

16 Analysis of key issues in the fuel industry

Key points

- Recent evidence and expert opinion on the future of crude oil prices suggests the era of cheap petrol may be over.
- The large integrated petrol companies are scaling back their involvement in downstream activities in order to pursue more attractive returns in crude oil exploration and production.
- Despite improved performances by Australian refineries in 2010–11, the announced closure of the Shell refinery in Sydney is evidence of the challenges faced by Australian refiners to compete with the larger and more efficient refineries in Asia.
- While still a relatively small contributor to total supply, independent importers and wholesalers continue to be an important source of competition in the Australian downstream petroleum industry. In 2010–11, independent imports accounted for a substantial proportion of total imports.
- Specialist retailers continue to increase market shares in the retail sector while the refiner-marketers reduce their retail presence.
- Australia's experience with petrol prices is common among developed countries. Retail prices in many countries are established with reference to, and driven by changes in, international benchmark prices for refined petrol.
- While domestic production of ethanol has increased recently, industry participants have expressed concern about the industry's ability to meet demand when the NSW ethanol mandate comes into full effect in 2012.

16.1 Introduction

This monitoring report has highlighted the significance of recent trends in the Australian downstream petroleum industry.

This chapter examines in more detail the key factors underlining each of these key trends that characterise the Australian downstream petroleum industry.

16.2 Rising crude oil prices

Evidence considered in chapter 5 indicates that higher crude oil prices are likely to persist in the short to medium term. Pressure on prices is building up not only because demand for crude is likely to remain strong, principally driven by strong growth in emerging countries, but also because supply costs will rise as production increasingly moves to non-conventional sources of crude.

Crude oil is a finite resource. Current debates about peak oil (see section 5.6) centre less on whether it will occur, but rather when. As the world moves closer to peak oil, and then beyond it, production costs are likely to rise as the rate at which crude is extracted from existing lower-cost fields slows down.

Ultimately, however, as crude oil is produced from increasingly more costly sources, the world will be effectively facing upwardly shifting cost functions for crude oil.

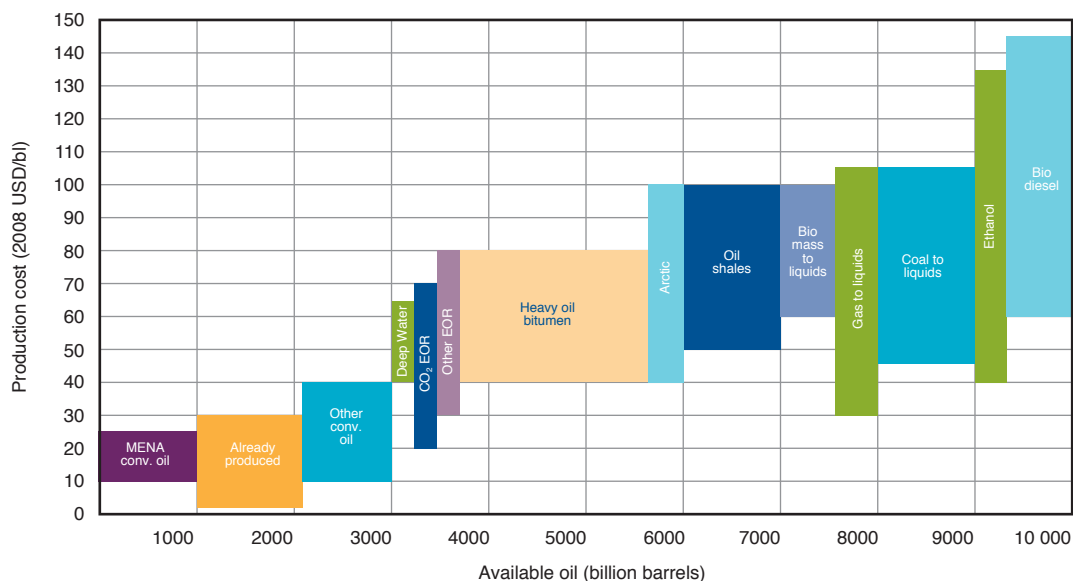
16.2.1 Production costs to increase

The lowest cost crude comes from conventional supplies in easily accessible reservoirs in the Earth's geological strata. The cost of producing crude oil increases as production shifts from easily accessible sources to fields located in geographically and politically difficult environments. The cost also increases when the use of advanced technologies is required to enhance the recovery of oil in mature and declining fields. Costs rise further when crude oil is produced from non-conventional sources such as bitumen, coal, gas, shale and bio-mass. Production of crude from these substances is an energy intensive two-stage process involving exploration and extraction of the source stock and converting the source stock into crude oil.

As current fields mature and existing reserves are depleted, naturally occurring crude oil will become increasingly scarce. To the extent that the most accessible oil fields have already been exploited, it follows that future production costs can be expected to rise. All else being equal, increased production costs will mean higher crude prices. While improvements in technology and the discovery of new fields may relieve pressure on prices, this may be counter-balanced by higher exploration and production costs as new fields are sought and exploited in increasingly more remote and risky locations. In the longer term, increased reliance on alternative sources of oil is likely to keep upward pressure on prices of petroleum products.

Estimates from the International Energy Agency (IEA) strongly suggest that the cheapest oil may have been that which has already been produced. The IEA has proposed a production cost schedule based on range estimates which suggests rising production costs from less than USD 10 per barrel (bl) for existing sources of conventional liquids up to USD 150/bl for biodiesel (chart 16.1).

Chart 16.1 Oil production cost schedule: as at 2011



Source: ACCC estimates based on International Energy Agency, *Medium-term oil and gas markets 2011*, p. 62.

