



Shell Australia Limited submission to the
Inquiry into Australia's Oil Refinery Industry

Submission to:

House of Representatives
Standing Committee on Economics

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Thank you for the opportunity to put forward a submission to the 2012 House of Representatives “Inquiry into Australia’s Oil Refining Industry”. This submission is made by Shell Australia Limited.¹

Shell in Australia

Shell is one of Australia’s largest businesses and currently directly employs over 2,500 people across Upstream and Downstream.

Shell’s Upstream business in Australia is poised to become one of the largest LNG business units in the world and in 2011, announced that it had taken its Final Investment Decision (FID) on the innovative Prelude Floating LNG project.

Shell is also a non operating partner in five other LNG ventures along the north-west coast of Australia including the Gorgon LNG Project, Browse, Wheatstone and Sunrise. Shell Australia is also a 50:50 partner with PetroChina (CNPC) in Arrow Energy Limited, in Queensland.

Shell Australia's Downstream operations consist of our refining, sales and marketing and supply and distribution businesses. The Downstream business supplies around 25% of Australia's liquid petroleum requirements. We have thousands of customers throughout the country and supply fuels, lubricants and chemicals used by Australians on a daily basis. Our reputation rests on bringing these products to market in a timely, reliable and environmentally responsible manner.

Our Downstream businesses consist of several diverse but interlocking segments: manufacturing; supply; distribution; retail; commercial fuels; lubricants; aviation; bitumen; marine and chemicals.

Terms of Reference of the Inquiry

This submission contains some general background information on the industry and global trends but is primarily based around issues and topics nominated in the Terms of Reference for the Inquiry being:

- The current international and domestic trends and pressures impacting on the competitiveness of Australia's domestic refineries.
- The impact of declining refinery capacity in Australia on the economy.
 - current supply chains and their effectiveness in meeting Australia’s liquid fuel requirements;
 - import price outcomes for consumers from the current arrangements;
 - direct and indirect employment impacts;
- Relevant information on the impact of the closure of Australian refineries, including on downstream activities.
- Potential issues for Australia's energy security from possible further closures of oil refinery capacity, noting the findings of the National Energy Security Assessment (December 2011).
- The implication of refinery closures on the associated workforce, including age profile, alternative employment opportunities and labour force mobility.

¹ Shell Australia Limited is a member of the Royal Dutch Shell plc group of companies. The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this submission, the expressions ‘Shell’, ‘Shell Australia’, ‘Group’ and ‘Shell Group’ are sometimes used for convenience where references are made to Shell companies in general. Likewise the words ‘we’, ‘us’ and ‘our’ are also used to refer to Shell companies in general or those who work for them. These expressions are also used where there is no purpose in identifying specific companies.

General Information

The Australian refining industry is part of a regional and increasingly global market both for the supply of crude oil and also for refined petroleum products. Since the closure of Mobil's Port Stanvac refinery in Adelaide, Australia has been a growing net importer of petroleum products and currently imports around 40% of its petroleum needs (with refining operations at Clyde having now ceased).

