Submission to:	Senate Rural and Regional Affairs and Transport References Committee
Title:	Australia's transport energy resilience and sustainability
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AUSTRALIAN TRUCKING ASSOCIATION

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1. Introduction

The committee is tasked with examining Australia's transport energy resilience and sustainability, with particular reference to:

- options for introducing mandatory oil stockholdings;
- the role of Government in ensuring Australian energy for Australians, including maintaining refinery capability; and
- Australia's role and responsibility regarding energy security as a member of various multilateral forums.

Fuel security, sustainability and reliability are of great importance to the trucking industry.
The 2011 National Energy Security Assessment (NESA) identified several watch-points in relation to Australia's future energy supplies, including:

- Australia's declining oil refining capacity
- Uncertainties surrounding CSG developments
- LNG developments on the east coast causing supply shortages
- Energy price pressure.[1]

But Australia's energy security issues should not be overstated by outdated and unrepresentative international assessments, as Australia has a 'flexible, resilient and reliable supply chain, including secure shipping routes and a significant volume of stock on the water owned by local companies.'[2]

2. Australian Trucking Association

The Australian Trucking Association (ATA) is the peak body that represents the trucking industry. Its members include state and sector based trucking associations, some of the nation's largest transport companies, and businesses with leading expertise in truck technology.

3. Recommendations

Recommendation 1

The Government should recommend that the International Energy Agency (IEA) review the requirement for members to hold 90 days of net oil imports, given that it was originally set in 1974 and does not allow the inclusion of 'stocks at sea'; which account for more than a quarter of Australia's oil stocks.

Recommendation 2

The Government should fund compliance with the IEA stock holding rule, once revised.

Recommendation 3

The Government should seek to improve investment in energy security by:

- streamlining approvals for new or expanded facilities or port deepening,
- providing a stable policy and investment environment for the industry, and
- ensuring research and development policies encourage the development of transport fuels.

[1] Department of Industry, *Energy Green Paper,* Accessible at www.ewp.industry.gov.au, September 2014, P 48
[2] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 3

Recommendation 4

The Government should support research into renewable fuels such as algal biofuel in order to provide a diverse range of fuels for the industry to use.

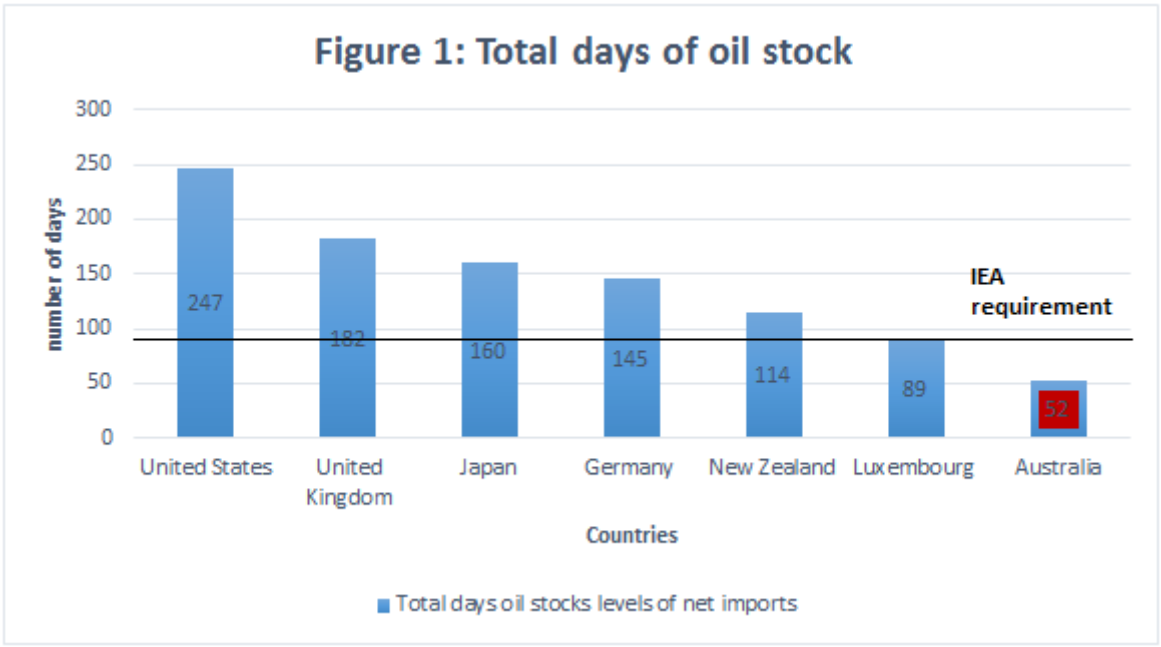
Recommendation 5

The Government should provide a positive investment environment for alternative fuel infrastructure in order to support the heavy vehicle industry use of CNG/LNG heavy vehicles.