Note: Production cost is the break-even point not including an assumed rate of return on investment. EOR—Enhanced Oil Recovery. MENA—Middle East and North Africa.

Chart 16.1 shows ranges of costs associated with the production of crude from various sources. The chart suggests that at current crude prices of around USD 100–110/b, production of oil from a number of alternative sources is commercially viable:

- deep water
- enhanced recovery from existing fields
- bitumen
- arctic
- oil shales
- gas/coal/biomass conversions.

While the full ramifications of the blowout at the BP Macondo well in the US Gulf of Mexico may not yet be clear, according to the IEA it is not expected to greatly affect exploration of deep-water fields in the long term. Production of crude oil from deep-water fields is forecast to increase its share of total world supply from 6 to 9 per cent by 2016.²⁷⁸

278 See International Energy Agency, *Medium-term oil and gas markets 2011 report*, p. 67 © OECD/IEA International Energy Agency.

According to the IEA, enhanced oil recovery (EOR) from existing fields is cost-effective at prices ranging from USD 20 to USD 80/bl. The IEA reports that the average 'observed field decline rate' for crude has fallen in recent years suggesting increased recovery rates at existing production sites. The forecast for 2011 is a rate of decline of 6 per cent compared with 7.3 per cent in 2009.²⁷⁹ This suggests that there has been an increased use of enhanced oil recovery technologies such as injections of gas (carbon dioxide, natural gas), chemicals and microbes and even steam to reduce viscosity and increase pressure. Use of enhanced oil recovery techniques can increase the proportion of oil that can be recovered in any one field.

The implications of the IEA production cost schedule for exploration and development are relatively clear: as existing fields mature and conventional sources of crude are depleted, the average cost of producing oil will increase as production from non-conventional sources increases.

16.2.2 Higher crude oil prices

Prices of crude oil can be expected to rise even before existing sources of crude are fully exhausted. This is because as the flow of oil from existing fields declines, the marginal source of supplies becomes oil produced from more remote conventional sources and other non-conventional sources. The marginal cost of oil will therefore no longer be the marginal cost of extracting oil from existing fields but will instead increasingly reflect the marginal cost of production from more costly sources.

In this context, it is not surprising to note that in April 2011 the IEA Executive Director Nobuo Tanaka declared that 'the age of cheap energy is over'.²⁸⁰

In summary, there seems to be a growing body of evidence indicating that the world supply–demand equation may be fundamentally changing. The world has already seen significantly higher crude prices, not just in the last 12 months, but for most of the past decade. While prices may fluctuate according to market sentiment, it is extremely unlikely that crude oil prices will return to the average price of around USD 22/bl seen during most of the 1980s and 1990s.

Increasingly, the evidence suggests that higher crude and petrol prices will persist.

16.3 Structural changes

There are four fundamental forces that are shaping the Australian downstream petroleum industry:

- Rising crude oil prices are improving profits in the upstream exploration and extraction sector relative to the downstream sector.
- The viability of domestic refining is challenged by competition from major Asian refineries which are now reliable suppliers of Australian standard fuel.
- Improved access to import infrastructure is facilitating independent imports.
- Independent specialist retailers are increasing their presence while previously integrated refiner-marketers withdraw from the retail sector.

279 International Energy Agency, *Ibid.*, p. 63. © OECD/IEA International Energy Agency.

280 Nobuo Tanaka, IEA, 'Oil in the global energy mix: climate policies can drive an early peak in oil demand', 13 April 2011, at http://www.iea.org/index_info.asp?id=1928, accessed 30 November 2011.

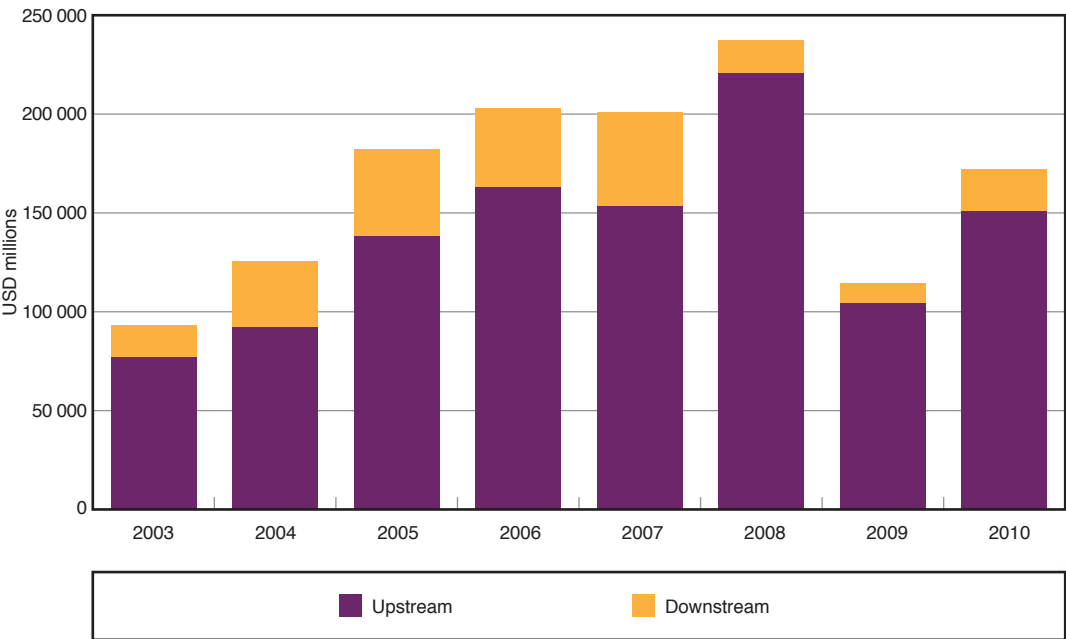
16.3.1 Comparative returns: upstream vs downstream

As crude oil prices rise, production of crude from low-cost conventional sources is increasingly profitable. In essence, upstream activities become more attractive with higher crude prices.

