



Submission to the South Australian Productivity Commission on Fuel Pricing

January 2020

Accurate, Reliable, Timely

Executive Summary

At a glance

- Australian fuel prices are amongst the lowest in the OECD and South Australian fuel prices are amongst the lowest in Australia historically.
- Discontent from motorists is likely to stem from “price shocks” in Adelaide when prices move from the trough to the peak as part of the regular price cycle.
- Risky real-time fuel price reporting regulation would likely increase fuel prices and will not remove price cycles or lessen price volatility.
- A 24-hour fuel price freeze is unlikely to reduce the amplitude and unpredictability in which fuel prices move.
- Regulated transparency with 100% coverage would only provide a positive outcome to consumers if the fuel market was one of perfect competition with market clearing prices determined by the demand of undifferentiated consumers seeking to purchase an undifferentiated product – clearly the Australian fuel market bears no resemblance to such a model.
- There is a great deal of fuel price information available now although consumer behaviour studies show motorists rarely use this information when purchasing fuel. Notwithstanding this, increased transparency can be found via an industry-based solution – regulation is not only costly but unnecessary.
- Using the already widely available fuel price information, RAA is the natural conduit for better informing motorists on fuel prices and are able to access real-time fuel prices now on reasonable commercial terms across South Australia.

The net benefits and effectiveness of models used in other jurisdictions

- Four States/Territories in Australia have introduced regulated transparency and in each instance, there has been no evidence to suggest these schemes have reduced fuel prices or volatility. These findings are consistent with research from abroad where similar schemes exist.
- Consumer behaviour should be considered through the lens of behavioural economics (not neoclassical economics), where the costs and benefits of fuel purchases mean that purchases are made according to simple rules that consider multiple factors, not just price.
- Retailers as well as consumers access fuel price information available through regulated real-time fuel price reporting.
- In oligopolistic markets such as fuel retailing, regulated price transparency can be anti-competitive by facilitating the coordinated conduct of competitors and exposing smaller, more aggressive but financially weaker competitors to retaliation by larger rivals.
- Recent market studies into the retail fuel sector in New Zealand by the Commerce Commission and Ministry of Business, Innovation & Energy considered regulated

transparency but rejected such an approach due to the risk of unintended adverse consequences.

- There is no evidence to suggest a 24-hour fuel price freeze similar to the system in Western Australia will make fuel prices any less volatile. Fuel prices in Perth cycle and go up and down almost as much as Adelaide. The average price in Perth demonstrates a regular weekly price cycle but there is no evidence to suggest this regularity has anything to do with the 24-hour fuel price freeze regulation. Further, individual retailers do not necessarily price consistently with Perth's regular cycle resulting in unpredictability.
- There is a great deal of fuel price information available from private data providers in South Australia. The current amount of fuel pricing data available has less than 100% coverage but protects against the unintended adverse consequences which mandatory price reporting and perfect data brings with it.
- Informed Sources makes all of its fuel pricing data available to third parties including motoring clubs on reasonable commercial terms.

Current regulatory arrangements for fuel pricing in South Australia and how alternative models compare

- Other than price board regulation there is no regulatory arrangements for fuel pricing in South Australia to Informed Sources' knowledge.
- Motorists are most likely unhappy about the "price shock" in Adelaide which was on average 31 cents per litre in 2019 but has been as much as 41 cents per litre when prices move from the trough of the price cycle to the peak.
- Price cycles are indicative of strong competition and allow savvy motorists to save money if they time their fuel purchase around the bottom of the cycle when prices are often below the wholesale cost.
- Other locations in Australia including Sydney, Brisbane, Melbourne and Perth experience price cycles and as a result, "price shocks" when prices move from the trough of the cycle to the peak. The average variance between the price at the trough and the peak is lowest in Perth of all capital cities with price cycles although there is nothing to suggest this is a result of the 24-hour price freeze or regulated transparency.

The most cost-effective solution to increase transparency in fuel prices in South Australia

- Relatively few motorists actively search prices via the web or on their smartphone before filling despite saying price is an important consideration.
- Motorists are open to receiving general information to better inform them on fuel prices. Of the tools developed by MotorMouth, only 25% access site level prices – the rest access dot-e-maps, price cycles and recommendations on good days to buy.
- RAA has 740,000 members and represents the interests of motorists in South Australia. They have minimal fuel price information on their website and no information on their app

- Extensive fuel price information is available to RAA from private data providers. RAA could significantly increase the amount of information available to motorists in South Australia and save motorists money by assisting them on where and when to purchase fuel.
- Risky and costly regulation is therefore unnecessary. An industry-based solution would not cost government, not cost retailers through increased red tape and not cost motorists through higher fuel prices that would likely eventuate from regulation.

Table of Contents

1. Introduction	1
2. South Australian fuel prices and determinants	2
2. 1 South Australian fuel prices.....	2
2.2 Fuel pricing determinants	4
2.2.1 Costs.....	4
2.2.2 Competition	4
2.2.3 Sales and Marketing Strategy	5
2.2.4 Price by brand	7
2.2.5 How consumers purchase fuel	8
3. The net benefits and effectiveness of models used in other jurisdictions	10
3.1 Introduction	10
3.2 New South Wales.....	11
3.3 Western Australia	13
3.4 Northern Territory.....	14
3.5 Queensland.....	16
3.6 Victoria.....	17
3.7 ACT	17
3.8 Tasmania.....	18
3.9 All Australian States and Territories	18
3.9.1 MotorMouth – a national fuel pricing service.....	19
3.10 New Zealand	20
3.11 Other jurisdictions.....	20
4. Current regulatory arrangements for fuel pricing in South Australia and how alternative models compare.....	22
4.1 Introduction to regulatory arrangements, fuel pricing and volatility	22
4.2 Origin and characteristics of petrol price cycles in Australia	24
4.2.1 Economic forces driving price cycles.....	24
4.2.2 Historical factors affecting price cycles.....	24
4.2.3 The role of pricing managers and oligopoly behaviour.....	24
5. The most cost-effective solution to increase transparency in fuel prices in South Australia	26
5.1 Consumer trends and behavior to fuel prices.....	26
5.2 Industry based approach to increasing transparency	28
6. Conclusion	29
7. About Informed Sources	30

1. Introduction

Informed Sources (Australia) Pty Ltd is pleased to provide this submission to the South Australian Productivity Commission on fuel pricing. Our submission broadly follows the three areas the Premier has asked the Productivity Commission to investigate in his letter of 18 December, 2019.

Informed Sources operates Australia's leading fuel price monitoring services and has done so for 32 years. We make our fuel pricing data and associated services available to fuel retailers, government agencies including the ACCC, and other third parties such as state motoring clubs, as well as directly (and free of charge) to motorists through our fully owned subsidiary, MotorMouth.

Our expertise relevant to this inquiry is in the collection and dissemination of information on fuel prices. Our extensive experience with supporting the retail fuel industry and consumers also provides valuable insights into the determinants of fuel prices and potential means to improve transparency in South Australia.

In our submission, we will consider fuel prices in Australia and specifically in South Australia and determinants of fuel prices which will assist to provide context and an understanding of whether public discontent around fuel prices is justified. Further, we will consider price cycles and the "price shock" motorists experience with the sudden rise in prices as prices move from the trough to the peak.

We analyse Adelaide's price cycle and compare it to other markets with similar cycling behaviour, some with regulated transparency and others without. We then investigate whether price shocks are likely to be reduced or removed from the implementation of real-time fuel price reporting or a 24-hour price freeze, similar to the Western Australia model.

Most importantly, fuel markets do not operate in the way that is commonly perceived.

1. Consumers are typically not rational decision makers weighing the facts for each purchase and making choices when purchasing fuel by minimising their costs for a relatively homogenous product. Rather, they generally use simple rules to purchase fuel (such as location and learned perceptions of quality and pricing) because the benefits of "shopping around" rarely justify the costs.
2. Retailers are not simple profit-maximisers but operate within an oligopoly where their roles and behaviours are heavily influenced by competitors.

These market realities lead to very different regulatory outcomes from simple models of competition.

2. South Australian fuel prices and determinants

2. 1 South Australian fuel prices

It might seem hard to believe based on regular media headlines but petrol prices in Australia compare favourably with many other countries – as the below Chart shows (Figure 1), Australia has the third lowest petrol prices in the OECD.



Figure 1: Comparison of OECD fuel prices - Q1 2019. Source: Department of Environment and Energy

Furthermore, and of relevance in particular to this inquiry, South Australia has historically had amongst the lowest fuel prices in Australia. The following analysis compares Adelaide's average unleaded prices with the four other largest capital cities in Australia over the past five years (2015 – 2019) and shows that Adelaide's regular unleaded price has been on average more than 1 cent per litre less than the four other largest capital cities combined.

