Australian Government

Department of Climate Change, Energy, the Environment and Water

Carbon Leakage Review

Second Consultation Paper

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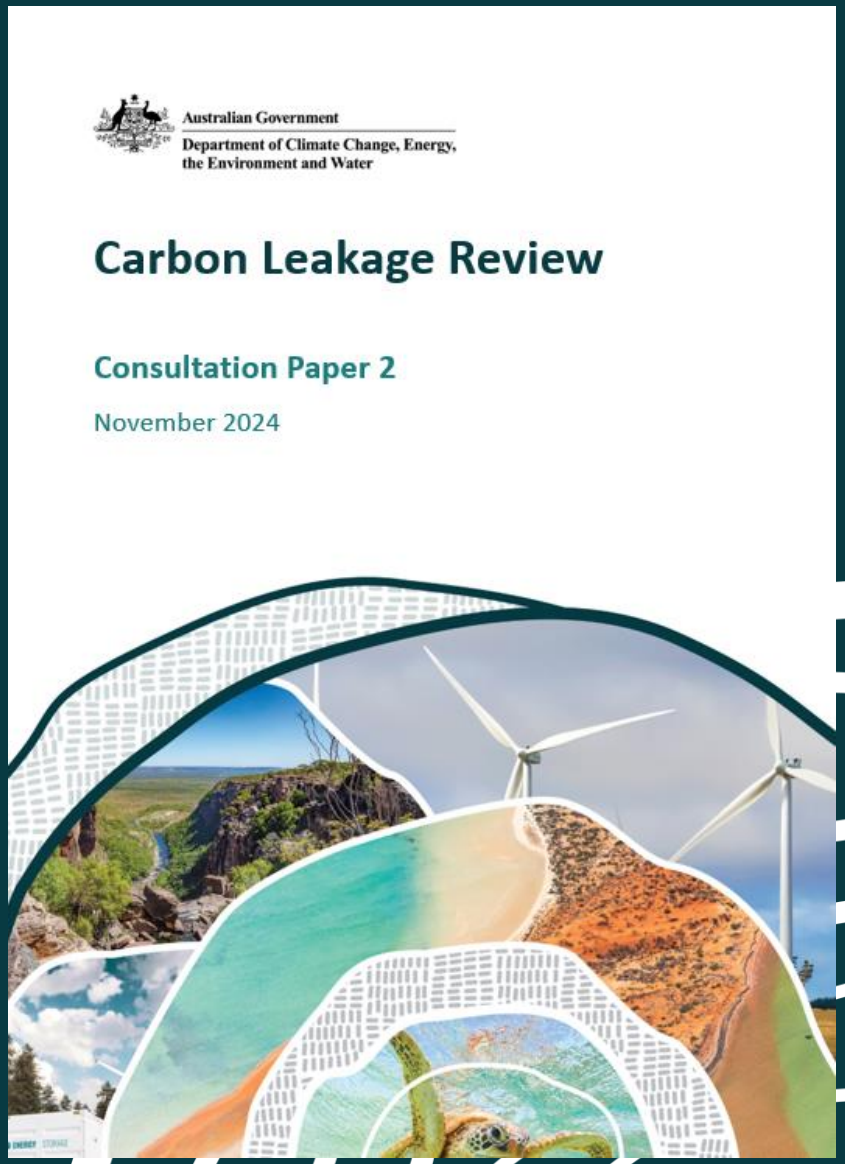
We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.