4. Options for introducing mandatory oil stockholdings

Australia's memberships of the International Energy Agency

Australia is a member of the International Energy Agency (IEA) which requires member countries to hold oil stocks equivalent to at least 90 days of net oil imports and to release stocks, restrain demand, switch to other fuels, and increase domestic production in a timely and coordinated manner in the event of a significant oil supply disruption.



*[3]

Source: International Energy Agency, Closing *Oil stock Levels in Days of Net Imports as of June 2014,* Accessible at www.iea.org/netimports, 2014

As figure 1 shows, Australia's current fuel holdings stand at 52 days, the lowest of the IEA member countries. Luxembourg is the next lowest oil stock country with 89 days[4].

The International Energy program

Nations benefit from being in the IEA because if there is an oil supply disruption likely to cause considerable economic damage to member countries, they can make their stocks available to offset the oil shortage.

[3] Exporting countries such as Canada and Norway are not required to meet the 90 day oil stock holding.
[4] International Energy, Agency *Closing Oil stock Levels in Days of Net Imports as of June 2014,* Accessible at www.iea.org/netimports, 2014

The three most common reasons for the release of stockpiled fuel have been unforseen technical problems, weather and civil unrest. Military or terrorist attacks that target energy infrastructure for political motives, or disputes between governments, while rare, are other significant concerns for world oil markets, the IEA says[5].

IEA stocks have been released in the past for large events such as the build up to the Gulf War in 1991; after Hurricanes Katrina and Rita damaged offshore oil rigs, pipelines and oil refineries in the Gulf of Mexico in 2005; and in response to the prolonged disruption of oil supplies from Libya in 2011.

The IEA has specific release rules and procedures around releasing oil stocks under the IEA. The IEA has stated that 'a release is not undertaken to moderate prices, although it can have that impact by calming the market, and thus exerting downward pressure on prices.' Governments have released fuel in order to dampen the prices in the market.

Does Australia meet the stockholding requirements?

Australia has not met the 90 day stockholding requirement since December 2009.

The IEA regulations were created in 1974 in response to the OPEC oil embargo and many international oil companies see the 90 day requirement as outdated in today's optimised market structure of multiple oil suppliers. Countries outside Europe see the IEA regulation as Eurocentric and benefiting European countries that can easily stockpile fuels. EU countries have also been able to count hydrocarbon waxes, which will not be refined for oil, towards their stockholding. Therefore, many see the IEA as increasing bureaucratic red tape on the oil industry and IEA non-EU member countries.

Additionally, the IEA does not allow 'stocks on water' to be included in the oil stockpile, they allow fuel held overseas for a country to be included. This storage method accounts for more than a quarter of total oil stockholding directly owned and controlled by Australian companies.[6]

Australia has a very efficient network of shipping routes around Australia that provide an extensive source of oil for Australia and other Asia-Pacific regions. If there was a supply disruption 'petroleum product cargoes at sea can be redirected by Australian companies to Australian ports to help manage disruptions'[7]

Roughly 2-3 weeks of Australian supply is on the water at one time. Storing fuel on ships is seen as a logical and flexible way to store fuel as it can be diverted to where it is needed.[8]