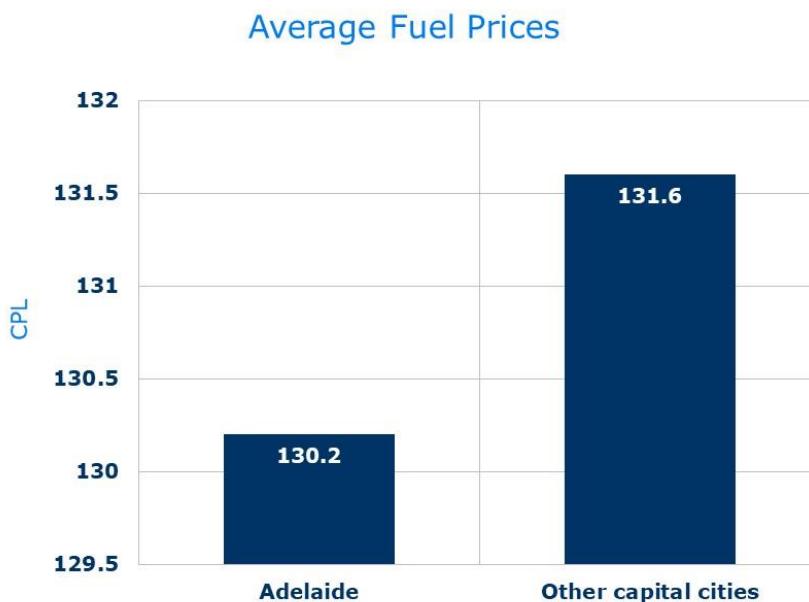


Figure 2: Average Adelaide ULP price compared with aggregate other capital city average ULP price (Brisbane, Melbourne, Sydney and Perth)

Examination of more recent pricing (2019 only) shows that Adelaide comparatively has shifted from being the lowest or second lowest capital city for petrol over the past few years to the fifth lowest. Movement in rankings between capital cities over time is not uncommon and is reflective of events or changes within individual markets.

2015		2016		2017		2018		2019	
ADELAIDE #2		ADELAIDE #1		ADELAIDE #2		ADELAIDE #1		ADELAIDE #5	
Melbourne	126.0	Adelaide	114.2	Sydney	126.2	Adelaide	140.4	Darwin	139.7
Adelaide	127.2	Sydney	116.1	Adelaide	126.3	Sydney	140.9	Sydney	140.0
Perth	128.4	Melbourne	116.3	Perth	128.5	Perth	143.0	Perth	140.4
Sydney	128.8	Perth	116.4	Melbourne	128.8	Melbourne	143.2	Melbourne	142.0
Brisbane	130.5	Brisbane	119.2	Brisbane	130.0	Brisbane	144.3	Adelaide	143.1
Canberra	132.4	Darwin	119.6	Canberra	134.5	Darwin	152.5	Brisbane	143.7
Darwin	132.6	Canberra	122.7	Darwin	135.1	Canberra	153.3	Canberra	144.7
Hobart	136.2	Hobart	122.7	Hobart	139.3	Hobart	154.7	Hobart	150.8

Figure 3: Average Unleaded price comparison over past five years

The following graph shows that the Gross Indicative Retail Difference (GIRD) in Adelaide for calendar year 2019 as 13.5 cents per litre, or about 9 per cent of the average retail price. The Gross Indicative Retail Difference is the difference between the average unleaded petrol price, as determined by competition, and average Terminal Gate Price (TGP). The GIRD is a broad indicator of retailer gross margins and, for a retailer to remain profitable, must cover transportation costs of product from the terminal to the service station, operating costs such as leases, bank repayments, staff wages, electricity, site capital costs such as pumps and equipment and a return on investment. The ACCC's most recent analysis on retailer profitability (as opposed to margins) was for 2010-11 where it was stated that average profitability was 2.2 cents per litre¹.



Figure 4: 2019 Gross Indicative Retail Difference comparison between capital cities

¹ ACCC, Fuel facts: Unleaded petrol - <https://www.accc.gov.au/system/files/Fuel%20facts%20-%20Unleaded%20petrol.pdf> Accessed: 8 January 2020

It is evident from the low gross margin (and much lower net profit) and Adelaide's ranking that competition in Adelaide is strong and there should be no concern over the level of prices in Adelaide (and South Australia generally). It is notable that the focus of the Premier's letter and Attorney General's media release of 18 December 2018 is on price volatility, which is also a key focus of this submission.

2.2 Fuel pricing determinants

About 85% of the retail price of fuel is cost of product and taxes, which leaves approximately 15% to cover wholesalers' and retailers' costs (including capital and operating costs, storage and distribution costs) and any profit. The percentage varies by location and over time.

2.2.1 Costs

Service stations face widely varying costs for several reasons including, their operating structure, location and their business model/offer. For example, operating costs: one service station may be family-run and prepared to accept lower wages (as owners) than a competitor with employees at award rates; another site might be old and have high repair and maintenance costs; another might have a large convenience store offer to spread its overheads with fuel sales.

Capital costs may also vary greatly. For example, a new site costing several million dollars requires a higher dollar return on investment compared to an old site with written-down assets; another old site may have replaced its fuel storage tanks for environmental reasons and require higher prices to pay for this capital improvement; and land values can vary greatly by location.

2.2.2 Competition

In national markets where there are strong competitive forces, the task of delivering an acceptable return on investment is challenging for retailers. This is why Australia has seen the retreat of several companies in recent years from retailing fuel (ExxonMobil, Shell, Chevron (via Caltex), Woolworths, Coles, Trafigura). The retail sector remains extraordinarily dynamic with new international entrants through takeovers and organic growth of local retailers.

In larger markets, such as Sydney and some other capitals including Adelaide, there has been a rise of aggressive discounters that have found a market niche undercutting their larger rivals. As documented by the ACCC, so-called "independent" retailers (i.e. not selling a traditional major brand of fuel – BP, Caltex, Mobil, Shell), have gained market share over the past 10 years².

As explained by Byrne (2012), markets with substantial numbers of both large chains and discounters tend to exhibit Edgeworth cycles, which exist in capital cities with the exception of Darwin, Canberra and Hobart, where there are insufficient discounters to drive cycle behaviour. Price cycles are not unique to Australia and are not a sign of market failure³.

² Australian Competition and Consumer Commission 2018, *Retail and wholesale petrol market shares in Australia*, September 2018

³ David P. Byrne, Petrol Price Cycles, University of Melbourne, 2012.

The relative strength of local competition is an important determinant of how a retailer sets its price. In competitive markets, if a retailer sets its price too high, it will experience a decline in volume. Conversely, if a retailer prices low in a competitive market, it will experience volume gain but at reduced margin. In less competitive markets, retailers are typically able to maximise their margins with much less threat of losing volume.

The competitiveness of markets is generally revealed by the way in which retail prices track wholesale prices: in highly competitive markets, there is a close relationship. In markets with lower competition, the relationship tends to be less close (prices are "sticky").

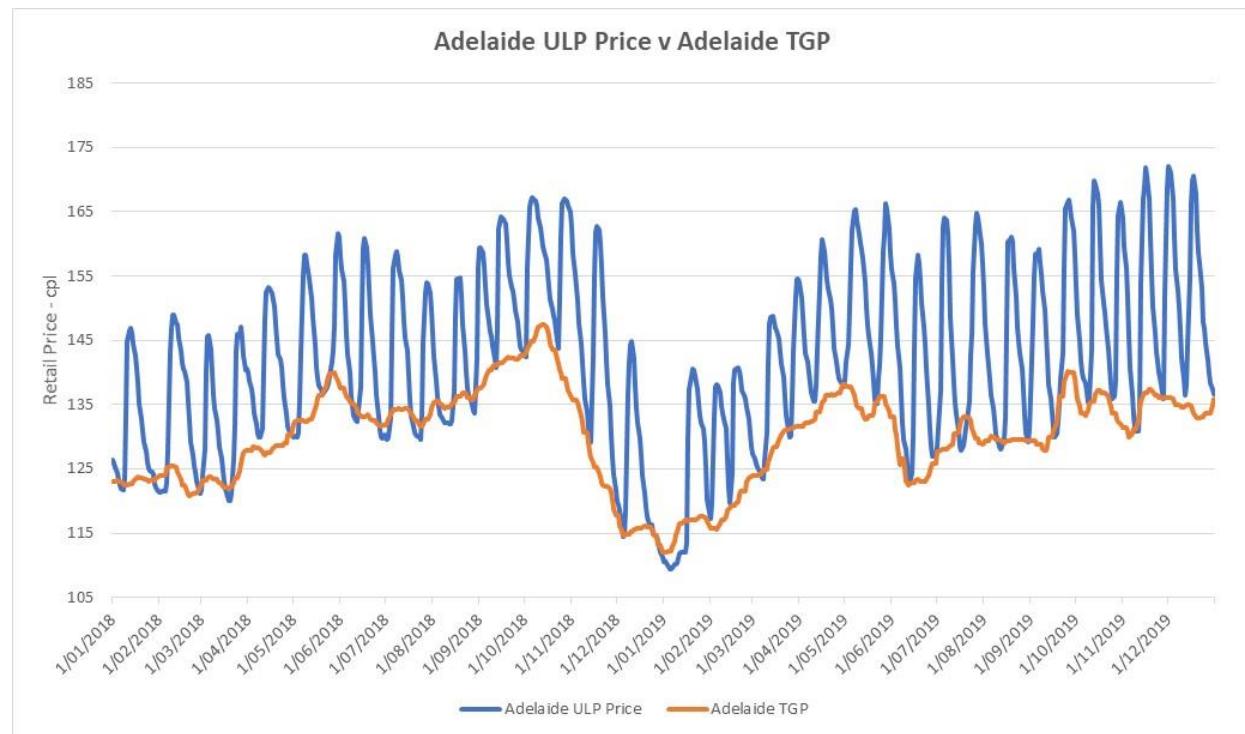


Figure 5: Adelaide prices track TGP over time although it is difficult to see due to the regular price cycle in the Adelaide retail market. Sources: Informed Sources and Australian Institute of Petroleum

Using changes in the Adelaide TGP as a proxy for changes in MOPS95 (the Singapore benchmark price), the above chart indicates that Adelaide petrol prices track Singapore prices (MOPS95, adjusted for exchange rate and GST) over time.

