

7 Premium unleaded petrol

Key points

- Sales of premium unleaded petrol (PULP) continued to increase in 2011–12, particularly in NSW where sales have now overtaken sales of regular unleaded petrol (RULP).
- The increase in PULP sales in NSW seen in the last few years is likely to be primarily a result of the ethanol mandate, which has affected availability of RULP.
- Wholesale prices of PULP are set with reference to the import parity price (IPP) benchmark which is driven by the international price of PULP.
- The difference between RULP and PULP retail prices appears to be widening.
- Supplies and prices of PULP may be under pressure if demand continues to grow in line with recent trends.

7.1 Introduction

This chapter analyses changes in demand, supply and pricing of premium unleaded petrol (PULP).

While the focus is on developments in 2011–12, the analysis builds on that of previous ACCC petrol monitoring reports.

7.2 Features of premium unleaded petrol

In Australia there are two main grades of PULP:

- PULP 95: unleaded petrol with a minimum 95 RON⁹⁹
- PULP 98: unleaded petrol with a minimum 98 RON.

Regular unleaded petrol (RULP) has a minimum 91 RON. PULP also has a higher motor octane number and lower sulphur content compared with RULP.¹⁰⁰ Cleaning agents are also often added to minimise engine wear and tear.

The higher octane, additional refining and additives of PULP may boost the performance of some engines. However, PULP is generally more costly to purchase than RULP, which must be taken into account in evaluating its relative cost effectiveness.

PULP requires a more complex refining process compared with RULP. This is primarily due to the lower sulphur content. As the desulphurisation process reduces the octane rating, PULP may require additional refining in order to achieve 95 or 98 RON. Adding a cleaning agent also requires further processing.

In contrast to RULP, which is often sold as a generic product, companies attempt to distinguish their PULP products from those of their competitors. Therefore different margins for the two grades of petrol may be expected. While different companies' PULP products may contain the same octane level, and in some cases similar features, they are generally marketed as a company-branded retail product.

⁹⁹ RON is a rating of a fuel's resistance to auto-ignition to the fuel after being tested in an engine simulating road conditions where pure iso-octane has a rating of 100.

¹⁰⁰ MON is a similar rating to RON but with the fuel being tested in an engine simulating conditions of greater stress. Refer Fuel Standard (Petrol) Determination 2001, compilation prepared 28 June 2008.

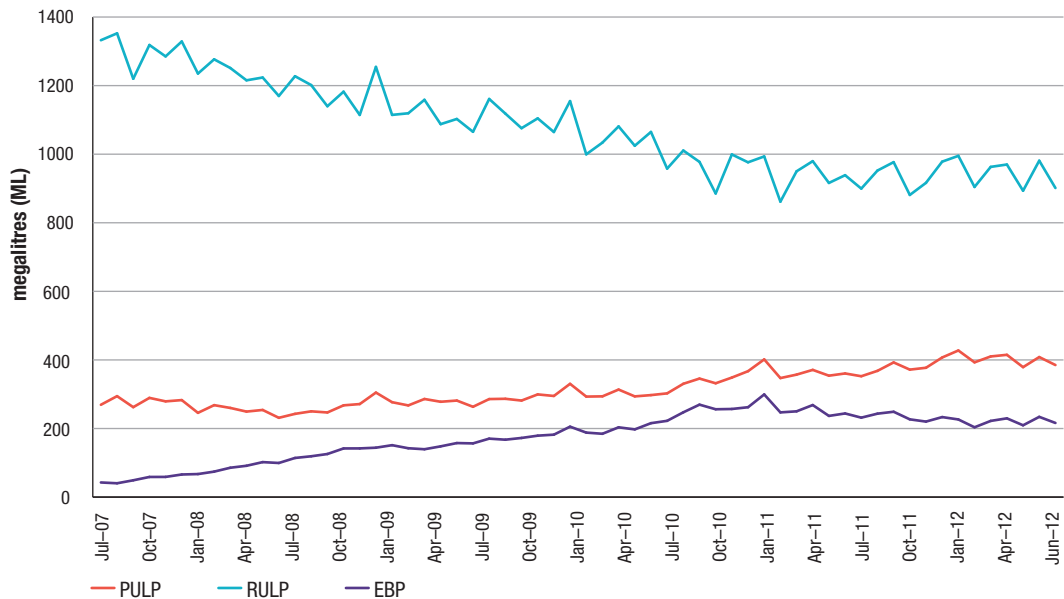
7.3 Demand for premium unleaded petrol

Due to a number of factors, including the NSW ethanol mandate, demand for PULP has increased over the past five years. Over the same period RULP demand decreased markedly.

