Institute for Energy Economics and Financial Analysis

Briefing Note

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The perfect storm to boost energy security

How Australia can reduce its oil exposure in the wake of the Iran conflict

- *Australia has a limited set of potential solutions to reduce its exposure to oil shocks. Short-term measures include rapid, low-impact steps to reduce oil demand, and exploring bilateral crisis supply agreements with suppliers affected by LNG shortages, supported by new export control mechanisms.*
- *Australia's exposure to global oil shocks has dramatically increased in the past 25 years as our domestic oil production dwindled. The situation is even more precarious because Australia has the smallest stockpiles of all International Energy Agency (IEA) members.*
- *As the Iran conflict intensifies, Australia's exposure presents significant economic risks: oil is essential to many key economic sectors, such as mining and agriculture, and critical to the transport sector. Oil imports also have material influence on Australia's trade balance and inflation.*
- *Electrification is the most promising solution to ensure longer-term resilience. Government needs to urgently accelerate action, as Australia lags on electric vehicle adoption, and progress in mining and heavy transport electrification is minimal.*

Australia again faces the prospect of escalating energy prices and inflation due to "the largest supply disruption in the history of the global oil market," as stated by Fatih Birol, executive director of the International Energy Agency (IEA). As the Iran conflict continues, there is a threat of prolonged disruption to supplies of crude oil and petroleum products via one of the major arteries of the world's energy system, the Strait of Hormuz.

Almost 20% of global oil supplies, or 25% of global oil seaborne exports, pass through the Strait, which links oil and gas producers in the Persian Gulf to the Indian Ocean and global seaborne trade. An ongoing blockade of the route could keep oil prices elevated and cause oil shortages.

This briefing note explores Australia's exposure to the current oil market shock, as well as potential solutions to reduce this exposure.

Australia's growing exposure to oil market shocks

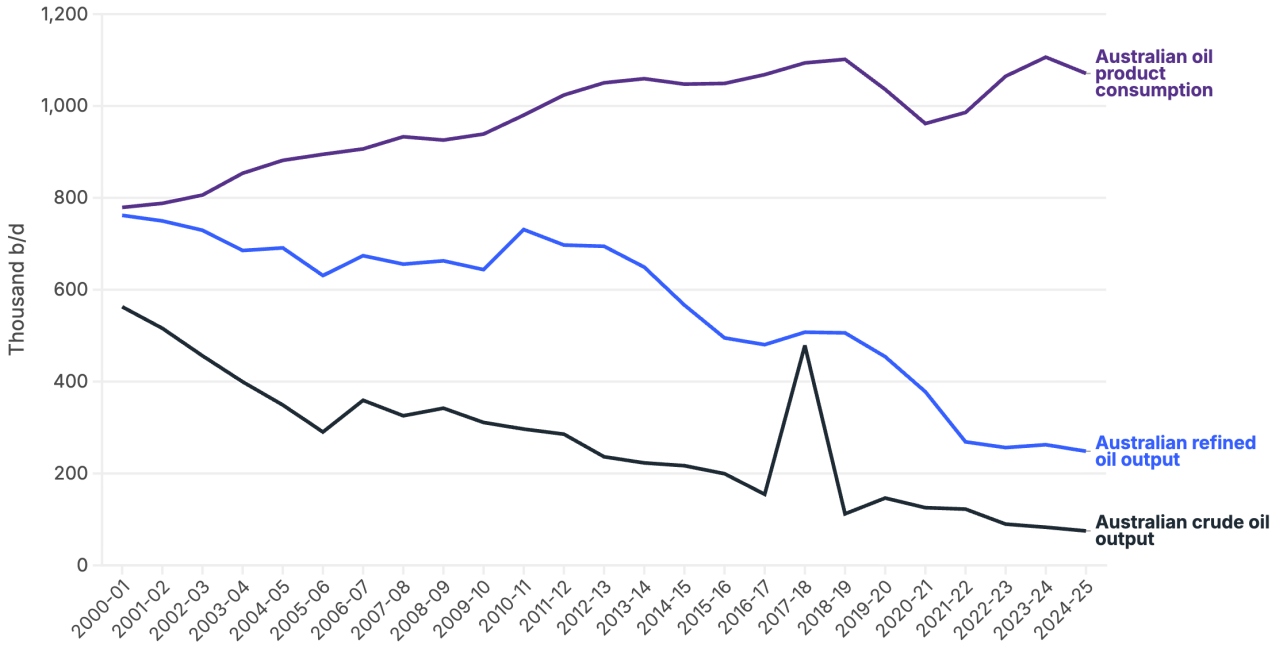
A slump in self-reliance

Australia started producing crude oil in the 1960s, with domestic production peaking at 563,000 barrels a day (b/d) in FY2000-01. At the time, it had eight refineries capable of supplying about 98% of Australia's petroleum product consumption. By 2025, however, production had slumped to about 10% of that peak, amounting to just 5.6% of domestic oil product demand (Figure 1).

Following a spate of closures since 2012, Australia has only two refineries still operational, with the capacity to meet about one quarter of Australia's daily fuel use. This has led to Australia's oil product imports rising 240% between 2012 and 2025, while crude oil imports dropped by 66%. The remaining refineries are also reliant on imported crude, which accounted for 80% of the feedstock at the two refineries in FY2024-25.