In all markets (competitive or not), there is a tension for fuel retailers trying to optimise volume and margin. In more competitive markets however, this tension for retailers is more dynamic and challenging and often results in lower fuel prices, greater volatility and fuel price cycles. As will be discussed later in this submission, the very fact that Adelaide has regular price cycles is indicative of strong competition.

2.2.3 Sales and Marketing Strategy

From a technical point of view, most petroils of a particular grade (e.g. unleaded, premium, E10) are very similar and different brands may have the same bulk supplier in a particular location in order to minimise supply costs.

However, brands matter to consumers regardless of the technical characteristics of the goods they are buying. This applies to a wide range of consumer goods that might be considered "homogeneous". Retailers that have invested in fuel brands and innovated with products (such as 98 octane petrol and cleaner diesel) are able to charge a premium.

A consumer's purchase of fuel from a particular branded site brings with it a number of desirable benefits, including convenient location (close to a regular travel route), ease of driveway and forecourt access and egress, cleanliness of pumps and buildings, courteous staff, personal security, availability of convenience goods, quality guarantee (i.e. any damage from faulty fuel will be fixed), and rewards schemes. This package of consumer benefits has real value, in the sense that consumers are prepared to pay for them in the form of a somewhat (but not greatly) higher price.

A consumer typically purchases fuel from one or a few of the same sites⁴. While price is the single most important element in the purchase decision according to consumers⁵, paradoxically it appears that this does not influence site choice outside a consumer's one or few familiar sites – experience quickly assures the consumer that the price at the usual site (or sites) is reasonable. Behavioural rather than neo-classical economics is best suited to understanding fuel purchase behaviour. This is reinforced by consideration of search costs and benefits, where the small savings from travelling to more distant but cheaper sites rarely justifies the costs.

Consumer behaviour explains why some retailers can charge higher prices on a sustainable basis for products that are similar from a technical point of view (both fuel and convenience goods). Retailers with weaker brands or sites need to charge lower prices to attract customers or may establish themselves as discounters, so any perception of lower quality (regardless of the reality), is countered by a lower price.

Within the Australian fuel market, retailers will typically fall into one of three segments

- 1) Premium – categorised by strong brand and good overall offer (fuels and convenience store) – where fuel price is usually among the highest in the market
- 2) Convenience – categorised by very good convenience store offer (not necessarily a historically major brand), good locations and quality fuels – where fuel price is usually mid-range
- 3) Discounter – widely recognised as service stations that sell fuel at the lowest price in the market. Service stations in this segment will often not be in the best location or have a large convenience store offer. They are a fuels volume business.

The ACCC discussed the various retail models in its 2018 report on petrol prices by brand:

There are currently around 7300 retail fuel sites in Australia and these operate under a range of business models. The variety of business models and ownership structures mean that there are different pricing strategies among retail sites, as well as different capital structures and cost bases.

For example, some retailers may consider that they have a 'premium brand', an attractive retail site, a good location and a superior convenience store, and set their retail prices higher to reflect these features. Other retailers may consider that they need to set prices below those of many of their local

⁴ ACAPMA 2019 Monitor of fuel consumer attitudes

⁵ ACAPMA 2019 Monitor of fuel consumer attitudes

competitors to attract customers to their retail site. Some may have competitive prices to attract consumers into their convenience store where margins are often higher than on sales of fuel.

Some retailers may offer discounts to qualifying customers. Examples of these include shopper docket discount arrangements of the supermarket chains, discount arrangements between some major retailers and state motoring organisations, and discounts associated with fuel cards. These offers may also influence a retailer's pricing strategy⁶.

2.2.4 Price by brand

Difference between each major retailer's annual average petrol price and the market annual average petrol price in Adelaide in 2018

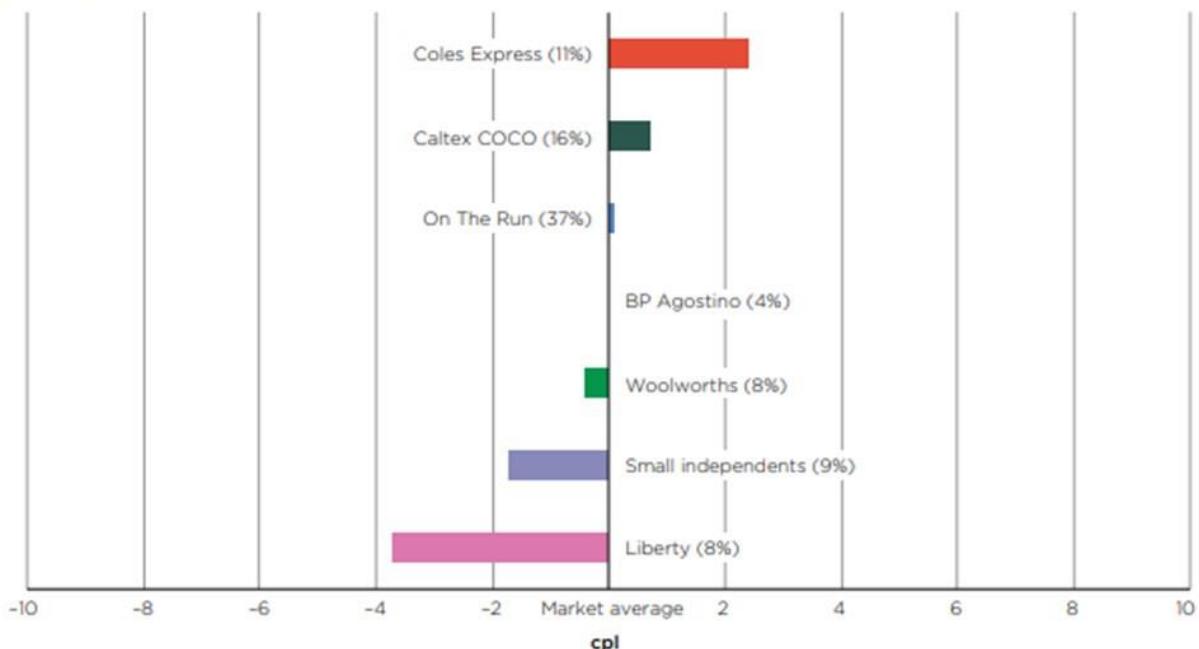


Figure 6: Petrol prices vary significantly by brand. Source: ACCC Report on petrol prices by major retailer, 2018

The effect of differentiated marketing strategies can be seen from the ACCC's report on prices by brand in 2018. The above chart shows data for Adelaide.

It can be seen that Coles Express (Shell-branded petrol) is the most expensive based on the time period this analysis covered. It is likely that Coles for several years employed a pricing strategy that emphasised margin over volume and it is well documented that overall Coles volumes declined as a result. Nevertheless, the strong brand and availability of shopper dockets made Coles a major competitor in all national markets. In early 2019, Coles and Viva Energy entered into a new supply agreement with Viva becoming responsible for pricing at all Coles Express sites. Viva stated at the time this deal was announced that it was intending to be more competitive⁷ – the inference being it is pursuing a strategy with lower margins in order to recover volume.

⁶ Australian Competition and Consumer Commission, *Petrol prices are not the same: report on petrol prices by major retailer in 2017*, May 2018, p5.

⁷ Sydney Morning Herald, Coles Express signals petrol price cuts as earnings plunge, 6 February 2019

Other major brands are around the average price (noting that Woolworths also offers shopper dockets at certain Caltex-branded sites), while independents other than On The Run offer lower prices on average. The quantum of the lower prices from independents, 2 to 4 cpl, is important as the saving on a typical 50 litre fuel is only \$1 to \$2. Given the explicit or implicit value of time (say, \$20 per hour, about the minimum wage), it is evident that searching for lower priced fuel and driving there would generally not create a net benefit.

On the other hand, price cycles may have an amplitude of 30 to 40 cents per litre, so timing of a fuel purchase – at one of a consumer’s usual sites as discussed above – could be beneficial if the cycle is at least reasonably predictable. Key regulatory issues are whether existing information makes the cycle reasonably predictable (for example, MotorMouth provides warning of likely price movements in the next few days) and whether regulation would add predictability. There are good reasons to believe that regulation would be ineffective in doing so, as explained later in this submission.

2.2.5 How consumers purchase fuel

The ACAPMA 2019 Monitor of Fuel Consumer Attitudes⁸ provides a wealth of information about consumer behaviour. A key observation is that consumers do not “shop around” widely for fuel. Reflecting past research, few consumers indicate they would travel very far out of their way to find a cheaper fuel price. One in five (20%) consumers would not travel at all to find a cheaper price, and 45% would only travel 5 minutes out of their way (ACAPMA 2019 p20). The latter time would equate to 2 to 3 kilometres in city traffic, so in fact they would be shopping at one of their few local sites.

The ACAPMA 2017 Monitor of Fuel Consumer Attitudes had similar observations but some slightly different analysis. In the 2017 Monitor, only 15% of motorists were identified as “price sensitive” shoppers who “will compare price and even drive out of their way for cheaper fuel”.

