

Energy security

Introduction

- 4.1 Energy security is a crucial element of Australia's economic and social wellbeing. In relation to liquid oil supplies, recent and planned closures of domestic oil refineries will leave Australia with five refineries by mid-2014. Concerns have been raised that further closures which reduce Australia's domestic refinery capacity could potentially impact on domestic energy security. It has been suggested that greater reliance on imports may leave Australia vulnerable to international supply disruptions.
- 4.2 Australia is not currently complying with its obligation, as an International Energy Agency (IEA) member country and net oil importer, to maintain 90 days of oil stockholdings.¹ It has been argued that non-compliance could affect Australia's ability to access international stockholdings in the event of a large-scale global supply disruption. The Australian Government is currently considering options to address Australia's non-compliance with the 90 day stockholding obligation.
- 4.3 In its *Energy White Paper 2012 (EWP)*, the Australian Government concluded that Australia's energy system is meeting national needs and 'is expected to do so into the future'.² It is anticipated that the current market arrangements, import supply diversity, and emergency management strategies will serve to address Australia's liquid fuel needs.

1 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 59; International Energy Agency (IEA), <www.iea.org/aboutus/faqs/membership/>, viewed 21 November 2012.

2 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 48.

Background

Energy White Paper

- 4.4 Australia's energy security outlook has been described as 'generally positive', with Australia's energy system 'meeting the economic and social needs of Australians, and is expected to do so into the future'.³
- 4.5 In the EWP, liquid fuel energy security is assessed as 'high, trending to moderate in the long-term, as Australia has continued access to adequate and reliable supplies of liquid fuels at prices that are manageable within the broader economy'.⁴
- 4.6 The Australian Government defines energy security as:
- ... the adequate, reliable and competitive supply of energy and energy services to support the nation's economic and social development, where:
- adequacy is the provision of sufficient energy to support economic and social activity
 - reliability is the provision of energy with minimal disruptions to supply
 - competitiveness is the provision of energy at an affordable price that does not adversely affect the competitiveness of the economy and that supports continued investment in the energy sector (RET 2011a).⁵
- 4.7 The EWP classified the levels of energy security as follows:
- High – meeting Australia's economic and social needs;
 - Moderate – needs are being met but there could be a number of emerging issues that will need to be addressed to maintain that security level; and
 - Low – needs are not being met, or might not be met.⁶
- 4.8 In the EWP, the Australian Government argued that:
- Australia's abundant reserves of energy resources underpin our energy security, but maintaining a high level of security also depends on our integration into diversified supply chains, access to well-functioning global energy markets and continued effective responses to market and non-market risks.⁷

3 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. ix; 48.

4 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 50.

5 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 49.

6 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 50.

7 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. ix.

- 4.9 According to the EWP, a range of factors play a role in determining short, medium and long-term energy security:
- the ability to bring our energy resources to market efficiently and sustainably
 - domestic and global geopolitical and economic conditions that influence energy supply and demand, as well as key inputs for system development such as investment capital
 - the efficiency, robustness and resilience of our energy infrastructure, markets, and market participants
 - the degree of integration with international energy markets and supply chains
 - changes in domestic and global energy prices.⁸
- 4.10 The EWP outlined four issues warranting consideration in addressing energy security policy challenges:
- managing risk and uncertainty;
 - adjusting to changing market dynamics;
 - managing our international liquid fuels stockholding obligation; and
 - providing a resilient energy security response.⁹
- 4.11 The EWP sets out a strategic policy framework to address Australia's immediate energy priorities and position Australia for longer-term change, including managing the country's energy security.
- 4.12 In addition to allowing market forces to operate effectively, a country must have strategies in place to respond to emergency situations. In particular, when reliant on imports, a country must have plans to address and minimise the negative impacts of supply disruptions.
- 4.13 Governments have an important role to play in implementing strategies for energy security. In particular, when seeking to address non-market threats to energy security. The EWP outlined that the Australian Government's energy policy framework is designed to improve Australia's energy security through:
- continuing supply- and demand-side market reforms to maximise investment and improve the flexibility and resilience of energy markets
 - encouraging diversity of supply and infrastructure reliability for supply chain resilience
 - attracting the necessary capital investment and skilled labour to meet future energy demand

8 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 49.

9 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 56.

- promoting long-term investment certainty through carbon pricing.¹⁰
- 4.14 The strategy for strengthening Australia's energy policy framework will include undertaking a two-yearly National Energy Security Assessment from 2014, and reviewing the assessment framework to provide a more systemic assessment of energy risks.¹¹

National Energy Security Assessment

- 4.15 The 2011 *National Energy Security Assessment* (NESA) contributed to the development of the Australian Government's EWP. The 2011 NESA considered factors posing challenges to the adequate, reliable and competitive delivery of energy in Australia's liquid fuel, natural gas and electricity sectors. The assessment covered:
- Australia's growing reliance on oil importation;
 - the gas sector's rapidly evolving unconventional gas resources and liquefied natural gas (LNG) markets on the east coast; and
 - the investment environment in the electricity sector, particularly in the context of low-carbon and renewable energy policies.¹²
- 4.16 The 2011 NESA, an update of the 2009 assessment, made the following key findings in relation to energy security:
- Australia's overall energy security situation is expected to remain adequate and reliable;
 - Investment in energy infrastructure in the coming decades will largely determine the level of future energy security; and
 - A number of other emerging issues could also have implications for maintaining Australia's medium to long-term security, including the transition to reducing greenhouse gas emissions, emerging gas market developments and energy price pressures.¹³
- 4.17 In relation to Australia's liquid fuel security, the 2011 NESA found:
- Australia's liquid fuels energy security is assessed as *high trending to moderate* in the long term, as we have continued access to highly adequate and reliable supplies of liquid fuels at price levels that are manageable within the broader economy.
- The moderate assessment rating in the long term recognises a likely trend of high crude oil prices driven by increasing global

10 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 48.

11 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. xxi.