The rest of Australia's petroleum product demand is met by imports, which accounted for 83% of Australia's daily transport fuel use in FY2024-25. Australia has a surplus from its oil product imports and local production, which largely goes into stockpiles while a small portion of refined products are exported. Some of the crude oil Australia produces offshore Western Australia is also exported to be refined in Asia. Australia reportedly has the largest trade deficit in refined petroleum products globally, nearly 60% higher than the second largest (held by Indonesia).

Figure 1: Australian crude oil output, refined oil product output, and petroleum sales



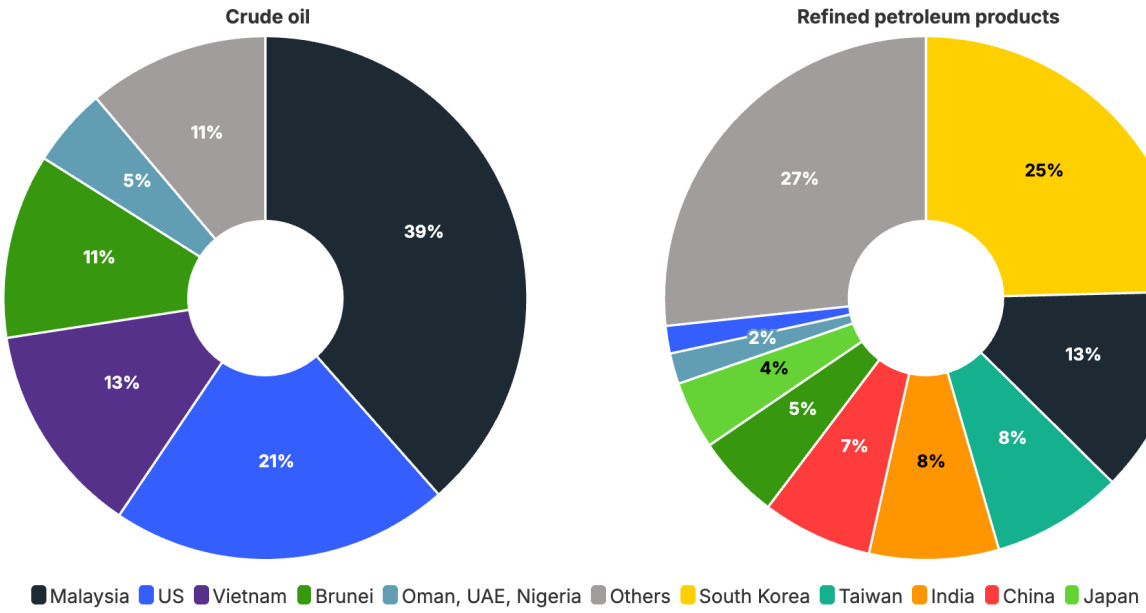
Source: Department of Climate Change, Energy, the Environment and Water (DCCEEW): Australian Petroleum Statistics; Australian Energy Statistics.

Australia has limited direct exposure to the Middle East through its imports of crude oil, with about 2.8% of its diesel supplies coming from the UAE in 2025. However, Australia is indirectly exposed as most of the oil exported from the Middle East is destined for Asian refineries that Australia relies on. Australia imports the majority of its refined oil products – including petrol, diesel and jet fuel – from refineries in China, India, Singapore, Malaysia, South Korea and Japan (Figure 2).

Refined oil producers in the Asia Pacific region could act to protect their own economies in response to the current crisis by prioritising their domestic market, potentially at the expense of Australian supply. For example, China has told refiners to halt all fuel exports, which is concerning for Australia's aviation sector given China supplied about one third of Australia's jet fuel in 2025. Malaysia has also warned it may prioritise domestic energy needs above its trading partners such as Australia. Malaysia supplied 38% of Australia's crude oil imports in 2025; 11% of its jet fuel and 13% of its diesel in 2025.

Six oil tankers due to arrive from Asia to Australia next month have already been cancelled or deferred. This is equivalent to about 7.5% of our average monthly imports. At this point, they have all been replaced by supply from other regions. Australia has been increasing its imports from the US in particular to compensate for the drop from other regions.

Figure 2: Sources of Australia's oil imports, 2025



Source: DCCEEW: Australian Petroleum Statistics.

