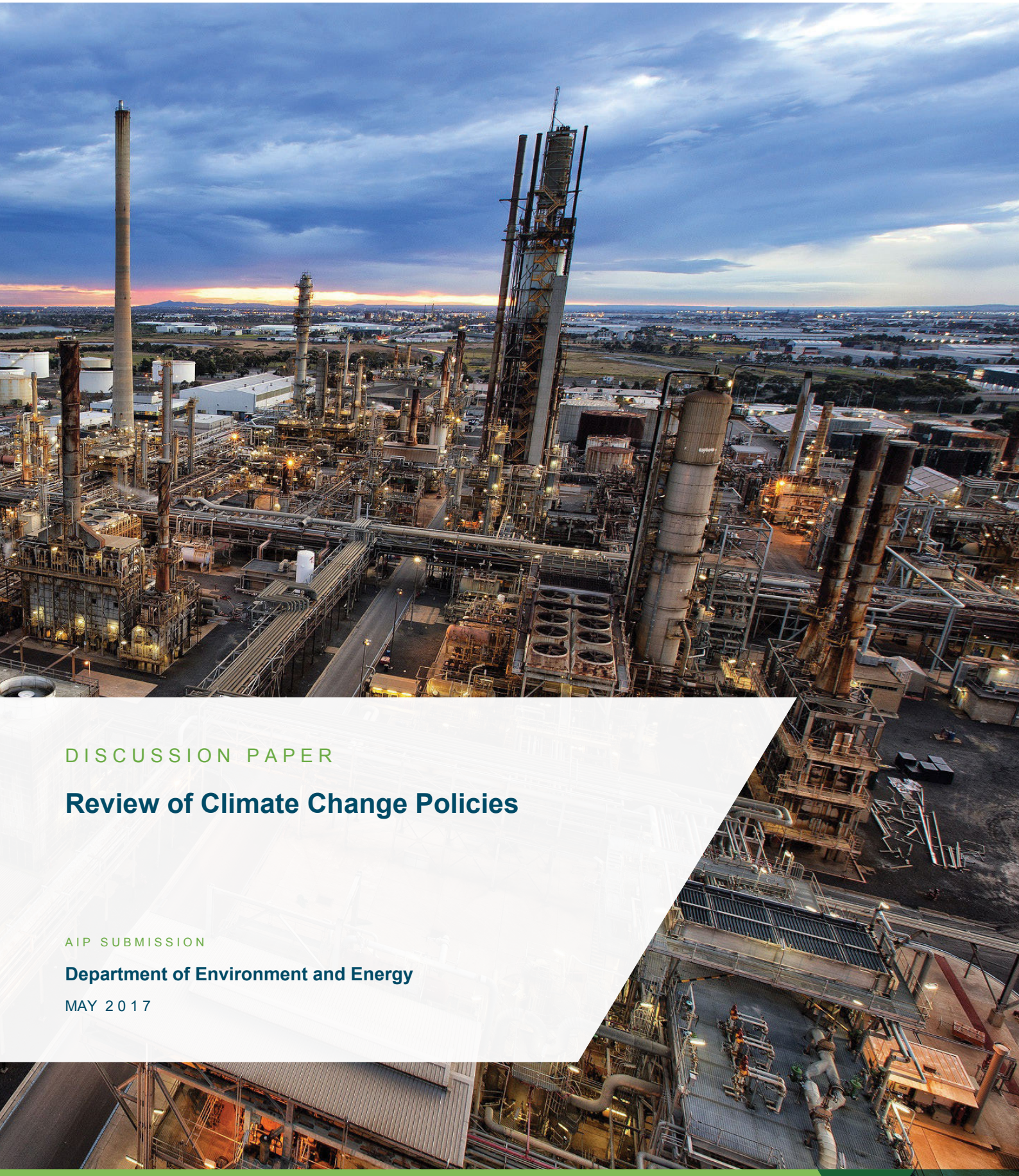
Australian Institute of Petroleum



DISCUSSION PAPER

Review of Climate Change Policies

AIP SUBMISSION

Department of Environment and Energy

MAY 2017

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1. Introduction

The Australian Institute of Petroleum (AIP) welcomes the opportunity to comment on the *Review of climate change polices Discussion Paper*.

AIP presents this Submission to the Department on behalf of AIP's core member companies:

- BP Australia Pty Ltd
- Caltex Australia Limited
- Mobil Oil Australia Pty Ltd
- Viva Energy Australia Pty Ltd.

AIP member companies operate across all or some of the liquid fuels supply chain including crude and petroleum product imports, refinery operations, fuel storage, terminal and distribution networks, marketing and retail. Underpinning this supply chain is considerable industry investment in supply infrastructure, and a requirement for significant ongoing investment in maintaining existing capacity. Over the last decade, AIP member companies have invested over $10 billion to maintain the reliability and efficiency of fuel supply meeting Australian quality standards.

Moreover, AIP member companies deliver the majority of bulk fuel supply to the Australian market.

- In relation to conventional petroleum fuels, AIP member companies operate all major petroleum refineries in Australia and supply around 90 percent of the transport fuel market with bulk petroleum fuels.
- In relation to gaseous fuels, AIP member companies are the major suppliers of bulk LPG to the domestic market, representing around two thirds of the market.
- In relation to biofuels, AIP member companies are the largest suppliers of ethanol and biodiesel blend fuels to the Australian market.

AIP members have been actively engaged in climate change policy development for more than two decades. Furthermore, the industry has been an active contributor to Australia's abatement challenge through investment in a range of energy efficiency and other technology measures. Further details about the Australian industry are available on the AIP website at www.aip.com.au

AIP's focus in this submission is on issues of most relevance to the downstream petroleum industry.

2. Background

The Australian oil refining industry is an energy intensive, high technology manufacturing industry converting crude oil to marketable petroleum products that competes head on with international refineries. The industry has been repeatedly recognized as an Emission Intensive Trade Exposed Industry (EITE) through multiple Government processes over a decade or more.

Australia currently has four refineries at Altona (Vic), Geelong (Vic), Lytton (Qld) and Kwinana (WA). Up until 2012, there were seven operating refineries in Australia with emissions of around 8 million tonnes per annum (mtpa) of which about 6 mtpa were direct emissions largely from generating heat and about 2 mtpa were Scope 2 emissions from electricity consumption. The conversion of the refineries to import terminals at Clyde and Kurnell in Sydney and Bulwer Island in Brisbane has commensurately seen the industry's overall emissions effectively halve.

