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Senate Standing Committees on Rural and Regional Affairs and Transport
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Submission to the Inquiry into Australia's Transport Resilience and Sustainability

1. About AUSVEG

AUSVEG is the National Peak Industry Body representing the interests of Australian vegetable and potato growers. We represent growers around Australia and assist them by ensuring the National Vegetable Levy and the National Potato Levy are invested in research and development (R&D) that best meets the needs of the industry.

AUSVEG also makes representations on behalf of vegetable and potato growers to ensure their interests and concerns are effectively communicated to all levels of government, in the public sphere, and throughout relevant areas of the private sector.

Yours sincerely,

Richard J Mulcahy
Chief Executive Officer

3. Introduction

AUSVEG has considered the issue of Australia's transport energy resilience and, in its capacity as the representative body for Australia's vegetable and potato industries, any effects that disruptions in transport energy supply could have on these industries.

While Australia's dependence on energy imports is acknowledged by many reports, the reliability of our import processes (and subsequently, our energy resilience) is considered to be high. While this dependence on imports can influence perceptions of our energy security, many experts agree that Australia's energy supply is not under any immediate threat.

With this said, the high level of vulnerability within the horticultural industry (and broader agricultural industry) to any supply disruptions or price volatility for crude oil and refined petroleum products necessitates that any consideration of Australia's transport energy resilience must take into account the impact on these major sectors of the economy and the possible threat to its food supply.

AUSVEG therefore recommends that the Committees take these factors into account when addressing the terms of reference of the inquiry, with particular regard to the discussion of mandatory oil stockholdings.

4. Australia's transport energy resilience; and

For much of the discussion regarding the resilience of Australia's energy supply and the security of our transport fuel arrangements, AUSVEG defers to existing reports on the topic – particularly the House Standing Committee on Economics' *Report on Australia's Oil Refinery Industry* (which draws significantly from the Energy White Paper 2012), the National Energy Security Assessment produced in 2011, and the Energy Green Paper 2014.

The NESA identified several watch-points in relation to Australia's energy supply, including Australia's declining oil refinery capacity. The number of operational oil refineries in Australia has decreased significantly over the past decade, to the point where by the end of 2014 Australia will be sourcing only around half of its refined oil products domestically – an amount which is likely to decrease to around a third upon the planned closure of the Bulwer Island refinery in 2015. About one third of Australia's oil supply is at sea at any one point, using a number of flexible shipping routes to protect against any major regional disruptions.

As a member of the International Energy Agency, Australia is required to hold stocks of liquid fuel which can be used as a reserve in the event of supply disruptions. These stocks should be equivalent to 90 days of the prior year's net imports. Australia, which has no government-controlled or regulated industry oil stocks, relies on the commercial stockholding of industry; the buffer represented in these stockholdings decreases proportionally to Australia's increasing fuel consumption, and currently stands at less than 60 days of net imports.

The NESA acknowledges that "declining domestic refinery capacity and increasing dependency on fuel imports … could enhance concerns about the level of risk to Australia's national security".

However, the NESA did claim that as of 2011, Australia's liquid fuel security in the medium term (to 2016) was "High" – that is, that Australia could expect adequate, reliable, and competitive access to fuel supply into the near future. This rating decreased to "Moderate" in the long term (to 2035), due to a number of geopolitical factors and a likely trend of increasing high crude oil prices.

Additionally, a 2012 report prepared for the then-Department of Resources, Energy and Tourism found that declining domestic refinery capacity does not have a significant impact on Australia's oil stockholdings, and estimated that usable stock only reduces by around one third of a day's demand (60 million litres) upon the closure of a refinery.[1]

It was the opinion of the Standing Committee on Economics that Australia's supply chains have a high degree of resilience, which is key to our ongoing energy security.

5. The need in Australia's vegetable industry for continued energy resilience.

Energy resilience, as well as the broader concept of energy security, should not be considered to be the same as energy independence or self-sufficiency – in the words of the Energy White Paper 2012, "Our lack of oil self-sufficiency and the prospect of further refinery rationalisation does not in itself compromise or reduce our energy security."[2] It is the considered view of many stakeholders in the field that the goal of Australian self-sufficiency in domestic supply of refined oil products is impractical to the point of not being worth pursuing[3]; instead, any conversation about Australia's energy resilience should take into consideration Australia's position in the global supply chain.