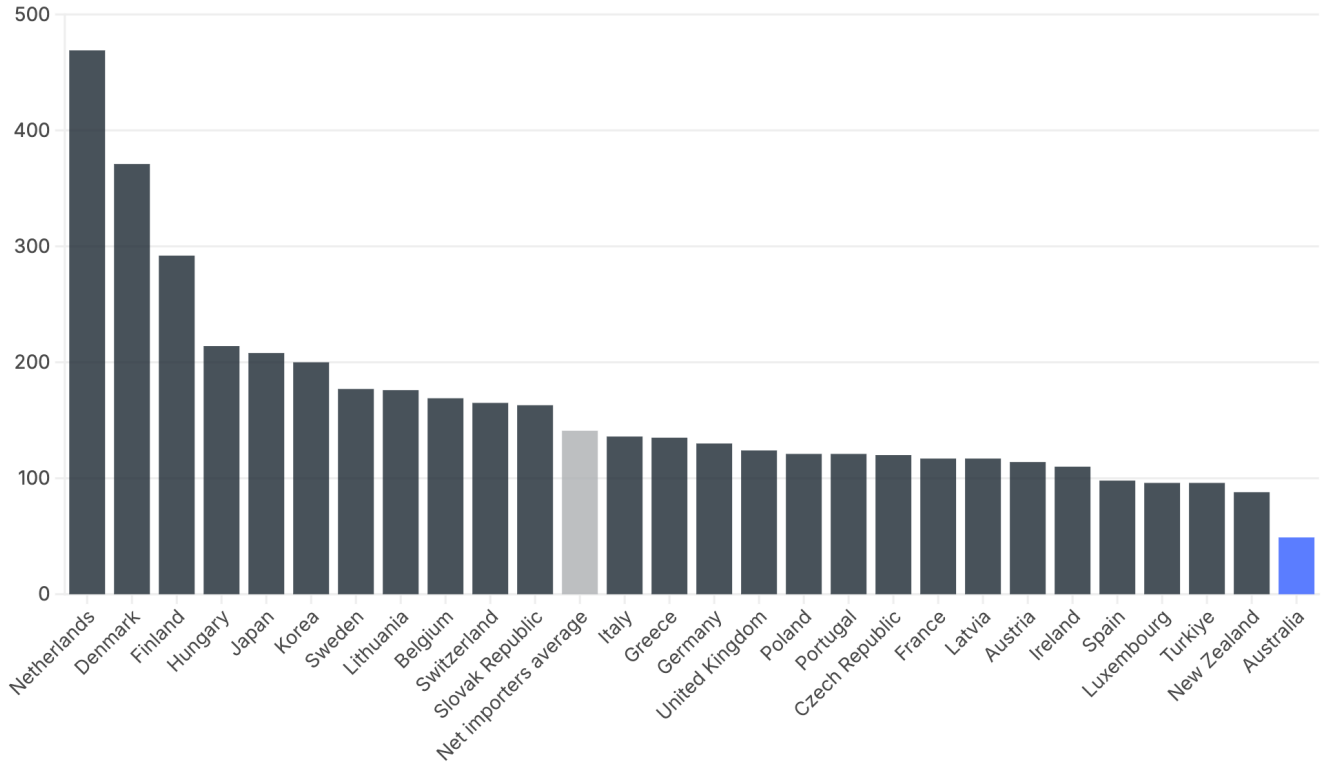
Inadequate stockpiles

This structural change in Australia's petroleum fuel supply has been made more precarious due to the country's persistent failure to meet its obligation, as a member of the IEA, to hold 90 days of net petroleum imports.

Australia's oil and petroleum product stockpiles are low, with only 30 days of diesel supplies, 37 days of petrol, and 29 days of jet fuel. These three oil products constitute the majority of Australia's daily fuel consumption of 1.08 million barrels a day: diesel represents almost 54% of all fuel use; petrol 25%; and jet fuel 16%.

Australia has the lowest level of oil stocks of all IEA member countries. The only other member with less than 90 days of stock is New Zealand, which had 88 days of oil imports in storage at the end of December 2025. On average, major oil importers held 141 days, with Japan and South Korea each holding more than 200 days of stocks (Figure 3).

Figure 3: Oil stocks of IEA countries (oil importers) in days of net imports



Source: IEA. Note: Stocks at the end of December 2025.

A large economic risk

Oil accounted for 40% of Australia's energy consumption in FY2023-24, the largest fuel source by a large margin. Therefore any supply disruption poses a great risk to the Australian economy.