Major companies in the global petrol industry are increasingly refocusing their businesses away from downstream refining-marketing activities towards their upstream businesses.²⁸¹ A recent example of a company embarking on such a strategy is ConocoPhillips, a major integrated global petrol business. On 14 July 2011, ConocoPhillips announced its intention to split its exploration and production businesses away from the marketing business to concentrate on ‘pure-play exploration and production with strong returns and investment opportunities’.²⁸² Following the split, the company will have two stand-alone publicly listed companies operating separately in the upstream and downstream sectors.

In order to gauge the nature of returns in upstream activities, the ACCC has assessed the latest data on comparative earnings from upstream and downstream activities of five global integrated petrol companies. Data in chart 16.2 shows combined earnings from the upstream and downstream businesses of BP, Chevron, ExxonMobil, Royal Dutch Shell and ConocoPhillips since 2003.

Chart 16.2 Upstream and downstream net earnings, BP, Chevron, ExxonMobil, Royal Dutch Shell and ConocoPhillips combined: 2003 to 2010



Source: ACCC calculations based on data from companies' annual reports.

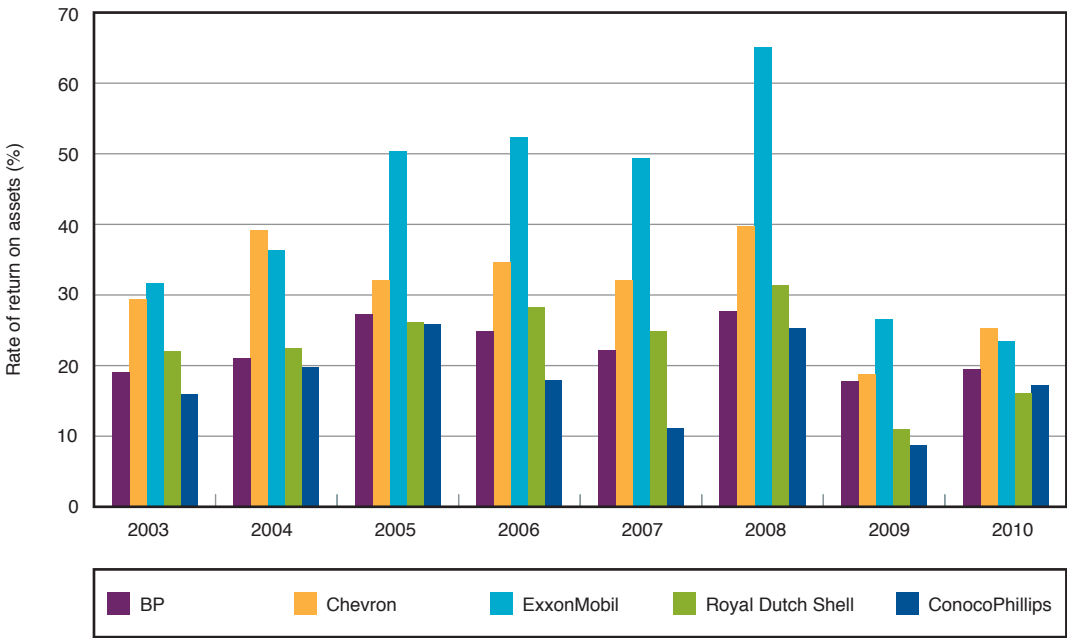
281 ACCC, Monitoring of the Australian petroleum industry, December 2010, pp. 274–7.

282 See ConocoPhillips, 'Pursuing plan to separate into two stand-alone, publicly traded companies', at http://www.conocophillips.com/EN/newsroom/news_releases/2011news/Pages/07-14-2011.aspx, accessed 30 November 2011.

It is clear from chart 16.2 that the level of earnings from upstream activities have consistently exceeded earnings from downstream activities.

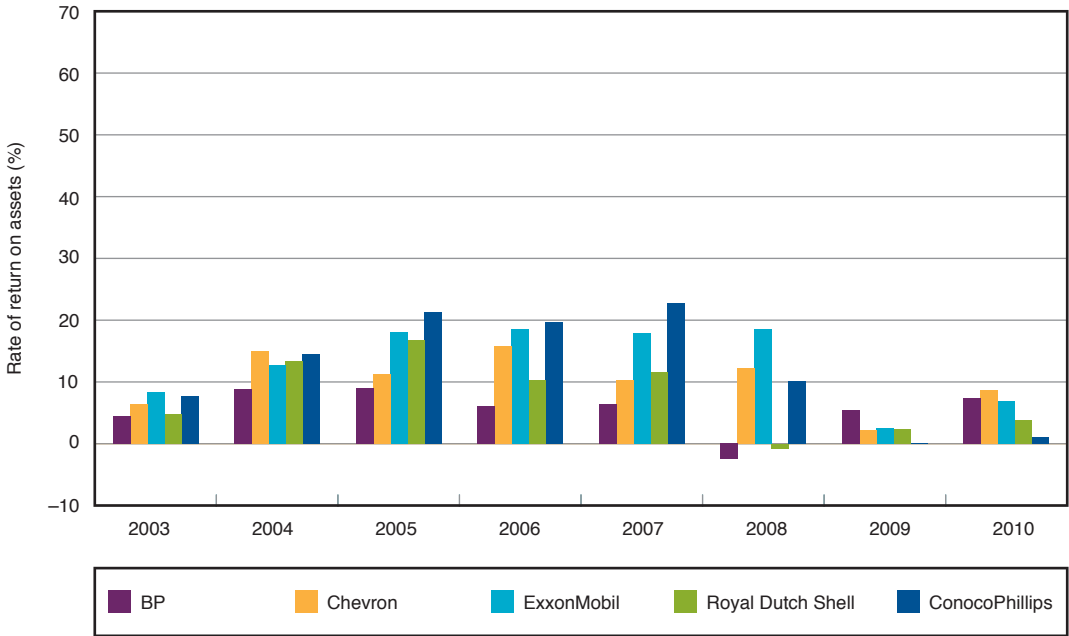
While rates of return on assets employed in the upstream and downstream sectors vary across companies, the evidence in charts 16.3 and 16.4 clearly indicates that since 2003 rates of return have been higher in the upstream than downstream businesses.