As noted in the Introduction, consumers generally use simple rules to purchase fuel (such as location and learned perceptions of quality and pricing) because the benefits of “shopping around” rarely justify the costs. The benefits of shopping at a limited number of sites is discussed in Section 2.2.3 as it underpins marketing strategies.

The low number of consumers who actively search for fuel prices before purchasing can also be partially explained by the fact that the cost of fuel only ranks fourth amongst consumers most concerning household expenditure – only 12% of consumers rate fuel costs as their most concerning expense.

The report notes that street signage remains the most common way for consumers to shop for price although use of fuel apps is increasing particularly amongst the consumers aged under 30 - 19% of consumers indicate they use fuel price apps to find the best price.

As relatively few consumers seek out the cheapest prices, this supports a relatively low percentage of retailers that employ a discount strategy, as discussed in Section 2.2.3. Most retailers, including the large brands, are able to charge higher prices that reward their brand and site investment. Supporting this, the 2019 survey revealed that retailer loyalty has increased - up from 19% in 2017 to over a quarter (26%) of consumers are loyal to a single service station and always purchase their fuel from the same retailer.

⁸ ACAPMA 2019 Monitor of fuel consumer attitudes

Consumer behaviour explains why transparency regulation is ineffective: the market mostly does not consist of empowered consumers actively shopping around and putting downward pressure on prices.

As will be discussed later, it is not only ineffective but most likely anti-competitive as it provides additional information to retailers that is more valuable to them than consumers and better enables them to optimise pricing in an oligopoly.

3. The net benefits and effectiveness of models used in other jurisdictions

3.1 Introduction

Fuel price transparency in South Australia is already very high with consumers able to freely access information through various existing market-based sources including:

- third party apps and websites including MotorMouth, GasBuddy, PetrolSpy and Compare the Market
- motoring clubs including RAA
- fuel retailer apps such as Woolworths Fuel and 7-Eleven
- media – radio, television, social media and print
- fuel retailer price boards, including a ban on the display of discounted (e.g. shopper docket) prices.

It is difficult to identify any other sector with the same level of transparency and scrutiny of the price at which its products are offered.

In addition, because fuel is such a frequent purchase, consumers rapidly become familiar with the offers and prices at different service stations, quickly settling on simple rules to inform their fuel purchase decision. For example:

"when I need to fill up on the way to work, I always stop at the same servo because it's on the way, their prices are usually pretty good and I can buy nice coffee for only an extra dollar".

How consumers decide where to buy fuel is often over-simplified - it's usually not about the cheapest price. As the above example illustrates, it's about location, an acceptable fuel price, what's in the convenience store and other site characteristics.

Regulated price reporting transparency is ineffective and will not change consumer behaviours. Nonetheless, in some states and territories, governments have chosen to regulate fuel price transparency (i.e. mandatory for retailers to report their prices which can then be viewed via websites or apps) and, in the case of WA, also regulate the time period in which fixed prices must be made available to consumers. Other jurisdictions have adopted other, market-based approaches.

As will be discussed in this section, regulation of price transparency has not reduced prices and prices have in fact increased since the introduction of regulation. Moreover, consumer use of fuel price apps remains relatively low with regulation being a costly way to "benefit" such a small number of the total population, particularly when it is recognised that extensive pricing information is already available free of charge. Unfortunately, regulation of price transparency has enabled various governments to be "seen" to be acting on fuel prices, but the regulation has been a costly failure.

Economic theory suggests that in oligopolistic markets such as fuel retailing, regulated price transparency can be anti-competitive by facilitating the coordinated conduct of competitors and exposing smaller, more aggressive but financially weaker competitors to retaliation by larger rivals. While regulated transparency can marginally increase the information available to the minority of consumers who actively seek the cheapest prices, it can provide a greater

advantage to all retailers, who have the economic incentive and ability to use the additional data to the disadvantage of consumers. As a result, prices can increase rather than decrease.

The impact of transparency regulation will depend on the conditions before regulation. If consumers have little or no information apart from their personal experience, then transparency regulation could provide valuable new information for all consumers. However, this is not the case in Australia, where comprehensive information on prices already exists and has done so for many years. The impact also depends on whether regulation generates new information for retailers. In the case of Australia, independents are generally shielded from larger competitors because their data has not generally been collated and disseminated electronically. Regulation removes this competitive shield.

Best practice would be to ensure consumers have sufficient information to make well-informed purchasing decisions (which may include a wide variety of data sources from signboards to media to internet information to pricing apps), while allowing more aggressive retailers to "fly under the radar" of larger rivals. It is most likely we are currently at or near this optimum policy position now in South Australia, although greater dissemination of already available information by the media and motoring clubs could further benefit motorists.

3.2 New South Wales

Regulation was introduced in NSW in 2016 requiring all service stations to register with the Department of Fair Trading and from August 2016, all retailers have had to ensure that current fuel prices are uploaded to Fair Trading's FuelCheck website in real time. This information is then provided to consumers on the FuelCheck website and app and supplied free of charge to commercial organisations such as the NRMA who use it as part of a marketing strategy to attract road service members and customers for its holiday, car rental and other services. The data is also available free of charge to fuel retailers and third parties such as private data aggregators and various app developers.

The FuelCheck scheme was designed to promote ethanol-blended fuel by making the price of E10 more visible. This was despite consumers already understanding E10 to be a cheaper, although less fuel-efficient, grade of petrol. However, it is often portrayed as a means of lowering fuel prices.

When FuelCheck was introduced, a large number of lower-priced independents were added to the price database. As a result, there was an apparent downwards effect on average Sydney prices. As a result, analysis of the impact of FuelCheck needs to examine prices at the same set of service stations before and after the regulation ("like for like" analysis).

Recent like-for-like site level analysis of NSW fuel prices by Informed Sources comparing the 38 months before FuelCheck with the 38 months after FuelCheck, benchmarked against the average Sydney terminal gate price, showed that Sydney unleaded petrol prices (as indicated by retailer gross margins) have increased 2.3 cents per litre and regional prices have not reduced. These findings somewhat contradict earlier analysis performed by Griffith University who found that Sydney prices had reduced by 1.03 cents per litre⁹. It is important to note however, that the Griffith work used published average prices (ie. a skewed sample) and was therefore not comparing the same sites prices before and after FuelCheck.

⁹ Griffith University, The impact of FuelCheck on retail ULP prices in New South Wales, 2018

In regulating that retailers provide consumers with access to real-time fuel prices, the NSW Government has

- not reduced costs for motorists (Sydney gross retailers margins have increased since FuelCheck was introduced)
- duplicated existing private sector fuel information services
- created a new and costly bureaucracy
- increased the red-tape burden for small business (most service stations are small businesses)
- threatened the existence of some independent retailers who did not wish their prices to be published because of greater risk of attack by larger and stronger competitors.

Further, most low-priced independents fear mandatory fuel price reporting because in addition to the extra red-tape that goes with having to set up systems to report their prices, it easily exposes their prices to larger competitors. This may result in short-term price wars until either the independent is forced out of business or they increase their prices. Either way, over time, prices increase.

Despite the risk of fines, Informed Sources has observed in NSW through our own audit drives, a number of instances where lower priced independents are gaming FuelCheck by posting higher prices on FuelCheck than on the forecourt so that larger competitors can't see their "real price". One retailer with multiple sites in Sydney was observed pricing incorrectly on FuelCheck in 49% of instances.

The regulation was introduced without regulatory assessment or meaningful stakeholder consultation and without consideration of the anti-competitive aspects of price transparency, specifically regulated schemes.

Lack of consultation and effective implementation has seen a number of issues arise, including

- wide-spread misreporting of prices by some retailers, made worse by an inadequate compliance program
- lack of technical support to manage system failures - one system failure caused a pricing anomaly across Western Sydney
- misrepresentation of scheme usage by Fair Trading
- retailers and site operators use FuelCheck almost as much as consumers.

Apart from reasons related to consumer behaviour, as discussed earlier, the ineffectiveness of FuelCheck is explained further by its limited usage by consumers and the fact that it effectively duplicates existing information. 2017 analysis showed that there are on average about 170,000 hits per month on the FuelCheck website, a rate of about 2 million per year.

This sounds impressive until the annual number of fuel purchases in NSW is considered. There are about 5.5 million vehicles on NSW roads¹⁰ consuming about 10 billion litres of fuel per year¹¹; at an assumed average fill of 50 litres that equates to about 200 million fills per year.

¹⁰ Australian Bureau of Statistics, 2015, Motor Vehicle Census, cat no.9309.0, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/9309.0Main+Features131%20Jan%202015?OpenDocument>

¹¹ Department of the Environment and Energy, Australian Petroleum Statistics: Table 3b. Sales of Petroleum products by state marketing area, March 2017 Quarter, <http://www.environment.gov.au/system/files/resources/08464198-e56c-4f99-a8df-5195573493a1/files/australian-petroleum-statistics-june2017.pdf>

FuelCheck is therefore used on the surface by only 1 per cent of fills. However, this percentage overstates the scheme's usefulness because retailers and site operators are also heavy users of the FuelCheck scheme for monitoring their competitors' prices.

Informed Sources estimates the split of consumer vs commercial usage of FuelCheck to be in the order of 60/40 suggesting that the scheme attracts about 100,000 sessions per month from actual consumers or only 20,000 to 25,000 consumers (unique users) when considering users will likely log 4 to 5 sessions per month. This is an expensive service for the NSW Government to operate for a very small proportion of the population.