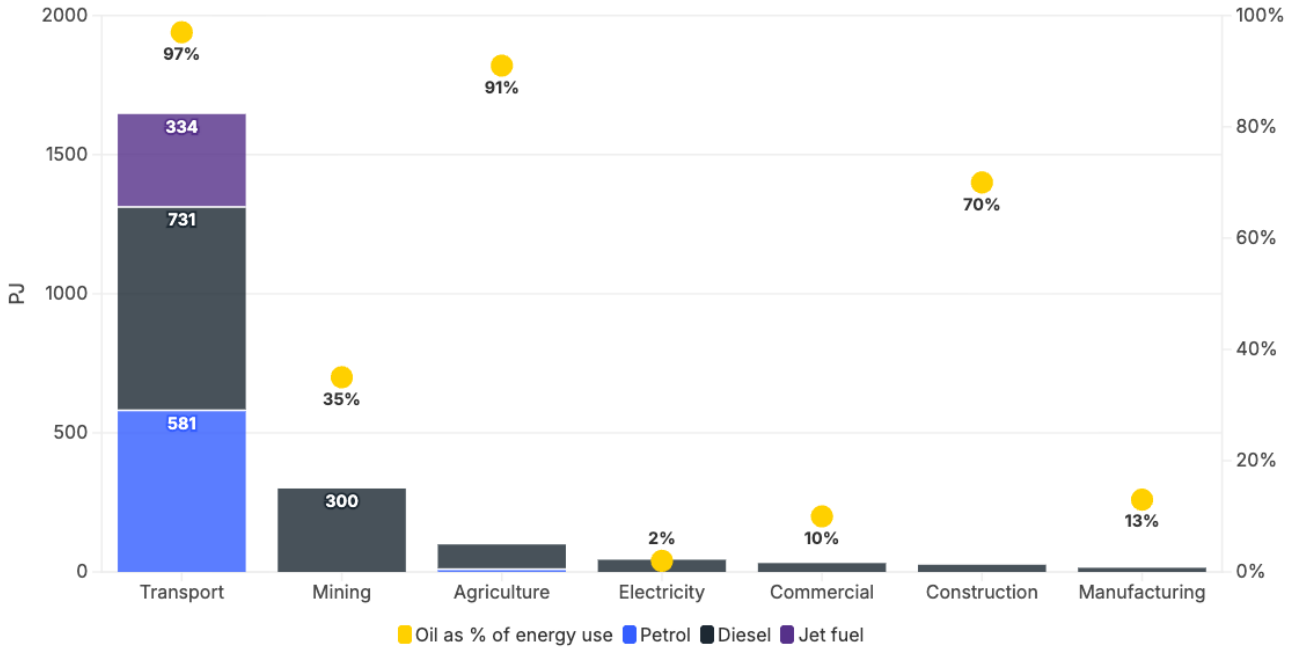
Federal Treasurer Jim Chalmers has warned that economic conditions will deteriorate if oil prices remain at elevated levels. Treasury modelling showed that inflation could be 0.75% higher than recent forecasts in a scenario where oil prices remain at USD100/barrel for the first half of 2026 and do not return to pre-war levels (about USD70/barrel) until the end of the year. Under this scenario, GDP could be 20 basis points lower than previous forecasts.

The Treasury also found that a more protracted war scenario, with oil prices staying at USD120/barrel to mid-2026 and not returning pre-war levels for three years, would push inflation to at least 5%. Chalmers stated: "Treasury also estimates that GDP would be 0.6% lower in 2027 and even by 2029 would still be below where it would have been without the conflict. Around half of the impact to GDP is due to the impact of higher oil. The other half is due to broader consequences."

Impacts across key economic sectors

Diesel is a key input into a range of Australian industries, including domestic transport, mining and agriculture, which means these industries are directly exposed to rising energy prices (Figure 4). These sectors will face higher input prices, reduced productivity and potentially lower output from a prolonged disruption to the supply of diesel, with lower output leading to lower revenue and exports (for export-focused sectors).

Figure 4: Use of oil products by sector of Australia's economy, petajoules (PJ) and % of energy use, FY2023-24



Source: DCCEEW: Australian Energy Statistics.
Note: Oil use for petroleum refining was excluded from the data.

In Australia, almost 80% of non-bulk items – which include food, medicine, consumer goods, furniture and clothing – are transported by road, with the remainder transported by rail (16%) and shipping (4%). The Australian Trucking Association has expressed concern about diesel shortages and the impact they would have on the industry, given diesel is one of the industry's largest costs. Sustained elevated diesel prices could see owner drivers and small trucking businesses "facing potential ruin within weeks".

Diesel shortages could also disrupt Australia's mineral exports. The rail networks that haul iron ore and coal, two of Australia's largest exports, still largely run on diesel. The Association of Mining and Exploration Companies has warned of the impact of continuing fuel supply constraints on the sector.

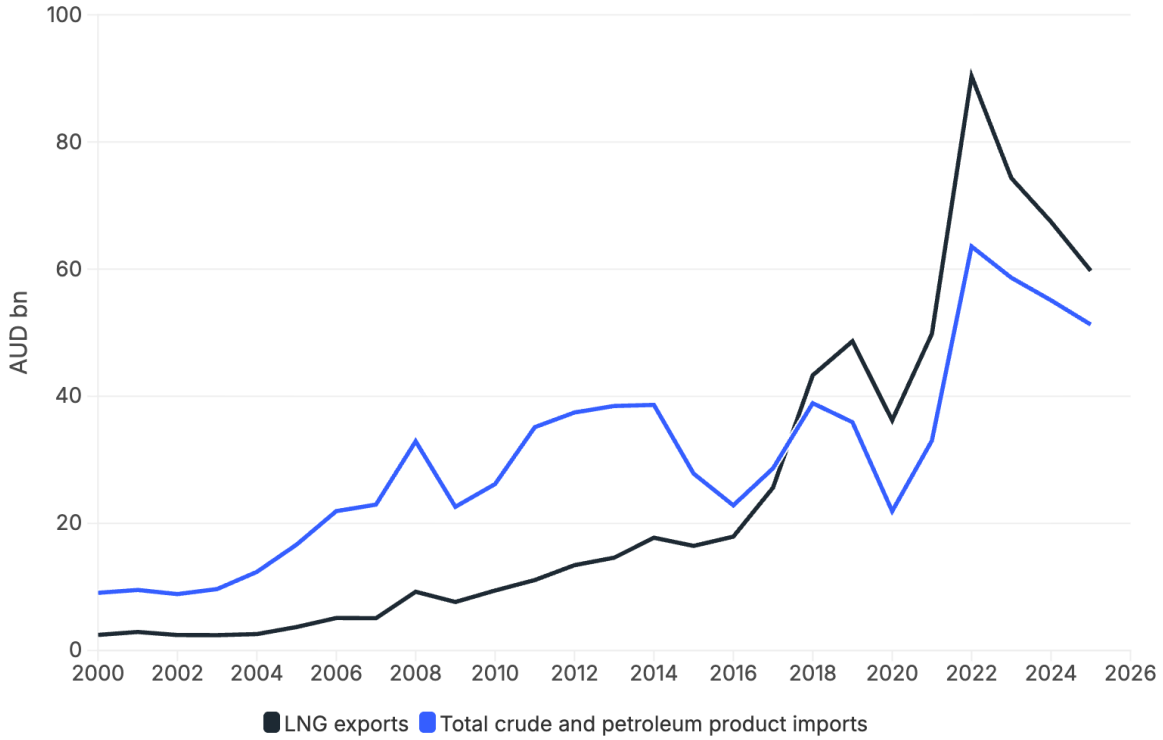
Possible diesel shortages also pose a challenge to grain growers, which are coming up to their planting season and need adequate fuel supplies to ensure they can maximise their planting of wheat and other grains. Rising diesel prices are likely to increase farm input costs, which could erode farming margins and push up food prices in Australia.

