

IPART MONITORS THE RETAIL AND WHOLESALE MARKET FOR FUEL ETHANOL

We monitor the retail market for petrol-ethanol blends, and report on the effect of IPART's determined wholesale price of ethanol



- ▶ The average price of E10 rose 4.5% over 2018-19, in line with increases in other fuels.
- ▶ At an average price of 137.5 c/L, E10 was **2.3 cents lower** than the price of unleaded petrol.

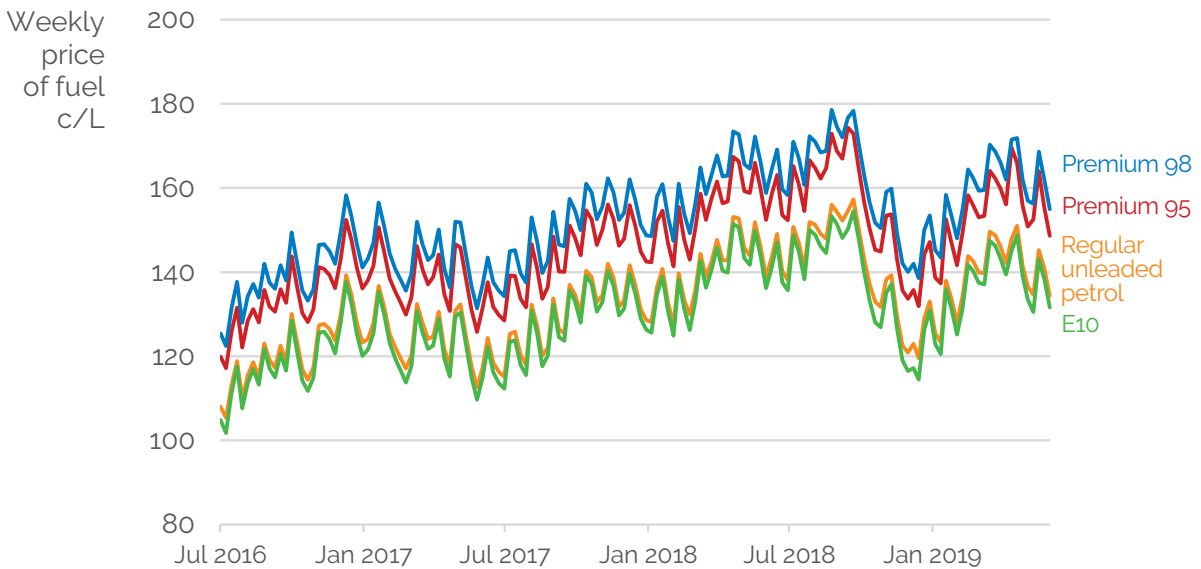


Our review process



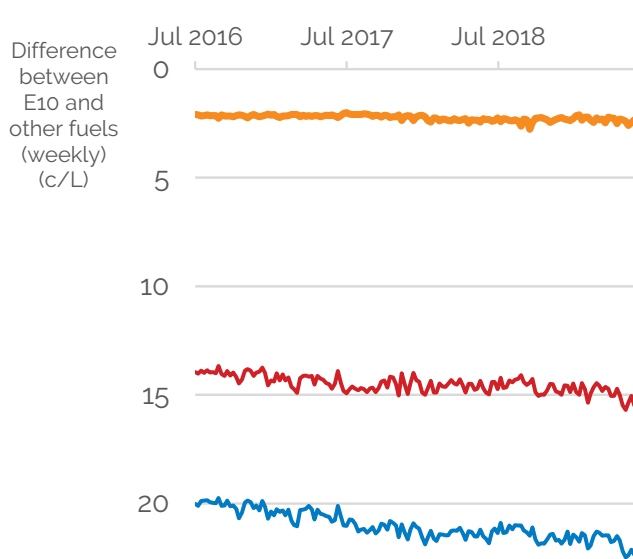
E10 remains the cheapest fuel, closely following the price of other fuels

E10 contains around 3% less energy than other fuels, however it has a higher octane rating than regular unleaded petrol (94 compared to 91). Depending on the vehicle, some motorists will be better off buying E10, while others will need to buy more E10 to travel the same distance compared to regular unleaded fuel, which may offset the price per litre saving.