12 Australian Government, *National Energy Security Assessment*, December 2011, p. v.

13 Australian Government, *Factsheet: National Energy Security Assessment 2011*, p. 1.

demand and an increased reliance on more expensive sources of supply; the significant global investment challenge required to meet rising demand; and the continued risks of geopolitical uncertainty in key oil-producing countries.¹⁴

Table 4.1 2011 NESA summary of liquid fuel security

	Short term (to 2012)	Medium term (to 2016)	Long term (to 2035)
Adequacy	HIGH	HIGH	MODERATE
Comment	Open and well-functioning international and domestic markets continue to provide Australia with sufficient supplies of liquid fuels.	Increased global production is projected to adequately meet rising global demand. Growth in global and regional surplus refinery capacity provides highly adequate supplies of petroleum products.	Combined resources of conventional and unconventional oil are considered adequate to meet global demand. Significant global investment is needed to ensure that global supply meets rising demand.
Reliability	HIGH	HIGH	MODERATE
Comment	Access to well-functioning markets has helped create robust and flexible supply chains with a high degree of diversity of supply. Proactive supply chain management is able to mitigate the effects of short-term supply disruptions.	Continued access to flexible global supply chains and availability of alternative supplies due to surplus refinery capacity allow the petroleum industry to continue to provide liquid fuel supplies with minimal disruptions.	Australia becomes more dependent on more international supply chains, geopolitically risky and geologically difficult sources of supply. Australian refineries are likely to continue to face competitive pressures. Nevertheless, significant investment in regional refining is likely to continue to provide adequate supplies of refined products.
Competitiveness	MODERATE	MODERATE	MODERATE
Comment	High international crude oil prices remain manageable within the broader economy. The strong Australian dollar helps offset high crude oil prices.	Continued high global prices remain manageable within the broader economy. Commercial inventories, spare OPEC production capacity, and surplus global and regional refining capacity continue to provide a buffer against unexpected supply and demand shocks.	Strong demand growth in emerging economies and increased reliance on more expensive sources of supply are expected to cause global oil prices to continue to rise.
OVERALL	HIGH	HIGH	MODERATE

Source Australian Government, *National Energy Security Assessment, December 2011, Table 2.1, p. 9.*

4.18 The Department of Resources, Energy and Tourism (RET) also released two NESA identified issues reports in November 2012. The *National Energy Security Assessment (NESA) Identified Issues: Competitive Pressures on Domestic Refining* report (NESA Competitive Pressures report) considered the energy security implications of having less refineries operating in Australia. RET commissioned the energy consulting company Hale and

14 Australian Government, *Factsheet: National Energy Security Assessment 2011, p. 2.*

- Twomey to assess the potential implications of hypothetical closures of Clyde, Kurnell and Lytton refineries, and then of all domestic refineries.
- 4.19 It was emphasised that the scenario depicting closures of all refineries was hypothetical, and that the current closures do not mean all refiners will make similar decisions.¹⁵
- 4.20 The NESAs Competitive Pressures report found in relation to supply security that in the event of further refinery rationalisation in Australia:
- Supply chain diversity and flexibility is retained which provides continued security of supply. Only in the unlikely scenario of no refining sector coupled with a failure of physical oil markets does Australia lose the flexibility to redirect and refine some crude oil.¹⁶
- 4.21 The *NESA Identified Issues: Strait of Hormuz* report is an economic assessment of a disruption to shipping in the Strait of Hormuz on the Australian economy. The Strait of Hormuz links the Persian Gulf with the Arabian Sea and Indian Ocean.
- 4.22 RET explained that the report involved a scenario, and was not commenting on 'the probability or otherwise of those particular events happening', but to illustrate how supply chains might operate following a supply disruption in the strait.¹⁷ The report concluded that:
- ... there would be no impact on supply to world refineries due to three points: surge production from countries outside the Middle East, the ability of the industry to initially draw on oil stocks built up in the period prior to the event and stocks on water that would already be on water once the event occurred, and stocks released under policy measures such as the IEA collective action. The report, which was an economic focused report, found that there would be an impact on Australian GDP of around \$500 million. It found that there would be some impacts on the price of oil as well. But, importantly, it found that there would be no impact on the supply to oil refineries because of those three factors.¹⁸

15 Hale & Twomey Limited, *National Energy Security Assessment (NESA) Identified Issues: Competitive Pressures on Domestic Refining*, Prepared for the Department of Resources, Energy and Tourism, 29 June 2012, p. ii.

16 Hale & Twomey Limited, *National Energy Security Assessment (NESA) Identified Issues: Competitive Pressures on Domestic Refining*, Prepared for the Department of Resources, Energy and Tourism, 29 June 2012, p. i.

17 Mr Brendan Morling, Department of Resources, Energy and Tourism (RET), *Committee Hansard*, Canberra, 30 November 2012, p. 24.

18 Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 24.

Liquid fuels vulnerability assessment

- 4.23 The Australian Government undertakes periodic reviews of Australia's vulnerability to interruptions to oil supplies. The 2011 *Liquid Fuels Vulnerability Assessment* (LFVA) is the most recent review. It concluded that 'despite growing dependence on imported sources of crude oil and refined petroleum products, adequacy is likely to be maintained to 2020', and 'potentially to 2035 according to the latest IEA World Energy Outlook'.¹⁹
- 4.24 Other key 2011 LFVA findings included:
- The market would respond and readjust the supply lines to replace supplies lost in the event of a disruption. Prices would rise and there would be a cost to the economy. However, the impact could be reduced in size and duration in the event of a coordinated response by IEA members designed to increase available supply.
 - Ongoing investment in adequate importing capacity and storage will continue to be important in the future. However, there is sufficient clear evidence of significant recent and planned investments in import capacity to provide confidence that Australia will continue to be able to meet its growing domestic demand for liquid fuels.²⁰

Discussion

Australia's energy security outlook

- 4.25 RET noted that while Australia is a net energy exporter, in the area of liquid fuels Australia is an importer.²¹
- 4.26 The Australian Institute of Petroleum (AIP) publication *Downstream Petroleum 2011* described Australia as enjoying a 'high level of liquid fuel security', which is 'not expected to change in the coming years'.²² It attributed the strength of Australia's position to:
- a diversity of supply sources for crude oil and petroleum products, including from both domestic and imported sources
 - flexible, resilient and reliable supply chains (including shipping lanes and infrastructure)

19 ACIL Tasman, *Liquid fuels vulnerability assessment*, October 2011, pp. ix and xxvi.

20 ACIL Tasman, *Liquid fuels vulnerability assessment*, October 2011, p. xxvi.

21 Mr Brendan Morling, Department of Resources, Energy and Tourism (RET), *Committee Hansard*, Canberra, 30 November 2012, p. 24.

22 AIP, *Downstream Petroleum 2011*, p. 16.

- an efficient domestic refining capability providing multiple supply options and the ability to convert domestic crude oil into useable products
- imported petroleum products providing a diversity of potential supply sources in the event of refinery disruptions
- supply and storage infrastructure able to meet current and future growth in fuel demand
- a strong record of efficient and reliable supply and supply chain management by industry.²³

4.27 The AIP agreed with the EWP position that Australia's energy security outlook appears 'positive and robust'. It also recognised that there are challenges that the petroleum market and wider energy sector must face.²⁴

4.28 The AIP also agreed with the 2011 NESAs findings about the security of liquid fuels:

AIP concurs with the 'highly secure' rating for liquid fuels and the industry expects this performance to continue for the foreseeable future.