Growing import costs

The reliance on oil imports also comes at a cost for Australia's trade balance.

Australia imported AUD51.26 billion worth of petroleum products and crude oil in 2025, or about 10% of the country's total import bill, up from AUD37.44 billion in 2012. This import bill also, to some extent, offsets Australia's large export earnings. For example, petroleum import costs in 2025 were equivalent to about 85% of export revenues from liquified natural gas (LNG), which was Australia's third-largest export earner in that year. Petroleum import costs were also equivalent to about 42% of revenues from iron ore exports, which are Australia's largest export earner.

Figure 5: Australia's LNG exports and oil imports



Source. Australian Bureau of Statistics.

Repeated warnings ignored

This is far from the first global oil shock to hit Australia. The most acute oil crisis Australia faced was in the 1940s, when fuel scarcity due to the Second World War led to petrol rationing. This was followed by the two major oil shocks of the 1970s, which mostly affected Australia through the global rise in oil prices and inflation. There have been other oil supply disruptions due to geopolitical events in the Middle East, including: the Iran-Iraq War of 1980-88; Iraq's invasion of Kuwait and the subsequent Gulf War in 1990-91; the Iraq War of 2002-03; and the Libyan Revolution in 2011. Australia was mostly protected from those shocks thanks to its high level of self-sufficiency at the time.

Successive Australian governments have been warned about the country's transport fuel vulnerabilities, and the consequences they could have on our economy and on national security. To date, governments on both sides have either ignored the warnings or at best responded with minor efforts that have done little to bolster energy security.

In the 2011 National Energy Security Assessment, the Australian government said that although a "greater proportion of global refining capacity would be based in the Asia-Pacific in the long term", this would provide "the potential to help maintain reliability of supply of Australian imports", to 2035. There was no reference to the Strait of Hormuz in this 104-page energy security publication.

Australia's eventual decline as a crude oil producer was foreshadowed back in 1985, in a speech by then-prime minister Bob Hawke, and the need to seek alternatives was to be a major policy focus. Hawke said: "The need to strike the correct balance between encouraging greater exploration efforts

and adjusting – through greater energy substitution and other measures – to the likelihood of declining domestic oil reserves, will be one of the most important energy policy tasks facing this country in the later years of this century." Perhaps 40 years on, the Australian government will finally adopt energy security as its most important energy policy.

A limited set of scalable solutions

In terms of potential solutions to reduce Australia's exposure to this and future oil market shocks, Australia has a limited range of options, across both the supply and demand sides.

Supply-side solutions

Increasing domestic supply

Australia's crude oil production was at its lowest level in at least 57 years in 2025, and Australia only has enough commercial oil reserves for another seven months of consumption. This means that drilling for more oil is not a viable option as there are not sufficient commercial reserves to provide long-term supply security.

Building more refinery capacity could bring Australia more in line with other countries in terms of its dependency on refined petroleum products imports. However, it is likely to require significant government support, and would leave Australia reliant on foreign crude oil supplies. At a minimum, the government should consider extending existing arrangements to keep the remaining two refineries operating as an orderly transition of the transport sector is undertaken.

Increasing stockpiles

Australia's energy minister Chris Bowen estimated it would cost AUD20 billion over four years to build the necessary storage capacity to meet the IEA's 90-day storage guidance. While this would represent a significant cost to taxpayers, expanding storage is likely to be an effective option in the shorter term to address energy security. Increasing stockpiles may be particularly necessary to ensure supply of fuel to sectors with limited alternatives to oil. This is likely to be the case for jet fuel, which accounts for about 15% of Australia's oil consumption, and remains a vital input to aviation.