Chart 16.3 Upstream rates of return on assets, BP, Chevron, ExxonMobil, Royal Dutch Shell and ConocoPhillips: 2003 to 2010



Source: ACCC calculations based on data from companies' published annual reports.

Chart 16.4 Downstream rates of return on assets, BP, Chevron, ExxonMobil, Royal Dutch Shell and ConocoPhillips: 2003 to 2010



Source: ACCC calculations based on data from companies' published annual reports.

The data presented in charts 16.2 to 16.4 suggest that the prospect of superior returns in upstream compared with downstream operations may explain decisions by integrated petrol companies to focus on upstream activities.

Clearly, factors other than accounting rates of return are bound to be considered when comparing investments in businesses as vastly different as crude oil exploration and petrol retailing. Among other things, the relative risks associated with these activities are likely to be very different. That said, the data appears strongly consistent with, and provides support for, the observed strategies of oil companies to move resources from downstream to upstream activities.

16.3.2 Domestic production: viability of refining

Unleaded petrol

There is evidence of improved operational efficiency in Australian refineries in 2010–11. A lower incidence of refinery outages and unplanned shutdowns allowed domestic refineries to operate at higher levels of capacity utilisation and increase production of refined petrol compared with the previous 12 months. As a consequence, fewer imports were required to meet Australia's demand for petrol products. As observed in chapter 3, at 2.6 billion litres, petrol imports in 2010–11 were the lowest since 2002–03 (chart 3.7 in section 3.4.1).

Data considered in chapter 14 indicates that the financial performance of the refining sector also improved in 2010–11. Net earnings increased in absolute terms and relative to sales and assets in all sectors of the industry. The improved financial performance partly reflects technical and operational efficiency gains. However, it does not appear that unleaded petrol products contributed significantly to the improved performance of the refinery sector. While higher volumes of unleaded petrol products in conjunction with the inventory effects of rising international prices for refined fuel have been positive influences on overall outcomes, they were not the major drivers of profits in 2010–11. Diesel products accounted for a significant contribution to the increase in profits in the refinery sector in 2010–11 (see chapter 13).

This data underlines the current state of refining and the fact that domestic refiner-marketers continue to monitor their involvement in refining. The availability of petrol refined to Australian standards in the Asian region is an ongoing source of competitive pressure on domestic refiners. The new Asian refineries are more modern, larger and consequently often more efficient than Australia's refineries. Most of Australia's refineries were originally built in the 1950s and 1960s and have required considerable maintenance in recent years (see discussion in chapter 4 on the evolution of the petrol industry).

As it is likely that refineries in Asia are able to operate at a lower unit cost than Australian refineries, they impose strong competitive disciplines on the domestic refiner-marketers. The main effect of this competitive discipline is to put pressure on domestic refineries to be operationally and economically viable at the import parity price. The cost to Australian refineries of not being price competitive is the risk of being bypassed for alternative suppliers of petrol in the region.

Recent trends in independent imports provide an example of this trend. Imports by independent wholesalers increased again in 2010–11 and, because of a fall in refiner-marketer imports, accounted for a substantial proportion of total imports (see sections 3.4.1 and 16.3.3).

The evidence on the competitive response of Australian refineries to the Asian challenge is mixed. The improved operational performance of domestic refineries in 2010–11 may be indicative of a positive response. On the other hand, the announced closure of Shell's Clyde refinery in 2013 suggests that some refinery assets are struggling to cope with the competitive pressures from refineries in Asia.²⁸³ In the case of Clyde, Australia's oldest refinery, Shell has stated that:

*the decision recognised the Clyde Refinery was no longer regionally competitive against Asian mega-refineries.*²⁸⁴

283 See Shell Australia, 'Shell to cease refining at Clyde', press release, 27 July 2011, at http://www.shell.com.au/home/content/aus/aboutshell/media_centre/news_and_media_releases/2011/clyde_cease_refining_27072011.html, accessed 30 November 2011.

284 Ibid.

The closure of the Shell Clyde refinery is significant because when it ceases production in 2013, it will be the second refinery in Australia to have closed down in only 10 years. In 2003, Mobil mothballed its Port Stanvac refinery in Adelaide, finally deciding to abandon and remediate the site in June 2009.²⁸⁵

The announcement on the closure of the Shell Clyde refinery was followed by reports in the Australian financial press that Caltex was also reviewing the future of its refineries.²⁸⁶

There are currently no plans to build another major refinery in Australia.