E10 is closest in price to regular unleaded petrol

The absolute difference between E10 and other fuels has widened slightly over time with the price of fuel, but the relative difference between them has remained similar.



In 2018-19 the average price of **E10** was:

2.3 cents less than the price of Regular unleaded petrol

14.8 cents less than Premium 95

21.6 cents less than Premium 98

All data sources, calculations and assumptions in this report can be found in the excel workbook on our ethanol market monitoring review web page at www.ipart.nsw.gov.au





There are more nozzles for E10 than regular unleaded petrol, consistent with the ethanol mandate

Similar to last year, of the nozzles dispensing E10 and regular unleaded petrol, **53%** dispense E10.

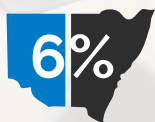
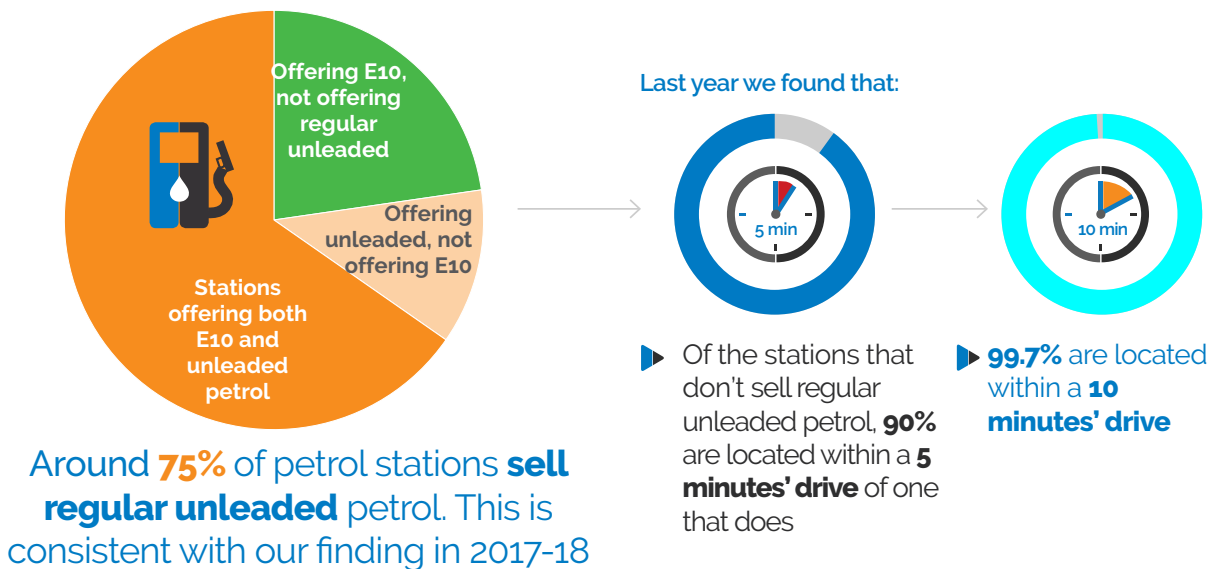
The 2017 [amendments](#) to the ethanol mandate require volume fuel retailers to ensure E10 is as accessible as any other type of fuel. This means:

- ▼ making E10 nozzles available across the forecourts of their service stations, in comparable numbers to the other most available petrol being offered, and
- ▼ taking reasonable steps to market E10, including advertising the price of E10 on their main price board along with other fuel prices.

Volume fuel retailers are a person or business who operates or controls a service station that sells three or more types of petrol or diesel and sells more than 900,000 litres of petrol and diesel combined per quarter, in two consecutive quarters and/or operates 20 or more service stations.