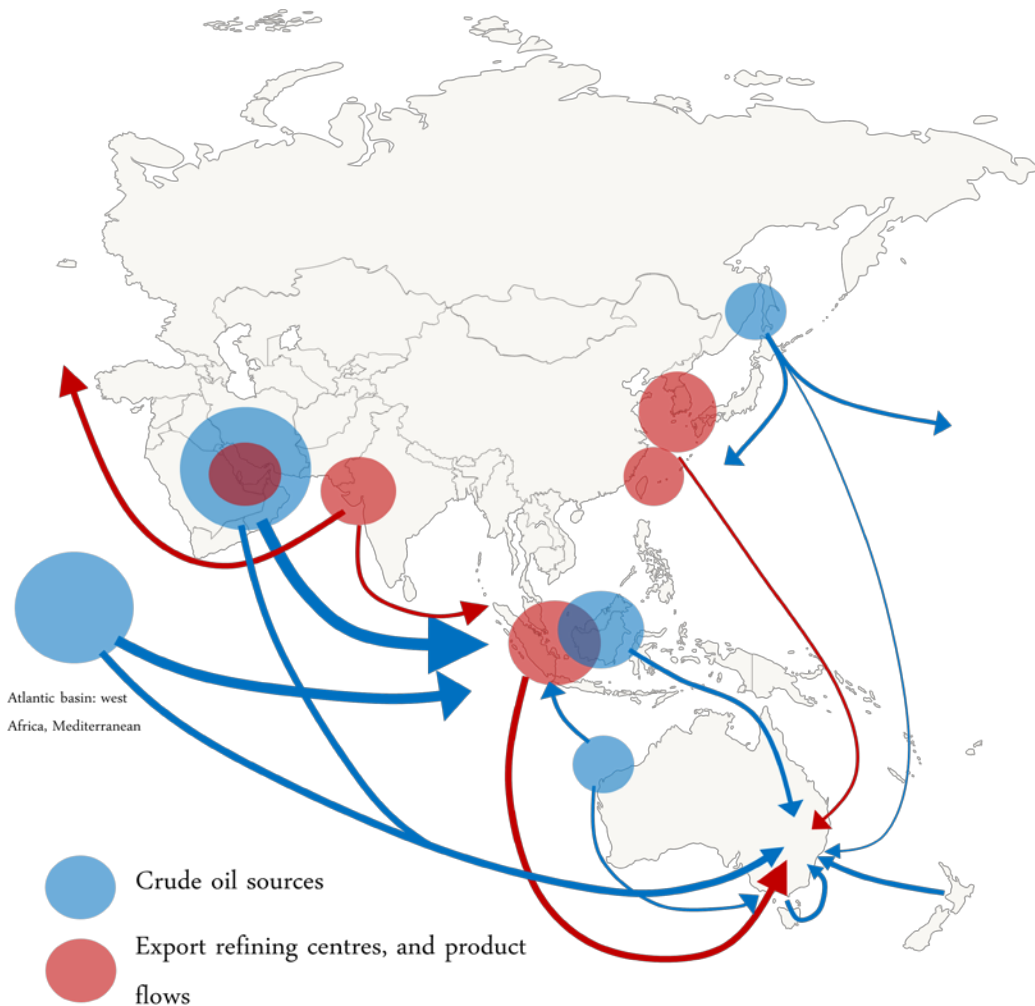


Figure 1 - shows Australian refineries as part of the Asia-Pacific market for crude oil and petroleum products. (source: Shell Australia)

The domestic refining industry continues to be under pressure from mega refineries particularly in the Asian region which are larger in scale, have lower operating costs and can produce large quantities of high quality products from cheaper crude oil and feedstocks. Some of these individual mega-refineries built in Asia have a capacity significantly larger than the entire Australian domestic refining industry.

Shell's decision in 2011 to convert its Clyde Refinery in NSW to an import terminal not only recognised these global pressures and that Clyde was unable to compete in this market but also that fuels to Australian specifications are more readily available in the quantities required to service this important NSW market.

Each refinery is different but one thing remains the same - a refinery needs to generate a positive cash flow to justify ongoing operation and the significant amount of reinvestment required year on year. Just covering costs is not sufficient. Keeping refineries open on the basis that they are perceived to be providing a higher level of supply security is flawed in its logic as a model of planned and structured importing can actually provide an equivalent or higher level of supply security than an unreliable small-scale refinery.

Additionally the notion of "cross subsidisation" from other more profitable segments of our business is flawed as there is no business reason to do this given the access to adequate supply of fuel products in highly "liquid" markets and, from an internal perspective, each Shell business unit is expected to perform and contribute to the overall business. Through cross subsidisation you have the potential to reduce the profitability of the overall business thereby further reducing the ability to access available capital.

The decision to convert Clyde Refinery into an import terminal

There were a number of factors that influenced the decision around Clyde refinery:

- There is growing excess refining capacity in our region;
- Clyde is a small scale refinery in comparison to its regional competition and was not able to generate the returns needed to justify further investment (For example, Clyde competed with regional refineries which produce 1.2M barrels per day versus 70,000 barrels per day at Clyde) ; and
- Shell can access adequate supply of Australian-grade products in the marketplace.

Shell's analysis showed that Clyde's long term projected cash flows were all negative and meant ongoing reinvestment in the facility just to sustain operations was not economic. Historically, Clyde's costs had almost doubled in the last decade and in US dollar terms they had almost tripled.

The poor financial performance experienced in 2008 and 2009 was due to the cracker shutdown and the subsequent implementation of a prolonged maintenance and safety programme. During this time, it was demonstrated that the New South Wales market could be serviced almost wholly by importing refined products through Gore Bay – which is the same mode of operation we have been operating in NSW since early October 2012.