It is likely that pressure on Australian refining assets will not lessen in the foreseeable future. As noted in chapters 4 and 5, total refinery capacity in Asia has increased substantially in recent years as it has become a focal point for new investment.

Globally, rationalisation of refinery assets has been happening at many of the world's major petrol companies. In the US, a period of intense merger activity in the late 1990s raised the level of concentration and resulted in fewer but larger refineries. In the process, a specialist refiner has emerged with significant holdings of refining assets. Following a spate of acquisitions since its formation in 1980, Valero Energy Corporation now operates a network of 17 refineries in North America where it has become the second largest refiner by capacity.²⁸⁷

As noted, modest refinery margins at a time when earnings in upstream activities are improving is sharpening the focus of integrated petrol companies on their refinery businesses. Indeed, questions are increasingly being raised about the benefits of vertical integration and whether these compensate an integrated petrol company for the comparatively lower returns from its downstream activities.²⁸⁸

While some companies are withdrawing from downstream activities completely, others have preferred to take a cautious and targeted approach to improving downstream earnings. Thus, Royal Dutch Shell's strategy has centred on improving earnings in their downstream activities through opportunistic asset rationalisation rather than exiting completely.²⁸⁹

Diesel

Demand for diesel continued to grow strongly in 2010–11, reflecting continued high levels of activity in the transport and resources sectors. A more efficient refining sector allowed domestic production to increase significantly during 2010–11. This represents only the second time in the past eight years that diesel production has increased. Annual production, however, was still below levels in 2002–03, the first year for which the ACCC collected data for its monitoring program.

Financial data in chapter 14 indicates that diesel's contribution to total refinery profitability improved significantly in 2010–11.

As annual production increased more than demand in 2010–11, there was a slight fall in the level of imports that were needed to meet Australia's total diesel requirements.

285 See ExxonMobil, 'Future of Port Stanvac refinery', press release, 25 June 2009, at http://www.exxonmobil.com/Australia-English/PA/news_releases_20090625.aspx, accessed 30 November 2011.

286 See 'Caltex Australia reviewing petroleum refineries after H1 profit falls 24pc', 22 August 2011, at <http://www.theaustralian.com.au/business/profit-loss/caltex-australia-reviewing-petroleum-refineries-after-h1-profit-falls-24pc/story-fn91vch7-1226119611900>, accessed 30 November 2011.

287 See Federal Trade Commission, 'Gasoline price changes and the petroleum industry: an update', September 2011, at <http://www.ftc.gov/be/econrpt.shtm>, accessed 30 November 2011.

288 See A. Good, 'Is the integrated oil and gas model burned out?', 11 March 2011, at <http://www.morningstar.co.uk/uk/news/article.aspx?articleid=96928>, accessed 30 November 2011.

289 See Shell, 'Shell on track with strategy to improve performance and growth', press release, 15 March 2011, at http://www.shell.com/home/content/investor/news_and_library/2011_media_releases/2011_strategy_update_15032011.html, accessed 30 November 2011.

Australia does not produce sufficient diesel to meet its requirements. Almost half of Australia's diesel requirements are met by imports. As noted in chapter 3, the gap between demand and production, and thus Australia's import requirements, has generally been growing since 2002–03.

Notwithstanding a more healthy performance from the refining sector in 2010–11, Australia is not expected to significantly reduce its dependence on diesel imports, particularly if current economic growth levels and patterns continue.

Biofuels

In 2010 and 2011, concerns about adequacy of supplies of ethanol continued to affect the market for ethanol blended petrol (EBP).

Total sales of EBP increased strongly again in 2010–11. Boosted mainly by the state government mandate in New South Wales, demand has almost doubled in the past two years. Though demand levelled off somewhat in Queensland in 2010–11 following the decision to suspend plans for an ethanol mandate, it was still substantially greater than a few years earlier. Demand also grew in Victoria.

While production of ethanol in 2010–11 increased relative to 2009–10, industry participants have continued to express concerns that investment in new capacity has not been sufficient to meet future demand, particularly when the NSW Government mandates come into full effect in 2012.

The supply concerns in NSW were sufficiently strong to prompt the state government in June 2011 to postpone to 1 October 2011 the date for the increase in the legislated volumetric ethanol mandate from 4 to 6 per cent. This was the second time that the higher mandates had been suspended as the government expressed concerns about the fact that most resellers were not able to meet required targets due to supply problems.

16.3.3 Imports: a source of competitive pressure

Total imports of petrol products (that is, regular unleaded petrol, premium unleaded petrol and ethanol blended petrol) fell in 2010–11 as improved refinery performance reduced the need for imports by Australian refiner-marketers.

The independent import sector, while still relatively small, continued to experience strong levels of activity. Independent imports' share of total imports rose from around 10 per cent in 2009–10 to more than 40 per cent in 2010–11. Greater import volumes by the larger independent importers were complemented by a surge in imports by some of the smaller importers like Gekko Petroleum. It is too early to predict that emerging small import firms will become a permanent feature of the Australian petroleum industry. However, evidence of new small scale importing, even in the short term, is significant because it suggests barriers to entry in the import sector may not be prohibitive.

While the independent import sector is still small relative to the size of the overall market, the potential for opportunistic entry suggests that it may become an important source of competition for the major petrol companies.

In recent years, independent importers have benefited from two key features now present in the downstream industry:

- the increased availability of Australian standard fuel in the Asian region
- improved access to import infrastructure.

Many of the new refineries in Asia have the technical capability and spare capacity to supply Australian importers with petrol refined to Australian standards. India in particular has invested heavily in refining capacity (including in the Reliance Jamnagar refinery) to position itself as a major exporter in the Asia-Pacific region. Other countries that are forecast to add to refining capacity in the region in the medium term include China, Japan, South Korea and Singapore.²⁹⁰ It is likely that Asia will continue to have spare capacity for the production of Australian standard fuel, at least in the short to medium term.