Temporary fuel specification relaxation

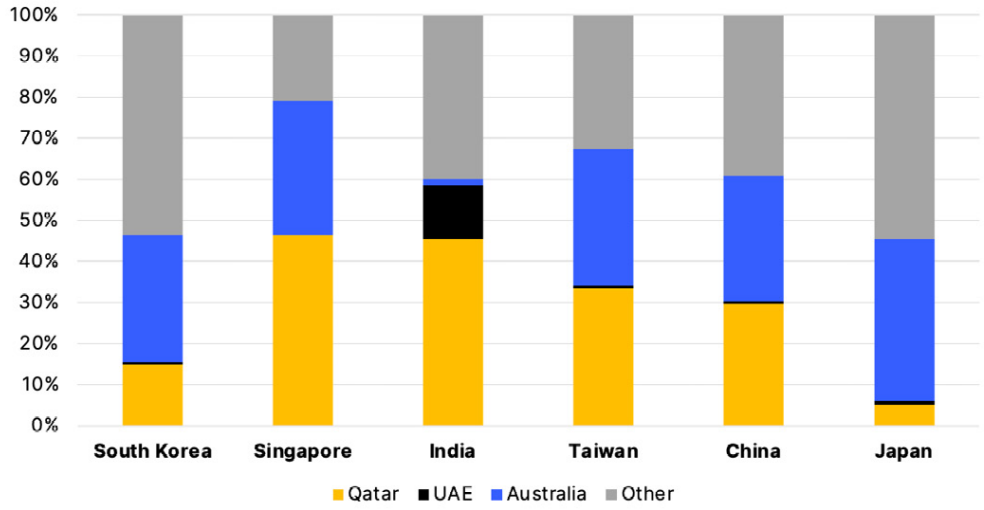
The IEA has cited temporary relaxation of "fuel specifications, such as environmental or quality standards" as one of the emergency measures governments can take to increase the flexibility of oil supply. The Australian government has already implemented this measure, relaxing fuel standards for two months. It is estimated this will add about two days' worth of additional supply.

Bilateral crisis supply agreements

In the context of the Iran crisis, Australia may have an additional lever: the fact that both oil and LNG supply are currently constrained. Several of the largest exporters of oil products are also large importers of LNG with significant exposure to interrupted imports from Qatar and the UAE. Australia may be able to strike bilateral supply agreements with those countries, offering priority for spot LNG sales (sales beyond contracted volumes, which made up about one quarter of Australia's LNG exports in 2024) in exchange for refined oil products sales.

Most prospective countries would have a high ratio of oil products exports to imports and to domestic consumption, and/or large stockpiles. They would also have a high dependency on LNG and significant reliance on imports from the Middle East and Australia. For example, South Korea is a net exporter of oil products; it exported 1.3 million b/d of refined oil products in 2024 (about half as much as it consumes domestically); it has high stockpiles; and it relies on LNG for over a quarter of its electricity generation. Singapore is also a high exporter of oil products with a small domestic consumption and a high dependency on LNG for its electricity generation, but it is a net importer of oil products with a high reliance on the Middle East.

Figure 6: Source of LNG imports for suppliers of Australian refined oil products



Source: Kpler.

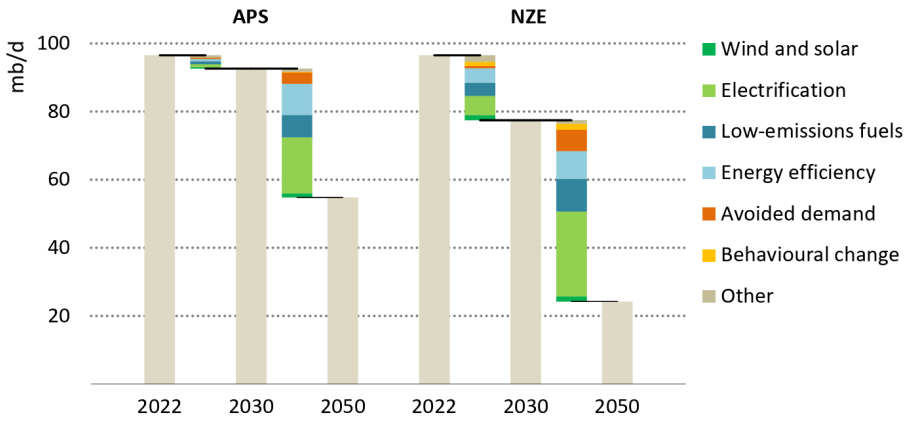
The Australian government doesn't currently have the power to direct LNG spot sales to specific countries, but this is something that could likely be introduced through new temporary export controls. Those would give the government the right to provide a list of destinations and volumes to prioritise for supply in case of an energy crisis. Such a mechanism should be based on prevailing market prices to avoid the need to compensate LNG exporters, and it should include strict destination clauses to prevent profiteering from on-selling. To ensure both gas and oil security, it would need to be complemented by an ability for government to restrict spot LNG exports if needed. These mechanisms could be embedded in an export licensing mechanism as part of the proposed domestic reservation policy.

Demand-side solutions

Electrification and energy efficiency

Electrification presents an attractive alternative to oil in many sectors due to its inherent efficiency. The IEA identifies electrification as the main driver of oil demand reduction in its Announced Pledges (APS) and Net Zero Emissions (NZE) scenarios (Figure 6). Electric vehicles (EVs) are typically about three times as efficient as conventional internal combustion engine vehicles. There are significant cost savings on offer for households who own an EV, with CSIRO estimating annual savings of AUD1,440 by 2030.