- There has been no change to the security rating for liquid fuels since the last NESAs update in 2008, despite the challenging international market conditions for crude oil and petroleum products and other domestic market developments.
- The fuel security and supply reliability provided by the downstream petroleum industry has also been superior to other domestic energy sectors (eg. electricity and gas), reflecting the diversity of alternative liquid fuel supply sources available to Australia in the event of a supply disruption and the efficient integration of Australia into the regional petroleum market and reliable international supply chains.
- The more moderate security ratings across all energy sectors for the longer term to 2030, simply reflects the normal market uncertainties and unknowns over such an extended time period and the ongoing competitive pressures on the industry.

AIP also supports the main high level conclusions from the NESAs that:

- Australia has secure liquid fuels supplies and diverse domestic and international supply sources and this is expected to continue, particularly given the outlook for excess supply capacity in the Asian region.
- Australia's growing dependency on crude oil and product imports will have limited affordability, reliability and supply

23 AIP, *Downstream Petroleum 2011*, p. 16.

24 AIP, *Submission 14*, p. 10.

- security implications for liquid fuels, and this includes in the context of the Clyde refinery conversion in 2013.
- The industry's investment in infrastructure and stockholdings has kept pace with increasing liquid fuels consumption since the last NESAs update.²⁵
- 4.29 Some submitters expressed concern about Australia's decreasing domestic oil refinery capacity coupled with the increasing reliance on imports of refined petroleum product and crude oil.²⁶
- 4.30 The Australian Manufacturing Workers' Union (AMWU) outlined the following 'risks associated with greater dependence on imports':
- the potential for upward pressure on raw materials and suppliers resulting in higher prices flowing through the supply chain;
 - less interaction with customers and feedback thus less capacity to adapt quickly to product requirements – there remains a shortfall in Asia of refineries that meet Australian specifications; and ...
 - the concentration of risk of supply disruption in regions subject to natural and geo-political shocks and upheavals.²⁷
- 4.31 NRMA noted that Australia's geography puts the country at the end of a 'long supply chain' that could be vulnerable to changes in the regional security environment.²⁸ The Australian Workers' Union (AWU) raised concerns about relying on imports from areas of geopolitical instability, such as the Middle East.²⁹
- 4.32 However, other submitters endorsed the NESAs findings that Australia's liquid fuel security is assessed as 'high trending to moderate' in the longer-term.³⁰ Submitters, such as Caltex, argued that the trend towards greater reliance on imports does not reduce Australia's liquid fuel security.³¹

25 AIP, *Submission 14*, p. 18.

26 For example, see Australian Automobile Association, *Submission 16*, p. 2; Service Station Association, *Submission 10*, p. 1.

27 Australian Manufacturing Workers' Union (AMWU), *Submission 7*, p. 3.

28 Air Vice Marshal John Blackburn (Retired), NRMA, *Committee Hansard*, Canberra, 30 November 2012, p. 26.

29 Australian Workers' Union (AWU), *Submission 4*, p. 13.

30 See for example BP, *Submission 13*, p. 8.

31 Caltex, *Submission 12*, pp. [15-16].

4.33 To refine, Australia must import a significant proportion of its crude oil. Caltex noted that Australia already imports over 80 per cent of crude oil and other refinery feedstock. It argued that:

To suggest that recent refinery closures imperils our energy security is to miss the point that most of the crude oil previously refined in the domestic market already comes from overseas.³²

4.34 Caltex acknowledged that crude oil issues are affecting Australian refining:

Crude oil is becoming more expensive. Crude oil is our source of energy in refining, and our refineries are relatively inefficient. So, from an energy perspective, the cost of running our refineries is more expensive and we are having to source crude from further and further away. More than 40 per cent of Caltex's crude came from West Africa last year. That means we have got a lot more ships on the water and the funding of that crude supply chain has become more difficult. So there are a range of things on the crude side that are working against us.³³

4.35 The Business Council of Australia stated that:

... from an energy security perspective, we should be indifferent between the source (whether domestic or international) of the products, so long as our supply is secure and we have access to those products at the most affordable prices.³⁴

4.36 In response to questioning from the committee on whether importing refined oil posed a higher security risk than reliance on imported crude oil, RET argued that substituting imports of crude oil for imports of refined oil 'did not impose a significant increased risk'.³⁵

Impact of refinery closures

4.37 While some submitters argued that a declining domestic refinery capacity could compromise Australia's liquid fuel supply security, key stakeholders and energy security assessments found that these changes did not significantly compromise Australia's energy security.

32 Caltex, *Submission 12*, p. [15].

33 Mr Gary Smith, Caltex, *Committee Hansard*, Canberra, 30 November 2012, p. 5.

34 Business Council of Australia, *Submission 8*, p. 1.

35 Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 25.

4.38 RET maintained that the Australian Government does not see rationalisation of the refining industry as an energy security issue.³⁶ Similarly, the 2011 LFVA concluded that:

Overall, on the basis of analysis conducted for the preparation of this report, ACIL Tasman found that recent market developments have not resulted in a significant change in Australia's liquid fuels vulnerability since the 2008 review, from the perspective of adequacy, reliability or affordability. Adequacy in terms of suppliers being able to keep up with demand has generally been maintained. This situation is likely to continue to be the case, despite the planned closure of Shell's refinery at Clyde in Sydney.³⁷

4.39 The EWP acknowledged that the closures of the Clyde and Kurnell refineries would see a reduction in Australia's domestic refinery capacity. However, it concluded that this decline 'is not considered to impair Australia's liquid fuel security'.³⁸

4.40 Similarly, RET stated:

The closures will occur over a phased period, and will be complemented by an expansion of import terminal capacity to ensure that market supply is maintained. Substituting imports of crude oil for imports of refined fuel at this scale does not pose any additional risk to market security.³⁹

4.41 Mobil Oil supported the position in the EWP that 'Australia does not face an increased long-term energy supply security risk as a consequence of the recent and planned domestic refinery closures'.⁴⁰ Mobil Oil contended:

The Australian petroleum industry has adequate fuel supply infrastructure and robust supply chain processes in place to ensure that it can continue to reliably meet local fuel demands, as it has done over many decades. The closure of a further one or more local refineries should not, of itself, pose a threat to reliable domestic fuel supply in the long-term.⁴¹

36 Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 25.

