

6 Biofuels

Key points

- Australian biofuel production increased from 2009–10 to 2010–11, continuing the trend of recent years.
- The devastating Queensland floods in December 2010 and January 2011 disrupted ethanol production at two of the three ethanol plants (Sarina and Dalby in Queensland) into the first half of 2011.
- Supply disruptions within the first half of 2011 contributed to Australian ethanol production struggling to meet demand at this time, particularly in Queensland. While the supply situation is improving, it remains a concern for many industry participants. Given this uncertainty, the ACCC will continue to monitor the adequacy of ethanol supplies.
- The NSW Government delayed its latest ethanol mandate increase until 1 October 2011 and delayed the requirement to replace all RULP with E10 until 1 July 2012. The Queensland Government suspended the introduction of its proposed ethanol mandate.
- The number of sites selling ethanol blended fuels across Australia decreased during 2010–11 as a number of retailers began phasing out ethanol blended petrol bowsers at sites in Queensland and Victoria citing low demand and lack of supply due to the NSW mandate.
- The largest volumes of ethanol were sold in NSW and Queensland. The volume of ethanol sold in NSW was about four times the volume sold in Queensland.
- ACCC monitoring over the past year across the monitored locations found that E10 prices increased relative to RULP, resulting in a narrowing price difference between RULP and E10.
- The *Taxation of Alternative Fuels Legislation Amendment Act 2011* now provides continuing excise equivalent grants for eligible domestically produced biofuels until 2021, which creates greater certainty for domestic ethanol suppliers and investors.

6.1 Introduction

In the 2010 petrol monitoring report, the ACCC reported on the emergence of the biofuels market in Australia, market developments and the key observations relating to competition and consumers. The ACCC continued to monitor developments in the biofuels sector during 2010 and 2011.

6.2 Biofuels in Australia

Ethanol and biodiesel are the two main types of biofuel used as transport fuels in Australia.

- Ethanol is sometimes also referred to as ethyl alcohol, alcohol or grain spirit. Most ethanol is produced by fermenting raw materials such as sugar cane, sugar beet, molasses, wheat, grain and forest products. It is added to petrol to produce various grades of ethanol blended petrol (EBP). In Australia, up to 10 per cent ethanol is blended with regular unleaded petrol (RULP) to produce E10, which is the most common ethanol blend marketed in Australia.
- Biodiesel is derived from plant or animal feedstocks containing fatty acids such as vegetable oils and tallow. It is usually blended with petroleum-based diesel to produce fuels for diesel-powered vehicles and equipment. In Australia, biodiesel is typically used as a fuel additive in 5 per cent (B5) and 20 per cent (B20) blends.

While there are other types of biofuels, this chapter focuses specifically on ethanol and partly on biodiesel as the two main types of biofuels sold as blended transport fuel in Australia. The chapter also examines recent developments in overseas markets for these products.

6.2.1 Biofuels production

Australian biofuel production reached a total of 419 megalitres (ML) in 2010–11; this was an increase from 354 ML in 2009–10. Ethanol production increased from 269 ML to 319 ML and biodiesel production increased from 85 ML to 100 ML.¹²⁵

In 2010–11, there were a number of key regulatory developments (see section 6.4) and other events that impacted on the production of biofuels, particularly ethanol.

Ethanol

Australian ethanol is currently produced from wheat and wheat starch, sugarcane and sorghum by three producers. The largest producer is Manildra (at Nowra, NSW), with a current annual capacity of around 250 ML.¹²⁶ Sucrogen's Sarina plant and the Dalby plant are both located in Queensland. Sucrogen's current capacity is around 60 ML per annum.¹²⁷ After going into voluntary administration in June 2010, the Dalby plant (capacity of about 80 ML per annum¹²⁸) was sold to United Petroleum in May 2011.¹²⁹ In 2011, total ethanol production capacity in Australia was estimated to be between 390 ML and 410 ML (see tables 6.1 and 6.2). This is estimated to be an increase in capacity of between 40 ML and 60 ML from 2010.

The ACCC understands that there were no imports of ethanol for transport fuels into Australia during 2010–11. This is likely due to the import duty and a subsidy scheme that favours domestic ethanol production.

¹²⁵ APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, pp. 14–5.

¹²⁶ *Ibid.*, p. 29.

¹²⁷ *Ibid.*

¹²⁸ *Ibid.*

¹²⁹ D Symczak (United General Manager), 'United Petroleum purchase Dalby Bio-Refinery', media release, United, 20 May 2011, at <http://www.unitedpetroleum.com.au/media/united-petroleum-purchase-Dalby-bio-refinery>, accessed 30 November 2011.

A number of events occurred in 2010–11 that had an impact on ethanol production and supply. Significant flooding occurred in many areas of Queensland during December 2010 and January 2011, with three-quarters of the state declared a disaster zone. The ACCC issued a media release, warning motorists of possible ethanol shortages around this time and reminded retailers about their obligations under the *Competition and Consumer Act 2010* (the Act) to ensure that consumers were not misled.¹³⁰

Sucrogen's Sarina plant was shut down for around 150 days from mid-January to the end of May 2011 due to the 2010–11 Queensland floods. The Dalby plant was also closed for around a month, with road closures in the Dalby area affecting the supply of grain to the plant and the transport of ethanol from the site. The floods also had an effect on the supply of water to the Dalby plant.¹³¹

Looking forward regarding potential production, APAC biofuel consultants (APAC) suggest there are five proposed plants which may come online from 2013–2014. While APAC has indicated that in recent times a number of forecast plants have not proceeded, there appears to be a more positive environment for investors with the potential for improving economic conditions and the announcement from the Australian Government about the continuation of the grants scheme for domestic ethanol production. APAC predicts that current ethanol producers are likely to commence investing in further expansions before the planned new projects come online in 2013–14.¹³²

The ACCC also understands that the consortium known as Flex Ethanol Australia is continuing with plans announced in 2010 to investigate the viability of establishing an ethanol plant using materials such as household rubbish and building waste. APAC estimates that if this project goes ahead it will come online during 2014.

Table 6.1 shows current and estimated future production capacity for existing ethanol plants. It also shows estimated additional capacity to 2016 if planned plants go ahead. Should estimated production and investment in plants proceed, APAC predicts an increase of 737 ML of ethanol production capacity between 2011 and 2016.¹³³

130 ACCC, 'ACCC warns motorists of possible ethanol shortages', media release, 11 January 2011, at <http://www.accc.gov.au/content/index.phtml/itemId/967108/fromItemId/966100>, accessed 30 November 2011.

131 Ronald Buchanan, 'Caltex restores full production, E10 supplies at Lytton', *Platts oilgram news*, 25 January 2011, p. 10.

132 APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, p. 13.

133 *Ibid.*, p. 29.

Table 6.1 Australian ethanol production capacity: 2010 to 2016 (APAC)

Operator	Location	Current Status	2010 ML	2011 ML	2012 ML	2013 ML	2014 ML	2015 ML	2016 ML
Manildra	Nowra, NSW	Operating	210	250	300	300	300	300	300
Sucrogen	Sarina, Qld	Operating	60	60	70	100	100	100	100
Dalby	Dalby, Qld	Operating	80	80	80	90	90	90	90
Total from existing plants			350	390	450	490	490	490	490
Marinna	Junee, NSW	Planned					115	230	230
FlexEthanol Aust (Coskata)	Vic.	Planned					100	200	200
Austcane	Ayr, Qld	Planned					87	87	87
NQBE	Ingham, Qld	Planned					30	60	60
Primary energy	Gunnedah, Qld	Planned					30	60	60
Total from planned plants							362	637	637
Total from existing and planned plants			350	390	450	490	852	1127	1127

Source: APAC biofuels consultants, *Australian Biofuels* 2011–12, p. 29.

Table 6.2 shows aggregated current and estimated future production capacity for existing ethanol plants based on information provided by the three producers.

Table 6.2 Aggregated Australian ethanol production capacity: 2010 to 2016 (Producers)

	2010 ML	2011 ML	2012 ML	2013 ML	2014 ML	2015 ML	2016 ML
Total from existing plants (Manildra, Sucrogen, Dalby)	350	410	490	560	560	560	560

Source: ACCC calculations based on information provided by Manildra Group, United Petroleum and Sucrogen.

Developments with E85

E85 is an ethanol and petrol blend containing between 70 and 85 per cent ethanol which is only suitable for flex fuel vehicles. Last year the ACCC reported that a small number of retailers had commenced offering E85 in some city locations in recent years.

Caltex continued to sell E85 fuel at around 40 of its retail sites¹³⁴ despite having announced in 2010 plans to increase to 100 the number of sites selling E85 during 2011.¹³⁵ GM Holden also indicated in September 2011 that their entire Commodore range was now flex fuel capable.¹³⁶

¹³⁴ Caltex, at <http://www.caltex.com.au/HelpCentre/SiteLocator/Pages/FindAServiceStation.aspx>, accessed 7 November 2011.