Consumers continue to have an effective choice of fuels

Even though the total number of stations offering regular unleaded petrol has fallen since 2016, unleaded petrol continues to place competitive pressure on ethanol prices.



From 2011, the **ethanol mandate** has required that at least 6% of the total volume of fuel sold in NSW is ethanol.

≈ **60%**
E10

This means that around 60% of all fuel sold needs to be E10, which is a 10% ethanol blended fuel.

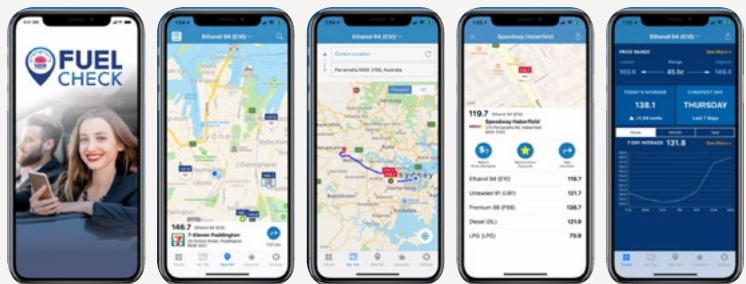
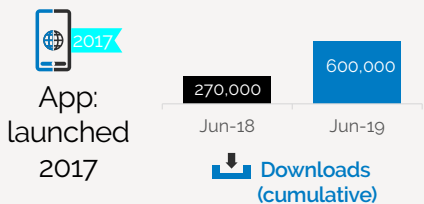
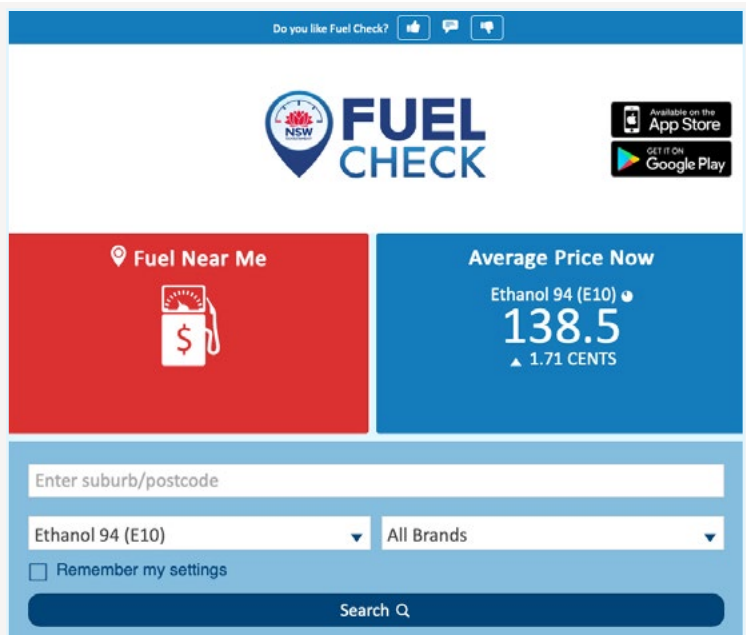


Customer choice is supported by a range of comparison websites and apps

These help customers identify which service stations sell each type of fuel, and at what price. This means that it remains relatively **easy for consumers to purchase their fuel of choice** even when every type of fuel is not available at every service station.

The **NSW Government's fuel check** service supplies real-time information to consumers about fuel prices across NSW.

It uses Google Maps to enable users to find the cheapest petrol station on their journey and direct them to the station. Every service station in NSW is legally required to submit its prices to FuelCheck every time it changes prices.



E10 Fuel for Thought

The NSW Government also runs the **E10 Fuel for Thought** website that allows customers to determine how compatible their vehicle is with E10.



