Briefer:

Why the Concept of 'Net-zero Export Emissions' is Flawed and Dangerous

This briefer was developed by the Better Climate team at the Conservation Council of WA in response to the 2025 article, 'Australia could become the world's first net-zero exporter of fossil fuels – here's how', in The Conversation from Frank Jotzo and Annette Zou

Summary

- The concept of 'net-zero export emissions' suggests that emissions avoided by Australia's green commodity export can offset the emissions from our fossil fuel exports
- Green exports are an important opportunity for Australia, but they do nothing to negate the emissions from our fossil fuel exports
- 'Green exports' themselves are not well defined and in many cases their production still relies on fossil fuels for mining, processing, manufacturing, and transport
- To do our fair share in fighting climate change, Australia must take direct and proactive measures to urgently reduce our export emissions and decarbonise mineral production and manufacturing

Background

Australia is known as a fossil fuel nation globally, largely thanks the emissions generated directly or indirectly by our exports. We export raw materials (such as iron ore and gold) and fossil fuels (such as methane gas and coal), some of which is used in the processing and manufacturing of those raw materials. Australia's iron ore exports, for example are "likely to be responsible for ~3.6% of total annual global emissions (1,353 mt CO2-e per annum) once converted into steel."[1] Our major export partners for gas and iron ore are Japan, Korea and China.
In parallel with these emissions-intensive exports, there are great opportunities for Australia to manufacture and export metals, ammonia and ammonia-based products, and other 'green' commodities using renewable energy, green hydrogen, and/or technologies like heat pumps. With careful policy design these exports could play a role in reducing global emissions, particularly in Japan and Korea (and to a lesser extent, China), by displacing fossil fuel-based production of the same commodities.

In June 2025, an article in The Conversation from Frank Jotzo and Annette Zou introduced a new concept into the climate policy conversation in Australia: 'net-zero export emissions'[2]. This new yardstick, the authors suggest, would be reached at a future point when "emissions avoided by our green commodity exports…surpass those from remaining coal and gas exports". The argument is that over time, growth in Australia's 'green exports' can offset the emissions from our fossil fuel exports, and that this would represent a positive contribution to global decarbonisation efforts.

While a greater focus on the negative impacts of Australia's exports emissions (which total almost three times our domestic emissions) is welcome, the idea of 'net-zero export emissions' is built on a series of flawed premises about climate science and policy, and risks creating a dangerous excuse for government inaction on export emissions.

The inconvenient truths about export emissions:

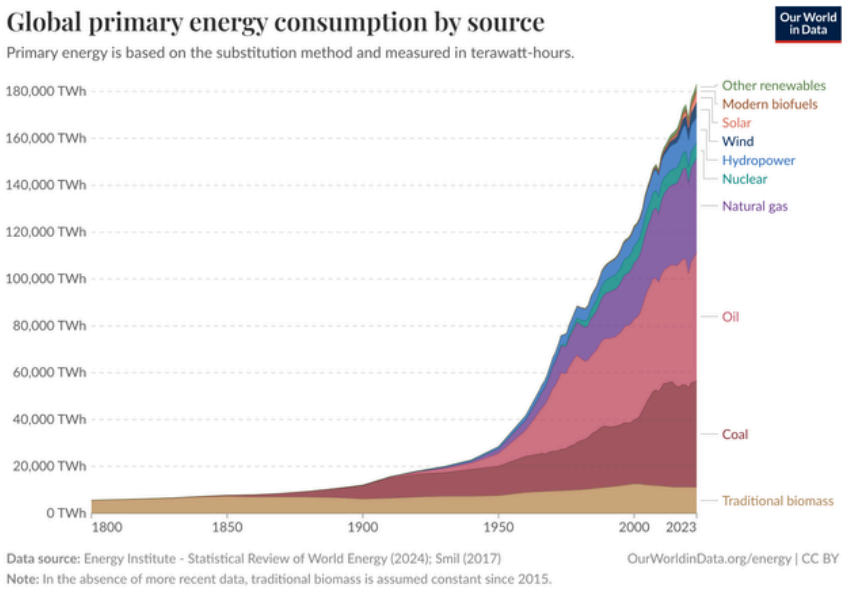
There are a number of inconvenient truths that the concept of 'net-zero export emissions' ignores, and which undermine its promise to rehabilitate Australia's global reputation as a fossil fuel economy and a climate laggard. These truths are outlined below.

1. Australia's green exports do nothing to negate our export emissions.

In their article, Jotzo and Zou suggest that "hypothetically, [embedded emissions from Australia's coal and gas exports in 2050] could be negated by a mix of green exports." But this is not how emissions work. As climate journalist Ketan Joshi points out, "If Australia exports one gigajoule of green energy, it does not undo, neutralise, cancel out or offset the physical consequences of the export of one gigajoule of coal or gas"[3]. Regardless of how many green commodities we export, the emissions from our fossil fuel exports are still in the atmosphere, contributing to the heating of our planet and the many harmful consequences of climate change.