¹³⁵ Caltex, 'Caltex Bio E-Flex brings another high performance fuel to the forecourt', media release, 15 September 2010.

¹³⁶ GM Holden, 'Improved fuel efficiency and flex-fuel capability for MY12 Commodore', media release 1 September 2011, at <http://media.gm.com/content/media/au/en/holden/news.detail.html/content/Pages/news/au/en/2011/Sep/0901ImprovedFuelEconomyandFlexFuelCapabilityforMY12Comm>, accessed 30 November 2011.

Biodiesel

According to APAC, Australian operating biodiesel production capacity in 2011 was about 200 ML, which is unchanged from 2010 (see table 6.3). This capacity is provided by three biodiesel producers currently operating six plants in Australia. The largest Australian producer of biodiesel is Australian Renewable Fuels, which now operates four plants nationally following the acquisition of the Biodiesel Producers plant at Barnawatha, Victoria.

While there are plans to increase biodiesel production capacity, new projects have faced repeated deferrals and ongoing uncertainty. For example, National Biodiesel's planned plant in NSW is in its third year of deferral and its future is therefore uncertain.¹³⁷ Based on APAC estimates, biodiesel operating production capacity is expected to remain fairly stable (see table 6.3).

Australia biodiesel producers face particular challenges due to the availability and price of feedstocks. Potential feedstocks include tallow, canola, used cooking oil, algae, soy and poppy seed. However, in Australia the predominant feedstocks are used cooking oil, tallow and to a lesser extent juncea. There are other developments relating to alternative feedstocks being considered however they are not currently in commercial use in Australia. These include mustard seeds, pongamia seeds and algae. APAC indicates that the high costs of feedstocks continue to impact on the domestic production of biodiesel in Australia.¹³⁸ High feedstock prices have added to the challenge of reliably supplying biodiesel that meets specification on a continual basis.¹³⁹

Despite there being excess domestic production capacity, 20 ML of biodiesel was imported in 2010–11. This represented an increase of 5 ML from 2009–10. A majority of the imported biodiesel in 2010–11 came from the United States (US) largely because US biodiesel exports attract a subsidy of USD 1.00 per gallon (US 26.4 cpl). This subsidy effectively made it cheaper to import biodiesel from the US than to produce it in Australia. An anti-dumping customs duty of 18 cpl was introduced in late 2010 to provide assistance to Australian producers against the effects of the US subsidy. The anti-dumping duty effectively brought the price of biodiesel imports in line with diesel imports.¹⁴⁰

Biodiesel production in Australia continues to face numerous challenges. As such APAC notes that biodiesel production is likely to continue to develop slowly.¹⁴¹ The ACCC will continue to monitor developments in the biodiesel industry.

¹³⁷ APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, p. 40.

¹³⁸ *Ibid.*, p. 11.

¹³⁹ *Ibid.*

¹⁴⁰ *Ibid.*, p. 46.

¹⁴¹ *Ibid.*, p. 39.

Table 6.3 Australian biodiesel production capacity: 2010 to 2016

Operator	Location	Current Status	2010 ML	2011 ML	2012 ML	2013 ML	2014 ML	2015 ML	2016 ML
Australian Renewable Fuels (BPA, Vic.)	Barnawatha, Vic.	Operating	60	60	60	60	60	60	60
Australian Renewable Fuels, WA	Picton, WA	Operating	45	45	45	45	45	45	45
Australian Renewable Fuels, SA	Adelaide, SA	Operating	45	45	45	45	45	45	45
BioMax Fuels, Vic.	Laverton, Vic.	Operating	20	20	30	30	30	30	30
Biodiesel Industries, NSW	Rutherford, NSW	Operating	20	20	20	20	20	20	20
Australian Renewable Fuels, Vic.	Laverton, Vic.	Operating	10	10	10	10	10	10	10
Total operating			200	200	210	210	210	210	210
Eco Tech (Gull)	Narangba, Qld	Standby	30	30	30	30	30	30	30
Total stand-by			30	30	30	30	30	30	30
National Biodiesel, NSW	Port Kembla, NSW	Planned				100	288	288	288
Total operating + standby + planned			230	230	240	310	528	528	528

Source: APAC biofuels consultants, *Australian Biofuels* 2011–12, p. 40.

6.2.2 Biofuels consumption in transport fuels

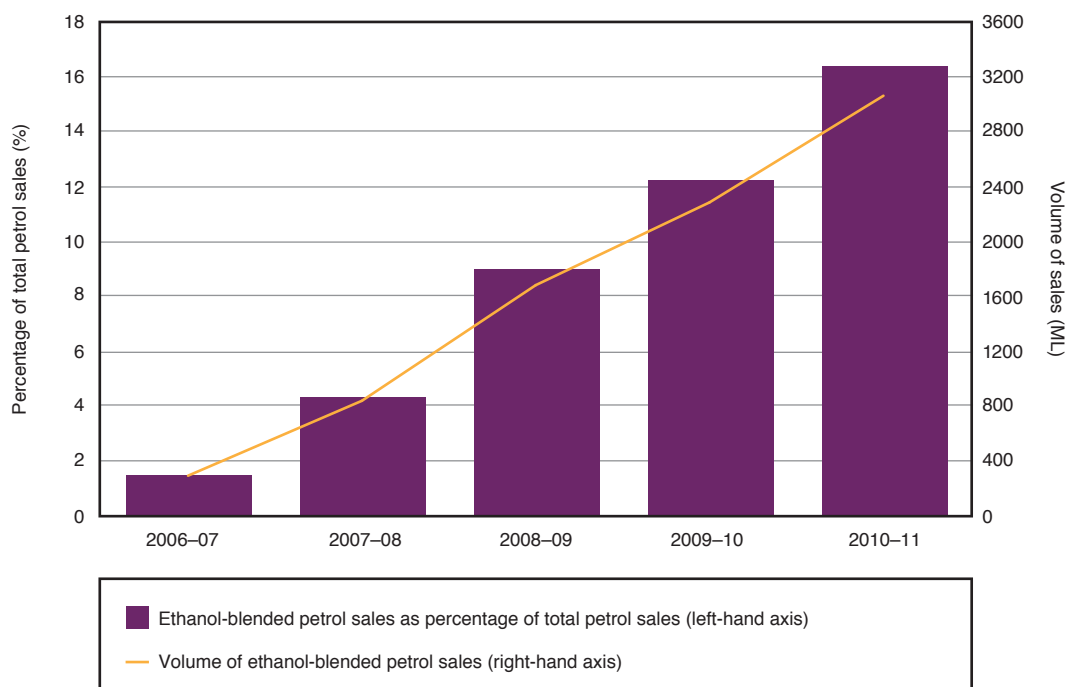
Biofuel consumption in transport fuels in Australia continued to grow in 2010–11. Australian fuel ethanol consumption grew in 2011 despite supply disruptions and the postponement or suspension of consumption mandates. APAC reports that biodiesel consumption in Australia also grew.¹⁴² This is despite high feedstock prices and issues surrounding reliability of supply.

Ethanol

Growth in demand for EBP across Australia relative to other blends of unleaded petrol continued in 2010–11, largely because of the NSW ethanol mandate. This is examined further in section 6.4.

¹⁴² APAC biofuels consultants, *Australian Biofuels* 2011–12, September 2011, p. 11.

Chart 6.1 Ethanol blended petrol sales: 2006–07 to 2010–11



Source: ACCC calculations based on RET data, *Australian Petroleum Statistics*, various issues.

Biodiesel

No data is reported publicly in Australia on the amount of biodiesel that is consumed as transport fuel. However, APAC suggests that biodiesel demand increased from 80 ML in 2009–10 to 120 ML in 2010–11.¹⁴³ The limited demand for biodiesel in Australia resulted in 100 ML of biodiesel being produced domestically out of the 200 ML of operating industry capacity, with a further 20 ML imported mostly from the US.¹⁴⁴

6.3 Biofuels internationally

Globally, biofuels provide only around 2 per cent of total transport fuel.¹⁴⁵ In terms of both biofuels production and consumption, Australia is a very small player. Australia produced less than 1 per cent of global ethanol and biodiesel production in 2011. Biofuels industries in many countries share, to varying degrees, similar characteristics to those that exist in Australia, including supply mandates, subsidies, consumer concerns and supply issues (discussed further at section 6.5.1).

¹⁴³ APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, p. 11.

¹⁴⁴ *Ibid.*, p. 39.