E10 COMPATIBILITY CHECK

FIND OUT IF YOUR VEHICLE IS E10 READY

Please select your vehicle make

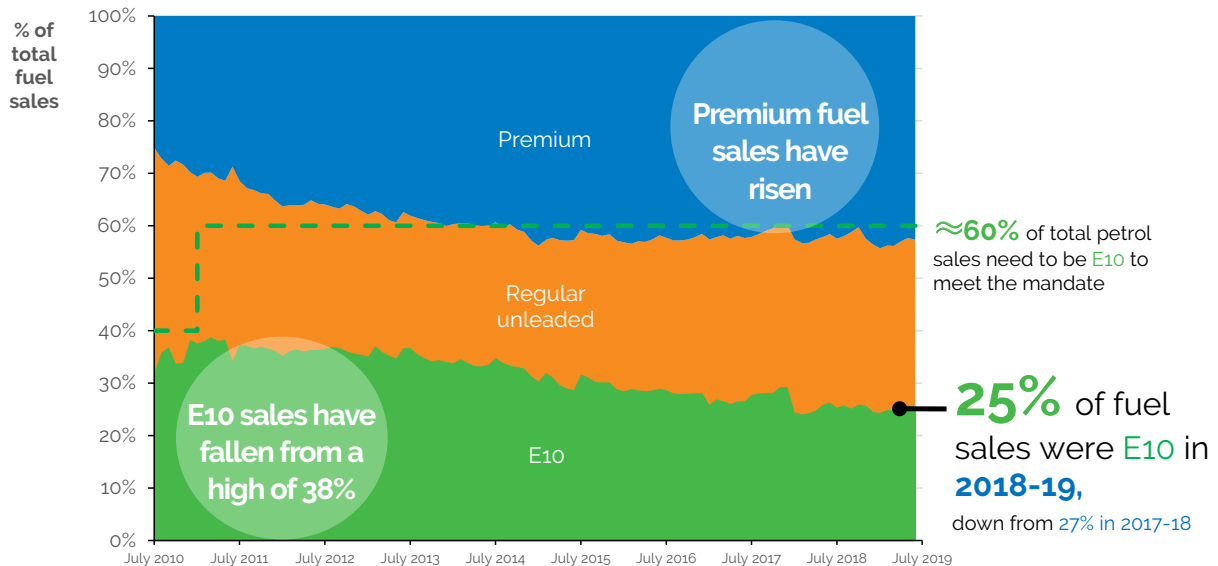
Please select your vehicle model

Your Feedback



Sales of E10 continue to fall

Even though ethanol is widely available and competitive with other fuels, **the ethanol mandate has not been met.**



Note Based on the sales volumes reported for NSW in the Australian Petroleum Statistics. This includes sales from the ACT as well as sales from non-retail outlets and from retail sites not subject to the mandate. Performance against the mandate by the retailers subject to it would therefore be slightly higher than the total sales from the Australian Petroleum Statistics.

NSW Fair Trading is responsible for administering and enforcing the biofuels mandate, including collecting the relevant data from service stations.



The NSW Government has released a discussion paper on whether the objectives and the requirements of the Biofuels Act and Regulation remain valid.

The objective of the Act and Regulation is to support the development of a sustainable and competitive biofuels industry in NSW, to improve environmental outcomes, reduce consumers' dependence on imported petrol, and support regional development. Biofuels improve environmental quality by reducing emissions of pollutants and greenhouse gases - E10 fuel produced in Australia has between two to five per cent lower carbon dioxide emissions than regular unleaded petrol.

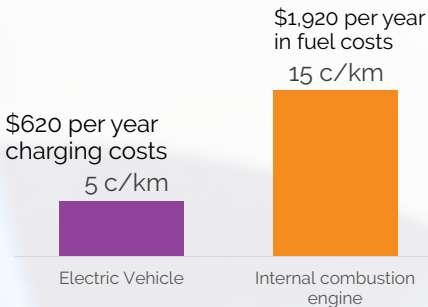
Electric vehicles could also help contribute to meeting these objectives, as their take-up increases. In addition to reducing consumers' dependence on imported petrol, greater electric vehicle uptake would reduce both greenhouse gas emissions and urban air pollution from the road transport sector. This is because they produce no exhaust emissions and use very efficient motors.¹

¹ Australian Government - Department of Environment and Energy, *A National Strategy for Electric Vehicles*, 2019.