Carbon Leakage Review Consultation Paper 2

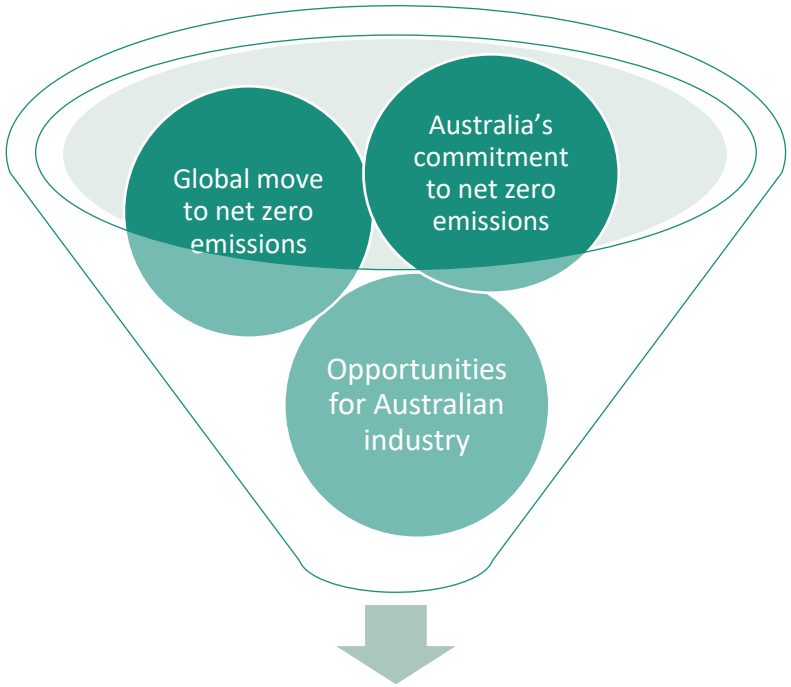
Released on 1 November 2024

Submissions close on 3 December 2024

https://consult.dcceew.gov.au/



Policy and analytical context



Policies to support industrial decarbonisation and competitiveness in a net zero world.

- A global move to net zero emissions.
- Over 140 countries have made net zero commitments, including countries that are destinations for 97% of Australia's exports.
- Increased climate ambition in Australia, including the Net Zero Plans and Renewable Energy Superpower ambition and Future Made in Australia.
- Significant opportunities for Australia in a net-zero world.
- Risk of carbon leakage due to global policy differences on the path to net zero.
- A desire to create preconditions for investments in green industry in Australia.

Principles guiding the Review

Economically efficient low and zero emissions industrial production

- A durable market-based system to incentivise investments in low and zero emissions industries

Australia's opportunity as a major producer and exporter of clean energy and industrial commodities

- Market premiums for low emissions products, including for traded goods - creating preconditions for investment in new low emissions industrial structures.

International rules-based trading system and open and liberal trade relationships

- International trade rules and obligations, trade that is consistent with climate change objectives, collaborative implementation of any additional policy with trade partners, supporting progress in multilateral and plurilateral forums.