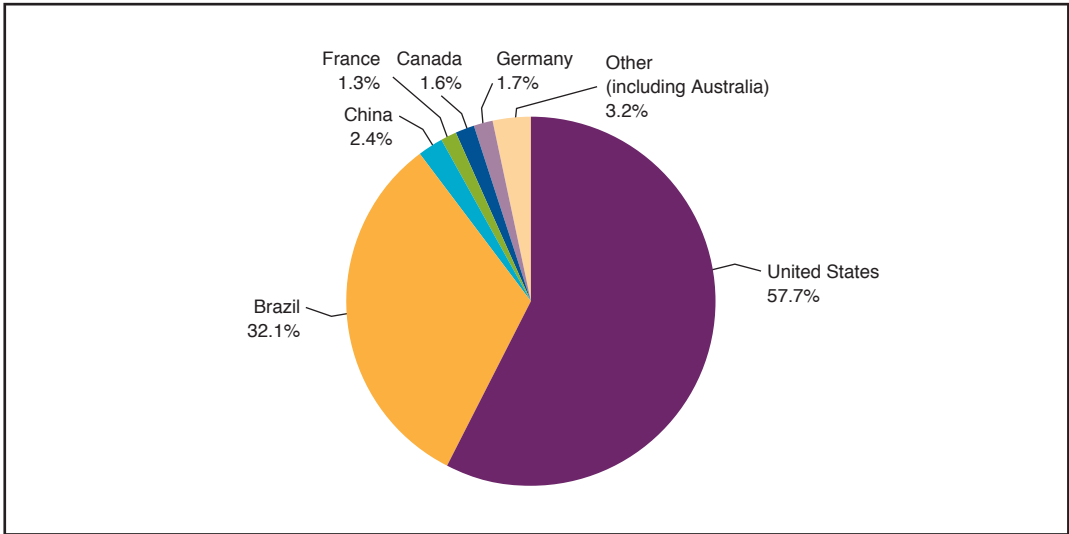
¹⁴⁵ International Energy Agency, *Technology roadmap biofuels for transport*, 2011, p. 1 © OECD/IEA International Energy Agency.

6.3.1 Ethanol

Global ethanol production

Production and sales of ethanol have grown globally in recent years. Global ethanol production in 2010 was 87 giga­litres (GL), which represented an 11 GL increase since 2009.¹⁴⁶ Chart 6.2 shows that the US and Brazil were the major producers in 2010, producing almost 90 per cent of world ethanol volumes.

Chart 6.2 Global ethanol production: 2010



Source: ACCC calculations based on APAC biofuel consultants' data, *Australian Biofuels 2011–12*, p. 25.

United States

In April 2011, the US Agricultural Department extended grants and loan guarantees to retailers intending to install blender pumps and distribution systems for the sale of gasoline with up to 85 per cent ethanol.¹⁴⁷

The US Environmental Protection Agency (EPA) also approved the use of E15 for cars and light truck models manufactured from 2001.¹⁴⁸ The US ethanol industry is encouraging the use of ethanol in E15, rather than exporting it abroad. The US exported 397 million gallons of ethanol in 2010, largely to Canada, but also to Brazil, which was using sugarcane for sugar production rather than ethanol due to high sugar prices.

¹⁴⁶ APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, p. 25.

¹⁴⁷ T Vilsak (US Secretary of Agriculture), 'Agriculture Producers in Non-rural Areas are Now Eligible, Funding May Be Used for Flex-Fuel Pumps', United States Department of Agriculture, News release no. 0164.11, 14 April 2011.

¹⁴⁸ G Gentile, 'EPA approves E15 for more cars, light trucks', *Platts oilgram news*, 24 January 2011, p. 6.

Although the EPA finalised labelling rules for the sale of E15 at retail pumps in June 2011, the uptake of E15 remains slow.¹⁴⁹ Retailers in the US also raised concerns about their liability in the event of consumers misfuelling their vehicles. In response, the state government of Iowa approved legislation providing liability cover for retailers selling E15.¹⁵⁰ Iowa is one of the largest ethanol producers in the US.

Brazil

In October 2010, the Brazilian government introduced regulations to reduce the ethanol content in petrol from 25 per cent to 20 per cent due to a decline in ethanol production. The decline was largely due to a fall in sugar cane harvests resulting from drought, flood and frost.¹⁵¹

Furthermore, higher returns from sugar discouraged ethanol producers from reallocating cane to ethanol production.¹⁵² Reduced supplies of ethanol led to Brazilian ethanol prices reaching a record high in April 2011 (see chart 6.3).

Europe

The European Union (EU) has introduced regulations under the Renewable Energy Directive that includes biofuels sustainability criteria. These criteria must be satisfied before they can contribute to member states' efforts to meet binding national sustainability targets due in 2020.¹⁵³

In January 2011, following an EU directive requiring 10 per cent use of renewable energy in total transport by 2020, Germany allowed a 10 per cent blend of ethanol in petrol.¹⁵⁴ The rollout of E10 in Germany has been slow due to reluctance by drivers to use E10, based in part on fears that it may damage their vehicles.

Asia

In August 2011, the Philippines government introduced a 10 per cent ethanol mandate. It was expected that 70 to 80 per cent of the market would immediately meet this mandate, with full implementation of the mandate expected to take effect in February 2012. Currently, the Philippines produces around 40 ML of ethanol per year and it is expected that ethanol imports will be required to meet the mandate.¹⁵⁵

Vietnam opened its first fuel ethanol plant, Dong Xahn, in April 2011. The plant uses cassava as a feedstock and has a current production capacity of 125 ML. It is expected that by July 2012, Vietnam will have a total ethanol production capacity of 300 ML. It is reported that ethanol from Vietnam is of good quality and has been exported throughout Asia, including to the Philippines.¹⁵⁶

149 B Evans, 'More ethanol exports, curtailments before E15: Poet', *Platts oilgram news*, 8 April 2011, p. 7;

B Evans, 'Industry rails against new EPA rules for sale of E15', *Platts oilgram news*, 29 June 2011, p. 1.

150 B Evans, 'Iowa House approves bill with E15 liability protection', *Platts oilgram news*, 5 May 2011, p. 12.

151 D Phillips, 'Brazil to reduce ethanol in gasoline to 20%', *Platts oilgram news*, 31 August 2011, p. 7.

152 Czarnikow Group, *Bioethanol review*, 5 May 2011.

153 European Commission, at http://ec.europa.eu/energy/renewables/biofuels/biofuels_en.htm, accessed 30 November 2011.

154 G Kfoury, 'Ethanol market hit by slow rollout of E10 in Germany', *Platts oilgram news*, 15 April 2011, p. 9.

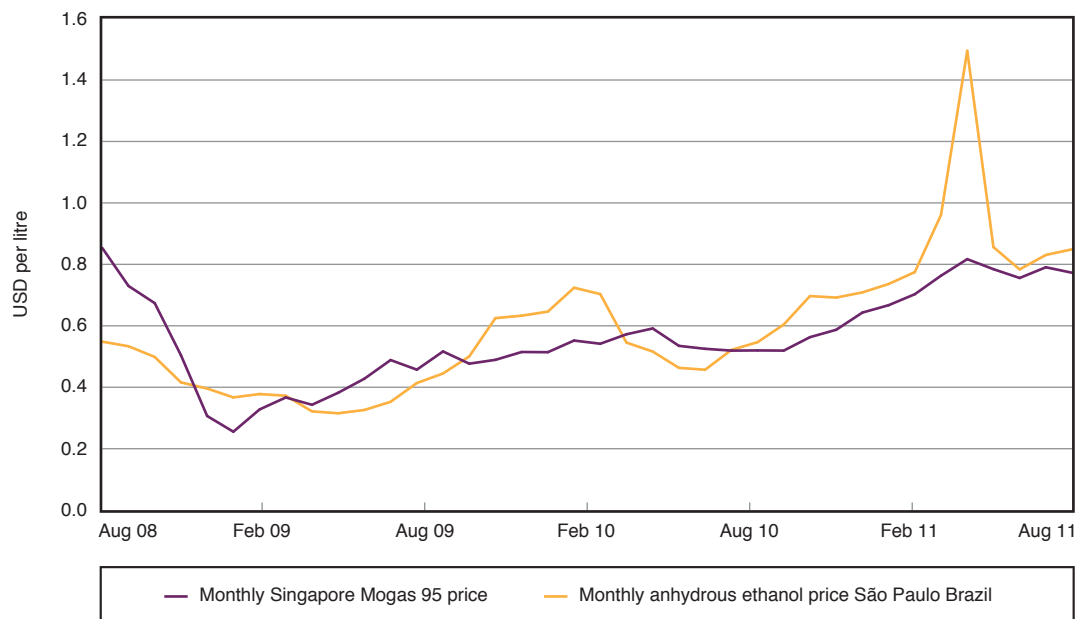
155 B Kosit, 'Philippine companies get discount ethanol', *Platts oilgram news*, 24 June 2011, p. 3.

156 M Ho, 'Vietnamese ethanol seen gaining popularity', *Platts oilgram news*, 5 July 2011, p. 3.

Global ethanol pricing

According to APAC, the Brazilian ethanol price is used as a benchmark price as it is the measure for ethanol pricing used in Brazil and the most referenced price for ethanol contracts worldwide.¹⁵⁷ While ethanol imports into Australia face numerous challenges, the Brazilian ethanol price has been higher than the Singapore Mogas 95 price (the international benchmark price for Australian RULP) for most of the period between August 2009 and August 2011 (see chart 6.3).

