufacture of biodiesel and ethanol in Australia. In 2019-20, the lower price of crude oil combined with the high price of vegetable oil and fat feedstocks, yielded negative refining margins in some cases. Thus, local biodiesel producers chose to export into the better subsidised European markets.

### **Aviation fuel - growing demand**

- APAC found that sustainable aviation jet fuel (SAJF) is continuing to penetrate the global aviation jet fuel market to meet greenhouse emission and sustainability goals.
- Virgin and Qantas have trialed US-produced SAJF over the past three years for domestic and international flights. Late last year, Qantas reiterated its intention of using technology and SAJF to reach zero carbon emissions by 2050 – but Australia could do more in this R&D space.

### **Advanced biofuels – Overseas and Australia**

- There is increased interest in ‘advanced biofuels’ worldwide with a focus on producing higher quality bio middle distillates which have the advantage of being ‘drop in’ fuels with a wider market application.
- The Queensland Government is one state implementing a program promoting biofutures with its recently announced Waste to Biofutures alliance with Gevo (a USA SAJF producer) and Australian refiner, Viva Energy.

- Northern Oil Refining, Queensland, which is pioneering the refining of renewable diesel fuel made from waste plastic, old vehicle tyres and agriculture is one of the three or four advance biofuel pilot projects in Australia.

**MEDIA CONTACTS:**

**Mike Cochran Joint Chief Executive APAC Biofuel Consultants (0419 116 696)**

**Kevin Skinner Field Public Relations (0414 822 631)**