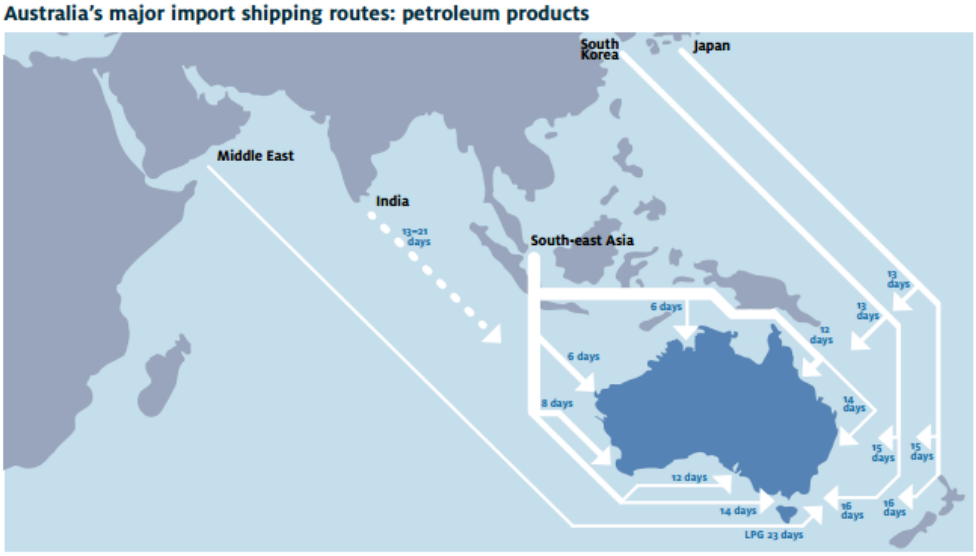
[5] International Energy Agency, *How does the IEA respond to major disruptions in the supply of oil?* Accessible at www.iea.org/topics/energysecurity/respondingtomajorsupplydisruptions

[6] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 19

[7] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 8

[8] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013 P 9

Figure 2: Australia's major imports shipping routes: Petroleum products



Source: Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 9

The risk of overseas oil supply disruptions is also considered low at this stage with 'strong business pressures on refiners and fuel suppliers to maintain a resilient and efficient supply chain, since this is essential to minimise costs and to maintain or increase sales through a reputation for reliable supply'[9].

The petroleum industry regularly reviews commercial industry stockholdings to reflect the operation conditions throughout the supply chain and the risks and consequences of supply disruptions. An increase in stock levels beyond commercial levels would place significant additional costs on the supply system, which unless government funded would ultimately be passed onto consumers (if it was funded by the petroleum industry) or taxpayers (if it was funded by government). The government should investigate how much oil stocks are necessary for national interests to be secure and delineate this from commercial stock holdings.

The Government should press the IEA to review its 90 days stockholding requirement to reflect developments in the petroleum market since 1974, including the development of 'stocks at sea'. The Government should then, over time, seek to comply with the revised stockholding rules.

Currently, all of Australia's oil stocks are held by commercial entities. The Australian Government provides no capacity and holds no stocks. In the US, the Government owned capacity has around 106 days' worth of fuel, and Japan's Government holds 91 days. In Germany, the majority of fuel oil stocks are stored in Government capacity storage[10]. In order to secure Australia's national interests, the Government should provide capacity storage to the revised IEA stockholding level.

The Australian Government should be responsible for the cost of complying with, and revising stockholding rules.

The civilian stockpile must be in addition to defence force oil stocks which need to be reserved for national security purposes.

[9] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 6

[10] International Energy Agency, Closing *Oil stock Levels in Days of Net Imports as of June 2014,* Accessible at www.iea.org/netimports, 2014

Recommendation 1

The Government should recommend that the International Energy Agency (IEA) review the requirement for members to hold 90 days of net oil imports, given that it was originally set in 1974 and does not allow the inclusion of 'stocks at sea'; which account for more than a quarter of Australia's oil stocks.

Recommendation 2

The Government should fund compliance with the IEA stock holding rule, once revised.

5. The role of Government in ensuring Australian energy for Australians

While fossil fuel onshore refining is declining due to overriding market pressures, other opportunities for fuel security are opening up and the Government should act to remove regulations that limits the uptake and possibilities of alternative or renewable fuels.

In a perfect world the trucking industry would be able to choose a range of trucks that had the option of running on a varied market of fuels, biodiesel or liquid gasses, supported by a plentiful number of service stations providing all fuel options. Not only would this provide a range of fuels for the trucking industry to use it would lessen the pressure of a national fuel emergency if alternative were available, specifically for the heavy vehicle industry who would be able to provide essentials to communities in times of national emergencies.

The outlook for Australian refineries

Australia's onshore oil refining capacity is declining. In 2015 two refineries (Kurnell in Sydney and Bulwer Island in Brisbane) will close, leaving four refineries in Australia. This puts further pressure on fuel security in Australia.