37 ACIL Tasman, *Liquid fuels vulnerability assessment*, October 2011, p. viii.

38 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 50.

39 RET, *Submission 18*, p. 23.

40 Mobil Oil, *Submission 17*, p. 4.

41 Mobil Oil, *Submission 17*, p. 3.

- 4.42 Shell Australia countered the concern raised about increased reliance on refined oil imports, asserting that:
- 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.⁴²
- 4.43 Shell Australia stressed that commercial considerations are key when deciding to continue or cease refinery operations. It argued:
- 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.⁴³
- 4.44 Similarly, Mr Velins commented that it was 'not evident that closure of one more or one less refinery can have a material effect upon Australia's energy security, for market forces will determine that outcome'.⁴⁴
- 4.45 The EWP argued that Australia's 'liquid fuel security is expected to remain high because of our access to reliable, mature and highly diversified international liquid fuel supply chains'.⁴⁵
- 4.46 BP agreed that reliable supply networks are at the core of supply security, stating that:
- Ultimately it is less relevant, in BP's experience, whether the imports are crude oil or refined products. Geopolitical concerns and disruptions to shipping routes are raised from time to time and in around 100 years of peacetime importation of both crude and refined product into the Australian market, BP has not experienced a significantly concerning supply disruption that would warrant overt market intervention.⁴⁶
- 4.47 Shell Australia argued that converting facilities from refineries to 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'.⁴⁷
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42 Shell, *Submission 20*, p. 9.

43 Shell, *Submission 20*, p. 5.

44 Mr Eriks Velins, *Submission 1*, p. 4

45 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 53.

46 BP, *Submission 13*, p. 8.

47 Shell, *Submission 20*, p. 10.

- 4.48 RET acknowledged that having a domestic capacity to refine domestic crude could serve as ‘an option of last resort if a complete market failure occurs from a severe global oil disruption’. However, RET also contended that the probability of such an event was low, based on the experience of recent decades.⁴⁸
- 4.49 While maintaining that the recent and planned closures would not have a detrimental effect on Australia’s medium to long-term energy security, groups recognised that there is still a need for domestic oil refining capacity in Australia.
- 4.50 Mobil Oil also argued that ‘some level of domestic refining capacity is highly desirable to provide additional flexibility to cope with the short term product supply interruptions or imbalances with can occur’.⁴⁹ It endorsed the LFVA’s findings that the continuing presence of domestic refineries would contribute to Australia’s ongoing energy security by increasing supply options.⁵⁰
- 4.51 The EWP supported continuing to have some domestic oil refining capacity in Australia. It argued that:
- While there is the prospect of some further reduction in Australia’s refining capacity, the underlying competitiveness of most Australian operations, along with the strategic advantages that some in-country refining presence offers, suggests that the prospect of a severely reduced or no refining capacity in Australia over the next decade is very remote.⁵¹
- 4.52 However, the EWP qualified these comments and asserted that:
- ... the extent to which a domestic refining presence is considered critical from a security perspective must also be considered in conjunction with the cost of maintaining such capacity, supply flexibility, and the security benefits of global trade. Global trade provides energy security through the diversity of source countries, multiple import points and ample terminal infrastructure at major demand centres.⁵²

48 Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 25.

49 Mobil Oil, *Submission 17*, p. 4.

50 Mobil Oil, *Submission 17*, p. 4; Mr Alan Bailey, Mobil Oil, *Committee Hansard*, Canberra, 30 November 2012, p. 26.

51 Australian Government, *Energy White Paper 2012, Australia’s energy transformation*, p. 126.

52 Australian Government, *Energy White Paper 2012, Australia’s energy transformation*, p. 126.

- 4.53 At the roundtable hearing, RET commented that it was not aware that the government had formed a view on what an optimum or minimum level of domestic refining capacity might, or should, be.⁵³
- 4.54 The committee heard Australian refinery flexibility has contracted in the last decade in relation to the range of crude oils that can be effectively refined. The introduction of new product quality specifications has played a large part in reducing domestic capabilities.⁵⁴
- 4.55 Shell contended that having domestic refining capacity did not mean that these facilities are an effective match for Australia's crude oil. It stated:
- I think it is also worth knowing that there are lots of practical issues associated with what crude oil goes into what refineries. Whilst on paper you can say Australia has crude oil and we have refineries and the two might match, they probably do not. Most of the crudes that get produced from the North West Shelf are actually condensates; they are very light crude oils and they do not suit the hardware that is in the refineries in Australia. Certainly at an economic level they are better suited to going to Asia, which is why the trade flows go that way. In the event that we would process them, and only then, I doubt that we would meet consistently the Australian product quality specifications, because the refineries simply were not designed for those crude oils.⁵⁵
- 4.56 Similarly, the AIP noted the joint study by the National Oil Supplies Emergency Committee and the Fuel Standards Consultative Committee, which found that Australia's crude oil was either too light or too heavy to be effectively used in the Australian refining system. The study also found that diverting domestic crude production into the Australian refining system only provided a 'fairly marginal' increase in production.⁵⁶

53 Mr Brendan Morling and Ms Robyn Casey, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 26.

54 Mr Michael Pope, Shell, *Committee Hansard*, Canberra, 30 November 2012, p. 30.

55 Mr Andrew Smith, Shell, *Committee Hansard*, Canberra, 30 November 2012, p. 28.

56 Mr Paul Barrett, AIP, *Committee Hansard*, Canberra, 30 November 2012, p. 28.

Transport fuel needs

- 4.57 RET noted that the transport sector is the 'largest final consumer of liquid fuels', consuming about three-quarters of Australia's fuel use.⁵⁷
- 4.58 Concerns were raised in relation to the transportation industry and the security of transport fuels. The NRMA submitted that Australia has 'three weeks' worth of transport fuels held by industry in refineries and within the distribution network with a further two weeks on route by sea'.⁵⁸ It contended that the closures of the Clyde and Kurnell refineries would impact on domestic refining capacity.⁵⁹
- 4.59 However, the AIP argued that 'Australia's longer-term liquid fuel supply security and transport energy needs will best be met through the market and market measures'.⁶⁰ The AIP claimed that the necessary market conditions 'largely exist now for the liquid fuels market'.⁶¹
- 4.60 One approach to address the issue of high liquid fuel demand is to continue to develop alternative fuel sources. This is one of the key areas of action identified in the EWP. The Australian Government is currently pursuing a market-led approach to the development and deployment of alternative transport fuels.
- 4.61 Alternative fuels, primarily liquefied petroleum gas (LPG), currently accounts for approximately five per cent of fuel use in the broader transport sector.⁶² The EWP indicated that while 'oil will remain the main energy source for the transport sector to 2035, there will be increasing take-up of alternative transport fuels'.⁶³ This will also be accompanied by technological developments, including more energy efficient transportation.
- 4.62 The EWP anticipates that rising oil prices will spur developments in indigenous alternative fuels and market opportunities will emerge for gaseous transport fuels, such as LNG and compressed natural gas.⁶⁴ The EWP noted CSIRO predictions of a transformation of Australia's transport energy sector, which would see:

By 2050 there will be significant growth in transport fuels and technologies that have little or no presence in the market today ...