7.3.1 National demand for premium unleaded petrol

In June 2012, 385 megalitres (ML) of PULP was sold in Australia, an increase from 269 ML in July 2007 (chart 7.1). Over the same period RULP sales decreased from 1,332 ML to 901 ML. Since July 2007 the volume of ethanol blended petrol (EBP) sold has risen significantly, from 43 ML to 216 ML in June 2012. However, as noted in chapter 5, on annual basis, EBP sales fell in 2011–12.

Chart 7.1 Monthly sale volumes of PULP, RULP and EBP: July 2007 to June 2012



Source: Department of Resources, Energy and Tourism (RET) and Bureau of Resources and Energy Economics (BREE), *Australian Petroleum Statistics*, various issues

PULP products have increased their share of total petrol sales, from 17 per cent in 2007–08 to 25 per cent in 2011–12 (table 7.1). By contrast, the share of RULP fell from 79 per cent of petrol sales in 2007–08 to 60 per cent in 2011–12. EBP exhibited the most significant demand increase, primarily due to the NSW State Government ethanol mandate.

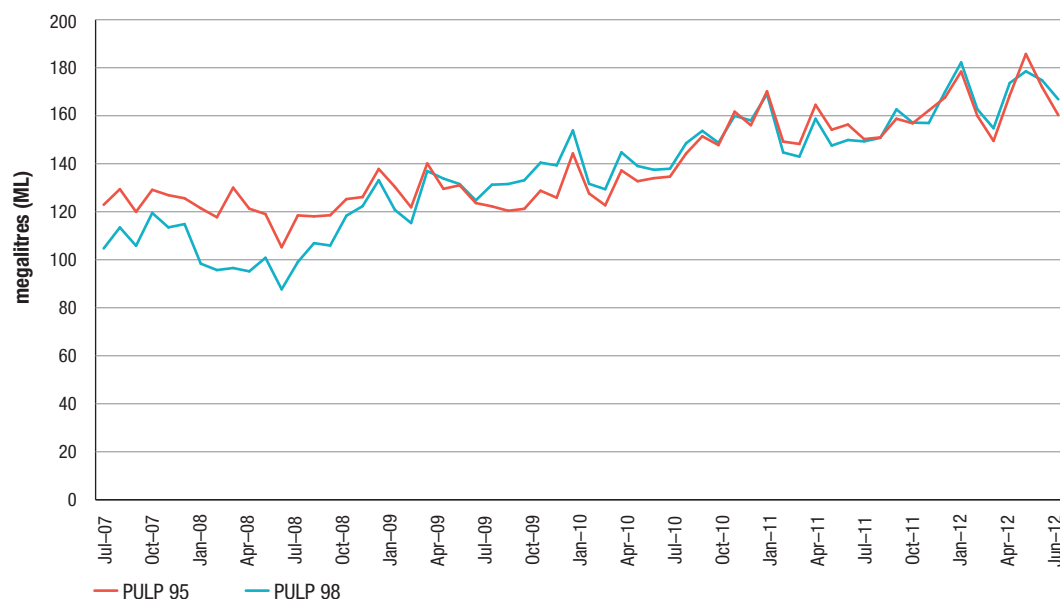
Table 7.1 Percentage and volume of annual sales of PULP, RULP and EBP: 2007–08 to 2011–12

	PULP		RULP		EBP	
	%	ML	%	ML	%	ML
2007–08	17	3186	79	15 209	4	835
2008–09	17	3236	74	13 768	9	1682
2009–10	19	3573	69	12 841	12	2288
2010–11	23	4267	61	11 388	16	3069
2011–12	25	4735	60	11 313	14	2714
Change in percentage	▲8		▼19		▲10	

Source: RET and BREE, *Australian Petroleum Statistics*, various issues.

In 2007–08, PULP 98 sales volumes were lower than PULP 95 (chart 7.2). Over the subsequent five years demand for PULP 98 has risen faster than for PULP 95, consequently in 2011–12 there was similar demand for both grades of petrol.

Chart 7.2 Monthly wholesale sale volumes of PULP 95 and PULP 98: July 2007 to June 2012



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process

7.3.2 State demand for premium unleaded petrol

The national trend of increasing demand for PULP and declining demand for RULP has been most evident in NSW, where PULP's share of total petrol sales has risen from 17 per cent in 2007–08 to around 35 per cent in 2011–12 (table 7.2). The other states and the Northern Territory had smaller increases in PULP sales volumes.