Additionally, Clyde's future margin outlook was weak with the most significant factor being the over-supply of products from the new capacity coming on line in Asia. Another factor was the strengthening of the Australian dollar with refinery margins in USD and operating and maintenance costs all in

Australian dollars. This means that Australian refineries are effectively “price takers” in terms of the margin available to them because the available margin is based on the price of products (in USD) less the price of crude (in USD) less operating costs (in AUD). The price at which refineries (and other importers) can sell products however is set by the alternative of importing from the international market. This is an industry that is highly exposed to the USD/AUD exchange rate as margin is fixed in USD and costs are in AUD.

The projections for Clyde assumed a below parity exchange rate so if the analysis was run using spot exchange rate the cash flow projections would have been significantly worse. It was also expected that Clyde would need A\$50M a year of capital investment to cover planned shutdowns and other asset integrity and reliability projects.

Additionally, if fuel standards were to tighten further, as is predicted with the introduction of a 50ppm ULP standard, this would have required an additional A\$120M of investment in a gasoline hydrotreater.

Like any other business, Shell has to make economic decisions about where it is going to invest its available capital to ensure adequate shareholder return. In Clyde’s case the projected net cash flows were negative for the next 10 years so the reinvestment case would not have met Shell’s investment hurdles nor have competed with other internal investment opportunities.

Profile of the Australian Refining Industry and Changes in Demand

The Australian refining industry is surprisingly homogenous, having similar crude capacity and process plant configurations. This was a consequence of having been designed and evolved on domestic crude processing (for example, Gippsland) and to produce a high yield of gasoline with little fuel oil to match market requirements.

We have seen both in Australia and globally in most recent times a flattening in demand for gasoline (Figure 2 represents the Australian market picture) due to improved engine efficiency and fuel switching in the consumer markets to diesel. Conversely the diesel and jet fuel market (known collectively as “middle distillates”) have demonstrated growth in the order of four to six percent (figures 3 and 4). The diesel growth has been driven locally by both the mining and resource boom and also from consumers choosing more diesel vehicles. Globally the diesel growth has been driven by emerging market GDP growth such as that in China and India. Increases in jet fuel sales have been driven by larger long haul planes (which need to leave Australia “full”) and most recently the increase in the fly-in-fly-out (FIFO) travel segment.

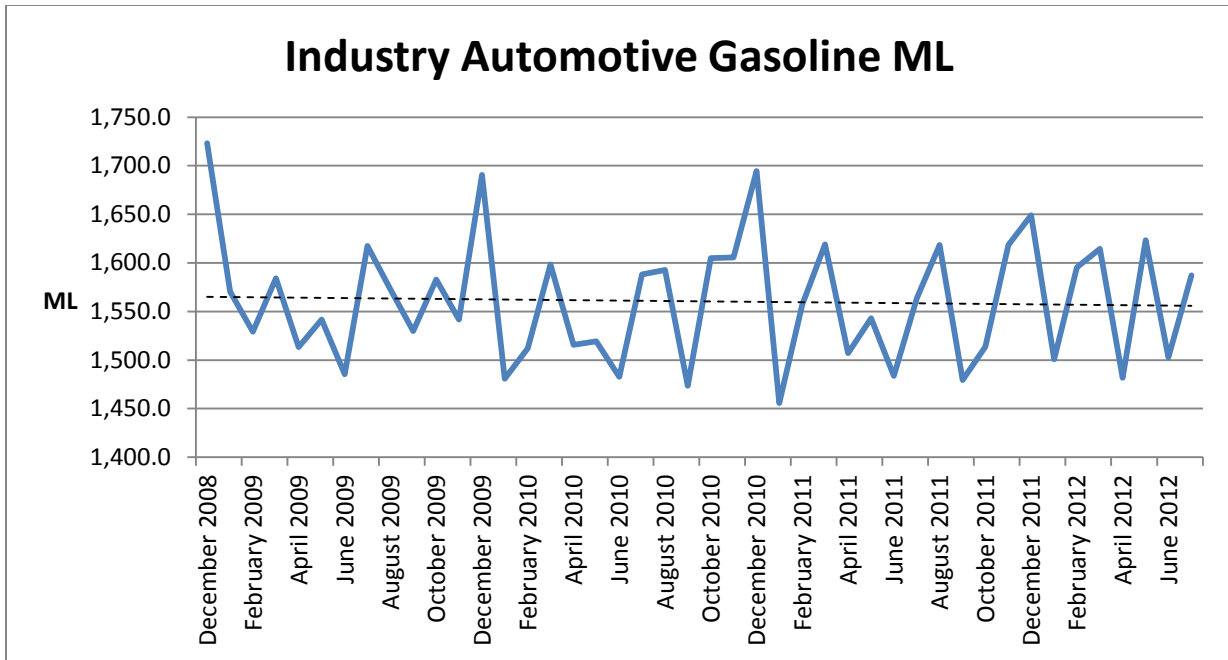


Figure 2 – trend in Australian gasoline demand (data source: Australian Bureau of Resource and Energy Economics)