57 RET, *Submission 18*, p. 3.

58 NRMA, *Submission 15*, p. 5.

59 NRMA, *Submission 15*, p. 5.

60 AIP, *Submission 14*, p. 17.

61 AIP, *Submission 14*, p. 17.

62 RET, *Submission 18*, p. 16.

63 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 27.

64 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 31.

Biodiesel could contribute around 13% of total transport fuel consumption, natural gas 12%, bio-derived jet fuel 8%, electricity for transport 5%, and synthetic diesels 2%.⁶⁵

- 4.63 The Australian Government's *Strategic Framework for Alternative Fuels* establishes a long-term strategic policy approach for developing alternative fuels in the context of maintaining transport fuel security and achieving a lower carbon economy. This includes providing grants and reviewing tax arrangements for gaseous fuels.
- 4.64 RET noted that the Australia Government provides tax concessions by taxing gaseous fuels (LPG, CNG and LNG) on an energy content basis, and a 50 per cent discount, with rates to be phased in over the period to 1 July 2015.⁶⁶
- 4.65 Shell saw a role for government in maintaining energy security for transport fuels, by providing a level playing field for competing transport fuels, and 'ensuring research and development settings are appropriate and encourage the commercial development of transport fuels'.⁶⁷
- 4.66 However, RET emphasised that developments must be market-led, and noted that the Australian Government does not support mandates for alternative fuels, as 'it may reduce energy security where there is lack of adequate supply sources'.⁶⁸

Market approach

- 4.67 The EWP outlined how 'well-functioning and competitive markets supported by effective policy and regulation underpin our ongoing energy security'.⁶⁹ It identified occasions of oil disruptions, such as in 2011 with the Libyan oil disruption and nuclear plant shutdown in Japan, where market forces played an important role in addressing energy needs.⁷⁰
- 4.68 RET argued that market forces are crucial to ensuring Australia's energy security. It submitted that 'efficient, transparent and open domestic, regional and global markets that create clear incentives for timely investment and efficient operation and end use are the best means for ensuring Australian's energy security at the least cost to consumers'.⁷¹

65 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, pp. 88-89.

66 Mr Stephen Woolcott, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 35.

67 Shell, *Submission 20*, p. 15.

68 RET, *Submission 18*, p. 25.

69 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 53.

70 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 53.

71 RET, *Submission 18*, p. 2.

- 4.69 While acknowledging the challenges the industry is facing, the AIP agreed that 'the market, and a market based policy framework by Government, remains best placed to manage these challenges and future risks'.⁷² The AIP maintained that:
- Australia's market based approach has delivered secure, reliable and affordable fuel supplies which meet the operational requirements of consumers and major fuel users and this position is not expected to change in the coming years.⁷³
- 4.70 Regional surpluses, particularly in Asia, will play a role in Australia being able to access supply of crude oil and petroleum products to meet domestic energy needs.
- 4.71 RET noted that while the significant surplus in regional refining capacity over the medium term places competitive pressure on Australia refineries, it also provides 'substantial supply alternatives for Australia, as well as acting as a buffer against unexpected demand or supply shocks'.⁷⁴
- 4.72 RET also presented relevant findings of the June 2012 NESAs Competitive Pressures report that stated:
- Refinery closures in Australia would have no significant impact on the wider Asian system as higher demand in Australia and the region for diesel and jet fuel in particular is easily absorbed within spare capacity. While the petrol market is more fractured, the Asian system would adjust to meet additional demand from an orderly refinery closure.⁷⁵
- 4.73 The NESAs Competitive Pressures report suggested that market participants are usually aware in advance of potential refinery closures, for example, with the possible closure of Clyde foreshadowed for over a decade.⁷⁶

72 AIP, *Submission 14*, p. 11.

73 AIP, *Submission 14*, p. 17.

74 RET, *Submission 18*, p. 23.

75 RET, *Submission 18*, p. 24.

76 Hale & Twomey Limited, *National Energy Security Assessment (NESAs) Identified Issues: Competitive Pressures on Domestic Refining*, Prepared for the Department of Resources, Energy and Tourism, 29 June 2012, p. iii.

Disruptions in the supply chain

4.74 The 2011 NESAs included modelling of supply chain disruptions, and was designed to test Australia's resilience to various hypothetical situations. Recognising Australia's reliance on liquid fuel imports, one of the scenarios involved a disruption to the Singapore supply chain for refined petroleum products, the main importing source for these products.

4.75 The modelling 'demonstrated that the global market and international supply chain could provide Australia with adequate and reliable supplies, albeit at higher prices'.⁷⁷ The 2011 NESAs found that:

An immediate interruption to the Singaporean supply chain is estimated to increase global product prices by around 18 per cent on average in the first month, while prices decline somewhat from this spike in the second and third months. The main impact on Australia's energy security would be on competitiveness. Adequacy and reliability would be maintained through alternative supplies available due to excess regional and global refining capacity, access to stocks in Australia and those already on water, and the ability to acquire petroleum products from the Asia-Pacific that would normally be sold to other regions.⁷⁸

4.76 Some groups expressed concern about the modelling used in the NESAs and LFVA assessments of the impact of a shutdown of Singapore's major refinery.⁷⁹ The NRMA contended that the NESAs 'perhaps do not encompass the full range of potential contingencies'.⁸⁰

4.77 The Construction, Forestry, Mining and Energy Union saw the scenario analyses as limited, and suggested that in dealing with risks, 'we should make sure that all bases are covered in all the different scenarios'.⁸¹

4.78 However, a number of submitters endorsed the findings of the EWP, 2011 NESAs and LFVA. The AIP asserted that its assessment is consistent with these analyses of liquid fuel security, stating that:

NESAs and its supporting analysis contained in the LFVA are comprehensive and timely assessments, underpinned by detailed