Table 7.2 Annual volumes and proportion of sales of RULP, PULP and total petrol (including EBP): 2007–08 to 2011–12

		2007–08		2008–09		2009–10		2010–11		2011–12	
		ML	%	ML	%	ML	%	ML	%	ML	%
NSW (incl. ACT)	RULP	4666	77	3981	66	3508	57	2160	35	1774	29
	PULP	1030	17	1124	19	1316	22	1849	30	2149	35
	Total	6072		5995		6112		6108		6112	
Vic.	RULP	3998	84	3684	82	3572	79	3612	77	3765	79
	PULP	783	16	751	17	804	18	896	19	952	20
	Total	4787		4502		4496		4685		4780	
QLD	RULP	3282	73	2855	66	2590	61	2515	61	2718	67
	PULP	740	17	715	17	772	18	828	20	895	22
	Total	4475		4296		4243		4122		4074	
SA	RULP	1139	86	1117	86	1111	84	1090	84	1060	83
	PULP	186	14	189	14	205	16	206	16	214	17
	Total	1325		1306		1316		1296		1275	
WA	RULP	1610	82	1629	81	1583	81	1576	79	1578	79
	PULP	357	18	370	19	383	19	398	20	434	21
	Total	1967		1999		1966		1987		2012	
Tas.	RULP	384	85	370	85	351	84	331	83	321	82
	PULP	71	16	67	15	69	16	70	17	68	18
	Total	454		437		420		401		389	
NT	RULP	131	87	133	86	126	85	104	83	97	81
	PULP	19	13	21	14	23	16	21	17	22	19
	Total	150		154		148		126		119	

Source: RET and BREE, *Australian Petroleum Statistics*, various issues

Notes: 'Total' category includes EBP. Percentages may not add to 100 in states with EBP sales.

7.3.3 Impact of state government ethanol mandates

One of the key drivers of demand for PULP has been the NSW Government's ethanol mandate. This has had the effect of reducing the availability of RULP in that state, as increasing volumes of RULP are mixed with ethanol to be sold as EBP, primarily E10 (RULP blended with up to 10 per cent ethanol).

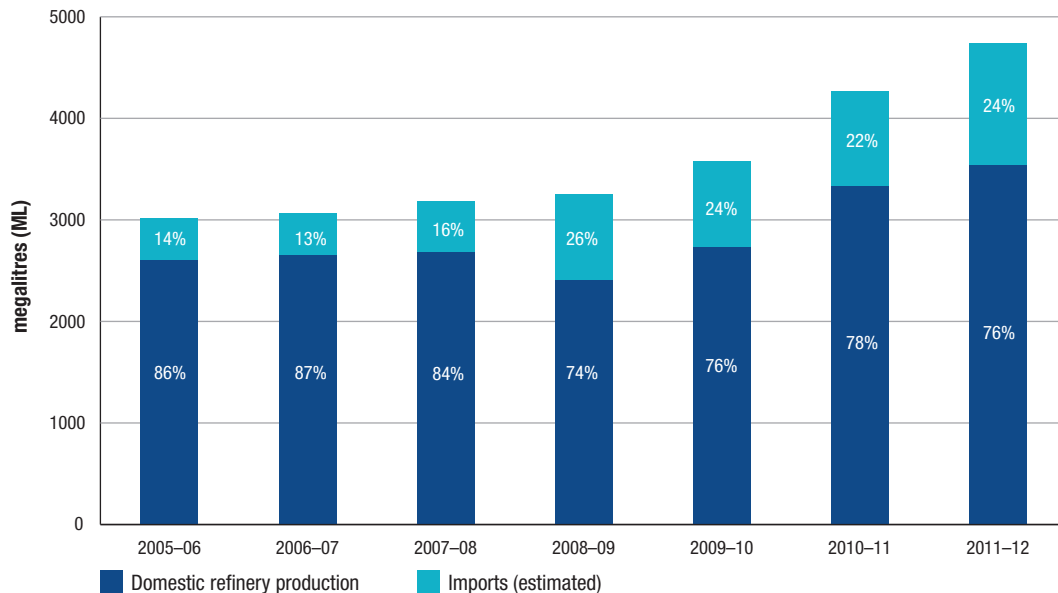
As shown in chapter 5, over the five years to June 2012 the number of retail sites in Sydney selling RULP has gradually declined, generally replaced by E10. Conceivably the NSW mandates could continue to affect demand for PULP in NSW for two reasons:

- declining availability of RULP from most service stations pushing some consumers towards PULP
- consumers with older cars which cannot use EBP and cannot access RULP switching to (ethanol-free) PULP.

7.4 Supply of premium unleaded petrol

PULP sold in Australia is produced domestically and imported. The percentage of total sales met from imports rose significantly in 2008–09 and then plateaued in subsequent years (chart 7.3). In 2011–12 imports accounted for an estimated 24 per cent of sales.