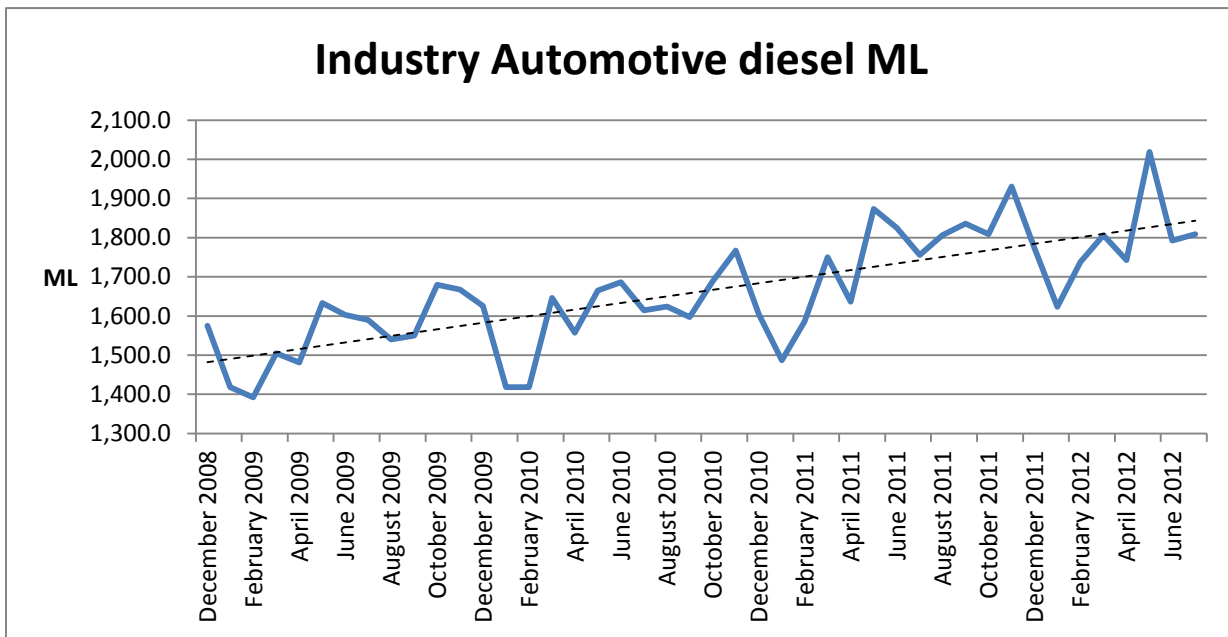


Figure 3 – trend in Australian diesel demand (data source: Australian Bureau of Resource and Energy Economics)