It is sometimes argued that regardless of the impact on average price levels, such schemes can save individual consumers money by helping them shop around. However, such claims, which are usually extrapolated to the whole market, ignore the fact that free, comprehensive pricing information was available to consumers before the regulation, most consumers do not wish to actively "shop around" and in many cases the savings would not justify the cost and effort i.e. the saving at the pump is outweighed by the cost to drive to the cheaper service station.

3.3 Western Australia

Western Australia introduced regulation in 2001 that requires all fuel retailers in the Perth area and the majority of regional WA to provide by 2pm each day, the prices at which they will sell fuel for 24 hours starting 6am the following day. These prices are available from 2.30pm on the government website. Fuel must be sold at the posted price; variation in price or discounting is illegal.

A comprehensive 2017 study by Australian academics David Byrne and Nicolas de Roos¹² found that FuelWatch facilitated practices which created price stability, enabled firms to resolve conflict quickly and resulted in significantly higher prices for motorists. The abstract for the paper states:

We show how price leaders can use price experiments to tacitly communicate collusive intentions, resolve strategic uncertainty, and create mutual understanding among rivals over a collusive strategy.

In a summary of the study's conclusions in an article in The Conversation, Byrne says:

New analysis of retailers in Perth over a period of five years [2010-2015] shows this inflated the price motorists are paying to fill up their tanks, and retailers are making 50% higher profit margins as a result...¹³

Clearly, the process of tacit collusion examined by Byrne and de Roos benefits enormously from FuelWatch price regulation: communication and tracking of prices is formalised by government mandate, and stability of the coordinated pricing behaviour is underpinned by the ban on discounting. It is ironic that a scheme that was intended (albeit mistakenly), to benefit consumers has ended up facilitating tacit collusion that results in increased pump prices.

¹² Byrne and de Roos, 2017, Learning to Coordinate: A Study in Retail Gasoline, <http://dx.doi.org/10.2139/ssrn.2570637>

¹³ Byrne, D 2017, New research shows how petrol retailers pushed prices up in Perth, The Conversation, <http://theconversation.com/new-research-shows-how-petrol-retailers-pushed-prices-up-in-perth-72792>

In summary, the problems with FuelWatch are:

- Government and motorists supportive of the scheme have traded certainty (in the form of a weekly price cycle and fixed daily prices), for higher prices
- the 24-hour rule facilitates oligopolistic outcomes because it makes it easier for competitors to predict others' behaviour
- coordination is substituted for competitive rivalry – competitors learn to accommodate others' strategies to maximise revenues
- smaller competitors are disadvantaged because intra-day discounting is illegal and prices fully exposed – they can't be tactical price discounters (unlike certain brands in Adelaide)
- larger brands can "game" system by posting low prices at a few sites to head up the price rankings and create a low-price image
- government bureaucracy and costs, and industry costs, are increased.

Clearly, the failings of the WA scheme show it would be of no benefit to South Australia and would in fact be harmful to the market. Further, participation in FuelWatch would create legal concerns under the Competition & Consumer Act if not operated by the WA Government.

It is also important to note that the apparent certainty of the weekly price is dependent on the market. Price cycles in other cycling markets including Adelaide, Brisbane, Sydney and Melbourne during the 2000s were typically also weekly, before extending to 8 days then progressively longer and now are typically 2 to 4 weeks in the eastern states and SA. It is entirely possible that price leaders in the oligopolistic WA market could at any stage see an advantage by changing the length of the cycle, the timing of price increases (not necessarily regular) or increasing its amplitude. The regulated 24-hour price freeze rule and transparency would not prevent retailers in WA from changing the current observed regularity of the price cycle or level of amplitude.

3.4 Northern Territory

The Northern Territory Government implemented its MyFuel NT scheme in late 2017, which is very similar to the NSW FuelCheck scheme. Regulation passed in the NT makes it mandatory for fuel retailers to report their prices to the NT Government when they change price. The NT Government in turn, publishes this information on the MyFuel NT website.

Analysis by Informed Sources in 2018 revealed that the ULP gross indicative retail margin (GIRD – difference between the average retail price and terminal gate price) had increased 5 cents per litre since MyFuel NT was implemented. In centres outside of Darwin – Katherine and Alice Springs, the impact on fuel prices has been even greater with the gross margin increasing significantly more than 5 cents per litre.

In some further analysis performed by Informed Sources in 2018, it was found that the difference between the Darwin Terminal Gate Price and the Darwin minimum price (i.e. the lowest price service station) has increased markedly since MyFuel NT commenced on 1 November 2017 as highlighted by the graph below. This suggests that "cheap fuel" was less available in Darwin because retailers were now easily able to see what the whole market was doing and were then able to adjust prices accordingly to maximise margins.

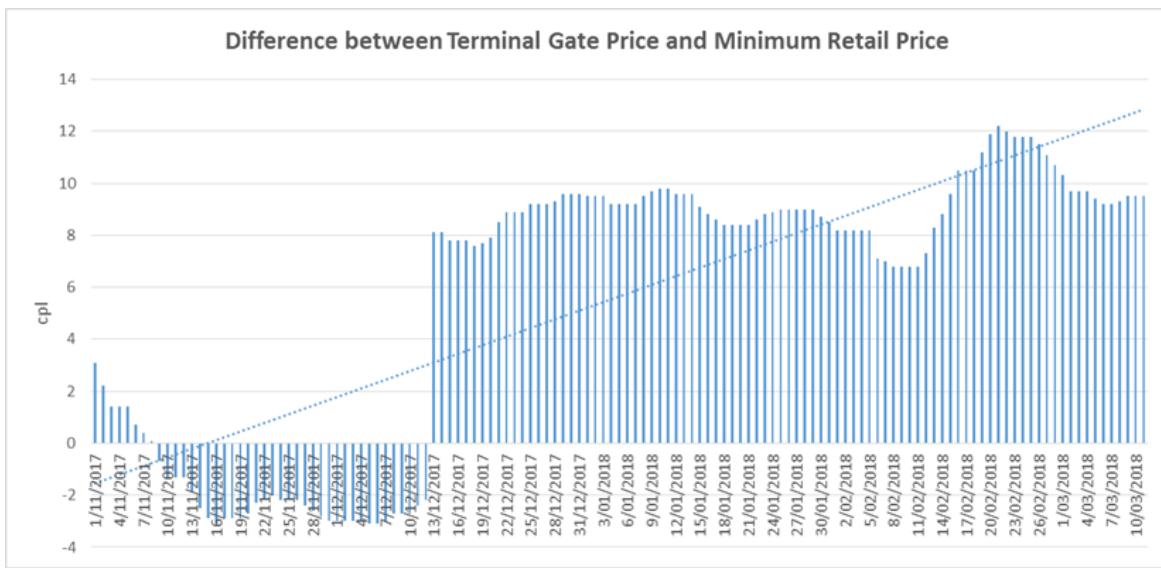


Figure 6: Impact on minimum fuel price benchmarked against TGP. Source: Informed Sources and AIP

Similar to NSW where very few motorists are accessing the fuel pricing information, Informed Sources understands anecdotally that only a few thousand NT motorists have visited the MyFuel NT website.

Whilst Informed Sources has not undertaken any formal analysis of NT fuel prices since 2018, it is clear that during 2019 Darwin fuel prices and retailer gross margins have declined markedly. In trying to uncover the likely causation of this change, it is important to note that Darwin has a high concentration of Coles Express and Puma Energy service stations (41% of the network)¹⁴ and there were two important structural issues that occurred in 2019:

1. Viva Energy commenced control of pricing at Coles Express in April 2019 and have publicly stated their desire to increase volume through more competitive pricing strategies; and
2. Puma Energy has been trying to increase its volumes through more aggressive pricing as it prepares for the sale of its retail network – an announcement was made just prior to Christmas 2019 that Chevron will acquire the Puma Energy network.

Given NT fuel prices did not decline throughout 2018 (they increased), and only started declining as the above mentioned events began to unfold, we believe it is highly likely these events are the reason for Darwin's comparatively lower prices and retailer margins and that MyFuel NT has not caused any downward impact on prices.

It is notable that following Puma's entry into the NT market in 2013 through takeover of Ausfuel's assets, there was a step increase in NT prices, perhaps as a result of Puma seeking to recover its purchase cost. While not suggesting that Chevron will increase fuel prices, the price strategy of a retailer can change with a change of ownership.

¹⁴ Informed Sources NetWatch database

3.5 Queensland

The Queensland Government implemented a mandatory fuel price reporting trial in December 2018 after a sustained campaign by the RACQ to do so. Whilst it is too early to assess the impact of the scheme on fuel prices, there are a number of noteworthy points relating to the scheme.

- 1) The RACQ was the biggest proponent of the scheme and benefitted commercially from the trial's implementation. The RACQ previously paid a commercial data provider for access to fuel price information and now obtains data free of charge;
- 2) The Queensland Government would seem wary of any negative impact the scheme may have on fuel prices and has therefore implemented it as a trial for 2 years;
- 3) The Queensland Government outsourced the operation of the scheme to an experienced third party through a tender process who is responsible for aggregating the data from all Queensland fuel retailers. Informed Sources was appointed as the aggregator to run the scheme on behalf of the Queensland Government;
- 4) The Queensland Government has not created its own website or app. Rather, the government appointed aggregator has created an API which data consumers and publishers including app developers can freely access to obtain all fuel prices throughout the State in real-time.