Chart 6.3 Brazilian ethanol price* compared with Australian petrol benchmark (Singapore Mogas 95): August 2008 to August 2011



Source: ACCC calculations based on Platts and CEPEA data.

Note: *Brazilian ethanol price is the monthly average ESALQ (Escola Superior de Agricultura Luiz Queiroz) index price in cash for anhydrous ethanol from São Paulo State in USD per litre (before freight and taxes), as obtained from CEPEA, a research centre of the University of São Paulo; see <http://www.cepea.esalq.usp.br/xls/SaamensalUS.xls>, accessed 30 November 2011.

6.3.2 Biodiesel

Global biodiesel production in 2010 was 19 GL, which represents a 2 GL increase since 2009.¹⁵⁸ Europe and Brazil are the two largest global biodiesel producing regions (see chart 6.4 below). European countries were the largest producers of biodiesel in 2010. However, in global percentage terms, biodiesel production diminished in Europe and the US due to increased production from South America and other smaller biodiesel producers.

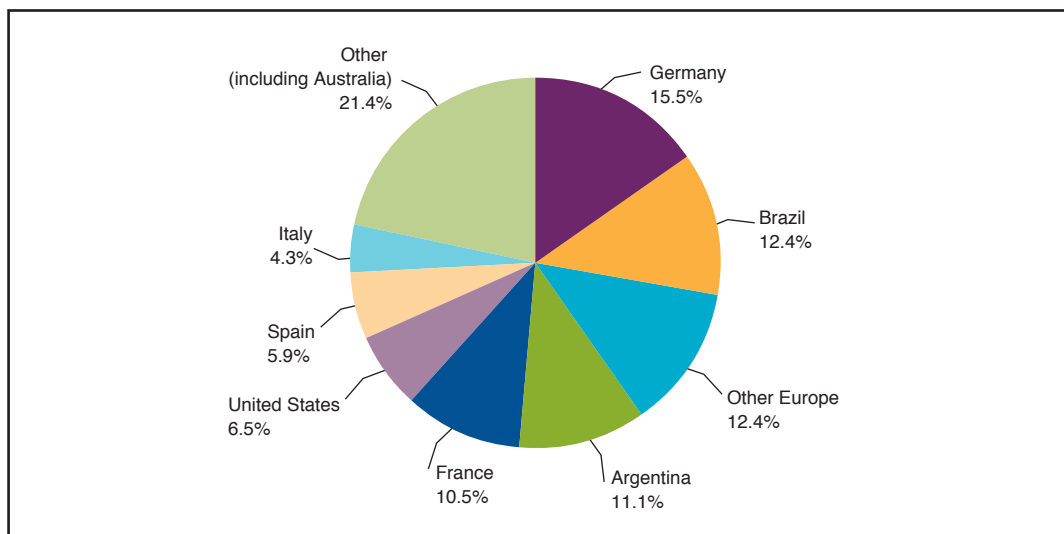
According to APAC, considerable excess biodiesel capacity remains globally due to poor margins, mainly as a result of high feedstock prices.¹⁵⁹

¹⁵⁷ Energy Quest, *Report to the ACCC: benchmarking the price of fuel ethanol in Australia*, July 2010, p. 7.

¹⁵⁸ APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, pp. 25–6.

¹⁵⁹ Ibid.

Chart 6.4 Global biodiesel production: 2010



Source: ACCC calculations based on APAC biofuels consultants data, *Australian Biofuels 2011–12*, p. 26.

6.4 Biofuels and government regulation in Australia

There were a number of key regulatory developments relating to biofuels throughout 2010–11. These included:

- the delay in the increase of the ethanol mandate in NSW
- the suspension of the ethanol mandate in Queensland
- the passing of legislation firming up biofuels excise and grants arrangements
- the development of a fuel quality standard on E85 and a national standard for biodiesel
- the continuation of the Australian Government's work on the Energy White Paper process which will include an alternative fuel strategy assessment.

6.4.1 NSW biofuels mandate

There is currently no Australian Government mandate on the supply of biofuels in Australia. NSW was the first state government to introduce a mandate on the supply of biofuels in 2007.

The NSW mandate has progressively required an increase in the percentage of ethanol in total fuel sales in that state. The mandate was set to increase from 4 per cent to 6 per cent on 1 July 2011 (after previously being delayed in December 2010). However, the government again delayed the mandate increase for a further three months to consult with industry groups (many of whom were failing to meet the 4 per cent target).¹⁶⁰ On 28 September 2011, the NSW Government announced that the mandate would progress to 6 per cent from 1 October 2011 and that it would continue to monitor ethanol supply conditions. The NSW ethanol mandate also currently prescribes that from 1 July 2012, 'primary wholesalers' must not sell RULP unless it is E10.

¹⁶⁰ T Kelly (NSW Minister for Lands), 'Suspension of NSW ethanol mandate', media release, NSW government, 2 December 2010.

The NSW biofuels mandate also establishes a volumetric biodiesel mandate of 2 per cent, which came into effect on 1 January 2010. The biodiesel mandate is expected to increase to 5 per cent from 1 January 2012.¹⁶¹

6.4.2 Queensland ethanol mandate

The Queensland Government had also planned to introduce a 5 per cent ethanol mandate for petrol sold in Queensland by 31 December 2010. However, this was postponed on 28 October 2010 when the Queensland Government announced that it would suspend the implementation of the ethanol mandate.¹⁶² To date, no announcement has been made regarding the future of this mandate.

6.4.3 Excise on biofuels

Transport fuels are currently subject to a fuel excise of 38.14 cents per litre. This excise applies to fuels such as petrol and diesel. While biofuels such as ethanol and biodiesel are also subject to this excise, eligible domestically produced biofuels receive excise offsetting grants under the Ethanol Production Grant (EPG) program and the Energy Grants (Cleaner Fuels) Scheme for ethanol and biodiesel, respectively. AusIndustry administers the Ethanol Production Grants program on behalf of the Department of Resources, Energy and Tourism (RET) and the Australian Tax Office administers the Energy Grants (Cleaner Fuels) Scheme.¹⁶³

The *Taxation of Alternative Fuels Legislation Amendment Act 2011* extended the existing support to the ethanol and biodiesel industries until 2021, in recognition of the potential environmental, fuel security and regional development benefits of biofuels in Australia. These measures will be reviewed in 2021.¹⁶⁴

6.4.4 E85 fuel quality standard

In 2011, the Australian Government released a position paper on setting a fuel quality standard for ethanol (E85) relating to fuel quality parameters, listing the proposed test methods that will be used to determine compliance and proposed labelling requirements.¹⁶⁵ During this process, the ACCC raised the importance of consumer protection issues related to the labelling of E85.

6.4.5 National standard for biofuels

The Biofuels Association of Australia (BAA) is also working with Standards Australia and the International Organisation for Standardisation (ISO) to develop internationally agreed sustainability criteria for bio-energy.¹⁶⁶ The ACCC understands they will continue to work on this in the coming year.

¹⁶¹ NSW Office of Biofuels, *Biofuels legislation*, at http://www.biofuels.nsw.gov.au/office_of_biofuels, accessed 30 November 2011.

¹⁶² The Honourable Andrew Fraser (Treasurer and Minister for Employment and Economic Development, Qld), media statement, 28 October 2010, available at <http://statements.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=72283>, accessed 30 November 2011.

¹⁶³ Department of Resources, Energy and Tourism, Ethanol Production Grant and Concessional Excise Treatment of Biodiesel, at http://www.ret.gov.au/resources/resources_programs/alternative_fuels_programs/ethanol_and_biodiesel_production_grant_excise/Pages/EthanolandBiodieselProductionGrantExcise.aspx, accessed 30 November 2011.

¹⁶⁴ Taxation of Alternative Fuels Legislation Amendment Bill 2011, Explanatory memorandum, p. 8, at http://www.comlaw.gov.au/Details/C2011B00077/Explanatory_Memorandum/Text, accessed 30 November 2011.

¹⁶⁵ Department of Sustainability, Environment, Water, Population and Communities, at <http://www.environment.gov.au/atmosphere/fuelquality/publications/ethanol-e85-position-paper.html>, accessed 30 November 2011.

¹⁶⁶ Biofuels Association of Australia, at http://www.biofuelsassociation.com.au/index.php?option=com_content&view=article&id=207:iso-standards-australia&catid=1:industry-news&Itemid=50, accessed 30 November 2011.

