GRATTAN Institute

# The Safeguard's role in making Australia a renewable superpower

## Response to consultation on Best Practice Benchmarks

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## Overview

The federal Labor Government legislated reforms to the Coalition's Safeguard Mechanism in May 2023, to ensure the country's biggest emitters contribute their share to meeting Australia's emissions-reduction commitments.

This is a big step forward. The Government has embraced a sector-based approach, and all sectors must contribute. Carbon emissions from heavy industry will soon be the biggest source of Australia's emissions. Using the Safeguard to implement a limited form of carbon trading should reduce heavy industry's emissions effectively, efficiently, fairly, and simply.

But there is more to Australia's economic future than reducing emissions for existing facilities. To be a true 'renewable superpower', Australia must encourage new, clean, industrial development that builds on our natural endowments of minerals and renewable energy.

The Safeguard Best Practice Benchmarks should be a key signal to investors that Australia wants to move away from its polluting industrial past. The Benchmarks are also a necessary risk management tool for government. They restrain pressure on the Safeguard Mechanism emissions budget. And to the extent that they encourage new facilities to be low emissions or zero emissions, they reduce the need for subsidies to achieve the same goal. Finally, the Benchmarks can make it easier or harder to meet emissions targets beyond 2030, depending on the extent to which they encourage or prevent lock-in of emissions.

Some of the proposed benchmarks are too high to be considered 'best practice'. In particular, the iron benchmark is well above what other countries can achieve for steel. This does not sit well with the Government's rhetoric about wanting to build Australia into a renewable superpower off the back of green steel manufacturing.

Other benchmarks are more ambitious. The bulk freight benchmark represents a 50 per cent improvement on current practice. But it is unlikely to make a dent in emissions from this sector any time soon, because most road freight emissions are not covered by the Safeguard Mechanism.

Ultimately though, the benchmarks are only as effective as the cost of offsetting allows them to be. A benchmark of zero requires new facilities to offset all emissions – they will do so if offsets are cheap. This will reduce emissions if offsets have integrity. But it will not drive industrial transformation and deliver the green superpower vision.

If the Government wants Australia to be a renewable superpower, it needs to give more thought to making carbon pricing policy and industry policy work together. If Safeguard settings continue to make it cheaper to offset than to transform, then achieving the vision will require greater government spending via industry policy. This could be a very expensive option.

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# 1 Background and context

Grattan Institute is an independent think tank focused on Australian domestic public policy. It aims to improve policy by engaging with decision makers and the broader community.

The Safeguard Mechanism is a federal emissions-reduction policy applying to all facilities emitting more than 100,000 tonnes of carbon dioxide-equivalent ($tCO_2$-e) annually (see Box 1).

This submission responds to the exposure draft of proposed amendments to the National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Production Variables Update) Rules (No.2) 2023, as released by the Department of Climate Change, Energy, Environment, and Water on 15 December 2023.

## 1.1 This round of Safeguard reforms

In May 2023, the Federal Government reformed the Safeguard, requiring facilities to reduce their direct (scope 1) emissions to remain lower than a baseline, or offset any emissions above the baseline. Grattan Institute engaged strongly with the reform process. Our views are outlined in previous submissions, which can be found on our website.[1]

The May 2023 reforms left two issues unresolved:

- The benchmark emissions intensity that new facilities would use to calculate their baselines; and
- Which industries would be eligible for trade-exposed baseline adjustments (TEBA).

The draft Safeguard Rule released in December 2023 establishes benchmarks for some (but not all) new facilities. It also contains updates to some production variable definitions. And it includes the government's preferred position on TEBA eligibility.

1. Wood et al (2022a), Wood et al (2023a).

### Box 1: How the Safeguard Mechanism works

The Safeguard Mechanism applies to all 'facilities' (sites or collections of activities controlled by one corporation) that emit more than 100,000 $tCO_2$-e annually. These facilities must keep emissions below a 'baseline', which reflects the emissions intensity and volume of products they produce. Baselines decline over time: for most facilities, by 4.9 percentage points annually between 2024 and 2030, and at 3.285 percentage points annually thereafter.

Facilities whose actual emissions are below their baselines in a given year are awarded Safeguard Mechanism Credits (SMCs) for the difference.

Facilities that exceed their baselines must purchase and surrender Australian Carbon Credit Units (ACCUs) or SMCs to offset their excess emissions. ACCUs can be purchased from private providers at market prices, or through the government's Cost Containment Measure, which has a fixed price.