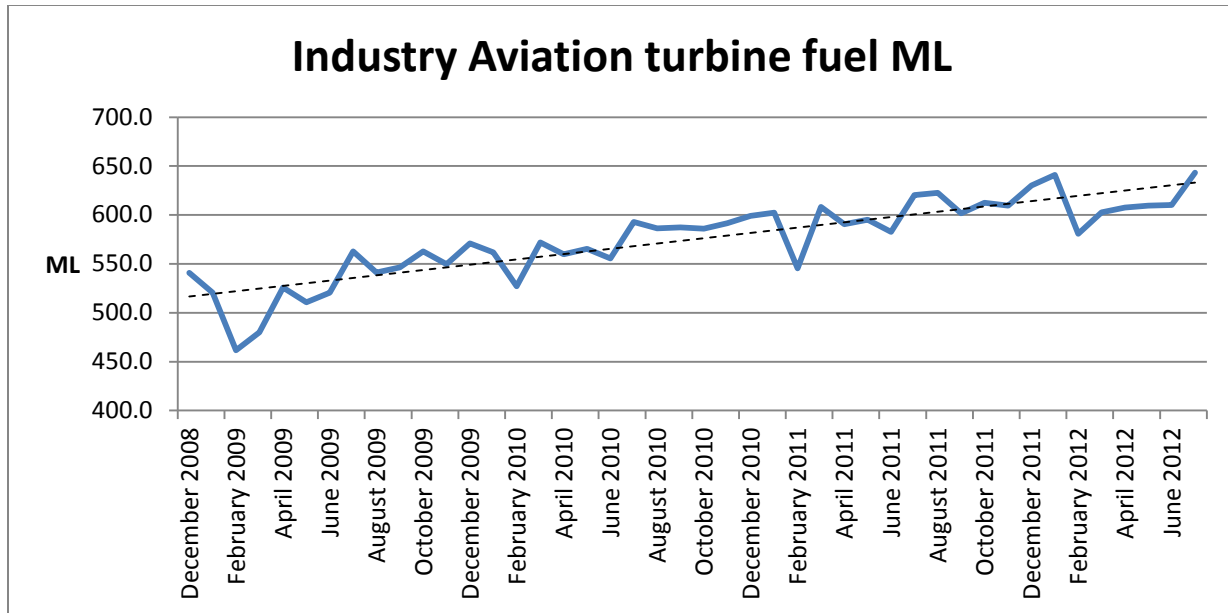


Figure 4 – trend in Australian turbine (jet) fuel (data source: Australian Bureau of Resource and Energy Economics)

Similarly the “sweet” crude types required by Australian refineries are becoming increasingly constrained due to reduced regional availability as refining/upgrading capacity increases in key producer countries such as Vietnam and Malaysia and declining regional crude production. These crudes also command a higher price premium over the sour crude types more commonly processed in Asian competitor refineries.

Global Trends

Globally the refining industry is undergoing rationalisation and structural change – particularly in the more mature OECD markets. Most notably we have seen declining demand in Europe and Japan (which has already resulted in refinery rationalization) and North America (due mainly to improved fuel efficiency) and continued refining and storage capacity being built in Asia and the Middle East. This capacity has been delivered in the form of new, large scale, sophisticated refineries with many having an export orientation as part of their design intent. These refineries have been much cheaper to build, and will be cheaper to operate and maintain, compared to similar refineries in OECD countries (including Australia). The key factor is not only their scale but their ability to maximize margin generation from cheaper crude diets, manufacturing high value products and often incorporating chemicals processing integration.

Australia is not insulated from this structural change and, as an industry, has been undergoing structural change for some time. This has tended to follow an orderly transition over many years to enable the market to respond and ensure security of supply. As noted in the Energy White Paper (EWP) “Australia’s refining industry is undergoing structural change in response to strong competitive pressure from larger

and newer Asian refineries, which continue to lower the break-even benchmark that our refineries must compete against. The domestic pressure of high local costs, coupled with a high exchange rate, is expected to keep Australian refineries under pressure for some time.”

Over the last 10 years the operating costs of running smaller scale refineries in Australia have grown to be as much as running a refinery two to three times their size in Singapore or the Middle East. A contributing factor has of course been the strength of the Australian dollar.

Significant refining capacity has come on stream and is slated to come on stream in the future but faster than the growth in demand. The net result is a global surplus (with subdued demand and tighter margins) which will need to be balanced by lower utilization, further OECD closures and increased flow of product from Asia/Middle East to Europe and to countries such as Australia.

The International Energy Agency (IEA) has predicted that “after an improvement in 2012, utilization rates, and refinery profitability will again come under pressure, unless further closures, delays or cancellations (in projects) are announced.” Additionally they state that “An additional 4.4 mb/d of crude distillation capacity could need to be shut, or not built, to return to pre-crisis [GFC] utilization rates.”

Supply Security

Australia currently enjoys a high degree of liquid fuel supply security (as defined in the 2011 National Energy and Security Assessment) underpinned by access to major trade routes and supply hubs in the Asia region, supply diversity and increasing availability of fuel to Australian standards. This view is assessed on a regular basis and backed up by several government commissioned reports such as the National Energy Security Assessment (NESA), Liquid Fuels Vulnerability Assessment (LFVA) and the recently released Energy White Paper. In the longer term the NESA assesses our level of energy security as "medium" based on the increased reliance on imports of petroleum products, the greater reliance on international supply chains and the need for appropriate investment in domestic import and storage infrastructure.

Claims that a demise in local refining would lead to reduced supply security ignores the reality that the majority of local refineries already rely on a large percentage of imported crude oil and that Shell's interests as a key supplier of fuels in Australia, is to ensure supply for our customers and as far as practicable to maximize income from our sales and marketing business.

Figure 5 shows the percentage of local versus imported crude processed by Clyde and Geelong refinery over the past six years. Moving to terminal import mode effectively means replacing imported crude oil and refined petroleum product purchases with purchases of refined petroleum products only to meet demand.