The Australian oil refining sector has been under significant commercial pressures over a period of time caused largely by the global over-supply of petroleum products and these pressures led to the conversion of three Australian refineries to import terminals. These competitive pressures remain and any further costs pose a risk to the viability of the Australian refining sector.

3. AIP Position on Climate Change

Access to reliable supplies of affordable energy is an essential part of life. It increases mobility, provides heat, light and power, improves living standards and spurs economic activity. However, with that access comes a responsibility to produce and use energy in an efficient and sustainable way.

The downstream petroleum industry, as represented by the Australian Institute of Petroleum (AIP):

- **recognises that climate change presents significant and material risks to economies, societies and the environment.** Member companies support effective actions to address these risks, including advances in climate science to improve understanding and therefore reduce the risks from future impacts.

- **acknowledges that the Australian Government is committed to addressing climate change and meeting its global emission reduction agreements while at the same time ensuring we maintain energy security and affordability.**

- **strongly advocates that the competitive position of Australian refineries is not diminished with any climate change policy.** The highly trade exposed status of the Australian refining industry should continue to be recognised, and therefore any carbon related cost imposed on direct emissions and/or electricity emissions needs to be fully offset for Australian refineries given most competitors in other countries are not (and are not likely to be) subject to a carbon price at any time in the near future.

- **advocates for a broad-based approach to emissions abatement** recognising that there are many pathways to reduce greenhouse gas emissions across the economy over the short, medium and longer term. These include improved energy efficiency development and deployment of new and innovative technologies, the role of public transport, enhanced public awareness and supportive policy frameworks.

- **supports a national approach to climate change policy in Australia** to ensure that red tape is minimised, the most effective and appropriate frameworks are put in place and refineries in specific States are not put at a local competitive disadvantage.

- **supports public reporting of greenhouse gas emissions** to provide clear understanding of trends in industry emission profiles and the reasons behind changes in emission trends.

- **expects policy decisions by governments to be based on sound scientific and economic analyses** that recognise the risks, costs and benefits to the downstream petroleum industry as well as to society. The future viability of Australian refineries will be dependent on maintaining the international competitiveness of Australian refined products.

- **encourages co-operative international actions by governments and industry** that recognise the global nature of climate change and contribute to sustainable longer term climate change mitigation.

Member companies support policy outcomes that effectively address climate change risks while minimising risks to business in order to deliver sustainable environmental and business value to Australia.

In this context, AIP has:

1. established a refining industry-wide emissions profile
2. identified the key drivers of refinery emissions profiles (e.g. cleaner fuels investments, volume growth)
3. identified and shared best practice of AIP member companies in responding to climate change concerns
4. actively engaged in discussions with government, business and industry groups in the development of climate change policy
5. assisted in the development of methodologies to determine emission intensive trade exposed (EITE) status for Australian petroleum refineries through a rigorous independent government assessment process

4. Refinery Competitiveness

Economies of scale provide a key competitive advantage in refining, with larger refineries having lower unit costs of production and the ability to purchase inputs (e.g. crude oil) in larger parcels hence at lower unit costs.

Economies of scale arise from larger production runs, lower capital and labour costs per unit of production, and lower purchasing costs for larger volumes of inputs, such as crude oil and energy. Newer refineries also benefit from the latest technology with efficiencies realised from greater flexibility in the crude oil inputs and product slates produced.

Refiners seek to run the optimal mix of crude oils through their refineries, depending on the relative price of available crudes, the specific equipment and storage at the refinery, and the desired output mix to meet the demand and quality standards of their target markets.

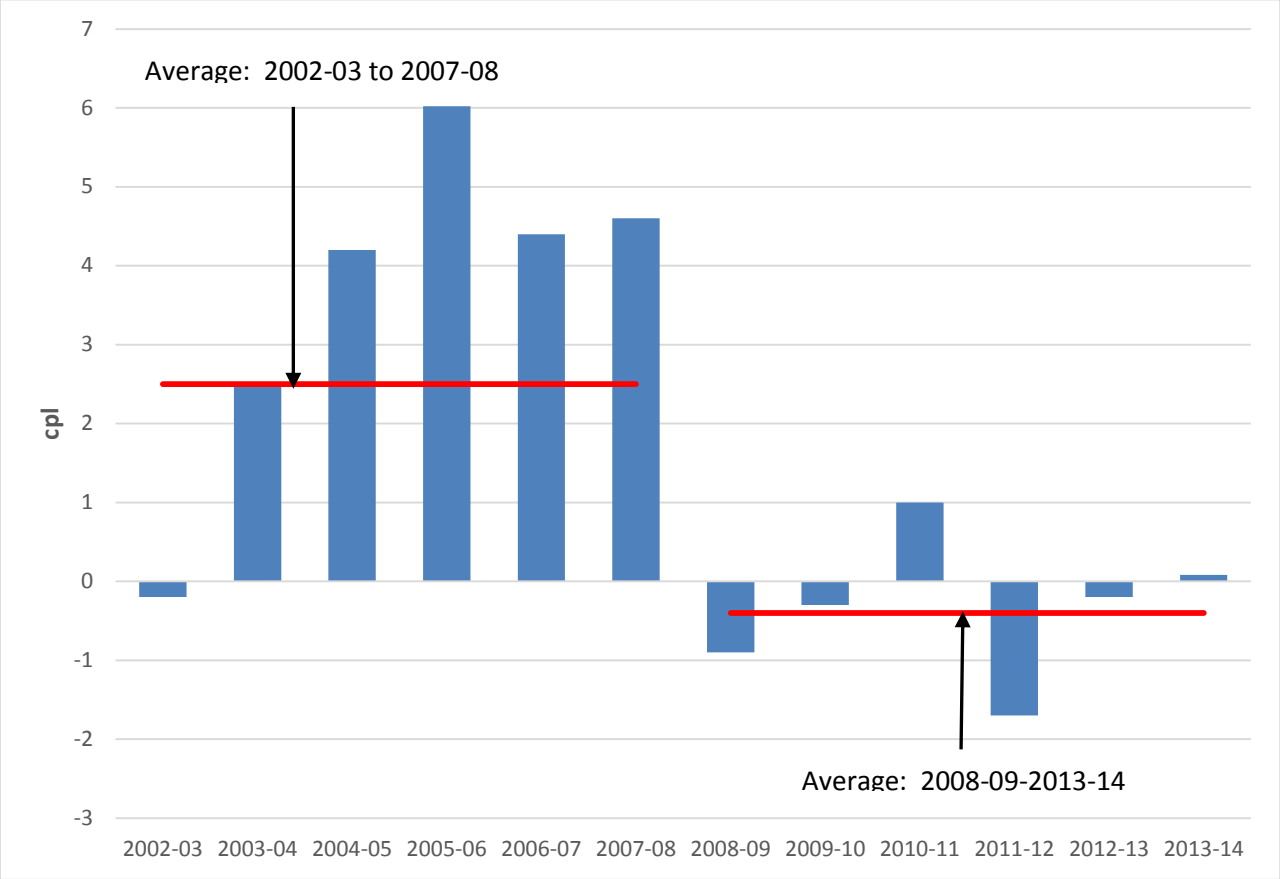
Each Australian refinery will seek to maintain an individual competitive advantage through concentrating on areas where a significant cost or efficiency advantage is evident. For example, the use of competitively priced domestic feedstock, high utilisation rates, establishing niche markets and access to key markets all underpin competitive advantage.