Chart 7.3 Total and percentage of PULP sales by domestic production and imports: 2005–06 to 2011–12



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process; RET and BREE, *Australian Petroleum Statistics*, various issues

7.5 Premium unleaded petrol prices

As with RULP, there are two key benchmarks for determining domestic PULP prices: the import parity price (IPP) and the terminal gate price (TGP).¹⁰¹

7.5.1 Import parity price of premium unleaded petrol

All four refiner-wholesalers calculate an IPP for PULP.¹⁰² Three use an IPP based on the benchmark Platts Singapore quote for refined premium petrol of RON 97 (Mogas 97). This benchmark is known as MOPS 97 (Mean of Platts Singapore for Mogas 97). The other refiner-wholesaler calculates its PULP IPP on the basis of MOPS 95 and adds a 'PULP margin'.¹⁰³

The formula used by most refiner-wholesalers to derive the IPP for PULP 95 can be expressed as:

$$\text{IPP (PULP 95)} = \text{Benchmark PULP 95 price (MOPS 97)} + \text{quality premium} \\ + \text{freight} + \text{insurance and loss} + \text{wharfage} + \text{other costs}$$

¹⁰¹ The rationale behind using these benchmarks and their importance in determining prices is explained in chapter 6.

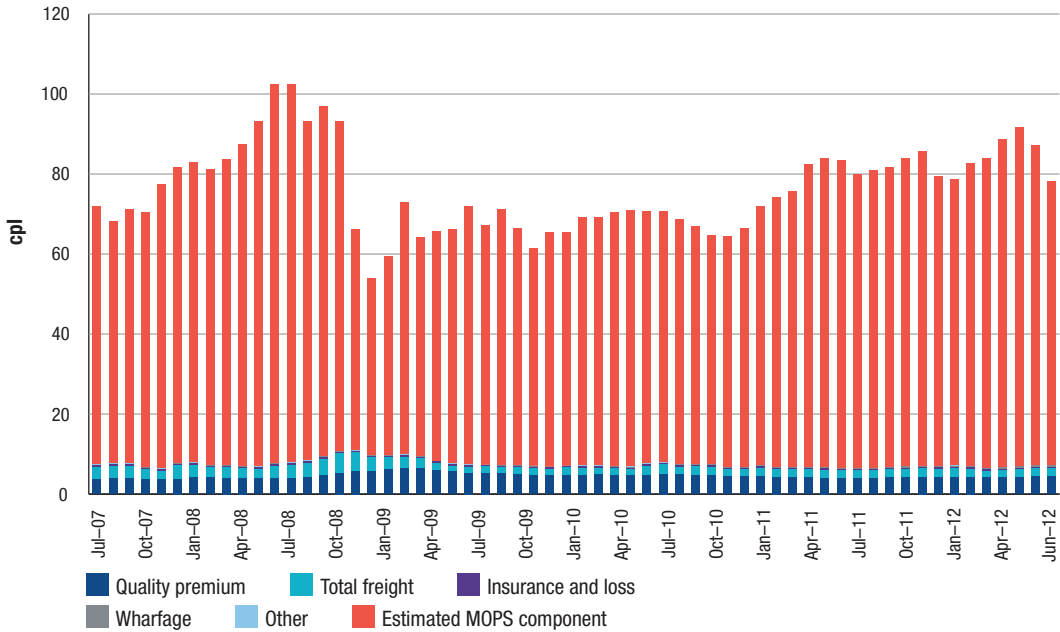
¹⁰² Only one refiner-wholesaler calculates an IPP for PULP 98.

¹⁰³ The price for PULP 95 (i.e. 95 RON) has been based on Mogas 97 (i.e. 97 RON) as the Australian fuel standard for PULP 95 has traditionally been tighter than that for the Singapore product. Refer report prepared for the ACCC by McLennan, Magasanik and Associates: <http://www.accc.gov.au/content/item.phtml?itemId=906685&nodeId=a1d61acd4d02fa7fd66f0970aecbf4&fn=Petrol%20and%20Diesel%20IPP%20Report%20-%20MMA.pdf>

Chart 7.4 shows the average monthly components of the IPP for PULP 95 over the five years to June 2012. MOPS 97 is clearly the largest component and is the main factor driving changes in the level of the IPP for PULP.

On average, the MOPS component made up over 91 per cent of the PULP IPP in 2011–12, slightly more than the previous two years due to higher benchmark prices.