Historically, access to import infrastructure has been a major obstacle for potential independent importers, with most terminals owned and operated by the refiner-marketers (see chapter 4).

In recent years, most of Australia's independent imports of refined petrol have been undertaken by the leading wholesalers: Neumann, United and Gull. Two of these, Neumann and United, own terminals and other infrastructure in Brisbane and Melbourne respectively to enable importing on their own account. Gull has sold its terminal near Perth but has established an arrangement with the new owner, Coogee Chemicals, for access to the terminal on a common-user basis. Other smaller importers such as Gekko Petroleum have recently been able to secure access to import infrastructure owned by independent terminal owners, principally the Vopak terminal at Port Botany in Sydney.

Evidence considered in chapter 3 indicates there may be an increasing trend to increased independent terminal ownership and operation, with announcements of plans for two new terminals by Marstel in Newcastle and Terminals Pty Ltd in Adelaide.

Other data collected by the ACCC as part of its monitoring activities on terminal operations and throughput indicates the existence of spare capacity at independently owned terminals.

16.3.4 Retail sector: emergence of specialist retailers

The structure and nature of petrol retailing continues to undergo profound changes. As discussed in chapter 4, no sector of the Australian downstream petroleum industry has changed as dramatically as the retail sector.

The retail sector is no longer just a conduit for the major petrol companies to supply refined petrol to the consumer. The role of the refiner-marketers in petrol retailing is diminishing while, increasingly, petrol is being sold to consumers by specialist retailers.

In the process, the extent of vertical integration by the refiner-marketers, and their direct influence over retail prices, has reduced. The combined share of refiner-marketers' branded retail sales as a proportion of total retail sales has fallen from 83 per cent in 2002–03 to 39 per cent in 2010–11 (see table 3.8 in chapter 3). In that time, BP and Caltex experienced a drop in market shares while the combined share of Mobil and Shell has fallen from 39 per cent to just 2 per cent. As at June 2011, only 17 per cent of the sites monitored by the ACCC were operated by the refiner-marketers through direct ownership and/or franchise/commission agent arrangements (table 3.9 in chapter 3).

With the sale of its retail network to 7-Eleven, Mobil is no longer involved in retail while Shell maintains a minimal presence following the establishment of an alliance with Coles.

²⁹⁰ See 'Research and markets: Asia Pacific refining industry: market analysis, capacity forecasts, and competitive landscape to 2015', at <http://www.reuters.com/article/2011/02/01/idUS24996+01-Feb-2011+BW20110201>, accessed 30 November 2011.

At the same time, independent retailers have become more prominent. Since 2002–03, independent retailers' share of branded retail sale volumes has risen from 6 to 17 per cent. In June 2011, the proportion of retail sites operated by independent retailers (that is, by companies not associated with the refiner-marketers or the supermarkets) was 16 per cent.

There are a number of factors behind the transformation of the retail sector from a mere platform for delivering petrol to motorists to a stand-alone commercial enterprise. One of the most important has been the emergence of convenience stores. These developed to fill a niche at a time of changing community attitudes to shopping outside traditional shopping hours. There seemed to be a natural fit between the concept of convenience shopping and buying petrol. Among other things, both rely on the provision of a retail forecourt to facilitate vehicle access and attract customers.

Specialist retailers such as 7-Eleven, On The Run and the supermarkets (Woolworths and Coles Express), approached petrol retailing with a different focus to traditional 'service stations'. While they have operated in the retail sector with different strategies, they have had a similar attitude towards petrol: they generally do not see petrol as their main product but rather as a useful adjunct to their primary business objective of maximising sales of other non-fuel items. Thus, 7-Eleven has added petrol to its offerings but not departed from its main objective of being a specialist convenience store retailer. The supermarkets have aligned incentives on petrol prices to grocery purchases as a way of maximising supermarket revenues. The strategy adopted by On The Run has been to provide a 'mini shopping centre' environment with a more extensive range of convenience items.

Data on retail sector profitability presented in chapter 15 indicates that the strategies followed by the specialist retailers have been successful. Since 2003–04, convenience store sales have doubled while convenience store profits per litre of fuel sales increased by almost 30 per cent. In the five years to 30 June 2011, the proportion of convenience store net earnings to total retail earnings has also improved.

Another factor that has clearly encouraged change has been the comparatively low barriers to entry into petrol retailing. The retail sector would have evolved more slowly if firms faced severe difficulties in entering, and exiting, the sector. The entry and establishment of a significant presence by a number of specialist retailers with diverse business models, indicates that barriers to entry into petrol retailing may not be prohibitive. Entry has been possible by establishing greenfield sites in growing population centres as well as purchasing existing outlets.

This is not to say that establishing a new site in an established area already serviced by existing petrol outlets is easy. One obstacle would seem to be regulatory and environmental constraints. There may also be economic barriers if potential returns are not sufficiently high to justify the initial investment. Because fixed costs are likely to be a relatively large component of the total cost associated with the establishment of a retail site, a retailer would have to quickly gain a sizeable market share in order to break-even. To the extent that there are benefits in being part of a recognised brand or network of retail outlets, an independent operator may face additional difficulties in acquiring market share from his competitors. That said, the existence of barriers to entry into a mature and developed local market is not necessarily a hindrance to competition if motorists can avail themselves of alternative retailers within reasonable driving distances.