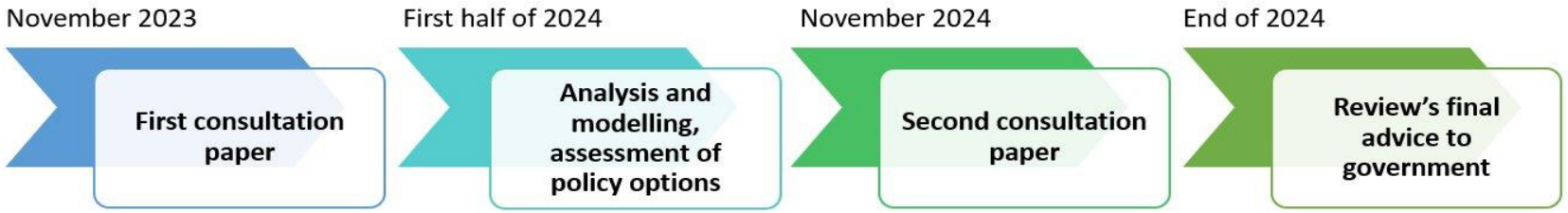
Background & timeline

Background

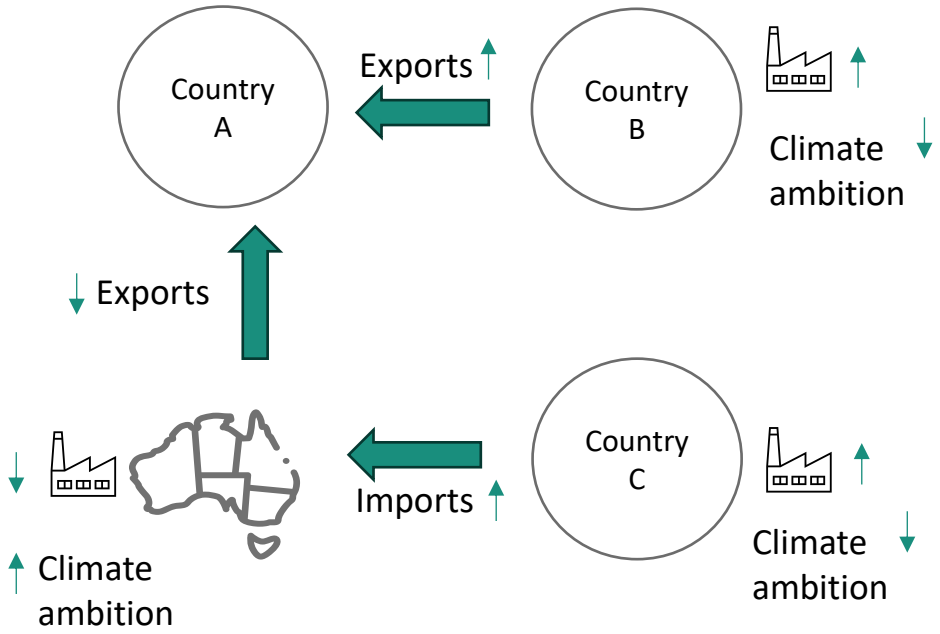
- Australia has legislated emissions reductions targets of **43 per cent below 2005 levels by 2030 and net zero by 2050**.
- Australia has **strengthened its industrial emissions reduction policy**, the Safeguard Mechanism.
- Australia's Carbon Leakage Review will:
  - **Assess the risk** of carbon leakage; and
  - **Consider policy options**, including a border carbon adjustment.

Review Timelines

- **First phase** focused how to identify carbon leakage risks for Australia.
- **Second phase** has assessed leakage risk and the policy options to address it.
- Extensive consultation to develop preliminary findings.
- **Final advice** to be provided to the Government by the end of 2024.

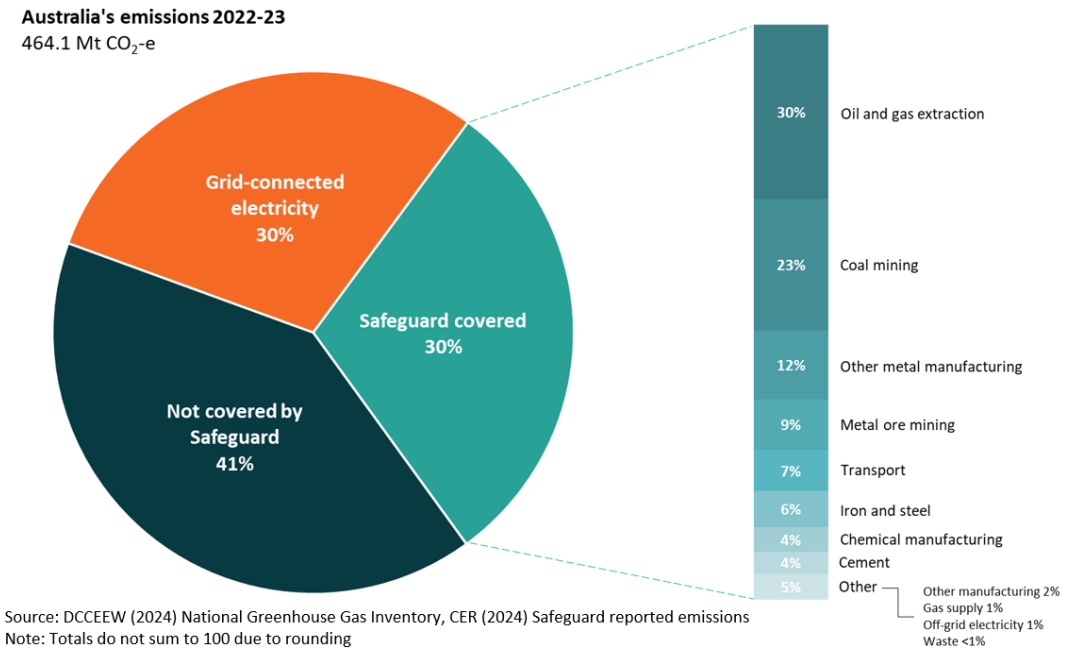


What is ‘carbon leakage’?