Chart 7.4 Components of monthly average IPP for PULP 95 in the five largest cities:
July 2007 to June 2012



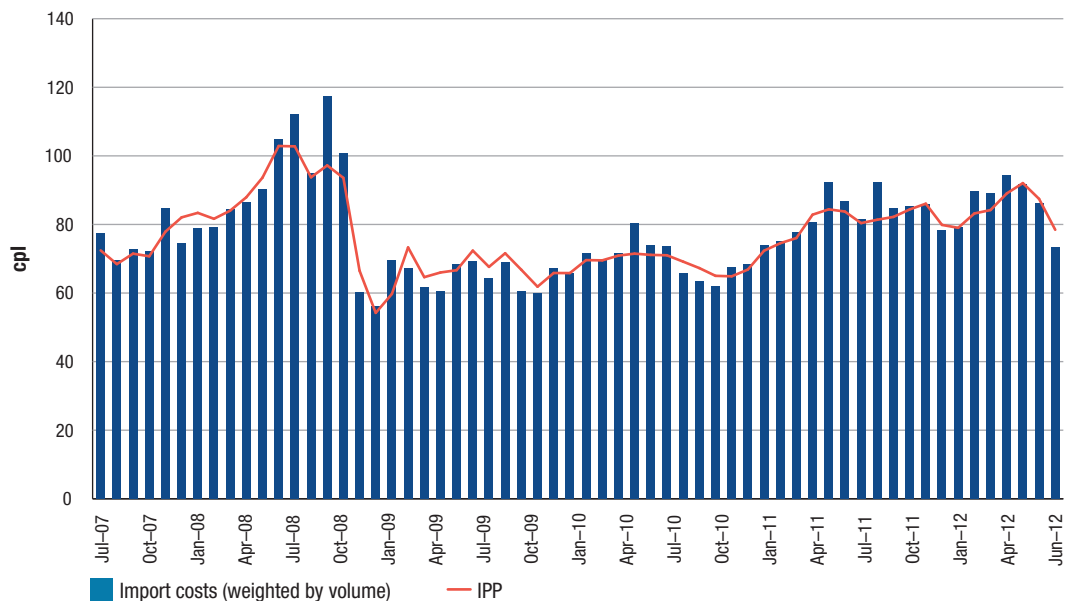
Source: ACCC analysis based on data obtained from firms monitored through the ACCC’s monitoring process.

Note: The data in chart 7.4 is not comparable with RULP IPP data in chapter 6 as one refiner-wholesaler calculates its PULP 95 IPP differently from the others. Components have been adjusted to reflect this.

7.5.2 IPP and actual costs of importing

Although IPP is a notional cost, over the past five years it has largely tracked actual costs paid by companies importing PULP into Australia (chart 7.5). While there have been some monthly variations, with actual costs above and below IPP, the average difference over the five years has been around 0.23 cpl.

Chart 7.5 Monthly average PULP 95 import costs and IPP in the five largest cities: July 2007 to June 2012



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process

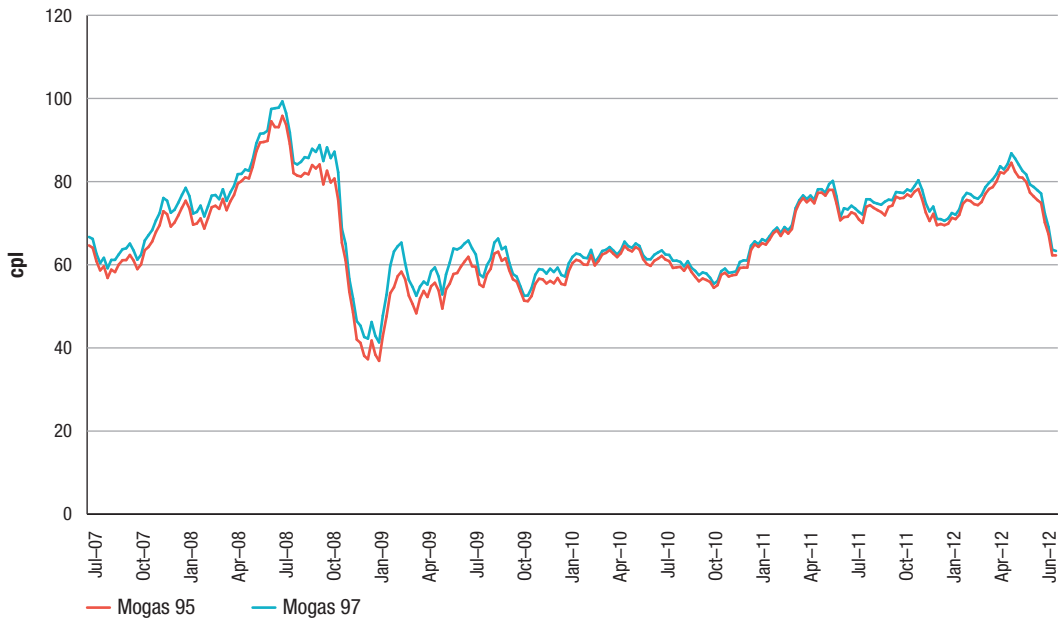
7.5.3 Comparison of the IPPs for premium and regular unleaded petrol

For most refiner-wholesalers the two key differences in the components of the IPP for PULP 95 compared to those of RULP are the benchmark prices of PULP and the quality premium.