77 Australian Government, *National Energy Security Assessment*, December 2011, p. vii.

78 Australian Government, *National Energy Security Assessment*, December 2011, p. vii.

79 AWU, *Submission 4*, p. 14.

80 Air Vice Marshal John Blackburn AO (Retired), NRMA, *Committee Hansard*, Canberra, 30 November 2012, p. 6.

81 Mr Graham Larcombe, Construction, Forestry, Mining and Energy Union, *Committee Hansard*, Canberra, 30 November 2012, p. 27.

independent analysis and modelling and drawing from authoritative sources.⁸²

4.79 When outlining the scope of the NESAs and EWP, RET explained that the policy principle in the EWP was:

... not about eliminating risk altogether through implementing prescriptive and potentially costly policies. Rather, it is about a more effective and less costly approach to ensure predictable, resilient policy frameworks that can work with efficient markets and robust institutional arrangements. So it is not about eliminating risk altogether; it is about providing resilient policy frameworks.⁸³

4.80 The AIP concluded that:

... Australia has a robust 'Emergency Response' framework and emergency management plans for liquid fuels which are consistent with Australian market characteristics, utilise established and tested industry commercial practices, and adopt those best practice IEA practices that will be effective in our specific market circumstances.⁸⁴

4.81 In the discussion on managing risk factors, the EWP argued:

While one approach to managing risk is to 'design for the worst', experience in energy markets over the past 50 years suggests that this would be very costly and largely unnecessary.

Most energy security events, if they emerge at all, are likely to develop over time. Rather than implementing prescriptive and potentially costly policies in an attempt to eliminate risk, a more effective and less costly approach is to ensure predictable, resilient policy frameworks, efficient markets and robust institutional arrangements that allow us to look ahead and to respond quickly if we need to. Apart from the highly exceptional circumstances that could arise from major unforeseen national, regional or global security events, the Australian Government believes that the practical set of energy security developments considered possible in the foreseeable future can be managed effectively using existing energy security mechanisms and market responses.⁸⁵

82 AIP, *Submission 14*, p. 18.

83 Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 24.

84 AIP, *Submission 14*, p. 22.

85 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, pp. 57-58.

Self-sufficiency

4.82 A recurring theme in evidence to the committee was that self-sufficiency does not necessarily equate to energy security, and may not be an appropriate or practical goal in the Australian context. The 2011 NESA acknowledged that:

Australia's lack of self-sufficiency in liquid fuels means that Australia, like many other advanced and developing countries, is intrinsically linked to the global market. Australia's liquid fuel security is, therefore, substantially dependent on global market outcomes and the global oil security situation.⁸⁶

4.83 However, the 2011 NESA concluded that 'this lack of self-sufficiency and reliance on global markets do not necessarily mean that Australia has an energy security problem'.⁸⁷ The 2011 NESA stated:

Global markets have both positive and negative impacts on liquid fuel security. A major benefit comes from the increased diversity of supply for both crude oil and refined petroleum products, with international sources supplementing Australia's domestic production.⁸⁸

4.84 When considering the issue of self-sufficiency in the EWP, the Australian Government stated:

Self-sufficiency as an energy policy goal is costly and likely to be misplaced, given the proven ability of international markets to respond to changing circumstances.⁸⁹

4.85 The EWP also commented that energy security 'does not equate to energy independence or self-sufficiency in any particular energy source'.⁹⁰ The Australian Government highlighted that:

The findings of the Australian Government's 2011 National Energy Security Assessment show that energy security does not depend on energy independence or the ability to be self-sufficient. Instead, the growing interconnectedness of the global energy trade provides Australia with flexibility and energy security benefits, as we are both a buyer and seller of liquid fuel and other energy commodities in global markets. The international trade in energy resources is like the trade in other commodities: the benefits

86 Australian Government, *National Energy Security Assessment 2011*, December 2011, p. 11.

87 Australian Government, *National Energy Security Assessment 2011*, December 2011, p. 11.

88 Australian Government, *National Energy Security Assessment 2011*, December 2011, p. 11.

89 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 48.

90 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 52.

unambiguously increase national development options and boost national and global wealth.⁹¹

4.86 Further, the EWP argued that pursuing self-sufficiency may have negative consumer impacts, such as imposing higher costs, without necessarily providing any economic benefits.⁹²

4.87 The Australasian Convenience and Petroleum Marketers Association (ACPMA) argued that countries that plan for growth 'cannot just rely on what is produced within their borders'.⁹³ The ACPMA stated:

Our position is that that really means we should be looking for interdependence when it comes to supply of refined product in the country and not independence, because we do not have it now. We really do need to look at our mutual relationships with countries with regard to supply.⁹⁴

Role for government

General regulation

4.88 It is generally accepted that government has a role to play in ensuring Australia's energy security. All governments must strike an appropriate balance between allowing market forces to operate, and addressing economic, environmental and community needs, including energy security.

4.89 The EWP acknowledged that Australian governments 'must collectively undertake further market, regulatory and institutional reforms to ensure the efficient supply of energy and responsiveness of demand'.⁹⁵

4.90 BP similarly acknowledged the role of government and emphasised that:

There can be no economic security for Australia without energy security, and energy security requires stable investment frameworks in order to attract and facilitate investment in operational energy systems.⁹⁶

4.91 BP contended that ideally, government policy that 'provides stable regulation, removes barriers to investment, improves access to resources

91 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 54.

92 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 54.

93 Mr Nic Moulis, Chief Executive Officer, Australasian Convenience and Petroleum Marketers Association (ACPMA), *Committee Hansard*, Canberra, 30 November 2012, p. 7.

94 Mr Nic Moulis, Chief Executive Officer, ACPMA, *Committee Hansard*, Canberra, 30 November 2012, p. 7.

95 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. ix.

96 BP, *Submission 13*, p. 8.

and modernises tax structures will encourage the necessary investment in energy security'.⁹⁷ It commented that:

Fortunately Australia has benefitted from industry deregulation over recent decades, as the level of state control has been gradually unwound by governments acknowledging the role a more dynamic and market driven industry plays in sustaining a competitive, secure and growing economy.⁹⁸

4.92 Mobil Oil asserted that with all Australian refineries facing 'serious commercial challenges', governments at the state and national level, should ensure that 'policy settings impacting this industry strike the right balance in addressing environmental and community needs, without adding unnecessary costs that threaten the long-term viability of the industry'.⁹⁹

4.93 Mobil Oil argued that maintaining a viable petroleum refining industry in Australia will require the government to 'seek to ease the increasing cost and regulatory burden on domestic refiners, especially where similar costs are not faced by overseas competitors'.¹⁰⁰

4.94 More broadly than fuel supply security, Mobil Oil also suggested that:

... the Government needs to consider the strategic implications of having (or potentially not having) domestic refining capacity and factor that fully into its broad industry policies.¹⁰¹

Dealing with emergency situations

4.95 In relation to liquid fuel supplies, in the event of circumstances that cannot be addressed through market forces, the government may need to step in to help minimise the negative economic and social impacts. However, the Australian Government's position is that this should only be as a last resort. The EWP argued that:

Diversity of supply prevents over-reliance on any single supply source and helps mitigate risks from potential supply disruptions. Australian governments at all levels will not allow energy security to be compromised and will intervene to maintain supply if necessary. However, government intervention should always be a last resort ...¹⁰²

97 BP, *Submission 13*, p. 3.

98 BP, *Submission 13*, p. 8.

99 Mobil Oil, *Submission 17*, p. 5.

100 Mobil Oil, *Submission 17*, p. 6.

101 Mobil Oil, *Submission 17*, p. 6.

102 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 53.