There are contributing factors to why Australian onshore refining is declining; a higher operating costs base, lack of economies of scale compared with regional competitors, higher labour costs, relative age of refineries, the scale of refineries and the high Australian dollar[11].

The Liquid Fuel Security Vulnerability Assessment in 2011 found that while the import to local stock ratio was declining this was not a cause for concern for supply security reasons in the short term because of the nature of the petroleum market globally and in the Asia Pacific region[12]. Asia is a more attractive investment and productive area for oil refining because of economies of scale in refining due to size, scale, lower unit costs and storage capacity[13]

The ensure fuel security and to make sure Australia's remaining oil refineries are as competitive as possible the government should:

- Streamline approvals for new or expanded facilities or port deepening.
- Limit regulatory burdens that reduced the industry's ability to compete effectively in the Asia Pacific region. Any regulatory change should involve extensive consultation with stakeholders and a Regulatory Impact Statement being completed.
- Provide a stable policy and investment environment for the industry.

[11] BP Australia *Submission to parliamentary inquiry into Australia's oil refinery industry* Accessible at www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=economics/oilrefineries/subs.htm, November 2012, P 6

[12] Department of Resources Energy and Tourism, *Liquid Fuels Vulnerability Assessment: A review of liquid fuels vulnerability,* Accessible at www.aip.com.au, October 2011, P viii

[13] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 5

- Ensure research and development policies encourage the commercial development of transport fuels which can contribute to liquid fuel security in Australia. [14]

Renewable energy research

Renewable fuels such as biodiesel blends have the potential to provide an abundant source of fuel to the trucking industry. However, availability, taxation and engine warranty issues constrain the use of these renewable fuels in the trucking industry.

Biodiesel blends are not readily available in many areas. B20 (a standard blend containing 20 per cent biodiesel) can only be sold with a special approval under section 13 of the *Fuel Quality Standards Act*. For operators, using blends with more than 20 per cent biodiesel raises fuel tax issues.

Engine manufacturers are generally reluctant to approve the use of blends with biodiesel concentrations of more than 5-7 per cent. The use of blends with a concentration of biodiesel higher than this level is especially problematic for advanced engines that comply with the Euro 6 emission standard.

Therefore, first generation biofuels are not the answer to reduce Australia's dependence on fossil fuels.

Accordingly, the Government need to look ahead and support research and development, and the commercialisation of advanced renewables such as algal biodiesel fuels.

CSIRO research has shown it should be possible to produce algal biodiesel at a lower cost and with less greenhouse gas emissions than fossil fuels.

Algal biofuel is still in the research stage and not yet commercially available. The expected costs are currently high for infrastructure, and there is a lack of a user base for growing and harvesting the algae. These costs are expected to reduce with time.

The Government should contribute additional funds to support the further development of synthesising macro algae into synthetic crude oil.

Removing barriers to the take up of alternative fuels

LNG and CNG are an alternative source of fuel for the industry with lower emissions. However, there are some technical issues and drawbacks compared with diesel that limit LNG/CNG heavy vehicle uptake.

For LNG heavy vehicles, the tank needs to be 1.5 times larger in order to have the correct capacity. For CNG vehicles the tank needs to be even larger. CNG heavy vehicles also need to be modified to have spark plugs fitted in order for combustion and LNG vehicles require a small amount of diesel to start ignition. The cost of modifying vehicles to CNG/LNG is $50,000 - $60,000. The refuelling of these vehicles also takes considerable time compared to diesel heavy vehicles.

The industry has trialled LNG heavy vehicles and believes there are significant gains to be made in the use of LNG/CNG smaller heavy vehicles such as three axle rigid trucks. These vehicles are not constrained by length and weight dimensions compared with larger high productivity vehicles such as B-doubles or truck and dogs. Larger trucks are limited by the turning circle, length and weight required for a multi combination vehicle and therefore not as suitable for alternative fuels as single combination small heavy vehicles.

The industry has concerns about additional mass concessions for the steer axle of prime movers because of the increased impact on the infrastructure the concessions would cause.

[14] Australian Institutive of Petroleum, *Maintaining Supply Security and Reliability for Liquid Fuels in Australia,* Accessible at www.aip.com.au September 2013, P 21

The Government should provide a positive investment environment for alternative fuel infrastructure in order to support the heavy vehicle industry use of CNG/LNG heavy vehicles.

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