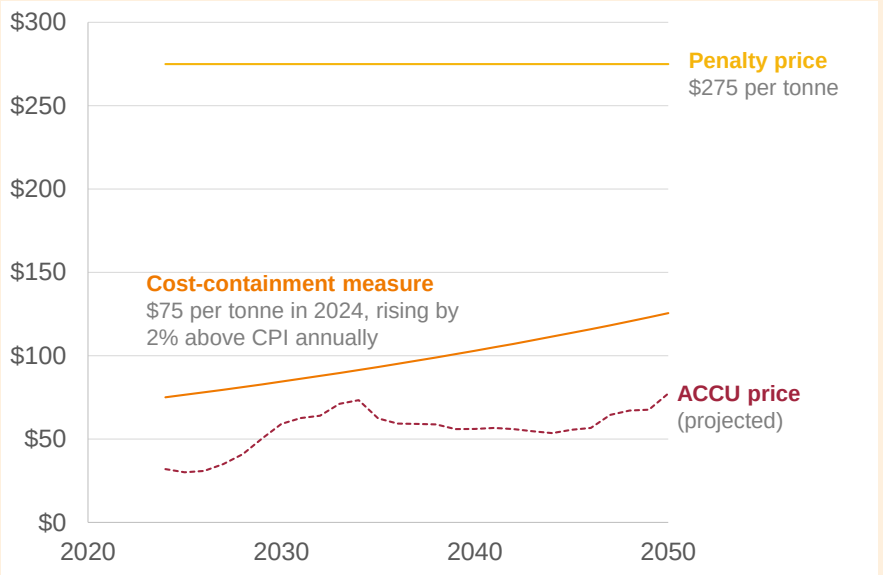
If facilities fail to purchase sufficient SMCs or ACCUs to offset above-baseline emissions, they must pay a penalty of $275 per tonne. Figure 1.1 shows the three possible prices paid by facilities that exceed their baselines.

The Safeguard has provisions for new-entrant benchmarks: special baselines representing best-practice emissions intensity that should apply to new facilities and significant expansions and replacements.

Grid-connected power stations are treated differently. The sector behaves more like a single entity, because production is centrally coordinated to meet demand in real time. The Electricity Safeguard applies a collective baseline of 198 million tonnes. If this baseline is exceeded, individual baselines will apply to each generator.

**Figure 1.1: Spread of possible costs of complying with Safeguard Mechanism baselines**

$ per tonne of emissions




*Notes: No projection available for SMC prices. SMCs could be expected to cost slightly less than ACCUs, because in many cases they would have a low or zero cost of creation; and because they cannot be used outside the Safeguard Mechanism.*

*Sources: ACCU price: Herd and Hatfield Dodds (2023). Cost-containment measure and penalty: DCCEEW (2023a).*

# 2 Interactions between the Safeguard and industry policy

Unrestricted carbon emissions place a cost on all human society. The polluter-pays principle should apply: those causing the environmental harm must change their activities to avoid emitting or pay a price for the damage they cause.

The Safeguard is a polluter-pays policy: it sets an allowable amount of pollution (the carbon emissions represented by the Safeguard emissions budget and individual facility baselines), and allows individual facilities to determine the best way to stay within that limit. Facilities can modify their operations, install new plant and equipment, or purchase offsets representing emissions reduction elsewhere in the economy. In this sense, it is a market-based policy, and over time should shift investment decisions towards lower-emissions options.

Market-based policies are often preferred because (if well-designed) they should lead to the lowest-cost emissions reductions, by efficiently allocating emissions abatement activity to those able to do it cheapest.

## 2.1 Market-based policies such as the Safeguard have three failings

Markets do not generally provide adequate incentives for research and development of new technologies, because knowledge is often intangible, risky, and difficult to appropriate. Low-emission technologies are particularly complex and uncertain.

Second, even once early-stage research and development has been completed, many of the technologies that might bring about large reductions in industrial emissions are expensive and high-risk. Early movers face high costs and uncertain returns, particularly when the commodity being produced via the low-emissions route is identical to the traditional route. They risk competitors free-riding on their initiative, by being able to implement more tested technologies at lower cost later on. Investors require a reliable, long-term carbon price to underpin their investments. Yet a carbon price is inherently uncertain because it depends on the decisions of governments. For all these reasons, investment in low-emissions industrial technologies is and will remain critically inadequate.