- 4.96 State and territory governments have constitutional responsibility for planning and coordinating emergency responses within their jurisdictions. At the national level, the *Liquid Fuel Emergency Act 1984* (LFE Act) provides the Australian Government with the authority to prepare for, and manage, a national liquid fuel emergency. The majority of provisions in the LFE Act will only apply in extreme cases, when a national liquid fuels emergency has been declared.
- 4.97 The LFE Act also provides the Minister for Energy and Resources some contingency powers prior to the declaration of a national emergency, to direct fuel industry corporations to maintain particular levels of reserves, develop bulk allocation procedures and to maintain statistical information. This legislation is supported by the Liquid Fuel Emergency Guidelines to assist the Minister in making decisions under the Act.
- 4.98 Australian governments cooperate with the petroleum industry on the National Oil Supplies Emergency Committee (NOSEC) to formulate responses to a widespread fuel shortage.¹⁰³
- 4.99 However, Australia 'does not hold government-controlled or regulated industry stocks for drawdown in an emergency, and our capacity for short-term surge production and fuel-switching is limited'.¹⁰⁴ Australia relies on commercial stockholding practices of industry and market forces to deal with short-term supply global and domestic supply disruptions.
- 4.100 As member of the IEA, Australia is a part of the Co-ordinated Emergency Response Measures (CERM). However, the EWP outlined that:
- To manage deeper disruptions without activating the *Liquid Fuel Emergency Act 1984* (which provides wide-ranging rationing powers to the Commonwealth Minister for Resources and Energy ...), we can only participate in an IEA-coordinated emergency response, or collective action, through a combination of market and industry mechanisms and voluntary demand restraint.
- In the event of a fuel shortage with national implications or the need for Australia to meet its commitments to the IEA under treaty obligations, the Australian Government can activate the Liquid Fuel Emergency Act, which then provides the Minister for Resources and Energy with wide-ranging powers to control the drawdown, transfer and sale of industry stocks of crude oil and liquid fuels, to control the range of products produced by

103 RET, *Submission 18*, p. 5.

104 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 55.

Australian refineries and to direct bulk and retail sales of fuel across Australia.¹⁰⁵

IEA 90 day oil stockholdings

- 4.101 As an IEA member country since 1979, and now a net oil importer, Australia is obligated to maintain reserves of crude oil and/or product equivalent to 90 days of the prior year's average net oil imports. It is intended that governments should have direct access to these stocks, even if they are not government owned, so they can be utilised as part of the Co-ordinated Emergency Response Measures.¹⁰⁶
- 4.102 Member countries holding these reserves agree to cooperate and 'provide a rapid and flexible system of response to actual or imminent oil supply disruptions'.¹⁰⁷
- 4.103 Since joining the IEA, Australia has relied solely on commercial industry stocks to meet its stockholding obligations.¹⁰⁸ However, due to increasing net imports, Australia is no longer meeting its oil stockholding obligations as an IEA member.
- 4.104 The 2011 LFVA noted that an ACIL Tasman review found that the 2011 stocks would only reach 86 days of net oil imports.¹⁰⁹ The EWP acknowledged that:

The projected long-term decline in Australian domestic oil production, combined with growing liquid fuel demand, suggests that Australia's IEA stockholding gap will continue to increase in the absence of action.¹¹⁰

- 4.105 At the roundtable hearing RET advised that the last publically released figure was that Australia had 74 days of oil stocks. RET stated:

Our understanding is that the level of stocks has not declined or, if it has declined, it has not declined significantly. The issue is that our level of imports has increased quite significantly. That is why we are no longer meeting 90-day compliance.¹¹¹

105 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 55.

106 IEA website, < www.iea.org/aboutus/faqs/membership/>, viewed 21 November 2012.

107 IEA website, < www.iea.org/aboutus/faqs/membership/>, viewed 21 November 2012.

108 Australian Government, *National Energy Security Assessment 2011*, December 2011, p. 13.

109 ACIL Tasman, *Liquid fuels vulnerability report*, October 2011, p. xiii.

110 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 59.

111 Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 25.

- 4.106 In considering Australia's non-compliance, the 2011 NESAs 'did not find any evidence that breaches of Australia's IEA stockholding obligation were an indication of a decline in domestic energy security'.¹¹²
- 4.107 The NESAs Competitive Pressures report found that future domestic refinery closures would affect product inventories, with each refinery closure increasing 'Australia's current deficit against the IEA target' by 105 000 tonnes (about 1.6 days of net imports). It noted that a physical emergency product stock may be needed to offset these losses.¹¹³
- 4.108 However, it qualified that 'in practice much of the stock held in a refinery is required for operation and therefore not readily useable in an emergency'. It estimated that usable stock would only reduce by around 60 million litres for a refinery closure, equating to about one third of a day's demand.¹¹⁴
- 4.109 Part of Australia's emergency response plan for addressing a supply shortage is to draw on IEA's emergency stockholdings. The LFVA 2011 found that IEA action can assist in supply disruptions, such as supply disruptions arising from Hurricane Katrina in 2005.¹¹⁵
- 4.110 However, it has been suggested that Australia's non-compliance with the 90 day stockholding obligation may hinder Australia's ability to access international stockholdings in the event of an oil supply emergency.¹¹⁶ The NRMA called for the Government to take action to consider the implications of not meeting the 90 day stockholding obligation.¹¹⁷
- 4.111 Mr Velins agreed that the issue needs consideration by government, and suggested that it would 'not be reasonable to expect any IEA member to come to Australia's assistance if Australia itself has decided that it does not need to comply with the requirements of membership'.¹¹⁸
- 4.112 However, the AIP argued that 'any emergency stockholdings for Australia over and above normal commercial requirements is not justified on energy security grounds'.¹¹⁹ The AIP argued against increasing stockpiles just for

112 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 59.