While the cost of crude oil is the major input cost for refineries (around 90 percent according to the ACCC), other key expenses for refineries include:

- crude oil shipment and storage
- wages and salaries
- utilities and energy charges
- additives, catalysts and chemicals
- capital costs, financing and depreciation
- plant maintenance
- site security and systems
- regulatory measures
- product shipment and storage
- government taxes and charges.

Refining is a highly cyclical business, as the following chart shows. This latest data from the ACCC highlights the different net profitability performance of the domestic refining sector over a decade where the average ranged from around 2.5 cents per litre (cpl) in the early part of the last decade, with average losses through to 2014 of around 0.5 cpl. The ACCC is yet to update this data post 2014. While it is expected to show a slightly improved performance due to an upturn in refiner margins in 2015, 2016 was again a challenging year and excess supply in the Asian region will continue to present a challenging environment for the Australian refining industry predicted through the next decade.

Refinery sector real unit net profit, all products: 2002-03 to 2013-14



Source: ACCC Annual Price Monitoring Report, Dec 2014

Refineries seek to manage the challenges they face by improving the efficiency of their operations through enhanced refinery yields, reliability and cost containment. Continued availability of highly trained technical staff and contractors will contribute to high levels of refinery efficiency.

Compared to refineries across Asia, Australian refineries suffer from substantial disadvantages in operating and capital costs that virtually preclude Australia from consideration for major new refinery projects. The relatively small Australian refineries offer no economies of scale benefits. Australian labour and construction costs for new and expanded refinery investments remain high compared to costs in most countries in Asia.

As an industrialised nation, Australia offers none of the capital or operating cost benefits available in many developing countries. The taxation and investment regimes applying in Asia are highly attractive for new facility construction and for substantial refinery upgrades, through the provision of taxation holidays, substantial investment allowances and investment facilitation.

These competitive disadvantages for Australian refineries compared to Asia can impact adversely on the decisions that must be taken locally on investments in major refinery upgrades and overhauls. The closure of the Clyde refinery in 2012 was a direct result of these disadvantages that included:

- not regionally competitive because of the small scale
- did not generate sufficient cash to justify further investments

- adequate alternative supplies could be sourced from the Asian region to meet the market

More complex and costly environmental and other regulatory measures also pose significant constraints on new investment in Australia and provide ongoing challenges for existing Australian refineries. Overlapping federal, state and local government regulations also increase the complexity of operations and raise the costs of doing business in Australia.

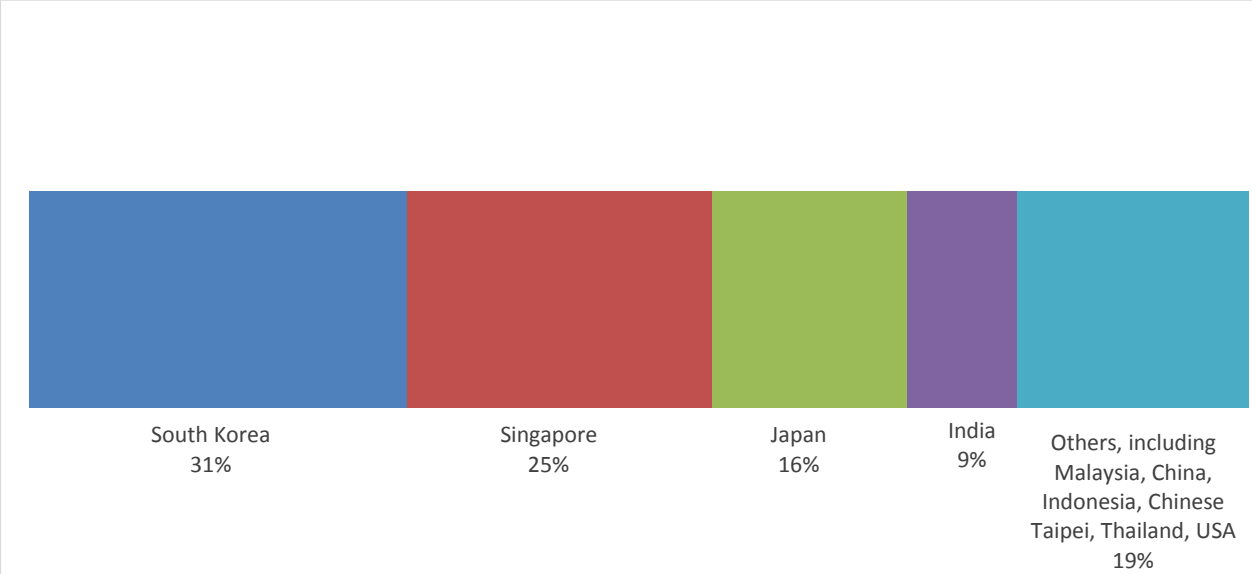
5. Trade Exposure of the Refining Industry

The Australian refining industry has been repeatedly identified as an emissions intensive trade exposed (EITE) sector throughout numerous Government reviews and programs.

In 2015–16, Australia's domestic refineries supplied around 45 percent of total petroleum products required by Australia's major industries and the fuel distribution network of around 6 400 service stations. The reliability of the fuel supply chain is robust given the unique logistic and geographic challenges in Australia.