The ability to purchase petrol from sources other than the domestic refiners is another factor that has facilitated the establishment of an independent retail presence, particularly by the major wholesalers. The growth of wholesalers such as United, Neumann and Gull has been largely built

on their capacity, or at least potential, to supply their retail sites with imports of Australian standard fuel from overseas refineries. Improved access to import infrastructure, including independently owned and operated import terminals, has been an important element of this strategy. The ability to source petrol from overseas refineries has enabled these wholesalers to negotiate more favourable prices with the Australian refiner-marketers.

Evidence considered in chapter 15 suggests that new entry into petrol retailing may not have been motivated by the prospect of superior returns from the sale of petrol. While profits in the retail sector improved in 2010–11, they are still modest relative to comparable retail sectors. Indeed, the reduced involvement by refiner-marketers in retail is partly due to the availability of superior returns in other aspects of their businesses, such as crude oil exploration and production.

Overseas evidence: retail structural changes

Changes seen in the retail sector in Australia in recent years mirror trends evident overseas. For some years, many of the major integrated global petrol companies have been following a targeted strategy of divesting retail assets. In June 2011, a private equity group in the UK purchased 810 service stations from France's Total.²⁹¹ In late 2010, Murphy Oil and Chevron were reported to be considering offers for their retail networks in the UK.²⁹² ExxonMobil has been selling its retail networks around the world. By 2008, it had sold most of its retail sites in the US to branded distributors²⁹³ and in mid-2011 it was reported to be considering selling its retail base in Malaysia.²⁹⁴ ConocoPhillips also sold the last of its retail assets in 2008.²⁹⁵

16.4 Australia's experience with petrol prices is not unique

As refined petrol is an internationally traded commodity, domestic petrol prices are established with reference to international benchmark prices for refined petrol, in Australia as in other countries.

As noted in chapter 9, in the long run, retail prices in Australia overwhelmingly follow movements in the price of Singapore Mogas 95 Unleaded, which is the relevant benchmark in the South East Asian region for regular unleaded petrol.

Retail prices in each of the overseas markets considered in chapter 12, California (US), Germany, the UK, Canada and New Zealand, also closely follow movements in the appropriate international benchmark prices for refined petrol in their respective regions.

Because international benchmark prices in all regions are determined in USD, retail prices in all countries (other than the US), are also affected by changes in the value of their currencies relative to the USD.

291 See Total, press release, 21 June 2011, at <http://www.total.com/en/press/press-releases/consultation-200524.html&idActu=2607>, accessed 30 November 2011.

292 See *Financial times*, 28 November 2010, at <http://www.ft.com/intl/cms/s/0/62b504c8-fb16-11df-b576-00144feab49a.html#axzz1YkwJ3JcQ>, accessed 30 November 2011.

293 See 'Exxon to sell all of company's gas stations' at http://www.msnbc.msn.com/id/25126563/ns/business-oil_and_energy/t/exxon-sell-all-companys-gas-stations/, accessed 30 November 2011.

294 See 'Exxon Mobil may sell Malaysia retail assets', at <http://www.bloomberg.com/news/2011-07-23/exxon-mobil-may-sell-malaysia-retail-assets-business-times-says.html>, accessed 30 November 2011.

295 See 'Here comes the PetroSun', 28 August 2008, at http://www.imakenews.com/csp/e_article001187762.cfm, accessed 30 November 2011.

As discussed in chapter 11, regular petrol price cycles in Australia have been evident in large cities for a number of years. It is apparent from the evidence presented in chapter 12, that local competitive factors also produce patterns or cycles in retail price movements in large metropolitan centres in other countries.

Evidence considered by the ACCC suggests that retail prices in cities in countries such as Germany and the US move in cycles that exhibit the familiar saw-tooth pattern seen in Australia and tend to follow weekly time paths.

Data analysed by the ACCC in section 12.3.3 on average daily retail prices in some German cities suggests that prices can move in regular and predictable patterns through the days of the week.

A recent report by the German authority responsible for competition issues, the Bundeskartellamt, identified regular price cycles in many German cities and concluded that in many instances these cycles were the product of coordinated price action by petrol companies.²⁹⁶

In the US, a study by the US Federal Trade Commission on the petrol industry also found evidence of retail price cycles in a number of cities in the US Midwest.²⁹⁷ The report, which considered evidence on price cycles in other countries, including Australia, refers to price cycles as a 'phenomenon' and describes them as '... recurring "saw tooth" pattern of retail price movements characterized by periods of a relatively small number of large price increases, followed by a period of more numerous, but smaller price decreases.'²⁹⁸

That said, evidence considered in the 2007 ACCC petrol inquiry suggested that cycles in Australia had a larger amplitude than in other countries.²⁹⁹ As described in chapter 11, a larger amplitude means a larger difference between the high and low prices in the cycle.

16.5 Alternative transport fuels

In the 2010 petrol monitoring report, the ACCC discussed alternatives to hydrocarbon fuels for transport.³⁰⁰

In 2011, with many of the world's governments turning their attention to the issue of climate change at the same time that prices of crude oil and refined petrol are increasing, there is continued interest in the potential of alternative sources of energy for transport. Alternative sources of energy being considered include natural gas, hydrogen, biofuels and electric batteries. The 2010 ACCC petrol monitoring report noted that, to varying degrees, all of these technologies were either already in use or in the advanced stages of development and application.