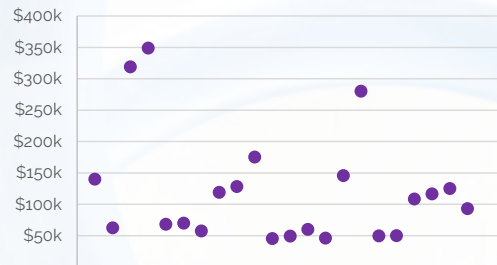
As the take-up of electric vehicles increases, they will contribute to meeting the objectives of the Biofuels Act

The average running cost of electric vehicles are currently around one-third of internal combustion vehicles, but the upfront costs are much higher



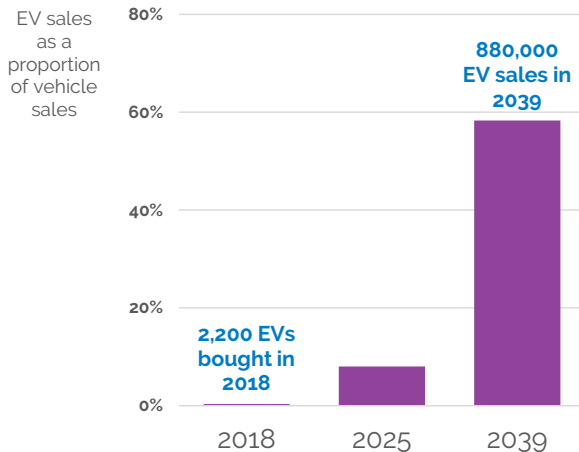
Charging costs are estimated to be around **\$1,300 lower** than fuel costs for an average car user over a year.

Prices of electric vehicles available in Australia (\$AU)



However the starting **upfront cost** of **\$45,000** is significantly higher

While the uptake of electric vehicles has been slow to date, sales of electric vehicles are expected to rise rapidly in the mid 2020s when they are expected to match internal combustion engine vehicles on both upfront price and range (distance travelled between charges).



Currently **<1%** of the vehicle fleet are electric vehicles

25% of the vehicle fleet will be electric by 2039





Since January 2017, IPART has been required to determine a reasonable wholesale price for fuel ethanol, under section 17A of the Biofuels Act 2007 (Biofuels Act).

Our determined price does not cap the wholesale price of ethanol. Rather, if wholesale prices exceed IPART's determined price, then the Minister may exempt volume fuel retailers from meeting the **ethanol mandate**.



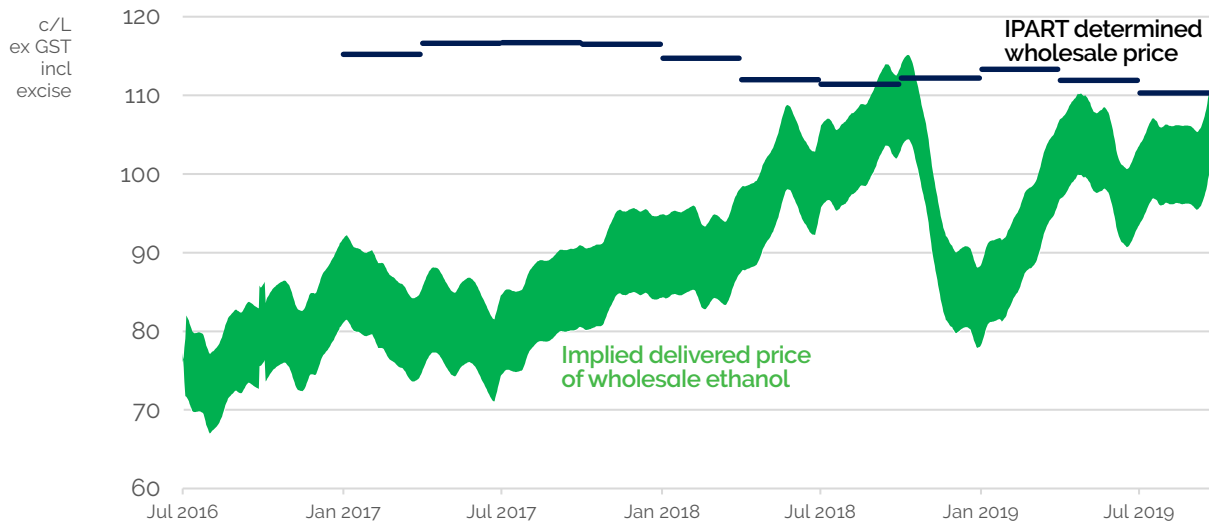
We set the ethanol wholesale price based on what it would cost to buy ethanol from overseas