In 2015–16, Australia consumed 55 400 ML (mega litres) of petroleum products - or around 150 ML per day - a 5.8 percent increase since 2010-11. Australian refineries produced 25 800 ML of petroleum products, of which around 2 percent was exported (excluding LPG). Net imports from over 20 countries accounted for 53 percent (or 31 000 ML) of total consumption, as highlighted in the following chart. A proportion of this imported volume was supplied to northern and north western areas of Australia where it is more economic to supply directly from Asia due to domestic refinery locations and local terminal configuration. Numerous import terminals are located around Australia providing ready access for imported fuels to the Australian market. The bulk of imported fuel came from refiners and regional suppliers in Japan, Singapore and South Korea and imports from India are increasing.

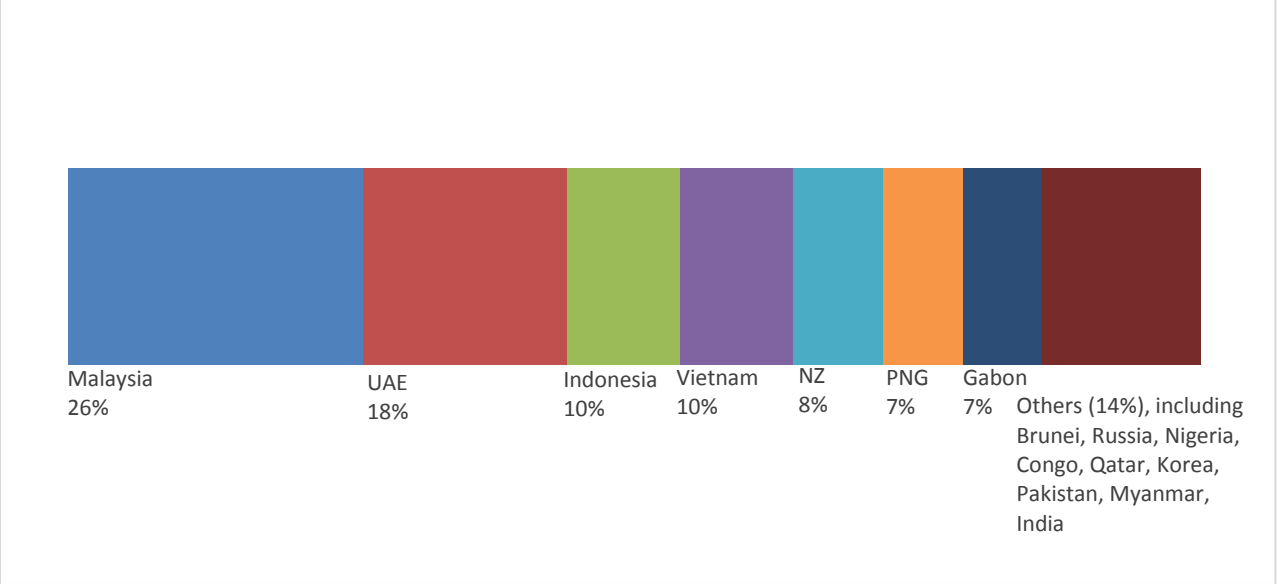
Imports of petroleum products 2015–16



Source: Australian Petroleum Statistics (various publications)

While Australia has its own indigenous crude oil production, this has been declining and around 76 percent was exported in 2015–16. These crudes are largely unsuitable for Australian refineries to manage their product slate, while the locations of Australian refineries also contribute to the quantity of exports. Crude oils required to meet the product demand mix in Australian refineries were imported from over 25 countries, but mainly from the Asia-Pacific region (71 percent) including New Zealand and PNG. The remaining third of crude oil imports were sourced from the Middle East (17 percent), Africa (10 percent) and others (2 percent).

Imports of crude oil 2015–16



Source: Australian Petroleum Statistics (various publications)

Import Parity Pricing

Australian petroleum products compete directly with imported products. More importantly, the price at which Australian production is sold locally reflects Import Parity Price (IPP) that includes:

- the international price of petroleum products (Mean of Platts Singapore - MOPS95 for petrol)
- transport costs
- wharfage
- insurance

The IPP concept is a landed price for imported product that provides a benchmark price for the sale of domestic product. Local production cannot price above the IPP or market share will be lost to imported product. In other words, domestic refineries cannot pass on additional costs to consumers above the IPP and therefore have to absorb these costs to remain competitive with imports.

Maintaining International Competitiveness

Australia's refinery competitors currently have no carbon cost constraint (either direct or indirect) on their activities. Japan has introduced a voluntary carbon trading system that effectively subsidises abatement opportunities in companies by Japanese Government funding. Similarly, Korea has a trading scheme, but with 100 percent offset for refiners with the same expected of the Chinese National ETS. Singapore has announced its intention to introduce a carbon price, but there is much detail to work through and it is highly likely that refiners will receive a complete offset for their activities given the significant contribution refining makes to the Singapore economy.

Given the proximity of these supply sources and other new refineries in the region - such as Jamnagar (India) it is likely that the Asia Pacific region will remain the main marginal source of supply for the Australian liquid fuels market. It is also likely that none of the regional refineries competing for supply into the Australian market will face a cost of carbon attributed to their operations for the foreseeable future.

As such, any policy approach by the Australian Government that imposes a cost on refiners for their current emissions profile or to incentivise a reduction in emissions will impact the competitiveness of the Australian industry. There are significant challenges for emissions reduction at refineries which is discussed in Section 6.1. Should the Government pursue such policies, then a full offset of those costs is critical.

Furthermore, while competitor countries may have signalled carbon constraint policies across the economy at a national level (as per their Paris agreement), the cost impact on their refining industry may be nullified at the sectoral level such as in Korea. Assessment of the impacts of any Australian Government policy therefore also needs to be undertaken at the sectoral level to ensure the competitiveness of the Australian refining industry is maintained, that Australia continues to enjoy the benefits provided by the local refining industry and that emissions are not simply pushed offshore.