% diet from Australia	2007	2008	2009	2010	2011	YTD 2012
GEELONG	34%	30%	33%	17%	27%	32%
CLYDE	11%	9%	5%	4%	11%	16%

Figure 5 – crude diet for Geelong and Clyde Refinery from 2007-YTD 2012 (source: Shell Australia)

According to the Australian Bureau of Petroleum Statistics, as an industry, indigenous crude input for local refineries has been gradually declining, representing 34% of crude diet in 2004, 28% in 2006, 17.3% for 2010-11 and expected to only be 14.7% for the 2011-12 period. Australian domestic crude production is not only in decline but condensates are also counted in the crude numbers. Condensates however are much more suitable for chemicals manufacturing plants in Asia rather than oil refineries.

For NSW, operating in terminal mode will provide an equivalent or better level of supply security for the NSW marketplace as we will not be required to source products at late notice during periods of unplanned refinery shutdowns. As shown in Figure 8, during an extended period in 2008/09 when Clyde was operating as a dedicated import terminal due to major maintenance work, Shell was able to supply the NSW market totally from imports with very limited impact on customers.

Significant amounts of capital is being invested in improvements to both the Gore Bay and Clyde terminal facilities to ensure they operate in the most efficient way possible and will support future growth in the NSW market. To support the move to full import mode, Shell is also investing through third party terminal providers in additional terminal capability in Newcastle with the development of 54ML of diesel storage and the construction of a hot bitumen import facility at Port Botany.

Shell has invested and continues to invest more broadly in petroleum storage and distribution infrastructure – supporting Australia’s long term liquid fuel supply security. Recent terminal investments over the past five years have amounted to around AUD180M alone. In addition to this Shell has also entered into many long term lease arrangements with independent terminal operators effectively covering the cost of capex to build the required infrastructure.

There is also a diversity of players in the overall supply chain for liquid fuels from trading, shipping, terminalling and distribution operators as well as a diversity of locations into which products are imported (in NSW alone there are major terminals at Port Botany, the Caltex refinery, Shell’s Gore Bay, Newcastle and Port Kembla) which provides for a competitive, diverse and secure supply chain. The Energy White Paper notes that “in addition to the port facilities at the seven refineries, Australia has 64 refined product import terminals.”

This diversity of players in the import game is supported by the ACCC 2011 Fuels Price Monitoring Report which found that in “2002-03.... Independent importers accounted for around half of imports” and “in 2010-11, independent imports continued to grow while overall imports fell. As a result, the share of independent imports increased to around 40 per cent of total imports.”

As also noted in the 2011 ACCC Report is that, “independently owned import terminals have significantly greater total petrol capacity (398.7ML) than those owned by refiner-marketers (292.8ML).”

Fuel Prices

Claims that refinery closures will increase the cost of fuel to consumers are flawed.

The 2011 ACCC Fuels Price Monitoring Report clearly states that “ACCC analysis has consistently shown that retail prices in Australia are primarily determined by the international price of refined petrol (which itself is driven by the price of crude oil) and the Australia/US dollar exchange rate.”

Prices for all gasoline in Australia are predominantly based on import parity pricing (IPP) – shipping, wharfage and storage and handling are all additional costs that get added in but the price of petrol and diesel in Australia are almost all import parity price and taxes. Specifically:

- The Singapore benchmark price of petrol plus shipping costs and Australian taxes represents almost the entire wholesale price of petrol – over 90% of the Terminal Gate Prices (TGPs).
- The remainder of TGP reflects insurance, a quality premium for Australian fuel standards, local wharfage and terminal costs and a small wholesale marketing margin (where competitively possible).

Fuel prices in Australia established by refiner-marketers have been based on import parity price (IPP) since around 1990 as well as when the Prices Surveillance Authority used to regulate maximum wholesale prices. The IPP for regular unleaded petrol (RULP) in Australia includes the benchmark price of refined petrol, plus a component reflecting the difference between the benchmark price and the price of fuel refined to Australian fuel standards and all costs associated with transporting the petrol into the relevant Australian refinery, terminal or storage facility.

According to the ACCC, the reason why IPP is an effective pricing mechanism in Australia is because “in markets where refinery output is insufficient to meet demand, imports represent the best alternative source of supply and the marginal cost of imports becomes the basis for setting prices. In Australia, refined petrol supplies have been imported to supplement local refinery output and ensure adequacy of supplies. As such, imports represent the marginal source of supply and domestic prices ought to reflect the import price. The IPP is not determined on the basis of refiner–marketers’ costs. It can be seen as a measure of the costs that would be incurred by an importer in purchasing petrol overseas and transporting it to a specific location in Australia.”