2. It's far from clear that Australia's green exports will reduce fossil use elsewhere.

Jotzo and Zou argue that "if the clean energy transition eventuates, green exports from Australia will rise over time. This will help reduce the use of coal, gas and oil elsewhere in the world." Historic evidence, however, gives us reason to question this argument. To date, increases in renewable energy production globally have resulted in additions to the energy mix rather than displacing fossils fuels; while the proportion of fossil fuels in the energy mix goes down, the amount of fossil fuels burned (and emissions produced) has continued to grow to record highs. Sociologists Richard York and Shannon Bell argue these are best described as energy additions, rather than energy transitions[4].



Without careful policy design, Australia's green exports are likely to follow the same pattern; we might add greener options to the pool of iron or ammonia being consumed elsewhere, but if the total pool continues to grow, our green exports will do nothing to place downward pressure on fossil fuel use.

Instead, Australian governments are actively engaged in lobbying to create and maintain demand for our fossil fuel exports, effectively acting on behalf of fossil fuel companies; the general mode of operation has been to create supply first, then to lobby for demand. As a 2019 CSIRO report shows, Australia's fossil fuel exports are not displacing fossil fuels, they're replacing renewables[5].

By knowingly assisting and encouraging the consumption of its fossil fuel exports, Australia is complicit in the harms caused by the subsequent emissions; yet it actively facilitates this consumption. Compare this to the export of other dangerous goods, such as uranium, medical waste, tobacco and weapons, which are all subject to restrictions due to their inherent risks[6].

3. 'Green exports' are poorly defined and often not so green.

The concept of 'green exports' is not well defined, and in many cases the commodities in question still rely on fossil fuels for mining, processing, manufacturing, and transport. In Western Australia, for example, increasing demand for critical minerals to build renewable energy is reliant on gas for processing and diesel for transport, and two large emitters in WA are the Covalent and Albemarle lithium refineries[7,8,9]. The Federal Government's Future Gas Strategy forecasts increased demand for gas for mining and mineral production in WA until at least 2033[10]. This trend is deeply problematic, and without an emissions reduction target or renewable energy target in WA there is little incentive for mining companies to lead the charge in decarbonising mining and processing.

By ignoring these complexities, Jotzo and Zou obscure how far Australia has to go in decarbonising heavy industry. One of the biggest tasks ahead of us is to develop carbon neutral methods for processing raw materials and manufacturing products, to ensure that our so-called 'green exports' are in fact green.

4. We can't afford to wait for falling demand to reduce our export emissions for us.

Jotzo and Zou appear to place their faith in global energy and commodity markets over policy and leadership to drive reductions in Australia's export emissions, suggesting that fossil fuel exports will fall "irrespective of Australia's policies, as the world economy decarbonises and demand for fossil fuels slows". What's more, their article gives no sense of urgency; market forces will drive change "over time" and "at some point," but "it's hard to pin down when Australia might reach net-zero exports."

This unhurried reliance on global demand to solve Australia's policy problems for us ignores the urgent nature of the climate crisis, in which climate impacts are already multiplying and scientists have warned that we have three years left of the remaining carbon budget for a 50% chance of limiting global warming to 1.5°C[11]. To do our fair share in fighting climate change, Australia must take direct and proactive measures to reduce our emissions, including export emissions, as soon as possible.

5. Australia's production should be directed towards sustainably meeting needs, not driven by offset imperatives.

The green commodities which Australia could produce, including green iron and green ammonia, have a variety of applications and could offer ways to more sustainably meet people's needs for housing, vehicles, fertilisers and more. But our productive capacities as a nation should be directed towards exactly that—meeting genuine needs in sustainable ways—rather than green commodities production being driven by an artificial imperative to 'offset' our fossil fuel exports.

Trying to increase green exports just to keep up with dirty ones would only lead to overproduction of green commodities, placing additional pressures on Australia's environment through unnecessary increases in materials and energy demand (which would drive more mining, land clearing, and pollution).

6. 'Net zero export emissions' is an excuse for inaction, not an emissions reduction policy.

To call the concept of net-zero export emissions "a plan to reduce export emissions" is inaccurate by Jotzo and Zou's own admission; in fact, this is a plan for Australia to export some new green commodities alongside the fossil fuels we already ship around the world, and to keep exporting those fossil fuels for as long as there's demand for them. In an era where Australia needs to urgently reduce our emissions to contribute to the global effort to fight climate change, 'net-zero export emissions' offers the Australian government another excuse for inaction on the export emissions reduction they've already ignored for too long.

Where does this leave us?

There's social, environmental, and economic value in genuinely green commodities produced with renewable energy, and Australia should make the most of our opportunity to produce and export these goods. Our governments should deliberately and proactively shape policy in this area to ensure that production is directed towards meeting real needs in more sustainable ways, that jobs and benefits are realised in our local economies, and that our green exports actually displace emissions-intensive alternatives wherever possible.

But emissions are emissions, and regardless of how many green commodities Australia produces and exports, we also need to deliberately and urgently reduce our emissions-intensive exports (including and especially our fossil fuel exports) to actually reduce export emissions and limit climate breakdown.

As well as being flawed and potentially dangerous, the concept of 'net-zero export emissions' represents a failure of imagination about the future of Australia's economy. 'Economic diversification' has to mean something bigger and more ambitious than simply adding some green exports alongside our dirty ones. If we want to seize the opportunities of the 21st century and demonstrate real global leadership, Australia will need to get serious about just and orderly transitions away from emissions- and materials-intensive industries, and towards a more diverse and sustainable economy which enables a liveable future for us all.

Links and sources:

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