And third, there is a time imperative: the net-zero deadline is now only 26 years away. Market forces are not good at managing structural transformations at high speed when the future is deeply uncertain. Moreover, the long-lived nature of industrial assets means that industry is particularly poorly suited to fast changes.

## 2.2 Closing the cost gap between conventional and green production

The federal government has a stated goal of making Australia a 'clean energy superpower', using the country's immense natural endowments of renewable energy and mineral resources to produce green commodities such as critical minerals, alumina, iron, and ammonia. This will enable Australia to continue to prosper in a net-zero global economy.

The backbone of this vision is large amounts of cheap, green, reliable electricity. But even if this is achieved, green commodity production is more expensive than conventional production. The size of this gap is highly uncertain, as is the length of time that the gap will persist. This makes it harder to use debt to finance facility upgrades or new facilities to produce green commodities, because future uncertainty increases the cost of borrowing. As long as capital prefers the certainty of return from traditional production, low- and zero-carbon transformation will be held back. As well, facilities that face competitions from imports, or that

compete with other exporting countries in global markets, will find the cost gap reduces their competitiveness if consumers aren't willing to pay extra for green production.

There are three, complementary, ways to close the gap: make conventional production more expensive by pushing up the carbon price (in Australia's case: the cost of offsetting); use border adjustments to make conventional imports more expensive and green exports cheaper; and use industry policy to underwrite production of green commodities.

## 2.3 The design of TEBA isn't helping close the cost gap

Current Safeguard policy grants concessions to trade-exposed industries for impacts on earnings or revenue arising from Safeguard compliance. Concessions take the form of a gentler baseline reduction trajectory. This blunts the effect of the cost of offsetting in making conventional production more expensive, meaning the cost gap is wider than it otherwise would be.

A carbon border adjustment mechanism (CBAM) ensures imported goods are subject to a carbon price equal to that faced by domestic producers of the same goods. Where Australia is a net commodity importer, such as for ammonia and steel (but not alumina), this would replace the need for trade exposure concessions, and mean domestic production would face the full impact of carbon pricing, which would help close the cost gap for green production. CBAMs can also include concessions for exporters so that they face the full cost of carbon but receive compensation on exports where overseas consumers are not willing to bear the extra cost.

The government is considering policy options through its Carbon Leakage Review, due to report by 30 September 2024.[2] As part of this review, it should consider the role a CBAM could play in developing viable green commodity production.

**Recommendation 1**

As part of the Carbon Leakage Review, consider the role a carbon border adjustment mechanism could play in developing viable green commodity production.

## 2.4 Industry policy complements carbon pricing

Once the fundamentals of reliable, green, low-cost electricity, stronger carbon pricing, and border adjustments are in place, the role of industry policy is to bring down the production costs of low-carbon commodities sooner, by closing the cost gap between green and traditional production.

Industry policy can include many different policy instruments, but fundamentally, it involves sharing the risk of industrial transformation between governments, consumers, and firms.

Current policies that could bring down low-carbon commodity production costs in Safeguard facilities include the Powering the Regions Fund, the National Reconstruction Fund, and Hydrogen Headstart.

Grattan Institute has repeated called for better-structured and better-targeted industry policy available over multiple decades, including through early-stage subsidies such as grants and loans, contracts-for-difference for green commodity production, and embodied carbon standards to encourage consumer demand.[3]

2. DCCEEW (2023b).

3. See *Towards net zero*: Wood et al (2021), *The next industrial revolution*: Wood et al (2022b) and *Hydrogen: hype, hope, or hard work?*: Wood et al (2023b).