Refiner–marketers calculate an IPP for each major terminal location in which they operate – in Shell’s case this is referred to as the Terminal Gate Price (TGP). The components of the IPP capture the indicative costs associated with purchasing refined petrol in Singapore at Australian standards and transporting it to terminals in each relevant market. By far the most important component of the IPP is the benchmark price for refined Singapore fuel which is demonstrated in the Figure 6 below which shows how local wholesale (TGP) and retail prices closely track the regional price for fuels.

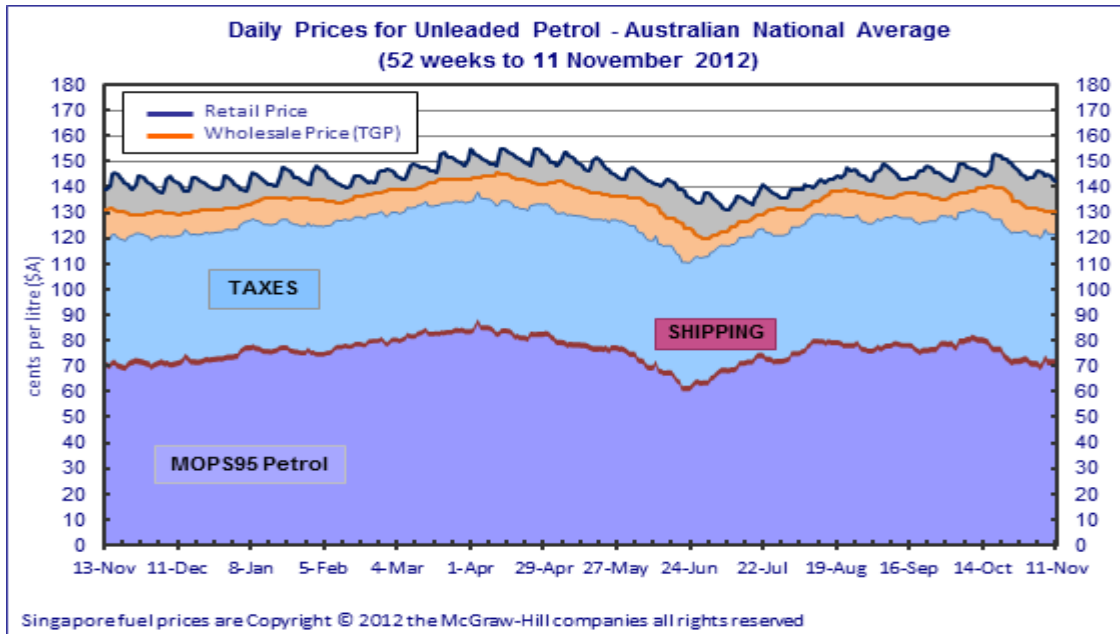


Figure 6 – correlation between Singapore prices, Australian TGP and retail prices (source: AIP Fuel Price report)

Impact on employment of refinery conversion

There would be a reduction in direct employment numbers from closing or converting a refinery to an import terminal. The direct impact on a reduction in employment from Shell’s decision to convert Clyde refinery to an import terminal is likely to be in the order of 200 people (from an employment base of 310). Of the 310:

- 20 employees resigned from the time of the announcement to the cease refining date
- Approximately 180 have or will be made redundant;
- Of those who received a redundancy, we estimate around 60 will retire from the workforce;
- The age profile of the Clyde/Gore Bay workforce is shown in the table below:

Age Range	Number of employees
25-	19
26 – 40	116
41 – 50	97
50+	107

- More than 100 employees have been redeployed within Shell
 - 13 employees have secured roles in our upstream Prelude project
 - More than 90 employees have secured roles in either the terminal conversion project or the eventual terminal
- The final terminal operation will employ between 30-50 people.
- Shell has paid out around \$50M of redundancy to those not redeployed - equating to an average redundancy payout of more than \$270,000 per employee.

As part of the conversion project Shell has invested a considerable amount of time and effort to equip our staff for life outside Shell. Apart from the almost 20 different programmes and seminars held for our employees post the announcement, we have run a series of Career Expos where local and National employers could engage with our employees on future job opportunities. The employment opportunities presented at these Expos resulted in employees feeling more confident that they could secure employment (even in Sydney) post the conversion Clyde - including nine direct offers of employment from employers attending these Expos. In addition Shell worked with the local TAFE College on having more than 160 employees receive recognition of prior learning and thereby receive various trade certificates and qualifications.