As noted, while RULP is benchmarked against the price of Mogas 95, for PULP 95 most refiner-wholesalers use the price of Mogas 97. Over the five years to June 2012 the two benchmark prices have tracked each other very closely, with Mogas 97 priced slightly higher for most of the period (chart 7.6).

The differential between these prices has varied over the past five years. In 2011–12 the average differential was 1.7 cpl. This compares with average differentials of 1.1 cpl in 2010–11, 1.6 cpl in 2009–10, 4.4 cpl in 2008–09 and 2.6 cpl in 2007–08.

Chart 7.6 Weekly average Mogas 95 and Mogas 97 benchmark prices: July 2007 to June 2012

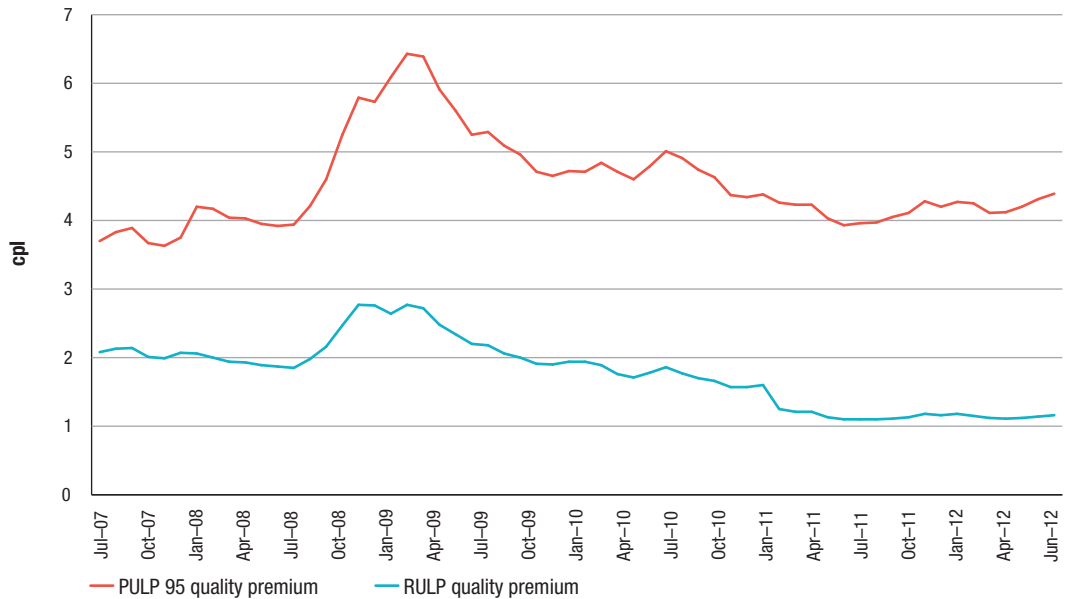


Source: ACCC calculations based on Platts and RBA data

The quality premiums for RULP and PULP primarily reflect the difference between the respective international benchmark prices for Mogas 95 and Mogas 97, and the respective prices of RULP and PULP refined to Australian standards. It also reflects differences in the relative bargaining strengths of buyers and sellers and general market conditions for the two fuels.

While the quality premiums for both products have had similar trends over the five years to June 2012, the premium for PULP 95 was clearly higher than for RULP (chart 7.7). Over the period the differential averaged 2.7 cpl which has narrowed from the five-year peak of 3.7 cpl in March 2009.

Chart 7.7 Monthly average PULP 95 and RULP quality premiums in the five largest cities: July 2007 to June 2012



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process

Note: The quality premium data shown in chart 7.7 has been adjusted to reflect that one refiner-wholesaler calculates its PULP 95 IPP differently from the others.