- Shifts in the production of emissions-intensive trade-exposed commodities from countries with more ambitious emissions reduction policies to those with weaker (or no) emissions reduction policies, due only to differences in policy stringency across countries.
- There are two main channels:
  - Trade channel
  - Investment channel
- Production can also shift because of costs of capital and labour, access to skilled labour and operational costs, market conditions, company strategies and business sentiment.
- These issues are important for other policy areas but are not within the remit of the Review.

Australia’s Safeguard Mechanism



Source: DCCEEW (2024) National Greenhouse Gas Inventory, CER (2024) Safeguard reported emissions
Note: Totals do not sum to 100 due to rounding

- The Safeguard Mechanism is Australia’s primary policy for reducing industrial emissions. It covers around 220 of Australia’s largest industrial facilities.
- It sets legislated limits—known as baselines—on the direct (Scope 1) emissions of covered facilities.
- Baselines are set on a production adjusted emissions intensity basis.
- The standard decline rate is set at 4.9% each year to 2030. Trade-exposed facilities experiencing particular impacts are able to apply for a concessional baseline decline rate (TEBA).
- If a facility emits below their baseline, they are issued Safeguard Mechanism Credits.
- If the facility emits above their baseline, they must surrender domestic emissions credits.

Existing Safeguard Mechanism settings

- The Safeguard reforms include measures to reduce carbon leakage risk, including:
  - capacity to emit up to their baseline without cost
  - adjusted baselines for trade-exposed facilities experiencing particular impacts and
  - funding through the Powering the Regions Fund.

Preliminary finding for consultation

Current Safeguard Mechanism settings are **effective** at mitigating carbon leakage risk **in the short- to medium-term**.

But settings for some sectors **may need to be augmented** with additional measures **over time**.

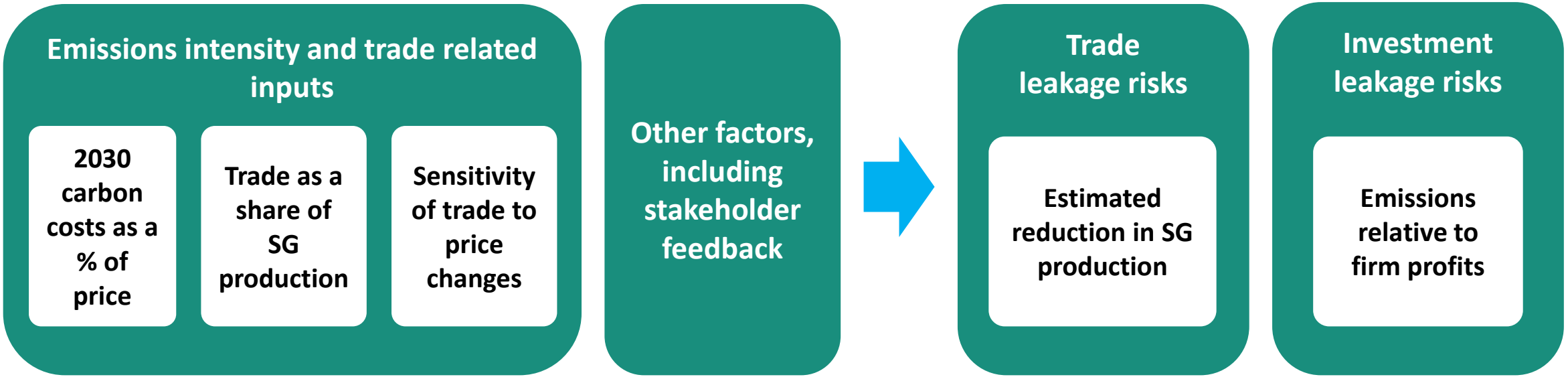
Reduced baseline decline rates for Trade Exposed Baseline Adjusted (**TEBA**) facilities **constrain the contribution of Safeguard Mechanism** sectors to Australia's overall emissions reduction efforts.