The small number of employees who opted to try for roles in our upstream business supports the view that Australian workers on the whole are not readily mobile – despite many of these workers having the right skills and training to easily transfer to the upstream business. According to APPEA, “Australia’s LNG sector is currently investing more than \$180 billion in new projects and will create more than 100,000 Australia jobs this year.”

Another example of a structural change in the downstream business has been the reduction in service station numbers from around 20,000 in the 1970s to around 7,000 sites today. Employment lost from the reduction in service station sites would far exceed of loss of jobs from current decisions to convert refineries. Once again, this type of structural change happened in an orderly transition over a long period of time allowing the workforce to transition to other sectors of the economy.

Shell’s downstream business continues to directly employ around 2,000 people and collects on behalf of government almost \$5 billion in fuel excise each year.

Impact on the broader economy

Shell acknowledges that the conversion of Clyde refinery into a terminal will have an impact on jobs and possibly on other industries. Although regrettable, industries like ours have and will need to keep innovating to remain competitive – particularly in such a competitive industry.

In the example of the Clyde conversion around 30 to 50 hectares of land is likely to be freed up for development in the growing western suburbs of Sydney. Such a redevelopment would generate jobs in both construction and ongoing operations and in a report by Ernst and Young commissioned by Shell, these employment numbers could be in the order of 1600 for a light industrial/technology park style development.

Contractors will also continue to be required throughout the life of the conversion project for decommissioning and decontamination and also for maintenance activities at the new terminal operations.

With respect impact on other industries reliant on feedstocks from the refining process, Shell notes that the Energy White Paper states that “continued access to competitively priced and reliable supplies of electricity, feedstock coal, gas and petroleum products will be important for transformative industries such as plastics, chemicals, alumina and steel.” It also notes that “Our gas and liquid fuel markets are also undergoing important structural changes, driven by a closer integration with global markets and

supply chains, the growing development of new technologies such as electric vehicles and alternative fuels, and expanding sources of supply and demand competition.”

Shell also supports the AIP position that without further assessment, it is not conclusive that there are significant market risks to downstream activities (including from refinery conversions), since no market failure has been clearly identified and there is an established domestic and international market for sources of feedstocks. Whether feedstocks are sourced from refineries or from domestic or international markets is fundamentally a commercial decision for operations in industries such as petrochemicals.

Conclusion

In conclusion, the Australian refining industry has been under pressure and challenged for some time. There is increasing competition from mega-refineries in Asia with new capacity still slated to come on stream which will continue to put downward pressure on margins. Our local refineries have become some of the highest cost refineries in Asia requiring expensive crudes to operate, and impacted by high costs including the cost of labour and a strong Australian dollar. The global market for refining is evolving and Australia is not immune to this.

There is sufficient supply in the market to satisfy Australian demand in light of recent refinery conversion decisions and even in the event of more refinery closures.

We do acknowledge that there would be an impact on direct and indirect employment and the economy from refinery closures but also note the comments that structural change in our industry has been occurring over a long time and tends to follow an orderly transition. We also note the employment opportunities available to refinery workers in the many upstream LNG projects where their training and skills would be highly sought after – but this requires these employees to be mobile.

We support the findings in the Energy White Paper that indicate that the liquid fuels market is not an area targeted for market intervention. Although Australia has access to well functioning and highly efficient liquid fuels markets we believe government continues to have a role in:

- ensuring that regulatory decisions and imposts do not undermine the competitiveness of liquid fuel production or supply;
- maintaining a strong market based approach to liquid fuels with minimal regulatory intervention;
- recognizing the competitive pressures from regional refineries;
- Providing a level playing field for competing transport fuels (for example, no commercial access to imported ethanol is hampering the development of an efficient and competitive domestic biofuels market and has impacted on the shorter term supply reliability of these fuels);
- facilitating the development of liquid fuels infrastructure, including streamlining approvals for new developments;
- considering the impacts of industrial relations environment on bargaining capability and outcomes and productivity improvements;
- maintaining a strong commitment to technical skills and helping companies navigate through the various programmes aimed at helping to transition employees into other sectors of the economy in light of refinery closures;

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- not placing additional and unjustified compliance, regulatory and cost burdens on industry;
- ensuring research and development settings are appropriate and encourage the commercial development of transport fuels which can genuinely contribute to liquid fuel security in Australia;
- continuing to support industry in light of a carbon pricing scheme and the recognition behind this support that fuel imported from other nations is not subject to similar imposts; and
- continuing to monitor the industry in the form of regular National Energy Security Assessments and Liquid Fuels Vulnerability Assessments in order make an assessment of Australia's liquid fuel supply security and to implement in a timely manner any change in policy.