We use this approach because there is a high degree of customer choice between fuels. The wholesale price of ethanol is constrained because if it is too high, the retail price of E10 would rise relative to other fuels, and customers would switch fuels. There is also some competition in the wholesale market. Under these circumstances, our approach minimises distortion of the wholesale ethanol market and allows competition to continue to develop. It provides scope for ethanol producers and fuel wholesalers to negotiate prices below our determined prices.

One of the reasons we monitor the market is to see whether there have been any changes in the market that would warrant a change in how we set the wholesale price.

Wholesale ethanol prices have increased over the past few years

Wholesale ethanol prices have followed the price trends for oil and wholesale petrol prices (measured by terminal gate prices). Because oil and petrol prices are currently high, there is less downward pressure being applied to wholesale ethanol prices from the fuel market.



The implied wholesale price of ethanol are based on the observed differences in the terminal gate prices for regular unleaded petrol and E10 (using seven day rolling averages) assuming a blend of E10 between 9% and 10%, and includes domestic excise on ethanol but excludes GST. It assumes fuel wholesaler margins of between 3 and 12 cents per litre of fuel based on past estimates from the ACCC. However, submissions to our review last year indicate that the implied priced might be above the prices paid by market participants. The published terminal gate prices at Dalby Bio-Refinery are also lower than the determined wholesale price. As at 18 Dec 2019, the published terminal gate price for ethanol for Dalby Bio-Refinery was 98 c/L, compared to IPART's determined wholesale price of 110.4 c/L.²

We encourage Manildra to publish its terminal gate price so we have more information about whether market prices are likely to be below IPART's determined price.



The ethanol wholesale price set by IPART each quarter has remained fairly stable since we first started setting it in January 2017, ranging from 110.3 cents per litre to 116.7 cents per litre.



As the wholesale price of ethanol has increased, it has moved closer to IPART's determined price, which is based on the cost of importing ethanol from overseas. The top end of our estimated range has slightly exceeded our determined price on two occasions, but the bottom end of the range has remained below.

2 United, *Fuel Grade Ethanol TPG*, <https://www.unitedpetroleum.com.au/dalby-bio-refinery/fuel-grade-ethanol-tgp/>, accessed 18 December 2019.

There is **some competition** between wholesale suppliers

Manildra is the major fuel ethanol supplier in NSW, but there are another two major producers in QLD.

There is also potential for new entry. A number of other ethanol projects have received planning approval in New South Wales and Queensland.

Several projects have received Government funding to progress the development of ethanol production, including:

- ▼ The existing Dalby Biorefinery plant, which would be expanded to boost production by at least a third (an additional 24 to 100 million litres)³
- ▼ MSF Sugar's Biorefinery Project on the Atherton Tableland in Far North Queensland, which would combine sugarcane with blue agave (55 million litres of ethanol biofuel annually)⁴
- ▼ Ethtec's Hunter Pilot Biorefinery, which is using waste plant matter left over from crop harvesting and forestry.⁵