In preparing for the trial's 2-year conclusion, the RACQ has started its campaign to pressure the Queensland Government for the scheme's continuation. In October 2019, the RACQ made claims that the number of "cheap days" in Brisbane (days where the Gross Indicative Retail Difference was less than 8 cents per litre) had increased due to mandatory fuel price reporting. RACQ claimed the number of "cheap days" for the first three quarters of 2019 were 35 days per quarter. Using the RACQ methodology for calculating "cheap days", Adelaide without mandatory price reporting regulation had 38 "cheap days" over the same period – 3 more "cheap days" per quarter compared to Brisbane.

In early December 2019, the RACQ made further claims suggesting the trial in Queensland had saved motorists \$122 million by calculating short-term shifts in average prices multiplied by the population. The RACQ's assertion however is overly simplistic and misleading for the following reasons:

- It does not take into consideration that there are many variables that impact the price of fuel - wholesale prices, currency fluctuations, competitive intensity and so on. According to the ACCC, the lower gross margins in Brisbane were likely due to a 12% increase in retail sites which is bringing greater competition to the market¹⁵.
- Numerous markets across Australia, including those without regulated fuel price transparency, have seen lower retail margins in recent times. This suggests any reductions in margin are likely caused by something other than regulated transparency.

¹⁵ ACCC, Report of the Australian petroleum market, September quarter 2019 - https://www.accc.gov.au/system/files/1641RPT_Petrol%20Quarterly%20Report-Sept2019_D05.pdf

- Markets with a high concentration of Coles Express and Puma Energy service stations have seen their average retail prices reduce in the past 12 months due to strategic pricing decisions from these retailers as discussed in the above section on the Northern Territory. The concentration of Puma Energy and Coles Express sites in Brisbane is 22%¹⁶ - the third highest concentration of all capital cities for these retailers behind Darwin and Perth.
- RACQ's figures are perceived or "paper" benefits and not reflective of reality. The reality is, any benefit is likely to be significantly less. The 2019 ACAPMA Consumer Attitudes survey tells us that 87% of motorists purchase from the same or one of a few service stations¹⁷ and therefore do not deviate off their route to purchase the cheapest fuel. RACQ's analysis assumes motorists are always shopping around for the cheapest fuel.

3.6 Victoria

The Victorian Parliament conducted an inquiry into regional fuel prices in 2017 and handed down its report and recommendations in 2018. This Parliamentary inquiry was the only such inquiry held by any other State or Territory up until the ACT's 2019 inquiry. No such inquiry was held in WA, NSW, NT or QLD before these jurisdictions implemented mandatory fuel price reporting regulation.

In its report, the Parliamentary committee recommended the following courses of action:

- 1) The Victorian Government conduct a public awareness campaign in regional Victoria to encourage the use of fuel price apps;
- 2) The Victorian Government support the RACV's efforts to improve the coverage of fuel prices on its app through crowdsourced data;
- 3) The Victorian Government and local governments review planning policies to encourage the entry of new service stations to regional fuel markets with low competition.

The inquiry did not recommend mandatory fuel price reporting regulation and found that:

there is no evidence that mandatory fuel price reporting schemes in Australia and overseas have reduced fuel prices¹⁸.

In its August 2018 response to the Parliamentary inquiry, the Victorian Government supported each of the above three recommendations in full¹⁹.

3.7 ACT

The ACT Parliament conducted a select committee inquiry into ACT fuel pricing in 2019.

¹⁶ Informed Sources NetWatch database

¹⁷ ACAPMA, National Monitor of Fuel Consumer Attitudes 2019 Research Report

¹⁸ Inquiry into fuel prices in regional Victoria, 2018, Parliament of Victoria, https://www.parliament.vic.gov.au/images/stories/committees/eejsc/Fuel_Prices_in_Regional_VIC/EEJSC_58-03_Text_WEB.pdf

¹⁹ Victorian Government response to the Economic, Education, Jobs and Skills Committee's Inquiry into fuel prices in regional Victoria, 2018, https://www.parliament.vic.gov.au/images/stories/committees/eejsc/Fuel_Prices_in_Regional_VIC/Victorian_Government_response.pdf

In its final report, the select committee recommended the following:

1. The Assembly establish a standing committee to monitor fuel pricing and competition in the ACT.
2. The ACT Government be proactive in approaching independent operators directly when considering the addition of new service stations in the ACT.
3. The ACT Government initiate a real-time, mandatory price monitoring scheme similar to FuelCheck.
4. The ACT Government continue to provide public, accessible education programs and sources about fuel prices to ACT consumers.
5. The ACT Government analyse the comparative level of costs, taxes and rates that service station operators are paying within and outside the ACT.

The inclusion of a recommendation for real-time fuel price reporting is a curious inclusion given only one stakeholder (the NRMA) advocated for this with the backing of the Liberal Opposition whilst other stakeholders warned the select committee that real-time fuel price monitoring may be harmful to the market. The select committee comprised three persons, two of which were from the Opposition Liberal party possibly explaining why real-time price reporting was included as a recommendation.

No action has been taken by the ACT Government subsequent to the committee's report being handed down and Informed Sources understands that these recommendations are before the Chief Minister who is scheduled to provide the government's response in the first quarter of 2020.

3.8 Tasmania

In Tasmania, the Government opted for an industry-based solution and has provided financial assistance in the form of a \$60,000 grant to the local motoring association who formed an alliance with a fuel pricing app (GasBuddy), to help raise awareness about the availability of fuel price information.

3.9 All Australian States and Territories

In addition to the abovementioned government regulated schemes operating in Western Australia, New South Wales, Northern Territory and Queensland, all Australian States and Territories access fuel pricing information from private data sources. Across Australia, there is a substantial amount of reliable fuel pricing information available to motorists free of charge.

Sources of information include

- third party apps and websites including MotorMouth, GasBuddy, PetrolSpy and Compare the Market
- motoring clubs including RAA
- fuel retailer apps such Woolworths Fuel and 7-Eleven
- media – radio, television and print
- fuel retailer price boards.

With academic research indicating that government regulated mandatory fuel price reporting schemes facilitate tacit collusion²⁰, remove retailer uncertainty and increase pump prices, services provided by private data providers including MotorMouth are superior in our view because these services do not provide every fuel price for every service station.

Instead, services offered by private data providers such as MotorMouth have fuel prices for most service stations (MotorMouth provides free of charge to motorists current pricing for 90% of service stations across Adelaide), operate very reliably and achieve the right balance by giving consumers access to sufficient information whilst not providing retailers with all information. Where sites are not listed, consumers can use information for nearby sites to assess whether a board price is attractive (all service stations are required to have price boards).

Crowd-sourced data services such as GasBuddy and PetrolSpy cover all sites but the data updates may be less frequent, so consumers are well-informed but tactical pricing changes by retailers are usually not so evident to competitors as a “real-time” service.

3.9.1 MotorMouth – a national fuel pricing service

The independently run MotorMouth service operating since 2000 publishes the fuel prices of many retailers in real-time across Australia - up to 90% coverage in many locations across Australia including Adelaide are covered by the MotorMouth app/website and available free of charge to all motorists.

MotorMouth fuel pricing data is sourced

- electronically, from participating fuel retailers
- directly from service station site operators, who can input their prices using our online service www.myPriceboard.com;
- from users, who can collect prices at their local fuel station to help the wider community.

Service station operators who do not participate in Informed Sources’ commercial services can upload prices to www.mypriceboard.com free of charge at any time or via the MotorMouth smartphone app.

Fuel prices from all MotorMouth data sources are consolidated and made available via MotorMouth platforms free of charge to consumers and to third parties taking our Application Programming Interface (API) services, such as app developers, motoring clubs, information service providers such as Compare the Market and media who often chose to disseminate fuel pricing information.

The MotorMouth parent company, Informed Sources has signed an Undertaking with the ACCC to make all fuel pricing exchanged by retailers available to third parties such as app developers and motoring clubs on reasonable commercial terms.

As will be discussed later in this submission, consumer behaviour shows that motorists do not need complete site coverage. The less than 100% coverage available via MotorMouth ensures a degree of uncertainty exists in the market with retailers constantly alert to the fact that lower prices may be available from competitors (which keeps retailers on their toes). For this

²⁰ Byrne and de Roos, 2017, Learning to Coordinate: A Study in Retail Gasoline,
<http://dx.doi.org/10.2139/ssrn.2570637>

reason, the most prudent policy solution available to the South Australian Government is not to increase data coverage (i.e. mandatory fuel price reporting), in the vain hope this would create a greater countervailing power and benefit for consumers.

Regulated transparency with 100% coverage would only provide a positive outcome to consumers if the fuel market was one of perfect competition with market clearing prices determined by the demand of undifferentiated consumers seeking to purchase an undifferentiated product – clearly the Australian fuel market bears no resemblance to such a model.

3.10 New Zealand

The New Zealand Government through the Ministry of Business, Innovation & Employment (MBIE) and later Commerce Commission have been intensively investigating the fuel industry since 2017 following public pressure and suspicion that retailers are making excessive profits.