## 2.5 Governments must strike a balance between carbon pricing, border adjustments, and industry policy

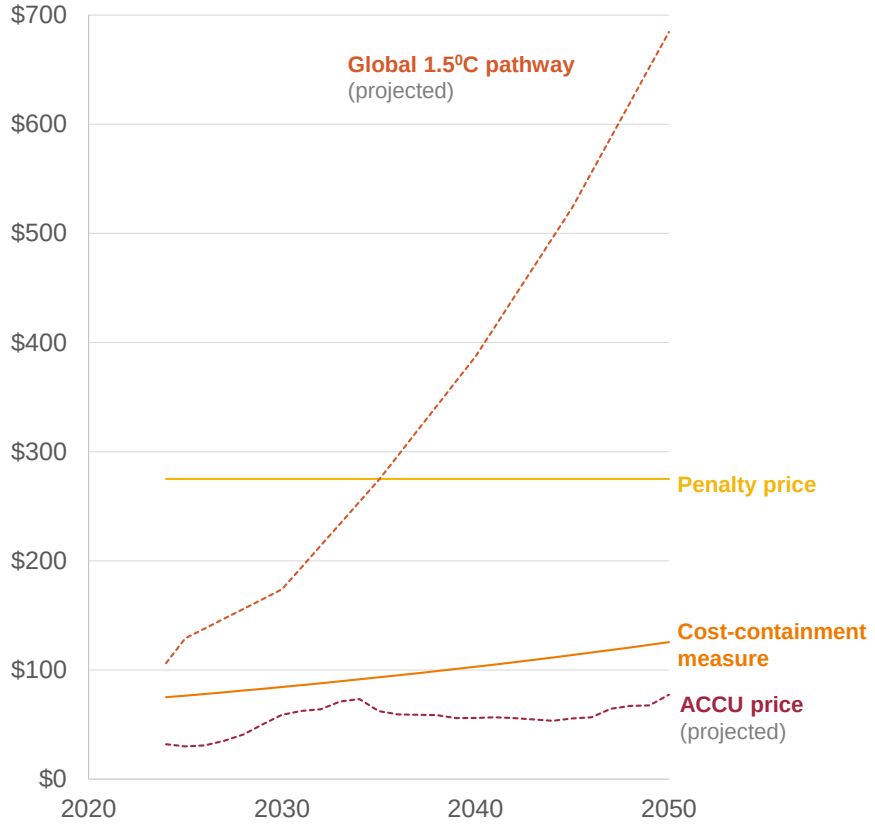
High carbon prices, a CBAM, and comprehensive industry policy could together deliver the renewable energy superpower vision. A high cost of offsetting provides an incentive for new facilities to be built to have low- or zero-emissions.

But high offsetting costs also have an impact on incumbent facilities. The government has chosen Safeguard settings that deliver a gentle transition for existing facilities, through a low offsetting cost (Figure 2.1), and TEBA concessions. This will protect jobs and competitiveness, but it won't be sufficient to deliver on the vision of being a renewable superpower.

As Figure 2.1 shows, the Safeguard offsetting cost falls well short of the prices needed globally to transform all economies to be consistent with limiting global temperature rise to 1.5 degrees and preventing the worst effects of climate change.[4]

As long as the cost of offsetting remains low and TEBA is in place, the government will find itself having to invest more in industry policy to realise its clean energy superpower vision. This comes at a cost to current taxpayers, who get fewer services, and future taxpayers, who will have to repay the borrowed money. If offsetting costs were higher and CBAM was in place, there would be more incentive for existing facilities to transform or close sooner, and for new facilities to be emissions-free.

**Figure 2.1: Carbon prices for Safeguard facilities fall well short of what is needed to limit climate change**
$ per tonne of emissions




*Sources: ACCU price: Herd and Hatfield Dodds (2023). Cost-containment measure and penalty price: DCCEEW (2023a). Global carbon price: Network for Greening the Financial System (2023).*

4. The projected trajectory of global carbon prices in Figure 2.1 represents the average cost that polluters in all sectors would need to face in a given year to bring about changes to technology, practices, and behaviours that limit global emissions in that year to the level consistent with keeping atmospheric greenhouse gas concentrations below levels that would cause average global temperatures to rise more than 1.5 degrees above pre-industrial levels by the end of the century.

In Chapter 3, we discuss in more detail how little difference the best-practice benchmarks make in bringing forward low- and zero-emissions technology for some key commodities, given the low cost of offsetting.

## 2.6 The Safeguard should reinforce the goal of Australia being a clean energy superpower

The industrial sector will soon be the highest-emitting sector of the Australian economy (and the present highest-emitting sector, electricity, continues to decarbonise). The industrial sector is also one of the most capital-intensive sectors, requiring billions of dollars to transform to net zero. And its assets have long lives.

As the premier policy constraining emissions in the industrial sector, the Safeguard should provide investors with a strong signal as to what kind of future industries Australia wants to build. It should encourage investment into transforming existing facilities to low- or zero-carbon operations. And it should encourage new facilities to be built with low or zero carbon emissions.

