

Australia's Oil Security

Michael Richardson

Oil is critical for the smooth operation of the Australian economy. It is also critical for military mobility, both within the country and abroad. As tensions rise in the Middle East and Australia's dependence on supplies of oil from the Persian Gulf grows, should policymakers in Canberra reconsider the Howard government's opposition to a national oil stockpile?

In the Summer 2005/06 *Defender*, Eriks Velins noted that Australia was the only member of the International Energy Agency (IEA) that did not stockpile the equivalent of 90 days net imports of oil. He added that the strategic fuel stocks held by the Australian Defence Force (ADF) were believed to be minimal. The IEA was established in 1974 as the energy watchdog for leading industrialised democracies in North America, Europe and the Asia-Pacific region. With 27 member-states, one of its aims is to maintain and improve systems for coping with oil supply disruptions.

Since Eriks Velins set out his concerns, Australia's dependency on imported oil has risen further. Indeed, we are becoming increasingly vulnerable to any disruption in the flow of oil from the Persian Gulf, the source of nearly 30 per cent of the world's crude oil production. This flow includes oil shipped direct from the Middle East to Australia. It also includes oil from the Gulf that comes to Australia via Southeast Asia, chiefly as petrol and diesel transport fuel refined largely from Middle East crude oil in Singapore, one of the world's leading oil refining, trading and petrochemical centres.

Australia's dependence on imported oil is rising fast. In 2006, the country consumed approximately 925,000 barrels of oil per day. Nearly 40 per cent of this was imported, mainly from Southeast Asia and the Persian Gulf. By contrast, in the year 2000, Australia's oil imports accounted for only 7 per cent of consumption. A report prepared in 2006 for the Australian Petroleum Production and Exploration Association warned that unless substantial new fields are found soon, Australia's rate of self-sufficiency in oil and condensate production could fall from the current level of around 60 per cent to less than 20 per cent by as early as 2015. In other words, we could be importing at least 80 per cent of our oil within 7-8 years.

Australia's relative isolation, continental size and reliance on transport fuels means oil supply security is vital for its economy and strategic posture. According to the US government's Energy Information Administration, in March 2006 Australia had petroleum stocks of 35 million barrels of oil, all of it in the hands of the private sector, not the government. This was enough for almost 38 days of normal supply.

Yet Australia and the other member states of the IEA that are net oil importers are supposed to hold emergency reserves equivalent to at least 90 days of their oil imports of

the previous year, even though it is expensive to do so. The reserves are designed for use in an oil supply disruption, to cushion the economic impact of any crisis.

Why worry?

The IEA says that the biggest oil shock since 1973 occurred in 1978-79 during the Iranian revolution. This resulted in a supply shortfall in the global market of approximately 5.6 million barrels per day for a period of six months. This was close to 10 per cent of world oil output in 1979. The shortfall doubled oil prices, causing consumption to fall by about 15 per cent and plunging the global economy over the next three years into its longest and deepest recession since World War II.

The IEA says that the other three largest oil supply disruptions since 1973 were also related to the Gulf and Middle East. The 1990-91 crisis following Iraq's invasion of Kuwait, the start of the Iraq-Iran war in 1980-81, and the Arab-Israeli war in 1973-74 each resulted in a supply shortfall in world markets of over 4 million barrels of oil per day that lasted for more than four months. In fact, the last four global recessions are all linked to oil supply restrictions in the periods 1973-74, 1979-81, 1990-91 and 2000-01.

The Gulf region is one of the most politically volatile areas of the world. The interests of many major outside powers, including the US, EU, Russia, China, India and Japan, are deeply engaged in the area – and are often at variance. For the US, Iraq, Iran, and Islamist terrorism are major preoccupations. Iran's rise as a regional power led by a militant Shiite theocracy, and its apparent nuclear ambitions, are posing significant strategic challenges to the primacy of long-established Sunni-Arab regimes in and around the Gulf.

The US and its regional ally, Israel, are determined to try to stop Iran from following North Korea and developing nuclear weapons. US officials are seeking to tighten financial sanctions on Iran and accuse Iranian paramilitary forces of supporting Shiite militia factions in Iraq to attack US troops. In late July and early August 2007, three US aircraft carriers and associated warships were deployed in or close to the Persian Gulf. Although the Pentagon said that one of the carrier task forces would simply replace another in the Gulf region, the deployments are widely seen as a warning to Iran not to underestimate US power and resolve despite its troubles in Iraq.