6.4.6 Australian Government alternative fuel strategy

The Department of Resources, Energy and Tourism (RET) is formulating an energy white paper as part of its national energy strategy. The paper is due to be released in December 2011. Its objective is to maintain energy security and prosperity, ensuring that Australia continues to have a secure, competitive, efficient and sustainable energy sector to 2030 and beyond.¹⁶⁷

The white paper also aims to provide a coherent and consistent platform for alternative fuels in Australia including an alternative fuels strategy assessment. The assessment will examine issues relating to industry structure, technology, infrastructure challenges and public acceptance of alternative fuels in Australia and will be directed at removing any regulatory impediments to the uptake of alternative fuels on a commercial basis.¹⁶⁸

6.5 Biofuels: consumers and competition in Australia

Biofuels such as ethanol are increasingly becoming an important part of the fuel product mix in Australia. Because of this, the ACCC is mindful that in the early stages of the development of a new market, competition and consumer protection issues may be more likely to occur. The ACCC is monitoring developments in the emerging markets for biofuels in readiness to consider possible issues of non-compliance with the *Competition and Consumer Act 2010* (the Act), if they arise.

The ACCC has been directed by the government to monitor fuel. As biofuels are used in transport fuels, the ACCC takes an interest in the development of biofuels markets, particularly regarding the supply and price of ethanol, EBP and biodiesel.

In light of this, the ACCC has examined some of the market characteristics of biofuels (particularly ethanol) and has engaged with consumers, motoring organisations, and industry stakeholders. This engagement has informed the ACCC's analysis of the developments in the biofuels industry in 2010 and 2011.

6.5.1 Market characteristics for biofuels

The developing markets for biofuels in Australia exhibit characteristics that can impact on the competitive landscape and ultimately on the price of biofuels for the consumer.

¹⁶⁷ Department of Resources, Energy and Tourism, at http://www.ret.gov.au/energy/facts/white_paper/process/Pages/process.aspx, accessed 30 November 2011.

¹⁶⁸ Department of Resources, Energy and Tourism, Energy White Paper Fact Sheet June 2011, at http://www.ret.gov.au/energy/facts/white_paper/Pages/energy_white_paper.aspx, accessed 30 November 2011.

Ethanol

As the ethanol market has developed in Australia it has undergone significant change. It is likely that it will continue to change as it develops further. The ACCC has noted some of the characteristics of the ethanol market in Australia that may influence the competitive landscape, including:

- Ethanol markets are heavily influenced by the availability and price of feedstocks:
 - The price of feedstocks are estimated to make up about 70 per cent of the price of ethanol.¹⁶⁹ Australian producers are primarily co-located in the regions where the feedstock is sourced. This helps to reduce any additional transportation costs and ensure the prompt availability of feedstocks to the plant for processing. These practices are also exhibited in other ethanol markets such as in the US.
 - Due to ethanol feedstocks being mostly derived from crops, supply can also be impacted by poor crop yields and other events that impact on crops.
- There are only a small number of producers in Australia and the risk of ethanol supply concentration is heightened by the commercial advantages of locating production facilities close to feedstocks:
 - Production capacity in Australia is currently limited to three major producers with a current combined production capacity of between 390 ML and 410 ML (see tables 6.1 and 6.2). Concentration is particularly prevalent in NSW, where Australia's largest producer provides almost two-thirds of Australia's total ethanol production capacity and supplies a substantial majority of the NSW requirement for ethanol in EBP. The ACCC has been informed about increased certainty in the biofuels market and the potential increased opportunity for new entrants into the market.
- There are limited competitive opportunities for ethanol imports into Australia:
 - There may be a number of reasons why imports of ethanol into Australia are limited. In particular, the ACCC understands that there are limited available supplies of ethanol in the region for import into Australia on a consistent basis at a competitive price. The Australian Government's Production Grants Program also effectively provides relief for domestic producers of ethanol from excise until 2021. Ethanol imports do not qualify for this grant.
- Ethanol consumption mandates exist in NSW and (while suspended) may be considered further in Queensland:
 - On 1 October 2011, the NSW ethanol mandate increased from 4 per cent to 6 per cent of total petrol sales. Plans to replace all RULP with E10 in NSW remains deferred until 1 July 2012. In addition, the proposed Queensland ethanol mandate, which would have required the volume of ethanol sold in that state to make up at least 5 per cent of all petrol sales, was suspended in October 2010. If the NSW mandate progresses as planned and the Queensland mandate goes ahead, they may continue to impact on the supply and price of ethanol.
- Consumer perceptions about ethanol and EBP:
 - Stakeholders have informed the ACCC that some consumers may have certain perceptions about the efficiency and price of EBP compared to RULP. In particular, some stakeholders have indicated that a narrowing price difference between RULP and E10 may lead them to further exhibit a preference for RULP, or even premium unleaded petrol (PULP), due to the perception that motorists obtain less mileage from EBP.

¹⁶⁹ APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, p. 34.

Biodiesel

The market for biodiesel in Australia has similarly undergone significant change over the past year. It is likely that as the market develops, it will continue to change. Some elements of the competitive landscape for biodiesel in Australia include the following:

- The number of biodiesel producers has fallen due to industry rationalisation:
 - There are currently three biodiesel producers operating six plants in Australia, following the Australian Renewable Fuels purchase of Biodiesel Producers Australia.
- Like ethanol, biodiesel markets are heavily influenced by the availability and price of feedstocks:
 - For example, feedstocks used in biodiesel, such as tallow, make up 70–75 per cent of the cost of biodiesel production.¹⁷⁰
- Biodiesel sales and production in Australia have been well short of capacity:
 - In 2010–11, Australian biodiesel plants operated at a low utilisation rate of 45 per cent of aggregate capacity.¹⁷¹
- The application of anti-dumping duties on imported biodiesel have made imports from the US less competitive:
 - While there have been imports of biodiesel into Australia, future imports from the US will attract an anti-dumping duty of around 18 cpl.¹⁷² In addition, eligible biodiesel produced in Australia is covered by the Energy Grants (Cleaner Fuels) Scheme, which effectively offsets the fuel excise. This grant has been extended until 2021.
- Concerns about quality and reliability of biodiesel supply:
 - The ACCC understands that a key challenge for Australian biodiesel producers is being able to supply biodiesel that consistently meets specifications for blending and on a continual basis.¹⁷³

6.5.2 Public concerns about biofuels

The ACCC has actively engaged with consumers and industry stakeholders throughout 2010–11. From this engagement, the ACCC has been informed of ongoing consumer concerns about biofuels.

Complaints and inquiries

The ACCC continued to receive complaints about biofuels in 2010–11, a majority of which were about EBP. Over 70 per cent of complaints came from NSW and Queensland. This is likely due to the large number of retail sites that have sold EBP in those states.

The main issues that were brought to the ACCC's attention in respect of EBP included concerns about:

- the NSW Government's mandate for the use of EBP and the associated withdrawal of RULP from many retail sites in NSW
- advertising of EBP by retailers, such as prices for RULP and EBP not being sufficiently differentiated on some roadside price boards or advertising EBP on price boards when it was not available

170 APAC biofuels consultants, *Australian Biofuels 2011–12*, September 2011, p. 44.

171 *Ibid.*, p. 10.

172 *Ibid.*, p. 46.

173 *Ibid.*, p. 39.

- labelling of EBP on retail site forecourts and changes by some retailers to the colours of pump handles used to dispense fuel products, including EBP
- the price difference between EBP and RULP.

While most consumer complaints and inquiries do not raise concerns under the Act, the ACCC will take action where appropriate. The ACCC investigated allegations of misleading and deceptive conduct relating to the sale of EBP in 2010–11. Enforcement action was taken against Prime Fuel Distributors Pty Ltd when it was found it was likely to have misled motorists about the type of petrol it had supplied (see chapter 2 for further details).

Engagement with key stakeholders on biofuels issues

During 2010–11, the Fuel Consultative Committee (FuelCC)¹⁷⁴ continued to play an important role in the ACCC's engagement with key stakeholders about biofuel matters, particularly relating to ethanol and EBP. During the FuelCC meetings held in 2011, members raised concerns about:

- difficulties faced by the ethanol industry in 2011 (i.e. supply issues and the Queensland floods)
- changes to ethanol excise and the likelihood of ethanol imports
- state based biofuel mandates including the cost of implementing the mandates and additional costs where mandates are suspended
- the price difference between E10, RULP and PULP
- the increased logistical costs of handling, transporting and storing EBP to meet mandated ethanol consumption
- the need for legislative certainty to drive investment in the biofuels market.

The ACCC also continued to engage with stakeholders outside of the FuelCC including liaising directly with ethanol producers, fuel retailers, industry associations, motoring organisations and government agencies regarding biofuels.