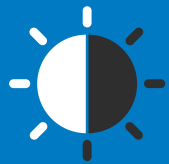


Domestic ethanol producers
 Manildra (NSW)
 Dalby Bio-Refinery (QLD)
 Wilmar BioEthanol (QLD)

3 Queensland Government, *Biorefinery expansion fuels jobs, grain demand*, June 2017, <http://statements.qld.gov.au/Statement/2017/6/27/biorefinery-expansion-fuels-jobs-grain-demand>

4 Queensland Government, *Blue agave planting for biorefinery commences*, January 2018, <https://www.statedevelopment.qld.gov.au/news-and-events/blue-agave-planting-for-biorefinery-commences.html>

5 John Barilaro Deputy Premier, *Work starts on world-class biorefinery for the Hunter*, January 2019, <https://irp-cdn.multiscreensite.com/7649c1af/files/uploaded/Deputy%20Premier%20John%20Barilaro%20-%20-%2Sod%20Turning%20Press%20Release%20-%2018Jan19.pdf>



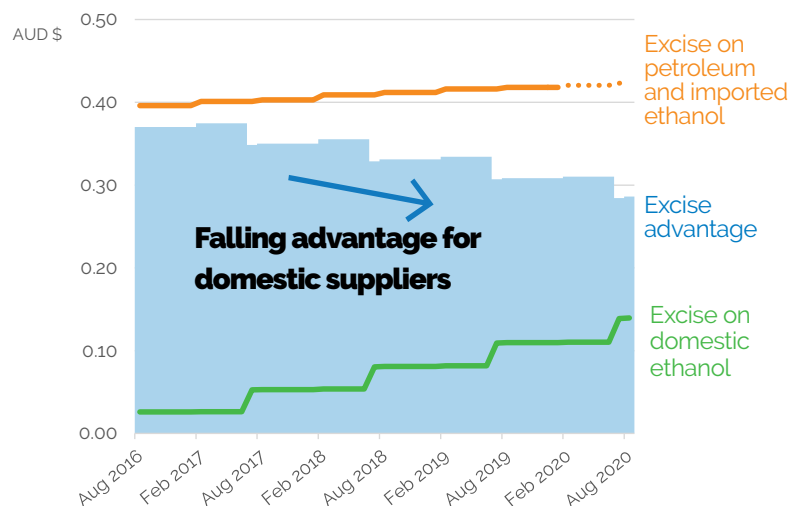
The drought is likely to **increase costs of production**

While new entrant producers may be exposed to market prices for feedstock, some of the second generation commercialisation projects appear to be from alternative sources (such as yeast and algae) that may not be as impacted by the drought.



Increases to excise rates on domestic ethanol is exposing ethanol suppliers to **greater competitive pressure**

Excise on domestic ethanol is lower than petroleum and imported ethanol, providing it with a cost advantage. However, this cost advantage will reduce from around 37 cents to 28 cents as the excise rates on ethanol increase.





Producers and retailers are still negotiating under IPART's determined price so our determined price is not impacting the retail market for ethanol.

This is consistent with the objective of our approach - by determining prices based on the cost of importing ethanol from overseas, we have tried to minimise the distortion in the wholesale market to help competition develop.

As competition in the retail market constrains the price of E10, we do not consider that there have been significant changes that would warrant a move away from our approach to determining wholesale prices.



Now that IPART's wholesale determinations have been in place for several years, we will determine and monitor prices less frequently.

Since we have started setting wholesale ethanol prices, there have not been significant changes in the market, and our determined prices have been fairly stable. Our price has not been used when applying the exemption framework for meeting the ethanol mandate.

Given these factors, less frequent reporting and determinations would help reduce some of the regulatory costs associated with the ethanol mandate. We will determine the price of wholesale ethanol annually and monitor the market every two years.



Where can I find out more information

▶ Our calculation methodology for determining wholesale ethanol prices

▶ IPART's current determined price of ethanol

About the ethanol mandate

! All data sources, calculations and assumptions in this report can be found in the excel workbook on our ethanol market monitoring review web page at www.ipart.nsw.gov.au

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