The viability of alternative sources of transport energy will ultimately depend on the extent to which they gain consumer acceptance. This in turn is inextricably linked to the development and implementation costs of the new technologies relative to the price of conventional hydrocarbon fuels. In the short to medium term, the higher the price of crude oil, the greater are the new fuels' chances of success. Recognising the challenges faced by the new technologies, governments

296 Bundeskartellamt, 'Fuel sector inquiry', Final report, May 2011, Summary, at http://www.bundeskartellamt.de/wEnglisch/Publications/sector_inquiries/W3DnavidW2651.php, accessed 30 November 2011.

297 Federal Trade Commission, 'Gasoline price changes and the petroleum industry: an update', September 2011, also, at <http://www.ftc.gov/be/econrpt.shtml>, accessed 30 November 2011.

298 Ibid., pp. 39–40.

299 Australian Competition and Consumer Commission, Petrol prices and Australian consumers: report of the ACCC inquiry into the price of unleaded petrol, December 2007, pp. 155–80.

300 ACCC 2010 petrol monitoring report, December 2010, pp. 278–80.

in many countries provide a variety of incentives to promote their development and encourage consumer take-up. In the long run, as the market penetration of alternative fuels increases, the demand for petrol and diesel should moderate, relieving pressures on supply and prices.

It is too early in the development phase of non-hydrocarbon fuels to predict with certainty which of the new sources of transport energy will achieve critical mass and when. What is clear is that governments around the world recognise the need to diversify the transport fuels base and have instituted programs to accelerate development of alternative fuels. The 2010 ACCC petrol monitoring report summarized key aspects of initiatives in a number of countries.

In September 2011, the Australian Government was considering an 'Alternative Transport Fuels Strategy' as input to the development of the Energy White Paper. The main objective of the strategy is to:

... identify the role of alternative fuels in contributing to public policy objectives and identify barriers, including market failures, to the development of environmentally and economically sustainable fuels. Alternative fuels covered under this Strategy are those fuels that can be used for transportation both now and into the future. Currently they include biofuels, liquefied petroleum gas, compressed natural gas, liquefied natural gas, synthetic fuels derived from fossil fuel deposits, and electricity.

*The Strategy also recognises the Australian Government's proposed work program to ensure Australia's energy markets can support potential large scale adoption of electric vehicles.*³⁰¹

Notable in this regard are initiatives by the IEA to raise awareness about and promote understanding of key issues.³⁰² The IEA's Energy Research and Technology Committee has proposed targets and strategies for cooperation at the intergovernmental level to lessen the world's reliance on hydrocarbon fuels. Examples of reports by the IEA include Transport, Energy and CO₂: moving toward sustainability (2009), and Technology Roadmap: Electric and Plug-in Hybrid Electric Vehicles (June 2011).

While still at an embryonic stage, the IEA initiatives are indicative of the rapidly growing belief in the need for and the potential of alternative fuels.

16.6 Carbon pricing

On 10 July 2011, the Australian Government announced the introduction of a price on carbon effective from 1 July 2012. The price will initially be set at \$23 per tonne of carbon dioxide emissions.

The Government has announced that carbon price will not apply to fuel purchased for passenger and light commercial vehicles.

Refiners and other companies in the Australian downstream petroleum industry may pass on the price they pay (less any compensation) on the carbon they emit in the process of producing, storing and distributing refined petrol. The overall impact of these costs on final retail petrol prices are expected to be slight.

The government has directed the ACCC to investigate and take action against businesses that make false or misleading claims about the likely impact of the carbon price on retail prices.

301 See Department of Resources, Energy and Tourism, Australian Government, at http://www.ret.gov.au/resources/fuels/alternative_transport_fuels/strategy/Pages/AlternativeTransportFuelsStrategy.aspx, accessed 30 November 2011.

302 See International Energy Agency, at http://www.iea.org/subjectqueries/keyresult.asp?KEYWORD_ID=4156, accessed 30 November 2011.

16.7 Conclusions

There are a number of forces driving significant change in the Australian downstream petroleum industry. The key trends observed in this monitoring report include:

- It is increasingly likely that the era of cheap petrol is over. Crude and petrol prices are unlikely to revert to the levels seen up to the early 2000s.
- In the absence of further global financial disorders, it is likely that continued strong growth in demand from emerging countries will keep oil prices high. Higher production costs for crude are also likely to put upward pressure on prices as production increasingly shifts to higher-cost less accessible fields and other non-conventional sources of supplies.
- Rising global prices for crude oil continue to improve the prospects for superior returns in upstream businesses. Major integrated oil companies around the world are increasingly focusing their attention on upstream activities and scaling back their involvement in retailing and refining.
- Despite improved overall trading conditions in the refinery sector in 2010–11, spare capacity in large and efficient refineries in the Asia-Pacific region provides competitive discipline on domestic refiners.
- Greater operational efficiencies at Australian refineries reduced the need for imports in 2010–11. However, in the long term, Australia's reliance on imports, particularly for diesel, is likely to continue to grow.
- Independent wholesalers have enhanced their position in the Australian downstream market and may provide effective competition, particularly in those markets where they have developed extensive retail networks. The ability of independent wholesalers/importers to source Australian standard fuel from Asian refineries provides them with a credible competitive threat. There is also increasing investment in import terminals by independent owners/operators.
- Specialist independent retailers have continued to increase market shares in the retail sector. Competition in retailing has diminished the benefits of vertical integration to the refiner-marketers. Two of the refiner-marketers, Mobil and Shell, are now no longer directly involved in retail.
- Australia's experience with retail petrol prices is not unique. Countries around the world have also experienced higher retail prices driven by higher international benchmark prices for refined petrol in their respective regions.
- Industry participants continue to be concerned that despite recent increases in ethanol production, NSW state government mandate for ethanol will add to pressure on supplies of EBP, particularly when the mandate comes into full effect in 2012.