7.5.4 Wholesale prices of premium unleaded petrol

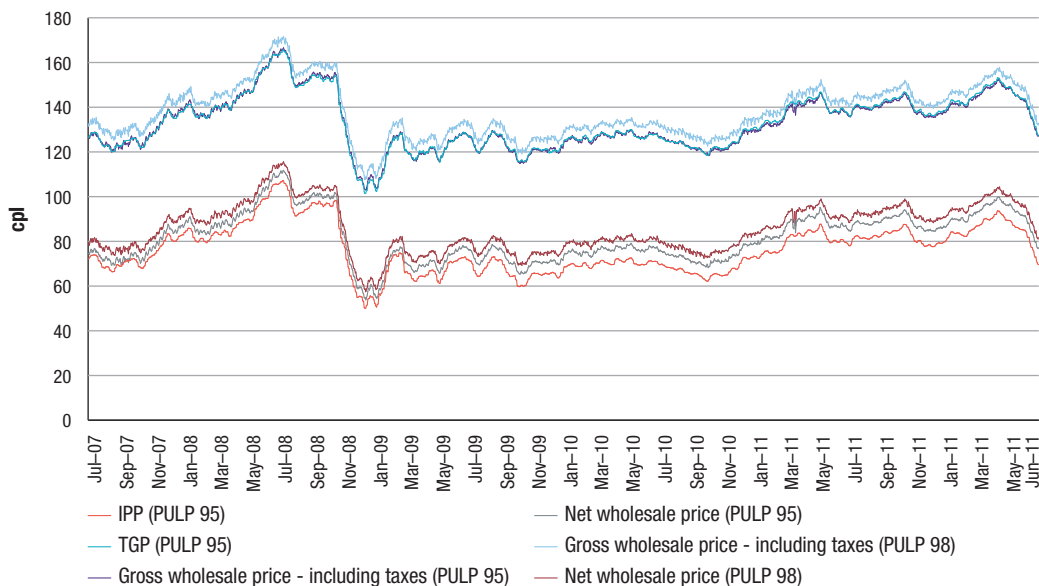
The PULP TGP represents the notional spot price of purchasing PULP from a wholesaler at the terminal gate. Similar to RULP, few PULP transactions are actually made at the terminal gate. Most transactions are negotiated in advance with prices struck slightly above or below TGP depending on volumes and additional services.

Comparing the wholesale prices paid for PULP to the IPP benchmark prices provides an indication of the extent to which wholesale prices reflect their notional import cost (chart 7.8). Over the five years to June 2012:

- average net (i.e. excluding taxes) wholesale prices for PULP 95 have closely tracked IPP for PULP
- net wholesale prices averaged about 5.15 cpl higher than the IPP
- average gross (i.e. including taxes) wholesale prices for PULP 95 and TGPs for PULP have also closely tracked each other closely¹⁰⁴
- PULP 98 wholesale prices have followed a similar trend, though this product attracts a larger premium because of the additional processing and additives required (and additional company proprietary branding).

¹⁰⁴ Note the IPP excludes taxes, so is compared with the net wholesale price. As TGPs include taxes they are compared with the gross wholesale price.

Chart 7.8 Daily PULP average wholesale prices, IPP and TGP in the five largest cities: July 2007 to June 2012



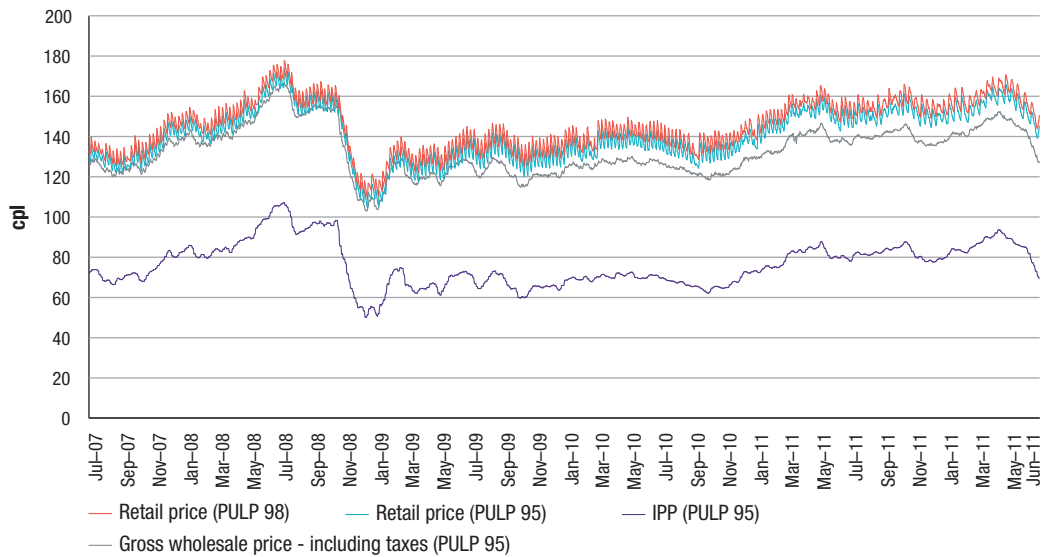
Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process

Note: The data in chart 7.8 is not comparable with RULP IPP data in chapter 6 as one refiner-wholesaler calculates its PULP 95 IPP differently from the others. Data shown have been adjusted to reflect this.