Under current policy settings, it does not do so. Safeguard facilities only make small savings by avoiding liability for carbon, compared with the cost of shifting to green production. The avoided liability is even smaller if a facility is eligible for TEBA. Setting benchmarks for new facilities based on current best practices does not reflect that current best practices emit much more carbon than can be acceptable in a net-zero economy.

Understandably, the government's focus right now is on completing the reforms it started in 2022. The 2026-27 review of the Safeguard Mechanism would be the appropriate forum to consider the issues raised above. But in the current consultation process the government should resist pressure to make the best-practice benchmarks less stringent than proposed and to expand TEBA eligibility.

**Recommendation 2:**

In the 2026-27 review of the Safeguard Mechanism:

- Review the cost containment mechanism cap price, and consider the role it plays in transforming Australian industry.
- Review the role of the Benchmarks in encouraging the development of low- and zero-emissions industrial facilities.

# 3 Benchmarks

The government has proposed 21 international best practice benchmarks, to enable new facilities to calculate baselines. In this submission we comment only on hydrogen, iron and steel, coal and LNG, and bulk freight.

## 3.1 The 'best practice' approach has flaws

### Best practice may not be best for long

The government's methodology to set Benchmarks avoids using data from international plants that received subsidies. This maintains integrity of the Safeguard, in that it allows the value of SMCs to drive decisions about which technology to use.

But industrial sectors all over the world are undergoing rapid change, as countries strive to reach climate targets. This growth is being driven by subsidies, and an increasing proportion of industrial production will be much cleaner than current production. Best-practice unsubsidised facilities will soon be obsolete.

This calls into question what 'best practice' will become. Continuing to define 'best practice' based on obsolete technology isn't logical. It also signals to investors that Australia is happy to accept obsolete technology while the rest of the world moves on. This is at odds with a 'renewable superpower' vision, and risks locking in long-term emissions patterns which will be difficult to change.

### Zero-emissions producers are inadvertantly disadvantaged

Using SMCs as the sole driver of change disadvantages potential new zero-emissions industrial facilities. Because these facilities never produce scope 1 emissions, they never participate in the Safeguard, and they therefore never receive SMCs, despite producing at well below industry average emissions intensity. Meanwhile a new facility using technology that produces emissions, which is able to keep these emissions below the Benchmark, could receive SMCs, which provide it with additional revenue.

This is particularly a problem for hydrogen. A steam methane reforming (SMR) hydrogen plant with partial carbon capture and storage (CCS) attached could receive SMCs; a green hydrogen plant running on renewable electricity would not. The Safeguard therefore advantages SMR production over electrolytic production, even though the hydrogen is 'dirtier'. A similar situation could arise for any new industrial facility that is all-electric.

**Recommendation 3:**

In the 2026-27 review of the Safeguard:

- Review best practice benchmarks against international trends.
- Revisit and revise the methodology for determining benchmarks to reflect the extent to which subsidies overseas are driving change and avoid locking in emissions.
- Revise the Benchmark methodology to ensure new zero- and low-emissions facilities are not disadvantaged.
- Establish a timetable for regular review of all best practice benchmarks, to reflect the pace of change in the global industrial sector.

## 3.2 Hydrogen

### The proposed Benchmark may not represent best practice

The government's proposed emissions intensity benchmark for hydrogen is 7.13t$CO_2$-e per tonne of hydrogen. This is below the range of emissions intensity for hydrogen made via steam methane reforming (SMR) (between 9.9 and 10.9 depending on whose reference you use).

It is a higher intensity than has been achieved by hydrogen production plants internationally using carbon capture and storage (between 5.2t$CO_2$-e per tonne of hydrogen and 4.6t$CO_2$-e per tonne of hydrogen, in Canada and the US respectively), and obviously higher than zero-emissions hydrogen made using electrolysis. It is also higher than the standards likely to be imposed by other countries for hydrogen imports: the US, Canada, and South Korea have adopted an emissions intensity of 4t$CO_2$-e per tonne of hydrogen, Japan 3.4t$CO_2$-e per tonne of hydrogen, the EU 3.38t$CO_2$-e per tonne of hydrogen, and the UK 2.4t$CO_2$-e per tonne of hydrogen.[5]

All the above implies that Australia may end up lagging best practice.