Reports have found Australia to have sufficient breadth and flexibility in import options to weather most likely forms of disruption to the supply chain. As discussed in the previous section, the combination of our stock on water and existing commercial reserves can support Australia's supply needs in the event of disruption and help to fill ensuing backlogs when any disruption has been corrected. This stock on water can, in the case of major regional instability which could cause a disruption to key locations along the supply chain, help avoid significant impact to Australian product supply.

Prices for Australian transport energy, including petroleum, are largely dictated by international factors. The closure of refineries has not been found to have a significant impact on the consumer price of Australian fuel[4]. This is due to the fact that Australian wholesale fuel prices are linked to the import parity price, a system which is acknowledged to provide clear benefits in terms of supply security and economic efficiency[5] – both of which are floated as being at risk of damage in conversations about Australia's refinery capacity and its interaction with fuel resistance.

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[1] *National Energy Security Assessment (NESA) Identified Issues: Competitive Pressures on Domestic Refining*, Hale & Twomey Limited (2012)
[2] *Energy White Paper 2012*, Department of Resources, Energy and Tourism (2012)
[3] *Report on Australia's oil refinery industry*, House of Representatives Standing Committee on Economics (2013)
[4] Matthew Schroder of the ACCC in the *Committee Hansard*, Standing Committee on Economics (30 November 2012)
[5] http://www.aip.com.au/industry/dp2011/dp2011_11.htm (*The Australian wholesale fuels market and prices)*, Australian Institute of Petroleum (accessed 17/10/2014)

It is clear from the evidence that while Australia's fuel prices will, in the case of a global disruption, be impacted to the same extent as those of any other fuel-importing nation, the impact of domestic refinery closures is negligible. A discussion of the energy resilience of the horticultural industry must therefore primarily consider the impact of an international supply disruption and the consequent price rise, instead of being based on the incorrect assumption that domestic refinery closures will affect prices.

The structure of contemporary industrial agriculture has been defined very simply: "Modern agriculture is the use of land to convert petroleum into food."[6]

While the vegetable industry continues to be one of the lesser-mechanised sectors of the agricultural industry, largely due to the continued need for manual labour in picking operations across many commodities, it is still heavily reliant on petroleum for production processes and the continued function of the supply chain. Several essential inputs in modern agriculture, such as fertiliser and many pesticides, are also heavily reliant on petroleum for their production, and will further contribute to any impact on the industry through longer-term liquid fuel supply disruption. (The price of many fertilisers, for example, correlates strongly to the price of crude oil.[7])

Different produce commodities within the industry would suffer variable levels of impact from disruption. Those commodities for which the picking process is more mechanised (such as sweet corn, green beans and green peas) would necessarily suffer more than commodities where manual labour is vital to protect the commodity (such as tomatoes, capsicums or broccoli)[8]. However, as a general statement, it is accurate to say that the industry as a whole is vulnerable on a number of levels to petroleum shortages.

The trend towards greater energy efficiency in agriculture (pursued as a method of reducing energy-related costs and as a way of increasing sustainability) has further increased this vulnerability – relatively small decreases in energy use may cause disproportionately large declines in farm output[9]. This only reinforces the need for growers to have access to a constant and stable energy supply.

The most pressing risk from any disruption (or threat of such) to Australia's transport fuel supply, however, is the price rise which would inevitably follow. The 2011 NESA found that while an immediate interruption to the Singapore supply chain would not diminish Australia's access to reliable and adequate stocks, it would increase global product prices by around 18 percent in the first month[10].

Even in the contemporary environment of perceived strong fuel security, the impact of fuel costs on the already-struggling vegetable industry is striking. The average Australian vegetable farm spent

[6] *Forgotten Fundamentals of the Energy Crisis*, A.A. Bartlett (1978)
[7] *Modelling the Effects of Oil Prices on Global Fertilizer Prices and Volatility*, P Chen, C-L Chang, C-C Chen and M McAleer (2013)
[8] Examples taken from *Production Expenses and the Profitability of Vegetable Farms in Australia and the USA – a Comparison* (2009)
[9] *Assessing the Impact of Rising Petroleum Prices on Agricultural Production in Rural and Regional Australia*, S Sloan, N Sipe and J Dodson (2008)
[10] *National Energy Security Assessment*, Department of Resources, Energy and Tourism (2011)

$33,000 on fuel, oil and grease in 2012/13[11], and against a backdrop of increasing costs across the board, fuel costs as a proportion of farm income have almost tripled – from 10.8 percent in 1979/80 to 32 percent in 2012/13[12,13].