7.5.5 Retail prices of premium unleaded petrol

Retail prices of PULP have also tracked the key benchmark prices relatively closely (chart 7.9). Allowing for the cyclical nature of retail prices in Australia's large cities, the general trend has been for retail prices to follow both the IPP and TGP benchmarks for PULP. Consistent with the trend for wholesale prices, retail prices of PULP 98 have been generally higher than PULP 95. This reflects fuel and non-fuel costs associated with the production of PULP 98 as well as a retail margin.

Chart 7.9 Daily PULP average IPP, and gross wholesale and retail prices in the five largest cities: July 2007 to June 2012



Source: ACCC analysis based on data obtained from firms monitored through the ACCC's monitoring process, Informed Sources data

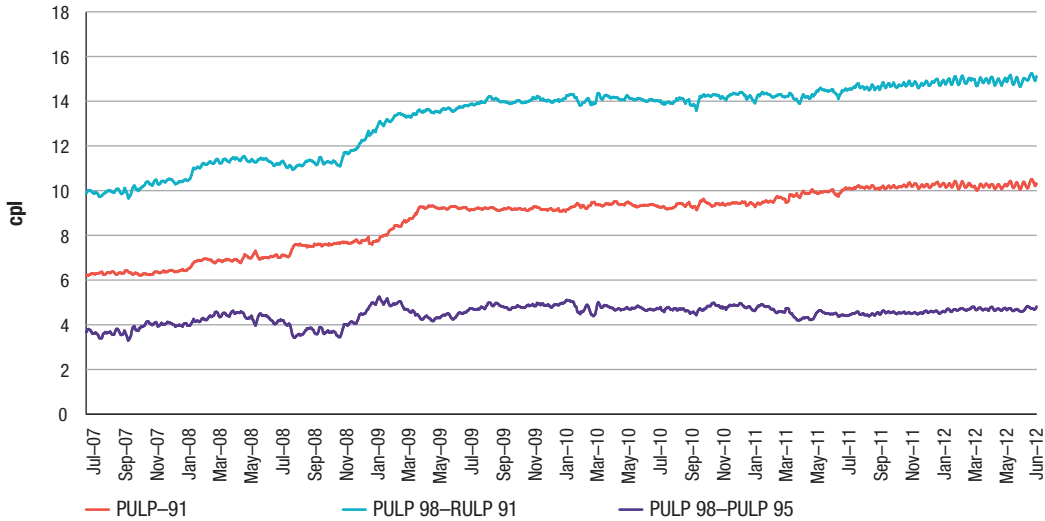
Note: The data in chart 7.9 is not comparable with RULP IPP data in chapter 6 as one refiner-wholesaler calculates its PULP 95 IPP differently from the others. Data shown have been adjusted to reflect this.

7.5.6 Comparing retail prices of premium and regular unleaded petrol

Over the five years to June 2012, the retail price differential between RULP and both PULP 95 and PULP 98 has increased (chart 7.10):

- the PULP 95—RULP differential increased from 6.2 cpl on 1 July 2007 to 10.3 cpl on 30 June 2012
- the PULP 98—RULP differential increased from 9.9 cpl on 1 July 2007 to 15.1 cpl on 30 June 2012
- by contrast the retail price differential between the two grades of PULP increased only marginally over the same period: from 3.7 cpl on 1 July 2007 to 4.8 cpl on 30 June 2012.

Chart 7.10 Differential between average daily PULP and RULP retail prices in the five largest cities, seven-day rolling averages: July 2007 to June 2012



Source: ACCC analysis based on Informed Sources data

7.6 Key observations on premium unleaded petrol

In 2011–12, demand for PULP continued to grow in Australia, particularly in NSW where PULP sales now exceed sales of RULP.

The ethanol mandate in NSW is likely to have been the main factor responsible for the surge in demand for PULP over the last few years.

Prices of PULP in the wholesale market are established with reference to the IPP for PULP. The data for 2011–12 is consistent with established trends whereby wholesale and retail prices of PULP appear to track the PULP IPP as well as the PULP TGP closely.

While supplies of PULP continue to be met through a mix of domestic refinery production and imports, supplies and prices of PULP may be under pressure if the recent growth in PULP sales continues.