**Recommendation 4:**
Lower the proposed hydrogen Benchmark to match international import standards.

### Impacts of the Benchmark on hydrogen industry development

Our analysis (add chart here?) shows that green hydrogen production using behind-the-meter renewable electricity could become cost-competitive in Australia with grey hydrogen (produced using the SMR process without any carbon capture) around 2031. Imposing the best-practice benchmark potentially brings this date forward to 2029.[6]

However, for hydrogen producers choosing to use grid electricity, the best-practice benchmark does not make green hydrogen cost-competitive before 2040. Even setting the benchmark at zero does not change this. It continues to be more economic to install SMR and buy offsets.

What this points to is that the potential cost of carbon (whether this comes from the the cost-containment mechanism cap price, or the ACCU price) is a more important driver of switching to green technology than is the benchmark.

As we noted in our recent report, *Hydrogen: hype, hope, or hard work?*, achieving the government's ambition of building a hydrogen industry requires both industry policy and carbon policy.[7] A higher carbon price would result in the green premium gap closing sooner, and reduce the likely fiscal costs of industry policy.

## 3.3 Iron and steel

### The proposed Benchmark may not represent best practice

The government's proposed emissions intensity benchmark for iron is 1.75t$CO_2$-e per tonne of metallic iron products. The explanatory document notes that this benchmark is based on the top 10 per cent of Australian industry performance, because suitable, high-quality data could not be found globally for primary iron.

This value is high. Assessments of the current state of iron production in the EU put the emissions intensity of blast furnaces at 1.6t$CO_2$-e

5. Parkes (2023).

6. Assumes no TEBA concession awarded.
7. Wood et al (2023b).

per tonne of steel.[8] Other benchmarking studies show Italy and the US producing steel at an intensity of less than 1t$CO_2$-e per tonne of steel.[9]

It is unsurprising that a value based on data from Australian facilities would compare poorly with overseas facilities. Both Australian steel facilities use blast furnaces, which are more emission-intense than direct reduction (DRI). In addition, they are small by world standards, and old. Using their performance as a benchmark means Australia will continue to lag the world.

### The Benchmarks will not encourage an Australian green steel industry

A green iron and steel industry in Australia would use DRI technology, fuelled by hydrogen. Under current policy settings, and assuming a best-practice benchmark of zero, Australian green premiums for iron production are significant through to 2040. Grattan analysis shows that in a best-case scenario, where hydrogen costs fall consistently through to 2040, the green premium for iron reduces to about $116 per tonne of iron. This is still a significant premium on the world price of iron, which is currently about $721 per tonne.[10]

The pathway to green iron and steel lies via using gas-fuelled DRI. These have approximately the same capital and non-fuel operating costs as a hydrogen-fuelled plant. But they cost 40 per cent more to build than a blast furnace.[11]

The proposed high Benchmark, in combination with the low projected cost of offsetting (Figure 1), is unlikely to nudge proponents of new plants towards the DRI route. If the government wants to encourage development of a green steel industry, it should set the Benchmark lower.

8. Pardo and Moya (2013).
9. Hasanbeigi (2022).
10. Wood et al (2023b).
11. Australian Industry Energy Transitions Initiative (2023).

Ultimately, the government needs to consider how its carbon pricing policy and industry policy work together. If the carbon price remains low, governments will need more industry policy. If governments only have limited fiscal capacity to deliver industry policy, then they need to have the courage to increase the carbon price, such that industries such as steel have more incentive to change.

**Recommendation 5:**

Set the Benchmark for iron and steel lower, to reflect DRI rather than blasts furnace production, and encourage and support development of a green iron and steel industry.

## 3.4 Coal and LNG

### The proposed Benchmarks will have little impact on coal and gas prices

The government's proposed benchmark for coal mining is 0.00592t$CO_2$-e per tonne of coal. For LNG, the proposed benchmarks are between 0.000492t$CO_2$-e per gigajoule (GJ) of LNG and 0.00001192t$CO_2$-e per GJ of LNG.[12]

These Benchmarks will add a premium to the cost of producing coal of between 2 per cent and 3 per cent immediately, rising to between 3 per cent and 6 per cent in the longer term.[13]

12. The lower value represents the combined benchmarks for extraction and liquefaction of unprocessed gas (lower) and liquefaction of processed gas from a facility that has integrated extraction and procseesing (higher). In the absence of information in the materials released by government, we assume this includes the requirement for offsetting or sequestration of all reservoir $CO_2$.
13. Grattan calculation. Assumes world coal prices return to long-term average by 2030.