In summary,

- There are significant imports of all petroleum products into the Australian market.
- Most imports into Australia are sourced from the Asia-Pacific region.
- There are no meaningful barriers to entry for imported petroleum products.
- Australian petroleum products are priced locally reflecting import parity price.
- Most refineries in the Asia-Pacific region will not face a cost of carbon in the foreseeable future.
- The profitability of Australian refineries would be substantially reduced and viability threatened if carbon policies were introduced that imposed costs that were not commensurate with international competitors as the local refining industry would have to absorb these costs.
- EITE assistance remains a critical policy for meeting that objective.

6. Review Objectives

AIP acknowledges that the Australian Government is committed to addressing climate change and meeting its global emission reduction agreements while at the same time ensuring we maintain energy security and affordability.

The Paris Agreement has provided some degree of certainty for business in terms of developing a glide path for emissions reduction, but it remains the case that there is a high degree of uncertainty between the stated targets of competitor countries and how they will achieve those reductions in practice. AIP notes that the last twenty years has revealed a number of key learnings from climate policy in this regard.

It is critical that this key reality is factored into the 2017 Climate Change review, and any policy responses (new or amended) that may emerge.

AIP offers the following comments on a number of the key issues as outlined in the Terms of Reference for the 2017 Climate Change Review.

6.1. Opportunities and challenges of reducing emissions sector-by-sector

AIP supports an approach that reduces emissions as least cost to the economy. It is therefore the case that there will be differing burdens on some sectors versus others given the relative costs per tonne of abatement. Policy should be not be devised in such a way as to require equal abatement between sectors, but rather incentivise the reduction in those areas of the economy where abatement cost is lowest and in a manner that does not threaten the viability or international competitiveness of particular industries – in our case the Australia's refining industry.

There are two key areas when considering abatement opportunities for emissions relating to the downstream petroleum sector:

- At the refinery, and
- Transport emissions.

Refinery emissions

The greenhouse gas emissions from a petroleum refinery are largely determined by the configuration of the process units within the refinery, for example, a crude distillation unit, fluidised catalytic cracker and hydro-desulfurisation unit. Each unit will utilise a particular category of technology (vintage and type) that has an associated level of energy usage. As an energy intensive industry there are strong incentives for refineries to evaluate and pursue any opportunities for improvements in energy efficiency. Ongoing assessment of energy efficiency opportunities are a key refinery management activity. However, the energy efficiency and therefore the resultant greenhouse gas emissions are constrained by the type and the age of equipment installed at the particular refinery.

It follows that any major reductions in emissions from refinery production will be associated with new equipment probably embodying new technologies. In most cases this would entail a major retrofit of the refinery and probably a significant period of scheduled shut down followed by re-commissioning period. As previously noted, the small scale and high costs at Australian refineries mean major emission abatement opportunities would be unviable. Additionally, given the relatively fixed configurations of refineries there are also limited opportunities for large scale fuel switching, for example, between fuel oil and natural gas, even if alternative fuel sources are available.

Nonetheless there exists a range of improvements that can be potentially undertaken by the refinery that include:

- Process heat efficiencies, such as air pre-heaters, heat exchangers and co-generation
- Process gas capture and re-use
- Regular upgrading of catalysts
- Regular maintenance of operating units.

These energy efficiency opportunities are actively pursued by refineries as part of normal management strategies. However, it needs to be recognised that such changes take time to implement (in some cases up to two to four years depending on available maintenance windows) even with attractive investment incentives. It must also be noted that energy efficiency projects are scrutinised across a range of parameters and need to pass a number of hurdles beyond just the energy efficiency gains or associated financial constraints, such as overall refinery operation/integration, safety concerns or other regulatory requirements.

While an explicit cost of carbon may make these abatement activities more economical viable, it is unlikely that Australia refineries would be subject to major rebuild or retrofit programs. The fundamental reason is that the construction costs in Australia and ongoing operating costs work strongly against Australia as a future refinery investment location.

Transport emissions

Ministerial Forum on Vehicle Emissions

The Australian Government is currently examining opportunities to reduce emissions from the transport sector, potentially through a range of measures associated with vehicle emissions standards and also a potential change to fuel standards (10ppm sulfur). AIP has been actively engaged with the Ministerial Forum on Vehicle Emissions with a particular focus on the *Better Fuels for Cleaner Air* discussion paper. AIP's comprehensive submission provided the following key messages:

- AIP supports orderly transitions to cleaner fuel standards where a community benefit has been demonstrated in terms of health and environmental outcomes, and where the cost impacts on refineries and consumers can be managed.
- AIP has been unable to support the introduction of 10ppm sulfur petrol because of the lack of operability benefits for vehicles, limited environmental benefits, and the significant cost impact on consumers, refineries, and on society. The refining industry is concerned that it would have to invest approximately $979 million which may threaten the economic viability of the remaining refineries in Australia.
- In responding to the Government's imperatives, the AIP Board decided it is possible to introduce 10ppm sulfur across all petrol grades by 1 July 2027, to support effective implementation and management of the significant costs which will be imposed on the industry by this change.
- The current petrol average sulfur levels in the Australian market are already well below the regulated maximum limits. AIP suggests the transition to 10 ppm sulfur could be supported by an interim reporting mechanism step to safeguard the current petrol sulfur levels.
- AIP reiterates that any harmonisation of fuels quality with European standards should take regard of the FQSA principle that harmonization must be appropriate under Australian conditions. AIP advises there are important differences between European and Australian conditions, such as environmental concern regarding MTBE impact on drinking water resources, and more temperate climate which have important ramifications for key parameters, particularly petrol octane and diesel cetane.

The full submission is available on the AIP website at:
http://www.aip.com.au/pdf/submissions/AIP%20Submission%20-%20Better%20Fuel.pdf

Unfortunately, while there has been much debate about the relative emission benefits from vehicles from a move to 10ppm sulfur fuel (see aforementioned AIP submission to the Ministerial Forum) little consideration has been given to the greenhouse gas emission implications at the refineries for producing these fuels.

Refinery investments to meet tighter regulated fuel quality standards, or to meet tighter mandatory refinery air quality emissions standards, involves installation of new equipment and further processing of refinery inputs. This investment, while increasing onsite refinery emissions, would not result in the production of additional quantities of fuel outputs. AIP estimates that the requirement to install new equipment to meet the 10ppm specification could increase individual refinery emissions by somewhere between 5 and 10 percent above existing safeguard mechanism reported baselines, depending on the technology required at the refinery to meet a 10ppm sulfur specification.