113 Hale & Twomey Limited, *National Energy Security Assessment (NESAs) Identified Issues: Competitive Pressures on Domestic Refining*, Prepared for the Department of Resources, Energy and Tourism, 29 June 2012, p. iv.

114 Hale & Twomey Limited, *National Energy Security Assessment (NESAs) Identified Issues: Competitive Pressures on Domestic Refining*, Prepared for the Department of Resources, Energy and Tourism, 29 June 2012, p. iv.

115 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 51.

116 See Australian Automobile Association, *Submission 16*, p. 2;

117 See NRMA, *Submission 15*, p. [9].

118 Mr Eriks Velins, *Submission 1*, p. 5.

119 AIP, *Submission 14*, p. 23.

'international compliance reasons' if there is not a sound commercial basis for that decision. It stated:

It is AIP's view that any consideration of emergency stockholdings requires very careful examination of the costs of stockpiling against the risk-weighted benefits of such action and how Australian emergency stockholdings will contribute to an IEA collective action in the event of a global supply disruption.¹²⁰

- 4.113 Gas Energy Australia noted that 'maintaining a national strategic petroleum reserve is not cheap', and argued that 'while releases from a stockpile can ameliorate temporary supply disruptions, they cannot offset long-term market disruptions'.¹²¹
- 4.114 The Australian Government has already acknowledged that this is an issue that needs to be addressed, and is currently considering options to respond to Australia's non-compliance with the 90 day oil stockholding obligation.¹²²

Conclusion

- 4.115 Energy security is fundamental to Australia's prosperity. It helps to deliver the economic and social outcomes we expect. The government has a rolling two year review of our energy security through the National Energy Security Assessment (NESA). The first assessment was conducted in 2009 with a follow-up review in 2011. NESA provides a review of our energy security needs relating to liquid fuels, natural gas and electricity. The 2011 review found that our energy security needs remain broadly consistent with the 2009 review, which found that Australia's energy security situation is meeting Australia's economic and social needs, albeit with some emerging market policy uncertainties that could have implications for managing our current level of energy security.
- 4.116 Our liquid fuel energy security remains largely unchanged from 2009 and is assessed as high trending to moderate in the long term. High energy security is when the economic and social needs of Australia are being met. The key to our high energy security is our access to well-functioning markets for liquid fuels and supply chains with a high degree of resilience. This means that Australia can source its liquid fuel needs from a diversity

120 AIP, *Submission 14*, p. 24.

121 Gas Energy Australia, *Submission 6*, pp. 2-3.

122 Australian Government, *Energy White Paper 2012, Australia's energy transformation*, p. 59; Mr Brendan Morling, RET, *Committee Hansard*, Canberra, 30 November 2012, p. 25.

of sources so that if one source becomes unavailable other sources can meet demand.

- 4.117 Australia has its own crude oil reserves and some refining capacity. It should be noted that our own refineries are not well equipped to refine crude oil from our own reserves. Australian refineries import over 80 per cent of crude oil and other refinery feedstock. The bulk of Australia's crude is exported. Our ability to access reliable supply chains for both refined fuel and crude provides us with more energy security than having our own crude oil reserves and some refining capacity.
- 4.118 The closure of the Clyde and Kurnell refineries have resulted in a reduction in our refining capacity, but the Energy White Paper concludes that this decline 'is not considered to impair Australia's liquid fuel security'. Shell noted that converting facilities from refineries to 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'.
- 4.119 It should be noted that in recent decades, a lack of supply in the Australian market has only been due to our own refinery shutdowns, not lack of international supply of crude or refined fuel. For example, the recent temporary shutdown of both refineries in Victoria in December 2012 resulted in disruptions to fuel supplies in the state and to South Australian customers. Once operations resumed domestic production levels increased and were supplemented by imported product to help address the backlog due to the shortages during the shutdowns.
- 4.120 The long term assessment made by NESA is out to 2035, and makes assessments about adequacy, reliability and competitiveness. It rates our fuel security as high in the short and medium term, but trending to moderate in the long term. Long term trends reflect uncertainty in predicting that far ahead, but also reflect the likelihood that crude will have to be sourced from countries that are not geopolitically stable, and from non-conventional sources, which will be more expensive to extract.
- 4.121 One can understand that closure of refineries poses little threat in a market of rapid expansion in Asia leading to an oversupply that is likely to last for some time. It is less easy to predict whether maintaining a strong ability to refine crude, including our own, will be a necessary part of the energy security mix 20 years from now and, if so, whether Australia's aging refineries will be suitable and for how long and at what cost.
- 4.122 The committee supports the Government Biennial review of energy security needs. It is particularly important that Australia's response to medium to long term changes in global supply and demand is managed in an ordered way.

- 4.123 We do know that Australia is blessed with energy options and that energy security is enhanced by diversifying options, as long as the market is able to supply those options in an affordable and reliable way.
- 4.124 NESAs noted that alternative fuels are another potential source of future liquid fuel supply although this is not expected to be significant over the medium term. However, NESAs commented that over the long term 'advanced alternative fuel and technology options, including electric vehicles, are emerging and are likely to have an increasing role'. NESAs noted that in the medium term, there could be increased demand for biofuels as a result of state government policy.
- 4.125 For this reason, the committee supports the Government position to encourage market driven investment in new energy sources. The EWP notes that there is likely to be scope for biodiesel to become a mainstream fuel (or fuel blend) in the heavy-duty vehicle sector, with a forecast use rate of 76 per cent by 2050.
- 4.126 NESAs provide a positive assessment about Australia's energy security needs. In addition, there is an emergency response capacity to deal with the impact of a sudden oil supply shortage. The EWP noted that 'Australian governments at all levels will intervene to maintain supply if necessary'. At the national level, the *Liquid Fuel Emergency Act 1984* provides the Australian Government with the authority to prepare for, and manage, a national liquid fuel emergency. In addition, Australia is a member of the International Energy Association (IEA) which can provide coordinated measures by IEA member countries to increase supply and reduce demand.
- 4.127 As a net oil importer, Australia is obligated to maintain reserves of crude oil and/or product equivalent to 90 days of the prior year's average net oil imports. Currently, Australia is not meeting this obligation. The committee notes that the Australian Government has acknowledged this issue and is already investigating options to address Australia's non-compliance.
- 4.128 In conclusion, Australia is well served by a rolling strategy to review our energy security through NESAs and to pursue a market based approach to the development of new fuels. Our energy security is high trending to medium over the long term. The key feature of our liquid energy security is our access to reliable, mature and diverse supply chains.