In the 2017 MBIE report into the New Zealand fuel market financial performance, they could not definitively conclude whether retailers were making excessive profits and that further research was required. The study also included consideration of regulatory tools that may lower fuel prices. The study considered greater transparency of pricing such as the WA FuelWatch scheme and dismissed such a measure noting:

while at first glance this type of regulation seems attractive and pro-consumer, it is a double edged-sword, although the second edge is not obvious. While these schemes give greater information to consumers, they give the same information to suppliers. That is, they increase the ability of suppliers to coordinate their prices.²¹

Due to limitations with access to retailer information in the MBIE study, the New Zealand Government requested a deeper dive into the retail fuel sector be undertaken by the Commerce Commission. In their final report tabled on 5 December 2019, the Commerce Commission made a range of recommendations which predominantly targeted the wholesale area of the supply chain. The prime recommendation at the retail end of the market was that the Government regulates to require the display of premium fuel prices on price boards.

Commenting on other potential interventions that could be considered in retail markets such as regulated price transparency, the Commerce Commission concluded that:

such measures are not being recommended at this time. This is because many of them carry the risk of unintended adverse consequences that could outweigh their benefits.²²

3.11 Other jurisdictions

A paper from Ariel Ezrachi, Professor of Competition Law at Oxford University to the June 2017 meeting of the OECD Competition Committee outlined that digital technology is changing the face of competition and that this creates new challenges for competition law²³.

²¹ MBIE, 2017, New Zealand fuel market financial performance study, 29 May 2017

²² Commerce Commission, 2019, Market study into the retail fuel sector, 5 December 2019

²³ Ezrachi 2017, Algorithmic Collusion: Problems and Counter-Measures - Note by A. Ezrachi & M. E. Stucke, OECD Roundtable on Algorithms and Collusion, 21-23 June 2017

The paper cites studies in Chile, Germany and Western Australia that show an increase in prices after transparency regulation. It follows that regulation in other Australian jurisdictions may also be anti-competitive and harm consumers through higher prices.

In Chile, where petrol stations had to post their fuel prices on a government website and to keep prices updated as they changed at the pump, the Ezrachi paper notes:

The petrol stations' margins increased by 10% on average following the prices being posted on the government website.

In Germany, where petrol stations are required to report price changes for gasoline or diesel fuel in real time, the paper notes:

Rather than lowering prices, the enhanced market transparency, one economic study found, increased prices further. Compared to the control group, retail petrol prices increased by about 1.2 to 3.3 euro cents, and diesel increased by about 2 euro cents.

The Ezrachi paper refers to the study by Australian academics Byrne and de Roos and comments:

FuelWatch proved useful in promoting tacit collusion. Rivals could see on-line the prices for every petrol station in the market, and after 2:30 pm each day, tomorrow's prices. What the economic study found was that the market leader, BP, through trial-and error and experimentation, eventually facilitated tacit collusion, which substantially improved retail margins, created price stability in the presence of aggregate shocks, and enabled firms to resolve conflict quickly.

4. Current regulatory arrangements for fuel pricing in South Australia and how alternative models compare

4.1 Introduction to regulatory arrangements, fuel pricing and volatility

Similar to a number of States within Australia, South Australia under the Fair Trading Act 1987 has a requirement for fuel retailers to display non-discounted prices on the price board and fuel pump display. Outside of this, Informed Sources is not aware of any other regulatory arrangements for fuel pricing in South Australia.

We believe the main contention in South Australia regarding fuel prices however is related to Adelaide's price cycle and the pain motorists feel when prices quickly climb by 40 cents per litre or more.

Within South Australia, the greater Adelaide area is the only location that experiences regular price cycles. Edgeworth price cycles are indicative of stronger competition and occur when firms offering homogenous products (i.e. petrol) alternate and repeatedly undercut one another until such time as prices fall below the marginal cost at which time one firm will increase their price to a higher level (above the marginal cost), with other competing firms then following²⁴.

In addition to Adelaide, some other capital cities (Perth, Melbourne, Sydney and Brisbane) experience the same price cycling phenomenon as do a small number of regional towns. There have been some who have falsely claimed that regulated fuel price reporting will remove price cycles. Interestingly, of the capital cities in Australia that experience this phenomenon and have regulated transparency measures in place (Perth, Sydney and now Brisbane), price cycles remain.

The following table compares the characteristics of capital cities with cycling behaviour

Table 1: Capital city price cycle analysis using calendar year 2019 data

City	Average cycle length	Average Retail Price (cpl)	Average Terminal Gate Price (cpl)	Average retail price difference between cycle peak and trough (cpl)	Average difference between retail price and TGP at cycle trough (cpl)	Average difference between retail price and TGP at cycle peak (cpl)
Adelaide	19	143.2	129.6	31	-0.2	29.9
Brisbane	27	143.7	129.6	29	1.7	30.6
Melbourne	28	142.0	129.2	26	1.4	27.1
Perth	7	140.4	129.2	19	1.8	20.6
Sydney	28	140.1	129.5	25	0.5	24.6

The above table shows that based on 2019 data, Adelaide motorists on average receive the greatest "price shock" when prices move from the low point to the high point of the cycle with the average difference being 31 cents per litre.

²⁴ Noel, M 2011, *Edgeworth Price Cycles*, p. 3.

At an average of 19 days, Adelaide has the second lowest cycle length of the cities compared. Not evident from the above table but visible in the raw data, the cycle length in Adelaide during 2019 ranged from 13 days to 26 days.

The average price of fuel in Adelaide at the bottom of the cycle is often below the proxy wholesale cost (TGP), suggesting Adelaide motorists who purchase their fuel at the right time stand to gain the best deal. At the bottom of the cycle, the average price of fuel in Adelaide is comparatively cheaper than the other cities compared.

The above table also shows that Perth has the lowest “price shock” of the cities compared at an average of 19 cents per litre when prices move from the low point of the cycle to the high point of the cycle and that Perth also has a regular 7 day cycle. It is important to recognise that there is no evidence to support that the FuelWatch scheme influences either the degree of price shock or the length of cycle and that whilst the Perth average follows a regular 7 day cycle, individual retailers within the Perth market do not and are unpredictable. The following graph shows the Perth average and prices at a sample of individual service stations. It is not the intention of this report to name and shame individual retailers, so we have changed the service station names to Service Stations A, B, C and D.

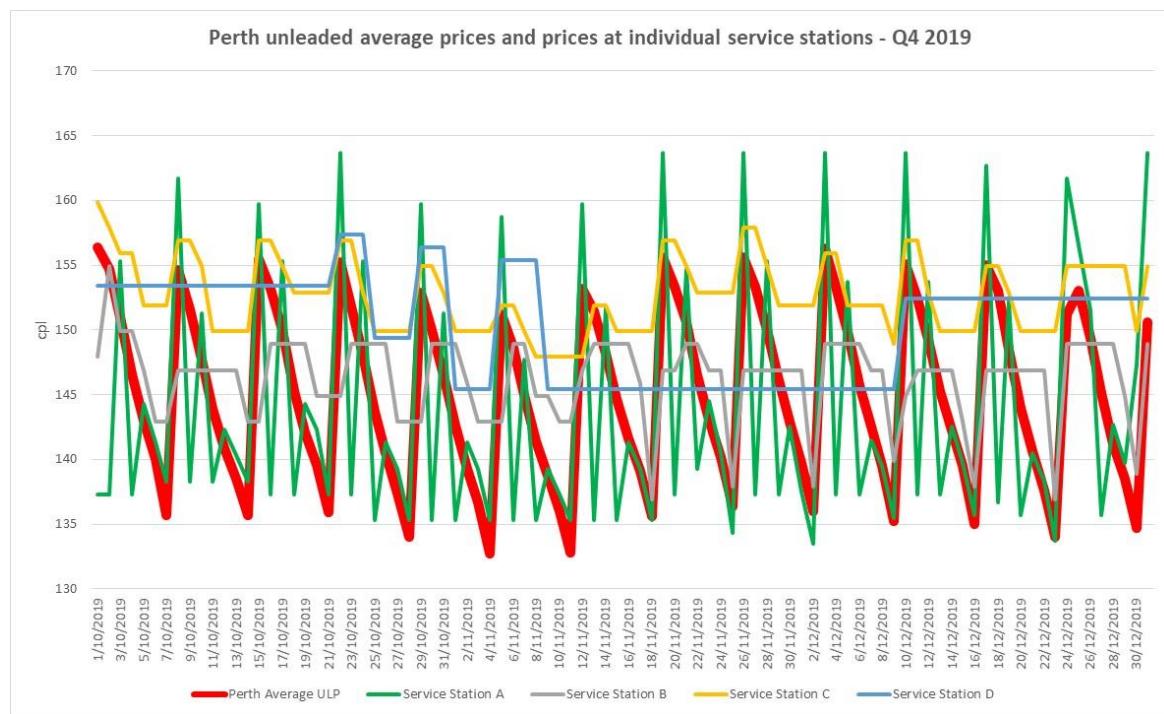


Figure 7: The Perth average price follows a regular 7 day cycle but pricing at individual sites do not always

There is no theoretical reason for price cycles to be of any particular length or amplitude.

4.2 Origin and characteristics of petrol price cycles in Australia

4.2.1 Economic forces driving price cycles

As discussed by Byrne (2012), Edgeworth cycles occur as the result of competitive markets where there are significant numbers of large, major brand chains and other "independent" chains. The former chains attempt to hold prices high and lead the restoration phase of cycles. The latter, to the extent they have established themselves as "discount" chains, undercut the former, resulting in the downward cycle. Without a significant presence of both types of chains, cycles do not occur.

Cycles also depend on large numbers of consumers who do not change their habits when up-cycles occur (i.e. continue to purchase fuel at a higher price than discounters are offering) and high short-term price elasticity for some consumers (a minority in Australia, as revealed by the ACAPMA survey), so discounters can achieve net revenue increases.