6.5.3 Observations on the supply of ethanol in Australia

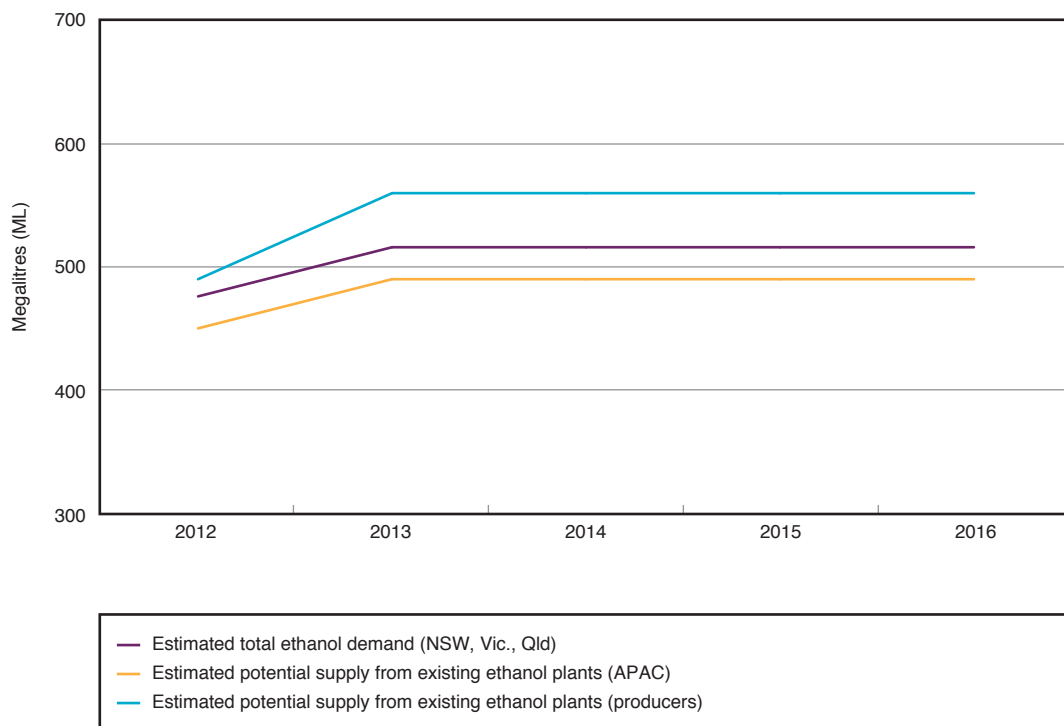
In the 2010 petrol monitoring report, the ACCC raised the potential for ethanol supply disruptions due to limited domestic ethanol supply. Throughout 2010 and 2011, various stakeholders continued to raise concerns with the ACCC about existing and suspended mandates in NSW and Queensland, limited capacity, and regulatory uncertainty surrounding the implementation of mandates and the tax treatment of biofuels.

On 11 January 2011, the ACCC raised concerns about ethanol supply disruptions caused by the Queensland floods. This supply disruption and others in the first half of 2011 caused shortages in the supply of ethanol for blending with fuel. These supply concerns led the Queensland Government to suspend its mandate and the NSW Government to delay its mandate. Since then, concerns about ethanol supply among some stakeholders appear to have lessened due to recovery from the Queensland floods, increased regulatory certainty and planned and actual capacity expansions. However, differing views among stakeholders about the adequacy of ongoing ethanol supply remain, leading to uncertainty and concerns about the supply and price of ethanol and EBP.

¹⁷⁴ See chapter 2 for more details on this committee.

Chart 6.5 illustrates ethanol potential supply and demand estimates based on data obtained by the ACCC from APAC (table 6.1), producers (table 6.2) and RET. Potential supply estimates based on APAC data shows that from 2012 there may be an estimated ethanol supply shortage of around 26 ML per year. Alternatively, potential supply estimates based on data from producers indicates there may be excess ethanol supplies. This reflects the different views regarding ethanol supplies in Australia.

Chart 6.5 Estimated potential ethanol demand and supply: 2012 to 2016



Sources: ACCC calculations based on RET data, *Australian Petroleum Statistics*, various issues, APAC biofuels consultants' data, *Australian Biofuels 2010–11*, and information provided by the three producers (Manildra Group, United Petroleum and Sucrogen).¹⁷⁵

¹⁷⁵ Estimated potential ethanol supply is based on Australian ethanol nameplate capacity reported by APAC and provided by producers. Ethanol demand is based on fuel consumption figures provided by RET's *Australian Petroleum Statistics*. Ethanol demand estimates into the future are based on 2010 market shares for RULP, PULP and EBP. These forward estimates are extrapolated from fairly stable total petrol consumption figures from previous years. Future ethanol consumption in NSW is calculated using the planned mandates in NSW. The mandate percentages are based on the following assumptions: the Queensland mandate remains indefinitely suspended and there are no further suspensions of the NSW mandate. The NSW mandate increased to 6 per cent on 1 October 2011 and from 1 July 2012 all RULP sold by primary wholesalers will be required to be E10. Chart 6.5 is based on existing mandated demand from NSW. From 1 July 2012, some motorists may switch to PULP rather than EBP. The possible substitution from EBP to PULP is not shown in this chart because the exact rate of substitution to PULP is difficult to predict. Additionally, potential growth in E10 demand from Queensland and Victoria as well as demand for higher blends of EBP such as E85 in all states where it is sold is not taken into account in the chart. While there are some new plants proposed and expected to begin providing ethanol for sale in 2014, it is unclear if they will go ahead. Consequently, chart 6.5 does not include potential capacity from proposed new plants.

The combination of limited, albeit increasing, domestic ethanol supply, mandates and the challenges of importing ethanol have left little existing spare supply to respond to increased demand over the past 12 months. If the NSW mandate proceeds as planned in 2012 or the Queensland mandate's suspension is lifted, ethanol shortages could occur in the medium to long term. The likelihood of shortages would increase if planned production expansions do not commence in the near future. Additionally, any increased uptake of E85 has the potential to place further pressure on ethanol supply.

The ACCC considers that while overall the supply situation appears to be improving, there are differing views about the adequacy of future supply, which has led to some uncertainty. Given this uncertainty, the ACCC will continue to monitor developments in the fuel ethanol market.

6.5.4 Observations on the price of EBP and differentials with RULP

Last year, the ACCC reported there was a risk that limited supply and growing mandated consumption could lead to higher ethanol prices. ACCC monitoring over the past year across the monitored locations has found that average E10 prices increased relative to RULP, which has resulted in a narrowing price difference between RULP and E10. ACCC analysis has shown that in some cases the price of E10 has exceeded the price of RULP, particularly in Sydney in the second half of 2011. Stakeholders have also reported the same observations to the ACCC.

As shown in table 6.4, from January to October 2011 the monthly price difference between RULP and E10 narrowed by 0.9 cpl from 2.6 cpl to 1.7 cpl across locations monitored by the ACCC.

Table 6.4 Average price difference between RULP and E10 across the monitored locations: January 2007 to October 2011

	Jan cpl	Feb cpl	Mar cpl	Apr cpl	May cpl	Jun cpl	Jul cpl	Aug cpl	Sep cpl	Oct cpl	Nov cpl	Dec cpl	Ave cpl
2007	3.0	3.0	3.0	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.0	2.7	3.0
2008	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.9	2.9	2.9	2.9	3.0	2.8
2009	3.0	2.7	2.5	2.6	2.5	2.6	2.5	2.5	2.5	2.6	2.5	2.6	2.6
2010	2.6	2.6	2.6	2.5	2.6	2.5	2.6	2.6	2.6	2.6	2.5	2.6	2.6
2011	2.6	2.2	2.1	2.0	2.0	2.0	1.7	1.7	1.7	1.7	—	—	2.0

Source: ACCC analysis based on Informed Sources data.

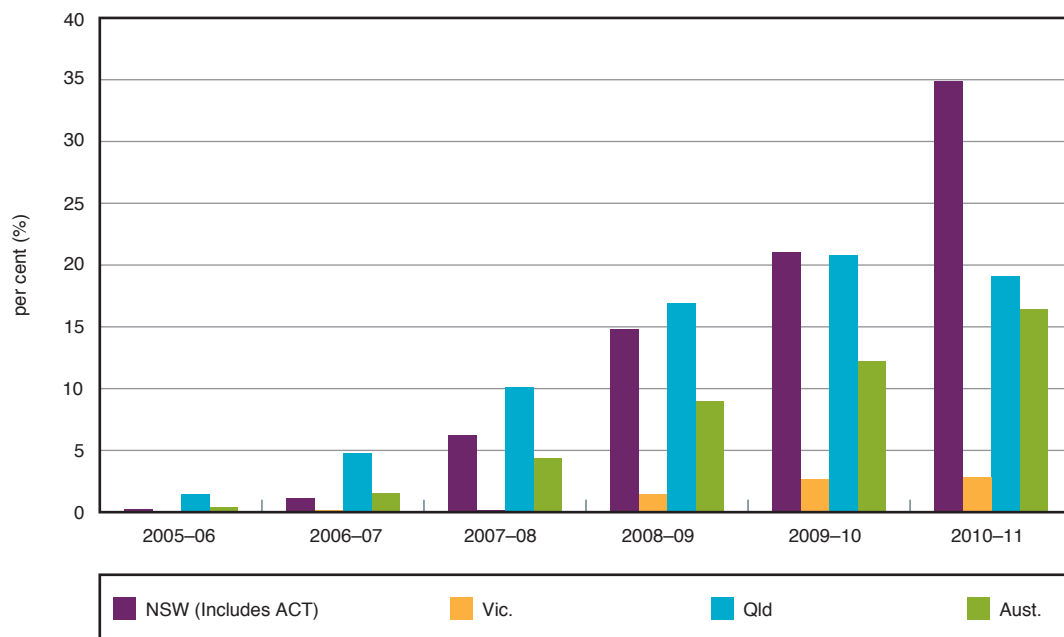
6.5.5 Continued increase in sales of ethanol blended petrol

As shown in chart 6.6, consumption and EBP sales continued to grow in Australia during 2010–11, which continues the trend of increasing use of EBP in Australia since 2005–06.