For LNG, the premium would be between 1 per cent and 2 per cent immediately, rising to between 2 per cent and 4 per cent in the longer term.[14]

Neither of these are likely to discourage new investment. And the small premiums stand in sharp contrast to recent super-profits from high international prices caused by the war in Ukraine. There is no reason to consider making either the coal or LNG benchmark less stringent.

This leaves aside the question of whether opening new coal and gas facilities is consistent with Australian and international commitments to phase out fossil fuels. For example, as a member of the Pacific Islands Forum, Australia committed to transition away from fossil fuels.[15] And as a signatory to the Global Stocktake Agreement at CoP 28, Australia has committed to 'transitioning away from fossil fuels in energy systems, in a just, orderly, and equitable manner, accelerating action in this critical decade'.

If the Safeguard were to be used as a policy tool to give effect to these commitments, the best way to do so would be to raise the price cap in the cost containment measure.

**Recommendation 6:**

Do not make the Benchmarks for coal or LNG less stringent.

## 3.5 Bulk freight

### The proposed Benchmark is stringent, but is unlikely to lower emissions

The government's proposed new-entrant benchmark is 0.0395kg $CO_2$-e per tonne-kilometre . This is a substantial (50 per cent) improvement on the fleet-wide average of 0.093kg $CO_2$-e per tonne-kilometre and is more efficient than even the most efficient large trucks currently in the fleet (Figure 3.1).

Most of the road-freight fleet is not affected by the Safeguard. In 2021, total emissions from trucks were 19.9 million tonnes. But emissions from road freight transport subject to the Safeguard in that year were only 548,645 tonnes, coming from two companies.

Lowering the Safeguard threshold, which will have to happen at some point, is likely to bring many more road freight companies into the Safeguard. But because most of these have been subject to reporting requirements under the *National Greenhouse and Energy Reporting Act* (NGER), they will not be considered new facilities and the Benchmark will not apply.

The only situation where the Benchmark would apply is a road freight company that is new to the Australian market and was large enough at the point of market entry to emit more than 100,000 tonnes annually. This seems unlikely.

To put the freight fleet on the path to net zero will require other policies. Grattan Institute's 2022 report, *The Grattan Truck Plan*, sets out recommendations that would reduce total emissions from the road freight sector by 8 per cent in 2030, and 18 per cent by 2040.[16] These included binding zero-emissions sales targets for sellers of new trucks, progressively tighter carbon-emissions requirements on the engines and tyres of new diesel trucks, and removing regulatory barriers to the adoption of cleaner trucks. The sectoral pathway for the transport sector would be the appropriate forum to develop and adopt these policies.

14. Grattan calculation. Assumes Asian LNG prices return to long-term average by 2030.
15. Pacific Islands Forum Leaders (2023).
16. Terrill et al (2022).

**Recommendation 7:**

In developing the sectoral pathway to net zero for the transport sector, develop and adopt policies to reduce heavy vehicle emissions.

## 3.6 Future benchmarks

The government has signalled it anticipates setting a further tranche of international best practice benchmarks by mid-2024.

We recommend that ammonia be a priority for a benchmark.

ammonia has potential uses in a future net-zero economy in power generation and as a shipping fuel, because it is cheaper to transport than hydrogen, and doesn't contain carbon.It can replace fossil fuels in power plants, and replace carbon-intensive shipping fuel. The International Energy Agency forecasts that power generation and shipping will become much more significant drivers of future demand growth for ammonia than its current use as fertiliser.[17]