This increase in refinery emissions is not currently considered in the Discussion Paper but needs to be included in the Regulatory Impact Statement. AIP estimates that the increase in emissions will be between 160,000 and 320,000 tonnes per annum. At a $20 per tonne carbon price, this would equate to an additional impost on refineries of between $3.6m and $7.2m per annum.

Refineries also have little to no alternatives to offset these large resultant increased emissions through other abatement opportunities:

- oil refineries are highly energy intensive with 90 percent of costs being crude oil and energy costs and therefore already have a strong incentive to be efficient – most, if not all, low cost abatement and energy efficiency opportunities have already been undertaken
- the capital stock for Australian refiners is fixed and emission reductions are associated with large scale investment programs that are unlikely to minimise energy use
- with challenged financial performance, there is limited opportunity for large investment programs aimed at reducing emissions
- Australian oil refiners may have relatively small scale projects, such as butane capture and utilisation, and improvements in boiler efficiency which could be developed on a project basis and bid into the Emission Reduction Fund (ERF):
    - for these smaller projects, there would need to be lower transaction costs for bidding of these projects to justify the preparation of bids, ongoing administration and potential co-funding
    - refiners have, to date, been unable to secure low cost abatement opportunities through the ERF.

This has clear implications for refinery baselines under the Government's Safeguard Mechanism. Under the current rules, there is no provision or process for dealing with such circumstances where Government imposes a regulation which would be covered by either the significant new investment provisions or the best practice baselines. Specifically, these provisions would not provide for offsetting the increased emissions associated with installing desulfurisation units as:

- the scale of investment, and associated emissions, while significant, would not trigger the significant expansion provisions
- if new equipment is added to the refinery, it will be extremely difficult to determine best practice or state of the art capability as this assessment is very dependent on the unique design of each refinery (as evidenced by the extremely complex assessments required under current EU climate change policies relating to refineries)

In short, there are no other provisions to allow for adjusting baselines as a consequence of compliance with a new Government policy that has the effect of increasing emissions at the refinery.

AIP repeatedly raised the issue of the potential impact of government policy (either Federal or State) on emission baselines during the consultations on the ERF and the Safeguard Mechanism. Indeed, AIP specifically identified the implications of a change in fuel standards and sought to have included explicit statements in the Safeguard Rules to deal with such situations. This was proposed from a pragmatic point of view and would not have weakened the mechanism, nor the Government's Commitment to meeting its climate change objectives. Unfortunately, such provisions were not included in the final rules.

The Australian oil refining sector is under significant commercial pressure and any further costs pose a significant risk to its ongoing economic viability. Similarly, the Safeguards Mechanism should not now, or in the future, expose Australian refiners to the potential for additional costs nor expose them to costs not faced by competitor refiners in other countries.

AIP is strongly of the view that the potential mandatory requirements of government, such as the proposal for 10ppm sulfur, should constitute unequivocal grounds for a full adjustment to the reported baseline of each refinery. In the same way, other policies that utilise EITE provisions such as the Renewable Energy Target, would require adjustments to baselines and methodologies.

Alternative Fuels/Biofuels

AIP strongly supports market based approaches for the supply of fuels, including biofuels, in Australia. AIP considers that alternative fuels have a place in the Australian fuels market as long as they are:

- acceptable to consumers
- available at a competitive price
- reliably supplied, and
- produced sustainably

AIP believes that any government policy support for alternative fuels (e.g. on environmental grounds) needs to be:

- transparent, with clear, credible and tested objectives
- applied equitably to all industry participants
- stable with clear timeframes for withdrawal of support
- based on sound science, and
- cognisant of other broader policy settings and commercial practice.

In principle, AIP does not support mandates requiring the use of any particular fuel as a way of increasing the demand for that fuel. While AIP members will work to comply with the requirements of any government imposed mandate (such as the biofuels mandates in NSW and Queensland), AIP believes any mandates that may help to increase short-term consumer demand must be designed so that they promote and enable a sustainable, competitive and commercial market over the medium to longer term for those fuels.

AIP believes that fuel mandates can lead to higher costs for consumers (as supported by recent Productivity Commission and ACCC reports), reduce market price transparency for fuel suppliers and consumers, limit price competition and associated marketing innovation, and fail to encourage the development of robust and reliable fuel supplies.

Biofuel advocates claim a range of benefits from the production, supply and use of these fuels, including increased security of supply, reduction in greenhouse emissions and regional development opportunities. AIP wishes to comment on each of these claimed benefits:

- Fuel security
    - Biofuels increase the diversity of the fuel mix, but it has not been demonstrated that this will result in more reliable fuel supplies. There are few suppliers of ethanol and bio-component in Australia and Federal excise and customs duty policies effectively prevent its importation.
    - The inclusion of biofuels in the supply chain increases the complexity of operation and therefore the cost of supply through the need to handle a discrete new product (often with completely segregated supply chains) with the specific hygiene requirements of a bio-component, such as the threat of fungal contamination.
    - The ethanol supply chain in Australia also remains vulnerable, including through exposure to natural weather events such as droughts and floods on raw material production, as evidenced following the 2012 Queensland floods which led to a substantial drop in ethanol sales.
- Greenhouse Gas Emissions
    - The lifecycle environmental and greenhouse benefits have previously been found to be marginal and should be retested under the current fuel and vehicle standards, ethanol production technologies and distance to market.
- Regional development
    - Regional development benefits (e.g. jobs and economic development benefits) have not been adequately tested and may not be the optimal use of such a significant implicit subsidy of biofuels producers by wholesalers, retailers and motorists.
    - The experience in New South Wales has shown that job creation benefits are approximately one-tenth of those expected.

6.2. Impact of policies on job, investment, trade competitiveness, households and regional Australia

As previously discussed in sections four and five, refining is an intensely globally competitive industry with the Australian refining industry both emissions intensive and trade exposed (EITE).

Each refinery provides significant economic benefits to the local and State economy where it is located, and also contributes to fuel supply security for Australia as a whole through supply diversity and flexibility.

The economic impact of each refinery includes:

- the economic benefit of value adding (i.e. refining petroleum products)
- the impact on industries that source inputs from the refinery or that provide products/services to it
- financial impacts (new capital investment and profits)
- taxes that the refinery pays to the Commonwealth and State Governments and local council rates
- the economic benefit of employment - demand for qualified personnel and providing apprenticeships and other forms of on the job training.

These direct economic impacts are summarized in the table below.