The increasing use of E10 may be due to a number of factors, but it is likely to be largely due to the mandate operating in NSW and the proposed mandate in Queensland. Increased consumer acceptance of E10 may also be contributing to higher use of EBP.

Looking at the states with the most EBP sales, NSW experienced significant growth in EBP sales, whereas demand in Queensland has declined slightly over the past year. The differing uptake of EBP in NSW and Queensland may be due to the increase of the NSW ethanol mandate and the suspension of the ethanol mandate in Queensland.

Chart 6.6 EBP as a percentage of total petrol sales: 2005–06 to 2010–11



Source: ACCC calculations based on RET data, *Australian Petroleum Statistics*, various issues.

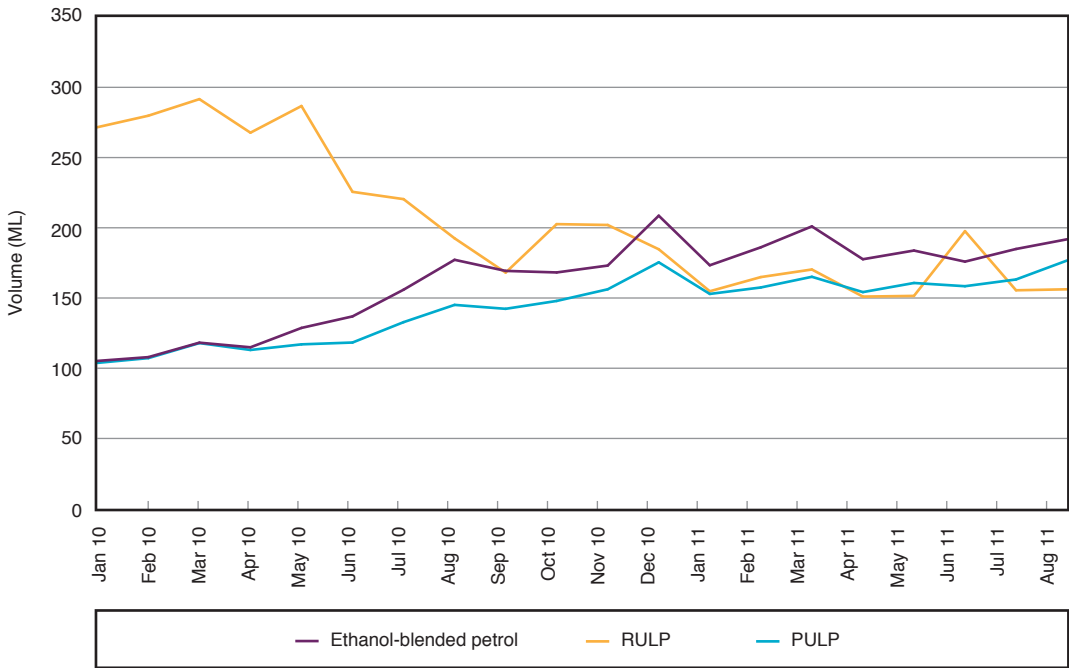
There was little movement in Victoria's sales of EBP during 2010–11. However, in August 2011 it was reported that Shell (and consequently Coles Express) planned to withdraw E10 from sale in Victoria due to a low take-up by motorists in that state.¹⁷⁶ This is in contrast to media reports that the take-up of E10 at United Petroleum sites in Victoria continues to grow.¹⁷⁷

¹⁷⁶ Steve Colquhoun, 'Shell pulls ethanol pumps from Victoria,' *The Age*, 12 August 2011, at <http://m.theage.com.au/drive/motor-news/shell-pulls-ethanol-pumps-from-victoria-20110812-1iq02.html>, accessed 30 November 2011.

¹⁷⁷ Mark Hinchliffe, 'Oil majors shift out of ethanol', *Courier-Mail*, 7 September 2011, at <http://www.couriermail.com.au/ipad/oil-majors-shift-out-of-ethanol/story-fn6ck51p-1226130916120>, accessed 30 November 2011.

Comparing volumes of sales in NSW by fuel type, there is a noticeable decline in RULP sales from around May 2010 with an upward trend in E10 and PULP sales at that time (as shown in chart 6.7). This may be due to the progressive implementation of the NSW biofuels mandate. The NSW biofuels mandate commenced at 4 per cent on 1 January 2010 and it was expected to increase to 6 per cent on 1 January 2011, but this increase was twice deferred until 1 October 2011.

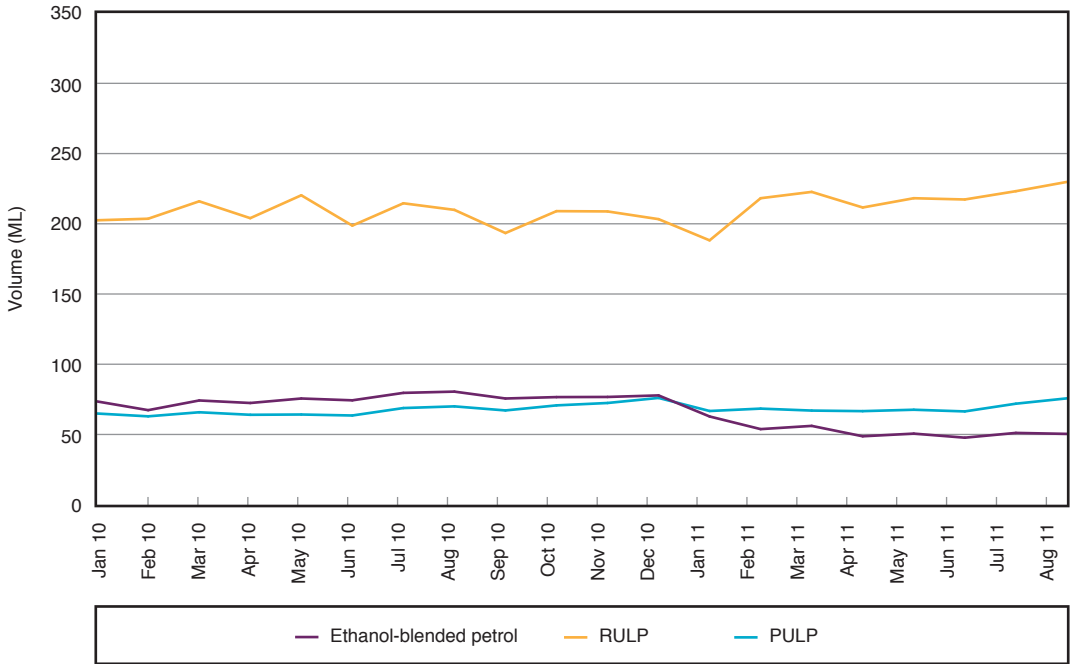
Chart 6.7 Monthly sales of EBP, PULP and RULP in NSW: January 2010 to August 2011



Source: ACCC calculations based on RET data, *Australian Petroleum Statistics*, various issues.

The volume of E10 sales in Queensland noticeably decreased from around the end of 2010 and continued to decrease, at a slower rate, throughout 2011 (see chart 6.8). During that time, there was also a noticeable increase in RULP sales. This may be due to the suspension of the Queensland ethanol mandate, which was announced on 28 October 2010. The Queensland Government had proposed to introduce a 5 per cent ethanol mandate for petrol sold in Queensland by 31 December 2010.