Figure 7: Key opportunities to reduce oil demand



Source: IEA. Note: mb/d = millions of barrels per day.

According to the Australian government's Transport Sector Plan, electrification and energy efficiency will be the primary pathway to shift away from oil and decarbonise the transport sector. Electrification is expected to be the primary solution for light vehicles, light rigid trucks and buses, as well as a key solution for heavy trucks and rail. EVs are already readily available in lighter modes of transport, reaching more than 20% of global car sales and close to 2% of total truck sales in 2024. In China, electric buses represent 60% of new sales.

When it comes to mining, the government's Resource Sector Plan expects that electrification is the most promising technology to replace diesel. Some Australian miners are already investing to electrify their fleets. Fortescue Metals Group ordered electric trucks and excavators that represent about two thirds of its fleet. Rio Tinto is also assessing the electrification of its mining fleet. In the agriculture sector, renewables and electrification can also reduce diesel use and energy costs.

Alternative fuels

Low-carbon fuels are widely considered the main solution to replace diesel when electrification is not feasible. The Transport Sector Plan identifies low-carbon fuels as the best option for shipping and aviation in particular. Low-carbon fuels include bioenergy, green hydrogen and its derivatives, and synthetic fuels.

Canberra has provided funding to boost biofuel production as an alternative to liquid fossil fuels, but previous biofuel mandates in Australia have failed to meet their objectives due to a range of challenges. Biofuel production faces multiple challenges around land and water use. Mature production methods can only provide small volumes of supply, and there are significant price premiums that may be hard to overcome. Biofuel accounted for just 0.25% of transport fuel in Australia in FY2023-24.

Australian governments have also pursued a hydrogen fuel transport strategy, launching several pilot-stage hydrogen projects. However, none of these projects reached a commercial stage. Earlier policies to support synthetic oil production through gas to liquids and coal to liquids also failed. These fuels are currently immature and present high cost premiums.

Gas is also considered to be a possible alternative to diesel use in off-grid power systems, largely at mining sites and remote communities.

An approach involving substituting diesel use with standalone power systems using a combination of solar PV and batteries needs to be assessed.

Modal shift

Replacing car travel with active or public transport modes can reduce diesel use and transport costs, while also improving health outcomes. It requires "adequate transport options, infrastructure and information to address safety, convenience, comfort, and accessibility concerns". There can be long lead times for the development of appropriate infrastructure.

Another opportunity for modal shift is from road freight and aviation to rail. However, it would require enormous amounts of new infrastructure, and does not appear to be one of the government's main options to decarbonise the transport sector.

Fuel use restrictions

Australia possibly faces the greatest test on its fuel energy security in generations, with the prospect of some form of fuel rationing a real possibility for the first time since the Second World War (a period when Australia was similarly almost entirely reliant on imported petroleum products).

Light-handed measures include public campaigns to encourage voluntary actions such as carpooling, working from home, driving less or eco-driving. Stronger measures include lowering speed limits, imposing driving restrictions, forbidding the use of leisure equipment, or rationing. A recent IEA report highlighted 10 demand measures that government can implement quickly.

In Australia, the government usually lets the industry manage shortfalls by raising prices or voluntarily limiting consumers' purchases, but it has the option to impose allocations on the fuel industry, as well as on retail users (for example by setting a maximum daily transaction on motorists). Strong measures are likely to have economic repercussions.

The most promising options

In the short term, only a limited set of options are available to Australia. Voluntary and required oil demand reduction measures should be considered urgently, as they could make the country's oil stockpiles last longer. In addition, Australia may be well placed to negotiate bilateral crisis supply agreements with a few of its refined petroleum products suppliers, if it introduces new export control measures.

However, this would only address supply constraints and not price impacts. Increasing the taxation of coal and gas exports, which are expected to attract elevated prices for the duration of the crisis, could provide funds for cost-relief and fuel-shift measures.

In the longer term, increasing stockpiles and developing supply chains for low-carbon fuels are costly but are likely to be required, especially in aviation and other heavy transport.

However, electrification is the only solution that is mature, cost-effective and which can deliver reductions in oil imports at scale, replacing them with domestically supplied clean energy. This oil shock is the first to happen at a time when renewables and electrification offer a credible alternative. They should be high on the government's priority list when it responds to this crisis.