Assessing carbon leakage risk

Overall leakage risk assessment

- We assessed leakage risks for all **73 trade-exposed commodities** under the Safeguard Mechanism Rule, grouped into **37 commodity categories**.
- The Review's commodity level assessment included trade and investment leakage risk indicators alongside other factors, including stakeholder feedback. These indicators are not to be interpreted as forecasts but rather to provide insight on the approximate levels of carbon leakage risks.

Assessment of carbon leakage risks



Assessing trade leakage risk

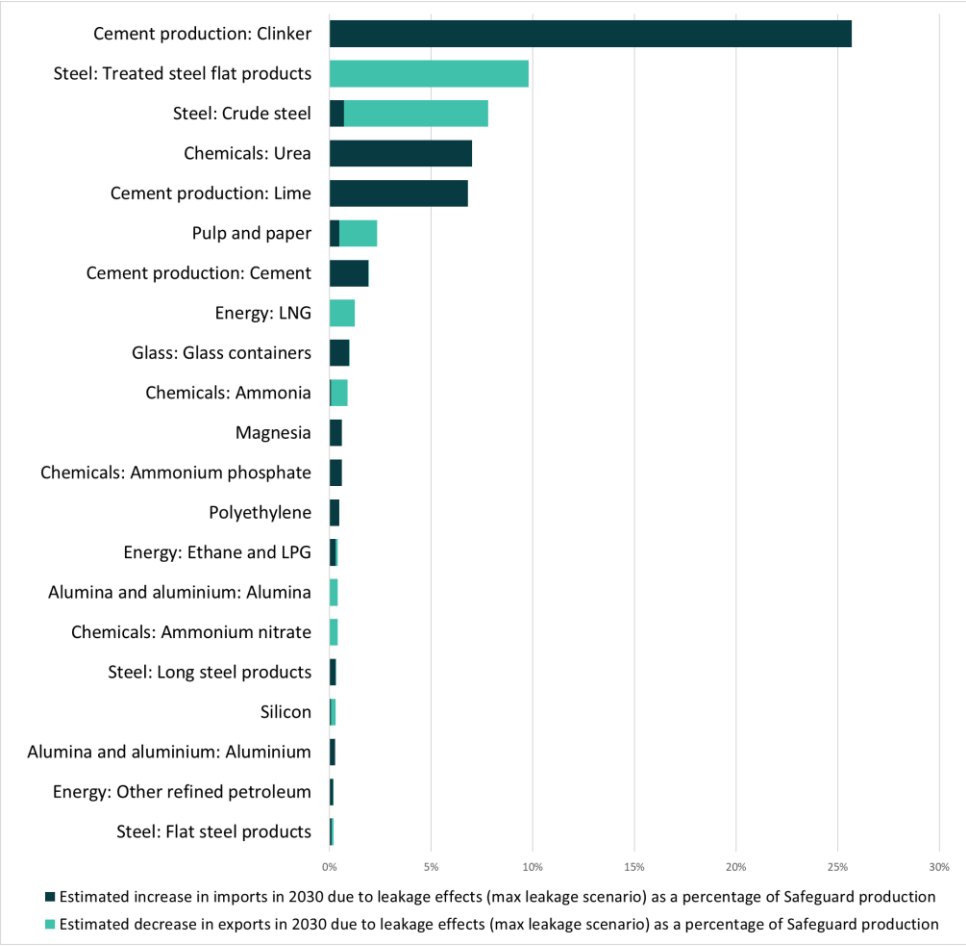


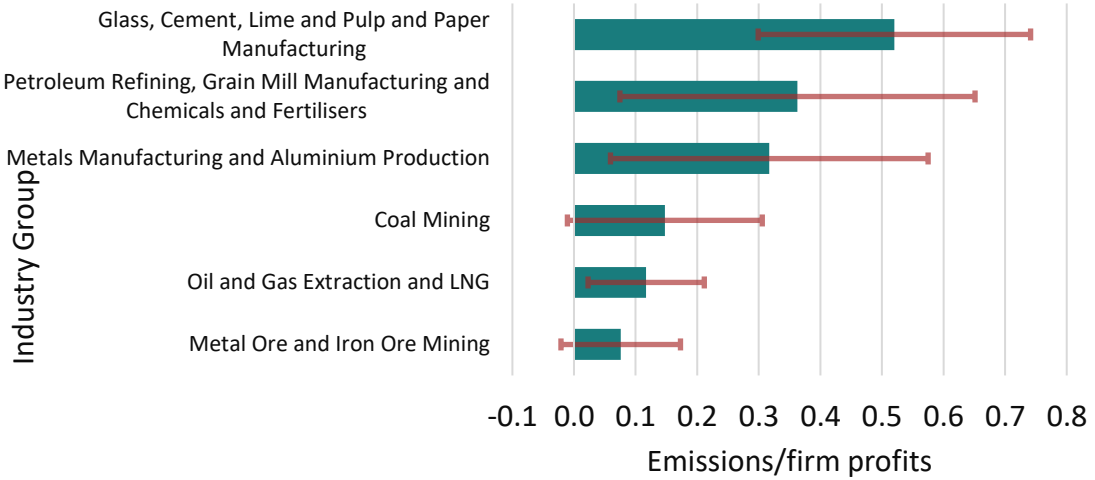
Figure 4 (Partial): Estimated change in production under maximum leakage scenario as a percentage of Safeguard-covered production.

- To assess trade leakage risk we used the following data and made the following estimates:
  - Indicative estimates of carbon costs as a share of commodity prices
  - Imports/exports relative to Safeguard production
  - Econometrically estimated sensitivity of imports/exports to price changes
  - Share of production covered by the Safeguard Mechanism
  - Illustrative estimates of maximum changes in Safeguard production under leakage scenario

Assessing investment leakage risk

- Quantitatively assessing the effect of increased climate ambition is complex.
- Average emissions-to-profits ratios for industry groupings provides some insight into investment leakage risk.
- Stakeholder engagement and feedback on investment leakage risk is important.

Ratio of Safeguard Mechanism-covered facility emissions to profits



(Figure 5 of second consultation paper, used as an estimate of investment leakage).

Data is industry group average for 2017-18 to 2021-22. Source: Integrated NGER Scheme emission data and ABS BLADE Economic Activity data.