Chart 6.8 Monthly sales of EBP, PULP and RULP in Queensland: January 2010 to August 2011

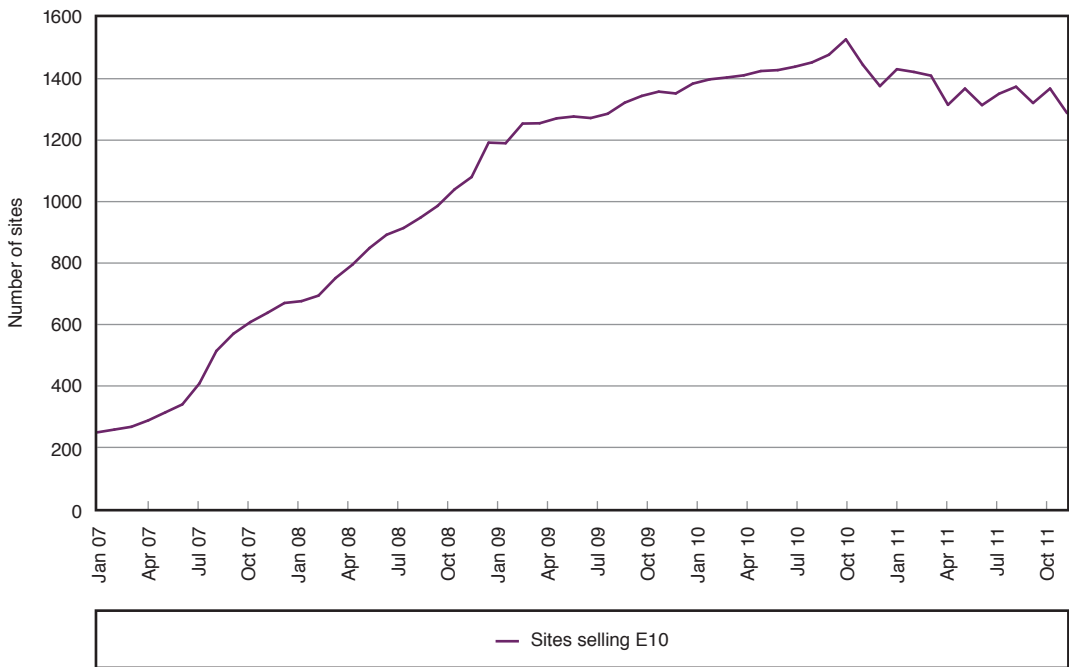


Source: ACCC calculations based on RET data, *Australian Petroleum Statistics*, various issues.

6.5.6 Trends in retail sites selling E10

Despite the mandate in NSW and a proposed mandate in Queensland for the supply of ethanol, during 2010–11, the number of sites selling E10 across Australia declined over the year (see chart 6.9). This is in contrast to the previous year which saw an increase in sites selling E10. This is also despite the increase in national sales of EBP.

Chart 6.9 Number of sites selling E10 in Australia: January 2007 to October 2011



Source: ACCC calculations based on Informed Sources data.

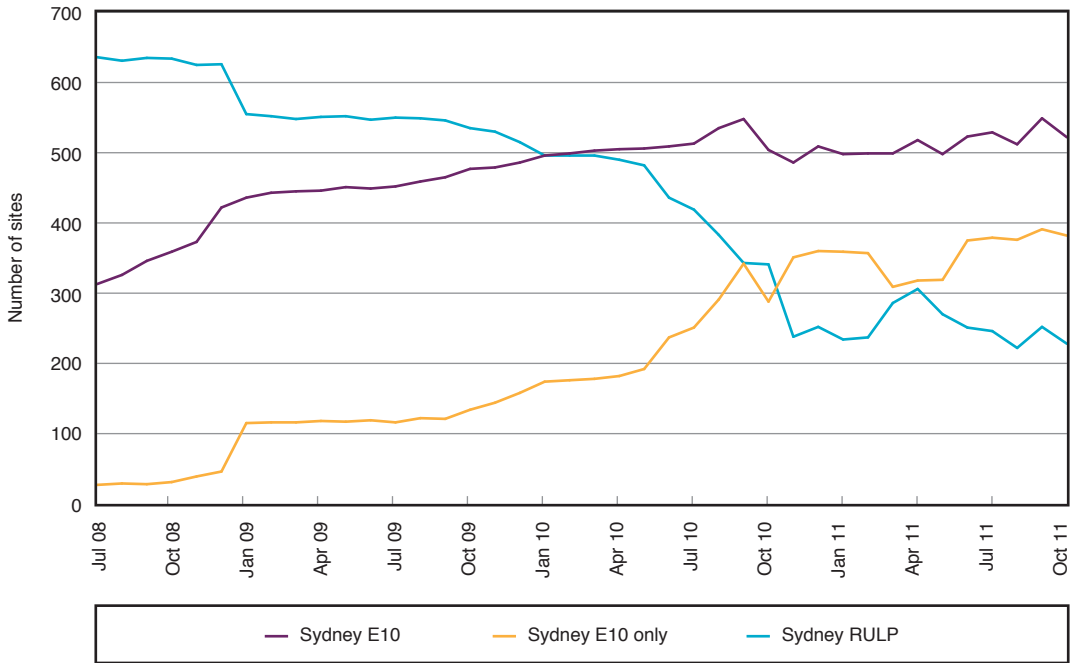
The ACCC considers that a number of factors may have contributed to this decline including:

- a reported reduction in the availability of supplies of ethanol due, in part, to the Queensland floods
- the delay of the increase in the NSW mandate and the suspension of the Queensland mandate
- consumer preference for RULP over E10.

BP and others announced in 2011 that they would phase out E10 and replace it with RULP in their Queensland sites due to disruptions in the supply of ethanol.¹⁷⁸

¹⁷⁸ BP Australia, 'Queensland ethanol supply constrained-BP to replace E10 blend with Unleaded', press release, at <http://www.bp.com/genericarticle.do?categoryId=9008681&contentId=7066674>, accessed 30 November 2011.

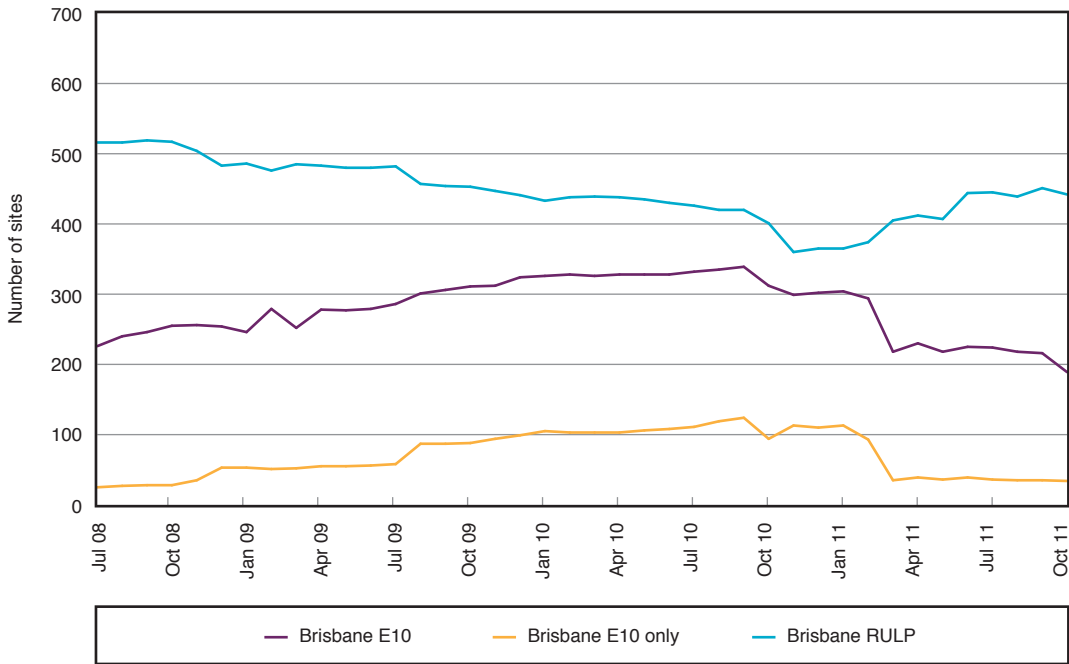
Chart 6.10 Number of sites selling RULP, E10 and E10 only in Sydney: July 2008 to October 2011



Source: ACCC calculations based on Informed Sources data.

While NSW had the highest level of E10 sales last year, the number of sites selling E10 in addition to RULP in Sydney increased marginally and there was a noticeable increase in sites that sold only E10 (see chart 6.10). This also reflected a similar decline in the sites in Sydney that sold RULP. These trends, which largely began to occur from early 2010, were likely due to expected increases in the NSW ethanol mandate to 4 per cent from 1 January 2010 and the further expected increase to 6 per cent from 1 January 2011, which did not occur until 1 October 2011.

Chart 6.11 Number of sites selling RULP, E10 and E10 only in Brisbane: July 2008 to October 2011



Source: ACCC calculations based on Informed Sources data.

In Brisbane, the number of sites selling E10 declined significantly between the end of 2010 and September 2011 (see chart 6.11). The Queensland Government’s proposed 5 per cent ethanol mandate for petrol sold was suspended on 28 October 2010. This decision in combination with supply disruptions due to the floods is likely to have led to the reduced number of sites selling E10 in Queensland.