AUSTRALIAN REFINERIES: KEY DIRECT ECONOMIC BENEFITS	2015	2016
Refinery Production (Value Add)		
Total Petroleum Products (million litres)	24,194	25,722
Total Petrol products (million litres)	10,818	11,653
New Capital Investment		
Refinery Investment ($million)	$308	$389
Total for the Last 5 Years ($million)	n/a	$2,050
Direct Employment		
Refinery Employees (FTE)	2,048	1,966
Australia – Total Employment (FTE)	10,669	10,282
Direct Wages & Salaries		
Refinery Employees ($million)	$323	$303

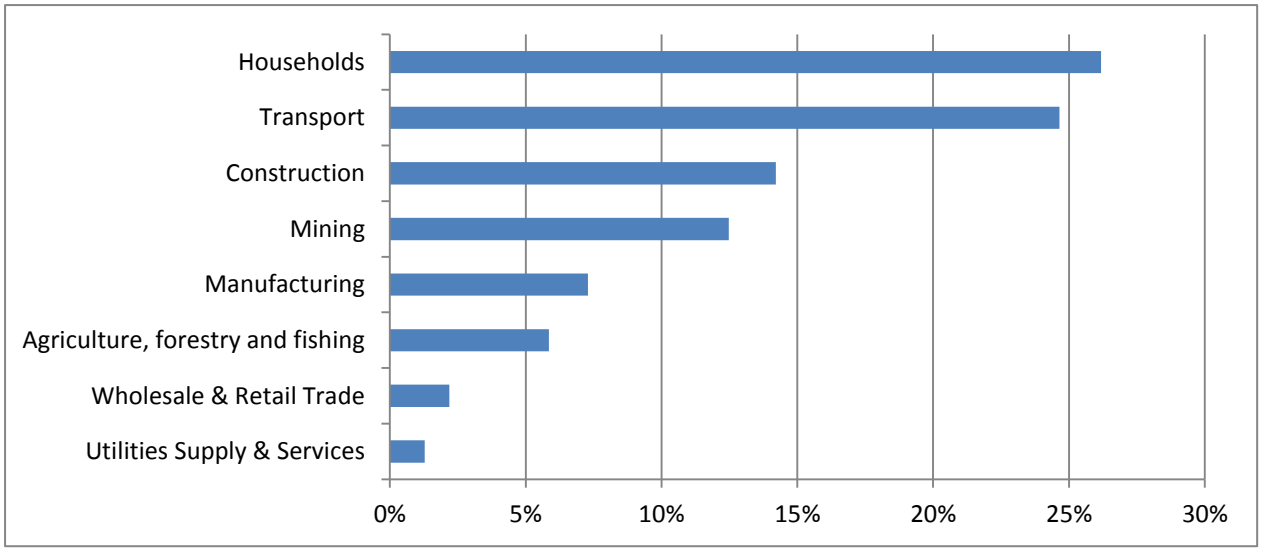
Many industries use petroleum products, and for some industries they make up a large share of intermediate input costs. This means that the petroleum refining industry's products have intrinsic links with the rest of the Australian economy.

The chart below shows the use of petroleum products in industries where refinery products are particularly important inputs. Use in each industry is reported as a share of total use of petroleum products in Australia. Based on the latest available ABS data, industries account for 74 percent of domestic petroleum product use and households account for 26 percent – making households the largest fuel user group in Australia.

The five major industrial users of petroleum products include the transport, construction, mining, manufacturing and agriculture industries, which make up 64 percent of petroleum product use in Australia. Transport is the largest industry user of petroleum products, making up around 25 percent of total Australian use.

Some outputs from these industries are, in turn, important inputs for other Australian industries. Therefore, any shocks (such as the closure of a refinery) to the petroleum refining sector will flow though all sectors of the economy via links with the agriculture, manufacturing, mining and transport industries.

Use of Refinery Products as a Share of Total Australian Use: 2013-14



Source: ABS, Australian National Accounts: Input-Output Tables Cat No 5209.0.55.001 (latest edition).
NOTE: Manufacturing use excludes that used by the petroleum industry itself.

Refining also provides for a range of indirect benefits including:

- *Reliability & Security of Supply*: The domestic refining capacity contributes to the overall health of the Australian economy through its contributions to the level of fuel supply reliability and flexibility. This is important for efficient production and mobility of labour and other products. Supply security is enhanced in Australia through the availability of both domestically refined and imported fuels from a wide diversity of supply sources.

- *Input Sharing*: The refining industry benefits other sectors through increasing demand for certain inputs shared with other industries (e.g. engineering services, chemicals, electronic equipment and mechanical components); this assists these sectors achieve economies of scale and benefit from lower costs in their supply chains (e.g. petrochemicals, plastics and heavy industry/manufacturing sectors).

- *Innovation & Spillovers*: As a high-tech industry, the refining industry benefits the economy through innovation, technology and knowledge spillovers to other sectors (inc. through the mobile contractor workforce). Major technological investments made by the refining industry include improvements in safety, environmental management, new product development, and production improvements and de-bottlenecking. This stimulates innovation and technological improvements in other sectors, without them having to bear the full costs.

- *Community Development & Investment:* Australian refineries actively participate in numerous community development activities and groups to enhance the education, environment and health outcomes of the local area (including grants, donations, volunteer work, and sponsorship). These can be expected to have wider economic benefits like higher GDP and consumer living standards.

Climate change policies must therefore consider and manage the implications for both the direct and indirect economic contributions of the refining sector. Any policy which threatens the viability of the sector is likely to have profound implications for the Australian economy.

6.3. Integration of climate change and energy policy, including impact of state-based policies on achieving an effective national approach

AIP has long supported a consistent national approach to meeting Australia's emissions reduction objectives. Similarly, carbon abatement policy must be cognisant of energy security requirements and effectively integrate with a national energy policy. Policy development in either climate change or energy must be conscious of the impacts and implications for the other.

In that context, AIP continues to support the findings of the 2008 Strategic Review of Australian Government Climate Change Programs which advocated an agreement between the Commonwealth and State and Territory Governments to clearly delineate responsibilities for all areas of climate change policy.

In addition, as previously noted, a policy to reduce emissions in other areas of the economy may result in increased emissions in another sector of the economy, as outlined in relation to transport emissions and proposals for 10ppm fuels. These impacts must be adequately addressed through other policy mechanisms, or existing policy must be amended (such as a revision of baselines in the Safeguard Mechanism).