It can be seen that cycles are a dynamic process where discrete decisions by competitors about the size and timing of price adjustments determine the shape of the cycle, although the market determines whether a cycle will exist.

4.2.2 Historical factors affecting price cycles

Price cycles in Australia were heavily influenced by the Prices Surveillance Authority (a forerunner of the broader ACCC) and regulation of the maximum endorsed wholesale price (MEWP) in the 1990s. This mandated maximum price was calculated from the Singapore refinery price plus factors including a local cost and profit allowance, originally 7.1 cents per litre. The maximum retail price was unregulated.

When the MEWP was removed in 1998, companies continued to set maximum wholesale prices according to the MEWP formula. This exceeded the market-clearing price so undercutting by competitors occurred and prices continued to cycle, as under regulation.

Today in Australia, price cycles can be anywhere between 1 to 4 weeks and amplitudes up to 40 cents per litre.

4.2.3 The role of pricing managers and oligopoly behaviour

The characteristics of price cycles are not determined autonomously by market forces but result from discrete decisions made by the managers responsible for pricing in each competitor. These managers will inevitably have weekly, monthly and annual volume, revenue or profit targets, so pricing decisions are conditioned by their impact on these targets, not just responding to (or sometimes leading) the actions of competitors.

Clearly, this is a complex task, as it must take into account the way in which demand will vary in response to prices relative to a number of local competitors, as well as ensuring sufficient forecourt traffic (largely related to fuel sales) to support convenience store sales. Given the very low margins available on fuel sales, there is great potential for poor pricing decisions to impact very adversely on a retailer's profits.

The way in which pricing managers set prices is not on the public record, for reasons of commercial confidentiality and to avoid contravening competition law. The most comprehensive information is from the ACCC's 2007 inquiry but even then, the evidence does

not paint a very clear picture. However, it is clear that more and better data that is delivered via real-time price reporting regulation is to the advantage of retailers, particularly if this "big data" can be analysed by ever more sophisticated computer algorithms.

5. The most cost-effective solution to increase transparency in fuel prices in South Australia

To determine the most effective means for increasing transparency, it is first important to understand consumer behaviours and trends.

5.1 Consumer trends and behavior to fuel prices

Whilst price is an important consideration for many motorists (31% of motorists say that they choose where to buy fuel based on price²⁵), 87% of motorists still purchase fuel from the same one or a few service stations²⁶ suggesting that most motorists are not prepared to deviate off their route to buy fuel that may be cheaper somewhere else.

Informed Sources data and industry data shows that the ‘market’ for providing fuel pricing information to consumers who pro-actively compare prices is very small (a few percent of the total motorist population). Of this very small market, it is also important to recognise that the majority of consumers are satisfied with accessing decision support tools to assist them on where and when to make a fuel purchase and not site level pricing.

MotorMouth usage data reveals that only half of MotorMouth app users use the “reveal” feature to see individual site prices. The MotorMouth website usage is running at a similar level to MotorMouth App usage and does not include site level pricing. In short, these two platforms run roughly 50/50 of the total MotorMouth patronage. Given that only half of the App users click through to reveal site specific prices, this means that approximately 25% of all MotorMouth users click through to reveal prices. Further, the large majority of these click-through clients are satisfied with 2 to 3 site prices per session.

That leaves 75% of the MotorMouth community accessing price band dot-e-maps (see image below) and recommendations on good days to fill up (also below), despite site level pricing being available.

Decision support tools like the dot-e-maps and recommendations on good days to fill up are what motorists want and allow motorists to quickly and easily make purchase decisions. These tools do not require 100% site level coverage which makes mandatory reporting by retailers unnecessary from a consumer’s perspective. Services with less than 100% coverage are adequate for consumers. With motorists knowing what is happening across the majority of the market, if they pass a price that is not displayed on MotorMouth or another app, they know immediately whether or not a good deal is to be had.

²⁵ ACAPMA 2019 Monitor of fuel consumer attitudes

²⁶ ACAPMA 2019 Monitor of fuel consumer attitudes

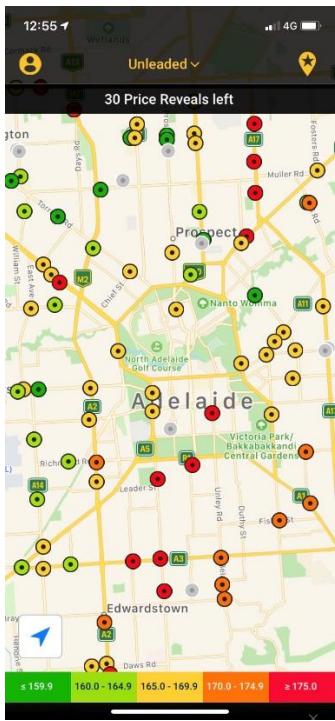


Figure 8: Dot-e-maps allow motorists to quickly compare and find the cheapest service stations

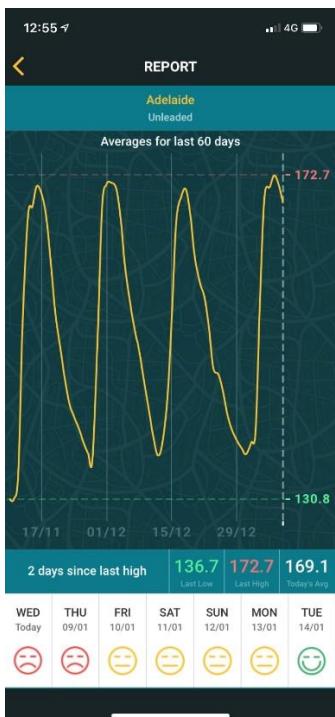


Figure 9: Petrol price cycle graphs and recommendations on good days to buy let motorists know when to buy petrol

5.2 Industry based approach to increasing transparency

As outlined above, there is a great deal of fuel price information freely available now from private data providers to motorists who wish to access and no justification for 100% completeness of data given motorists' preferences for general information, let alone the anti-competitive effects that fully comprehensive data brings. This therefore begs the question of why any type of regulatory intervention to increase transparency is required particularly when such intervention has been shown to increase fuel prices in other jurisdictions.

Informed Sources notes that RAA has been a strong advocate of increased transparency. However, unlike many other motoring clubs, RAA provides little in the way of fuel price information on its website and no fuel price information via its app.

As the peak motoring organisation in South Australia representing the interests of more than 740,000 members²⁷, there is a natural role for RAA to play in disseminating the fuel price information that is already available. RAA is a large commercial organisation with a turnover nearing half a billion dollars a year²⁸. Fuel price data is available to organisations such as RAA from private data providers like Informed Sources on reasonable commercial terms. Taking the already widely available fuel price information, RAA would be able to develop channels to effectively make motorists more aware of where and when to purchase fuel and in doing so, increase transparency by reaching the widest possible audience.

²⁷ <https://www.raa.com.au/about-raa/our-story>, 7 January 2020

²⁸ 2018/2019 Full Financial Report, <https://www.raa.com.au/about-raa/corporate-governance/annual-reports>, 7 January 2020

6. Conclusion

As this submission makes clear, there is significant evidence to show that regulated transparency is risky for any government to implement and would quite likely result in unintended adverse consequences, namely higher fuel prices.

Most motorists do not actively shop-around before purchasing fuel. This has nothing to do with the availability of fuel price information (it is the same in markets with regulated transparency), but with motorists' behavior and their tendency to consider a number of factors when purchasing fuel including location, brand, quality/type of fuel – it's not just about price.

The least risky and most effective approach requires no investment from government and would rely on motorists being made more aware of the extensive information already available. RAA previously provided greater fuel pricing information through their website and there is no impediment or reason from preventing them from accessing the extensive fuel pricing data currently available which in turn could be packaged in such a way as to make it easier for South Australian motorists to access.

Informed Sources would welcome assisting RAA or participating in an open tender arrangement to provide RAA with its fuel pricing data needs.

7. About Informed Sources

Informed Sources is an Australian family owned business that has been collecting fuel prices in Australia since 1987. We are at the forefront of innovatively collecting, packaging and reporting data and now export our services to more than twenty countries.

Informed Sources receives fuel pricing data from a variety of sources. These sources include

- direct data from BP, Caltex, 7Eleven, Viva Energy, Euro Garages and Peregrine amongst other retailers who provide pricing data to Informed Sources electronically;
- drivers across Australia that we employ to fill gaps in our coverage;
- the MotorMouth community via the MotorMouth Smartphone App;
- service station operators through our web portal, mypriceboard.com who do not subscribe to our commercial services yet wish to publish their prices to MotorMouth

In addition to providing petrol pricing information to commercial clients, government agencies and regulators as well as state motoring clubs, Informed Sources provides petrol pricing information direct to motorists via our consumer awareness initiative, MotorMouth. This service was established in 2000 and is now the leading source of pricing information for motorists. In South Australia MotorMouth publishes accurate, reliable and timely fuel prices for the majority of service stations with coverage exceeding 90% in Adelaide.

MotorMouth's core purpose is to help drivers fight cost of living pressures by finding the best deal on fuel. MotorMouth comprises a website and smartphone app for members of the motoring public to source fuel pricing information to buy better and smarter. In fact, every 10 seconds, someone launches MotorMouth and reveals 5 site prices to buy better and smarter.

For further information regarding this proposal, please contact:

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