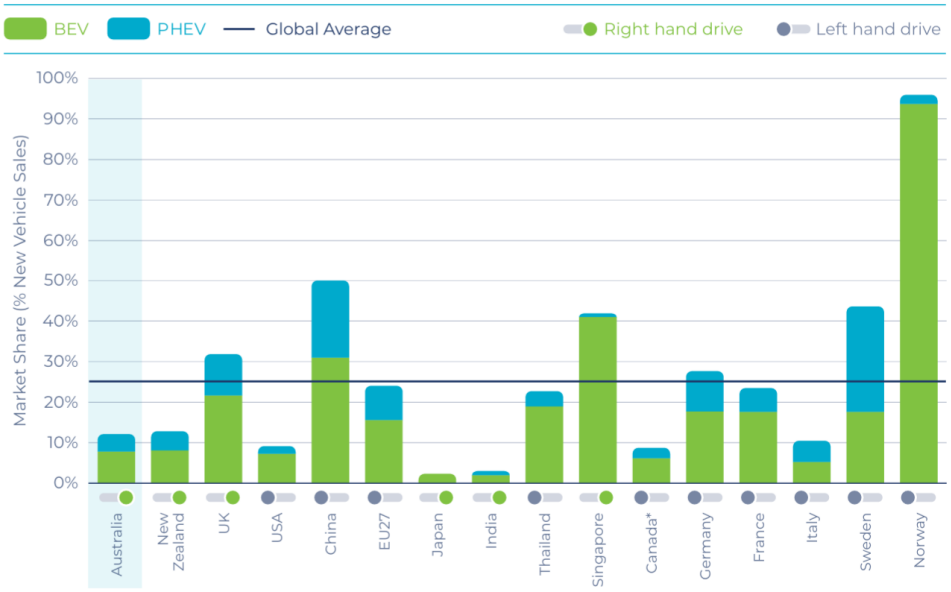
Electrification can also deliver multiple co-benefits: supporting the electricity system transition by boosting the country's battery capacity; and delivering significant emissions and health benefits. Diesel combustion emits high levels of nitrogen oxides (NOx) and fine particulate matter (PM2.5), both of which have been linked to adverse health outcomes.

Urgent acceleration needed on electrification

Transport

Australia has about 400,000 EVs on its roads, but this only accounts for 2% of all cars. EV sales in the first two months of 2026 almost doubled to about 18,500 vehicles compared with the same period in 2025, with EV sales in February accounting for 11.8% of new vehicle sales in that month. This is well below other countries (Figure 7). It is not just wealthy Nordic countries that have taken the leap on EVs; some of Australia's trading partners in South-east Asia, such as Singapore and Thailand, have also outpaced Australia's EV market growth.

Figure 8: Global EV uptake for selected markets, Jan-Jun 2025



Source. Electric Vehicle Council.

When it comes to heavy vehicles, sales are increasing fast, but the volumes remain small, with fewer than 300 electric vans and trucks sold in 2024.

The Electric Vehicle Council (EVC)'s assessment of government ambition and policies to support transport electrification shows there is a lot of room for improvement at both the federal and state level. For example, the EVC says the government could consider setting EV targets and dates for reducing or ending the sales of new petrol and diesel cars, as seen in the UK, or in the European Union, which aims for 90% of new cars sold to be EVs from 2035.

However, the Electric Car Discount, the main financial incentive to encourage EV purchases, is up for review in 2026 and could be unwound. The EVC argues the policy has been the most impactful demand-side measure introduced by the government. In IEEFA's view, the latest global oil shock highlights a need to accelerate EV deployment, not slow it down. The government has developed a policy roadmap for how to accelerate transport electrification; it can now focus on implementing it.

The National Roadmap for Bidirectional EV Charging found that the total usable storage capacity in Australia's EV fleet could be more than three times the total storage capacity of the National Electricity Market (NEM) by 2050. However, to fully realise the potential electricity system benefits on offer from EVs, we need appropriate regulations, standards and market settings in place.

Mining

Diesel consumption in the mining industry rose by 90% between FY2010-11 and FY2023-24 to 452PJ, and accounted for about 19% of oil demand in Australia in 2024 and 35% of diesel demand. This rise also accounts for the majority of the increase in total petroleum consumption in Australia over that period.

The rise in consumption is due to multiple factors: an increase in mining activity; a structural shift from underground coal mining (typically powered by electricity) towards open-cut coal mining (typically powered by diesel); and rising energy intensity of mining as increasing volumes of material need to be mined to produce the same volume of ore.

IEEFA's analysis shows that under the current policy environment, it is likely that electrification will make negligible progress until well into the 2030s, with diesel use likely to continue to increase. Indeed, current policy incentives are weak, and companies are deferring decarbonisation plans. The government needs to implement new policies to accelerate the deployment of electric equipment and of renewable electricity infrastructure in mining regions, and to remove or reform policies that currently hinder progress, such as the diesel fuel rebate.

Conclusion

Australia faces yet another global oil shock. The country is much more exposed than it was in previous occurrences, with a minimal proportion of its oil use produced domestically, and low stockpiles. This creates significant economic risks for the country, with many economic sectors facing material disruption. It could also fuel another wave of inflation and exacerbate the cost-of-living crisis.

Australia should act swiftly to implement demand reduction measures that can make its low stockpiles last longer while having limited impact on the economy. It could also investigate the introduction of new LNG export controls that would give it the opportunity to negotiate for bilateral crisis supply agreements with countries who are at risk of running out of LNG.

In the longer term, Australia has more alternatives available than in previous shocks. In particular, electrification powered by renewable energy now provides a credible, domestically supplied alternative to oil imports. It offers multiple benefits, including improved energy security and trade balances, cost reductions, health benefits and emissions cuts. Electrification of transport would also unlock vast amounts of storage available to support the electricity transition.

Australia trails behind global peers in terms of light transport electrification, and is not making material progress in electrifying heavy transport and mining. The government knows what it must do – it has already developed transport and resources sector plans that show the best actions to move away from oil. Now is the time to focus on their swift implementation, to ensure Australia is not left so exposed the next time a global crisis arises.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends, and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable, and profitable energy economy. www.ieefa.org

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