Growers – in their position as price takers – are susceptible to the indirect impacts of increased energy costs, as costs incurred by supply disruptions further up the supply chain will inevitably be passed down. Transport costs for domestic delivery average 8.75 percent of the farmgate value of product, and 23.64 percent of farmgate value for international delivery[14], and can be increased by a number of factors – both direct and indirect.

Directly, the cost of energy used to transport goods can have an impact, as transport companies move to recoup higher fuel expenses. Indirectly, other costs linked to the cost of fuel can have a knock-on effect: increased diesel costs increase the cost of road maintenance, which in turn feeds into the cost of registration and road use charges. These costs then flow on in the form of increased transportation charges for growers.

As noted above, increased prices for crude oil also impact on farm input costs – energy and energy-dependent inputs make up, on average, 50 percent of wheat and cropping farms' costs[15].

On top of hurting growers, these increases make an impact on the Australian consumer. Since 2000, there has been a strong correlation between the price of crude oil and food commodity prices[16]; disruptions to fuel supply which drive up costs will, therefore, have a recognisable impact on the costs faced by the average Australian consumer.

The relationship between agriculture as a whole and fuel security has previously been summarised:

> Modern agricultural systems, with their institutional forms and their intricate and extensive web of relations suffused by uneven relations of power and control, could prove highly fragile in an environment where the security of the petroleum that sustains the system is threatened by an external shock.[17]

Uncertainty about future financial stability is a constant worry for Australian growers – especially in the contemporary economy, given that in the financial year 2012/13, the average vegetable farm business experienced a loss of $10,000[18]. Financial uncertainty leads to less willingness to invest in long-term projects, as well as a trend away from innovation and development[19]; fears about fuel

[11] *Australian vegetable growing farms: An economic survey, 2011-12 and 2012-13,* Australia Bureau of Agricultural and Resource Economics and Sciences (2014)
[12] *Assessing the Impact of Rising Petroleum Prices on Agricultural Production in Rural and Regional Australia*, S Sloan, N Sipe and J Dodson (2008)
[13] *Australian vegetable growing farms: An economic survey, 2011-12 and 2012-13,* Australia Bureau of Agricultural and Resource Economics and Sciences (2014)
[14] *The rise and rise of transport costs*, J Nason (2012)
[15] *Farming Smarter, Not Harder: Securing our agricultural economy*, L Eadie and C Stone (2012)
[16] *Price Relationships of Crude Oil and Food Commodities*, M Bakhat and K Würzburg (2013)
[17] *Energy Security, Agriculture and Food,* J Dodson, N Sipe, R Rickson and S Sloan (2012)
[18] *Australian vegetable growing farms: An economic survey, 2011-12 and 2012-13,* Australia Bureau of Agricultural and Resource Economics and Sciences (2014)
[19] *Efficiency analysis in the presence of uncertainty*, C.J. O'Donnell, R.G. Chambers and J Quiggin (2010)

insecurity, with its associated risk of increased costs, risk inflicting ongoing damage to the output of the industry.

The future security and resilience of Australia's liquid fuel supply would therefore have significant benefits for the Australian vegetable industry, fostering an environment in which growers would feel more comfortable in investing in long-term growth instead of worrying about short-term survival.

AUSVEG acknowledges that previous studies on the topic have found Australia's current energy resilience to be high in the immediate future and the medium term following that, and only trending to moderate over the long-term. This provides reassurance to the vegetable industry, given its various layers of dependence on liquid fuel and the impact of price rises on the overall margins of vegetable growers; this reassurance in turn reduces the level of financial uncertainty faced by vegetable growers.

However, given that the terms of reference of the inquiry specifically include discussion of introducing mandatory oil stockholdings, AUSVEG believes that the final report should include an acknowledgement of the impact of potential disruptions on the horticultural (and broader agricultural) industry, and any benefits that mandatory oil stockholdings could provide.

6. Recommendations

1. That in its final report, the Committee consider the potential impact of supply disruptions on the horticultural industry, and therefore consider the potential benefits to that industry in any discussion of government-owned oil stockholdings for use in the event of any serious disruptions.