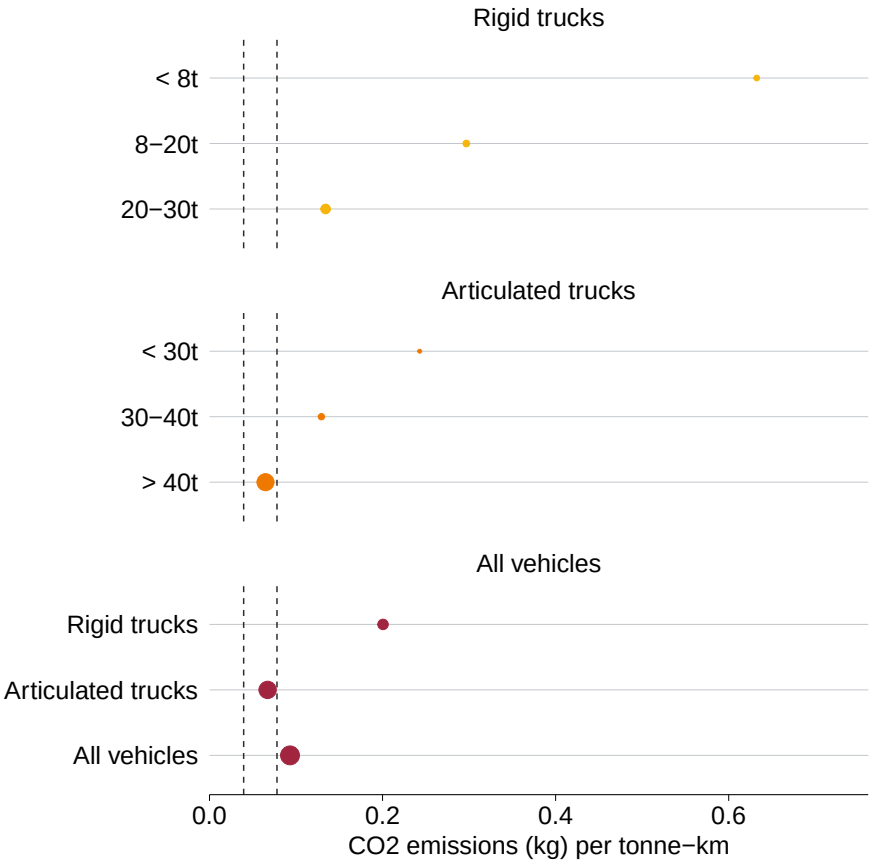
Australia is well-placed to capitalise on this demand: we already export ammonia, and we have abundant renewable energy available to make 'green' ammonia. There are currently at least 24 projects in development nationally.

**Recommendation 8:**

In the next round of Benchmarks, prioritise a benchmark for ammonia, given its potential as a green commodity export, its role in developing a hydrogen industry, and the large number of projects currently in planning stage.

**Figure 3.1: The proposed Benchmark for bulk freight is much lower than the fleet average**

kg$CO_2$-e per tonne-kilometre




*Notes: Point size indicates the size of the freight task; totals are weighted by tonne-kilometres.*

*Source: ABS (2020).*

17. IEA (2021, p. 72).

# 4 TEBA eligibility and changes to production variables

## 4.1 Eligibility for trade-exposed baseline adjustments

### 4.1.1 Iron and steel

Grattan's research shows that Australia has a potential competitive advantage in producing green iron, and that hot-briquetted iron could be a future export commodity. But green iron will have a considerable premium on it compared to traditional production pathways, and producers are likely to face difficulty passing costs on to international buyers.

Therefore, iron-making should be made an eligible TEBA activity. This would also align the TEBA activity list with the changes to the production variable definitions discussed in section 4.2.

### 4.1.2 Coal and LNG

We note that coal and LNG are considered non-manufacturing TEBA activities, and that eligibility for an adjusted baseline is assessed on the basis of their revenue and emissions.

Both coal and gas exporters are currently enjoying historically high world prices, due to the wars in Ukraine and Gaza. But prices should eventually return to the long-term average. This will reduce revenue, but may also cause facilities to reduce production.

Neither would be a result of the Safeguard, but to avoid doubt, section 39(3)(a)(ii) of the Safeguard Rule (assumptions made in working out revenue) should be clarified to explicitly include international price trends.

### 4.1.3 Hydrogen

The government's proposed best-practice Benchmark for new hydrogen facilities (7.13t$CO_2$-e per tonne of hydrogen) is much higher than the standards likely to be imposed by other countries for hydrogen imports (4t$CO_2$-e per tonne of hydrogen or lower).

This implies that Australia is lagging international best practice, and also that international consumers are willing to bear the cost of lower emissions intensity. If international consumers are willing to pay for lower emissions intensity than the Safeguard requires, there is no need for hydrogen production to be designated a TEBA activity, because TEBA is meant to reflect limited capacity to pass through costs in global markets.

**Recommendation 9:**

Add iron to the list of TEBA-eligible production variables.

Clarify section 39(3)(a)(ii) of the Safeguard Rule to explicitly include international price trends.

Reconsider hydrogen's eligibility for TEBA.

## 4.2 Changes to production variable definitions

We support the changes to the steel production variables to make sure facilities are not disadvantaged by switching from steel-making to iron-making. This aligns with iron potentially being an economic opportunity for Australia.

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