6.4. Potential role of credible international units in meeting Australia's emissions targets

Given climate change is a global issue requiring a global solution, and emissions impact the climate regardless of the source of their location, AIP supports the ability of Australia and Australian industry to access international units to meet the nation's emission targets at least cost.

However, the ability to access international units should not be used as a proxy for a policy designed to maintain the international competitiveness of Australian Industry. That is, while international units may reduce the cost of meeting a given target, it may still impose a cost on industry that is not borne by competitors.

7. Comments on current policy framework

7.1. Emissions Reduction Fund (ERF)

The ERF appears to have been broadly successful in attracting emissions abatement at relatively low cost which has in turn contributed to reducing Australia's overall emissions.

However, the ERF in its current form has not been successful in attracting abatement opportunities from large scale industry, including the refining sector. Refining companies have considered various projects since the inception of the ERF, but have been unable to develop suitable large-scale projects. This has principally been due to the low price, along with a number of limitations in the design features of the ERF including the short timeframes for contracts, concerns over additionality and difficulties in establishing methods against the current criteria. Some companies have also observed that the ongoing administration and audit costs have also acted as a significant deterrent for application.

7.2. Safeguard Mechanism

AIP recognises the Government's commitment to the Safeguard Mechanism as a key element in ensuring industry continues to play its part in the abatement challenge. As an emissions intensive trade exposed industry, the Australian oil refining sector is under significant commercial pressure and any further costs pose a significant risk to its ongoing economic viability. Consequently, the Safeguard Mechanism should not now, or in the future, expose Australian refiners to additional costs nor expose them to costs not faced by competitor refiners in other countries.

While the Mechanism is largely working as intended, there are some key design features that should be re-examined.

AIP remains concerned that the rules relating to emissions increases flowing from business growth and incremental production increases still do not adequately address incremental production driven by changing business opportunities. AIP, while welcoming the addition of an emissions intensity test, is concerned that the implementation of the test and without amendment will challenge business growth and productivity improvement when similar business constraints are not imposed on competitor refineries in other countries.

AIP does not consider that the implementation of the emissions intensity test will work as intended in some circumstances that are applicable to large scale industrial facilities. In a situation where there are incremental production increases and associated improvements in emissions intensity over a period of years (yet a net increase in total emissions), if for some reason there is a onetime year-on-year increase in emissions intensity, such as caused by an unanticipated shutdown, the emissions cap would revert to the original baseline and the site would then be exposed on the full production growth without any recognition for the net improvement in emissions intensity. This contrasts with the treatment for larger (greater than 20%) expansions where the baseline is permanently reset. For these reasons, AIP has advocated that instead of applying the emission intensity tests as an exemption, the process should be used to adjust the original baseline. This would avoid the situation of a cumulative penalty applying for a one-off event.

In addition, notwithstanding the explicit commitment in the draft Explanatory Statement that the government will take into account the emissions implications of any new Federal, State or local government regulations, AIP and its member companies believe this issue remains a major gap in the Safeguards Mechanism. In their current form, the Rules make no provision, and create no

process, for dealing with such circumstances other than in terms of either the significant new investment provisions or possibly the yet to be determined best practice baseline process.

As we have indicated earlier in this submission and in our previous submissions to the Government's initial consultation on Direct Action and on the ERF Safeguards Mechanism, refinery investments to meet proposed tighter mandatory fuel quality standards, or to meet tighter mandatory refinery air quality emissions standards, will involve installation of new equipment and further processing of refinery inputs, to produce approximately the same quantity of outputs, albeit in some cases new fuels not previously produced at the facilities. These investments will significantly increase individual refinery emissions beyond the original baseline.

AIP remains strongly of the view that such mandatory requirements of government should constitute unequivocal grounds for a full adjustment to the emissions baseline of each refinery, and that there should be a clear, explicit statement to this effect in the Rules.

Detailed advice has previously been provided to the Government about the potential emissions impact of future changes to fuel standards (notably the additional processing of crude oil necessary to meet tighter fuel specifications). Unless changes along the lines proposed are made to the Safeguards Mechanism, the consequences of the approach set out in the consultation paper will be to significantly increase the costs of complying with potential new fuel standards (either by way of lower facility utilisation rates, purchase of carbon offsets, or payment of safeguards penalties). These costs could be sufficient to render further refinery investment unattractive, leading to the closure of more Australian refineries.

In establishing the Emissions Reduction Fund (ERF) and its associated Safeguards Mechanism, the Government emphasised that it would allow businesses to continue ordinary operations without penalty, and that the climate change policy would not hurt the competitiveness of Australian businesses and industry. AIP is very concerned to ensure the continuous improvement drivers in Australian businesses are encouraged and that the Government's productivity improvement agenda is promoted.

7.3. Renewable Energy Target (RET)

AIP advocates for technology neutral approaches to the generation sector with a view to ensuring the supply of reliable, competitively priced energy. Although AIP does not support policies that effectively pick winners, we acknowledge that the RET is a key bipartisan policy.

Given the claims from the renewable power sector that the cost of renewable generation is now competitive with traditional generation sources, AIP supports the current timelines for ceasing the RET so as to provide sufficient certainty for investors.

AIP also supports the ongoing provision of EITE assistance at the current 100 percent offset rate. In practice however, there However, AIP believes that the Government could significantly reduce the red-tape administrative burden on both industry and Government. Beyond the intensive data gathering and application process requirements, the existing approach creates financial cashflow issues for refiners who have major maintenance activities every 3-5 years. This is due to the split between the financial and calendar year approach for the assessment and subsequent allocation of exemption certificates and the inability to either bank or borrow. As a consequence, there is the unintended consequence whereby refiners may receive an over allocation in some years and a shortfall in others. Furthermore, there is unnecessary complexity and cash flow implications, despite the 100 percent exemption, arising out of the fact that the RET cost are still charged in the

cost of electricity and that the exemption is in the form of a rebate in subsequent years which is actually based on refinery throughput and not electricity consumption.

Given that the offset is now 100 percent, AIP proposes that EITE companies could simply be exempted from the scheme simply by retailers not charging the RET costs to EITE approved businesses. Alternatively, EITE businesses could provide their electricity use figures to their energy supplier for the purposes of determining the exemption allocation without the need for the current intensive application and allocation process.