The Straits of Hormuz, flanked by Iran on their northern side, are the only way by sea into and out of the Persian Gulf. Of all the oil exported from the Gulf, over 90 per cent goes via the strait. Iranian officials have said a number of times

that if the UN Security Council applies the kind of tough financial and trade sanctions being sought by the US and EU, to punish Teheran for refusing to halt uranium enrichment and other sensitive nuclear activities, the stability of the Middle East would be affected.

The US and Israel insist that they will not tolerate a nuclear-armed Iran. However, Teheran has vowed to continue its nuclear technology activities, saying the program is for peaceful purposes. It has warned that any attack on Iran would endanger the region's oil supplies. The Iranian military have held naval manoeuvres and fired torpedoes and missiles near the Straits of Hormuz, evidently to show how easily it could be closed to commercial shipping by Iranian mines, missiles, submarines and other weapons.

Australia's oil security policy

In seeking petroleum supply security, Canberra has so far shied away from establishing a special purpose stockpile under government, commercial or shared control, arguing that it would be prohibitively expensive and not necessarily effective to do so. An official estimate in 2004 suggested that it would cost the federal government at least 2 billion Australian dollars to establish a national strategic oil and/or product stockpile, and another 100 million Australian dollars per year to maintain it. The cost would be much higher today because the price of oil has risen substantially since then.

The government says that in recent years, the Australian petroleum industry's long supply chain has stored on average between 45 and 55 days worth of consumption in both refined products and crude oil stocks. These stocks are held in tankers at sea on their way to Australia from Asia and the Middle East, in crude tanks at Australian refineries while the oil is being processed through the refineries, in product terminal storage facilities, in retail petrol and diesel service stations throughout the country, and by individual motorists who on average have three days supply of fuel in their vehicle tanks.

Only about 40 per cent of Australia's crude oil output goes to local refineries. The rest is sold overseas where it fetches premium prices as a relatively light density, low sulfur product. The government's view is that if this outgoing oil was diverted into the Australian market, as it could be in a crisis, it would provide additional consumption cover for Australia for well over the mandated IEA level of 90 days. In early, 2004, the consumption cover for Australia using this method of calculation was about 178 days.

IEA and supply security

However, Australia's approach to supply security is arguably very different from the intent of the IEA. It is certainly different to the policies of the major IEA members, including the US, European nations and Japan. All of them maintain large physical stockpiles of crude oil, or a combination of crude oil and refined products, in line with IEA recommendations. It is also significant that Asia's two big emerging oil consumers, China and India, both of them large net oil importers, have taken advice from the IEA on setting up strategic oil stocks, although the consumption cover they provide is well below 90 days and likely to remain so for some years.

If Australia's self-sufficiency level for both crude oil and products continues to fall, the Australian Government may well have to think again about establishing a strategic national oil reserve. Another serious global supply disruption would almost certainly hasten this process.

Australia's petroleum product dependency

Australia is becoming an increasingly large importer of refined oil products, especially petrol and diesel, as well as the heavier types of crude oil needed by the seven major domestic refineries to blend with lighter local oil to make the full slate of transport fuels and lubricants essential for the smooth operation of the Australian economy. An official estimate in 2004 indicated that Australian refiners were relying on crude oil from Australia for 40 per cent of their supply, from Asia for 40 per cent and from the Middle East for 20 per cent.

About 25 per cent of Australia's annual petroleum product consumption is imported and the ratio is rising steadily as more big refineries come on stream in Asia that are able to use economies of scale for both domestic and export output. Most of Australia's oil product imports are petrol and diesel and come from Singapore. Australia's imports of refined products from Singapore alone in 2006 were worth about 5.7 billion Australian dollars. They accounted for just over half the value of Singapore's merchandise exports to Australia that year, and were worth substantially more than Australia's total sales of goods to the island-state in 2006.

However, it is important to note that in 2006, Singapore's oil refineries and independent terminals had a capacity to store 88 million barrels of oil, well over twice the level for Australia recorded by the US Department of Energy. In Singapore, new storage capacity on land, underground and in tanks floating offshore are expected to add at least another 65 million barrels of storage space in the next few years. This will include 25 million barrels in huge rock caverns carved beneath one of Singapore's islands by the government-linked Jurong Town Corporation.

This should give Australia and other Asia-Pacific customers of Singapore's refineries some assurance of continuing supplies in any future Persian Gulf crisis, provided it does not last for too long. However in such a crisis, Australia's direct imports of crude oil from the Gulf could be cut off, forcing refineries in Australia to draw on limited local stocks in the existing supply chain and then rely entirely on domestic crude oil for feedstock, even though it is not well suited to the capacity and requirements of Australian refineries.

Australia's growing dependency on foreign oil supplies, and easily disrupted or fractured supply chains, is an increasing and increasingly serious economic and strategic vulnerability. ♦

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