Note: ABS confidentiality requirements have required us to group industries together.

Assessment by commodity

Preliminary finding for consultation

The following commodities are found to be subject to potentially material carbon leakage risk over time: **cement, clinker and lime; ammonia and derivatives; steel; and glass**.

Carbon leakage risks for **cement, clinker and lime are more pronounced** than for other commodity groups and may warrant additional policies to be introduced at an earlier stage than other groups.

Further, potential carbon leakage risks for **aluminium and alumina, refined petroleum, and pulp and paper**, are recommended for particular consideration as part of the **2026-27 Safeguard Mechanism Review** on the suitability of arrangements for emissions-intensive trade-exposed activities.

Cement, clinker and lime
Highest trade leakage estimate of all commodities.
Highest investment leakage exposure sectoral group.

Ammonia and derivatives (ammonium nitrate, ammonium phosphate, urea and sodium cyanide)
Material risks of leakage for imports. Approaching material for exports.
Second most vulnerable sectoral group in investment leakage.

Steel
Material risks for crude and treated flat steel, especially in export markets, approaching material for flat and long steel.
Third most vulnerable sectoral group in investment leakage.

Glass
Material import-facing leakage risk for glass containers and potentially material for flat.
Highest investment leakage exposure sectoral group.

Aluminium and alumina
Trade leakage risk in alumina export market low. Aluminium not estimated. Carbon costs as a share of product prices are low.
Third most vulnerable sectoral group in investment leakage.

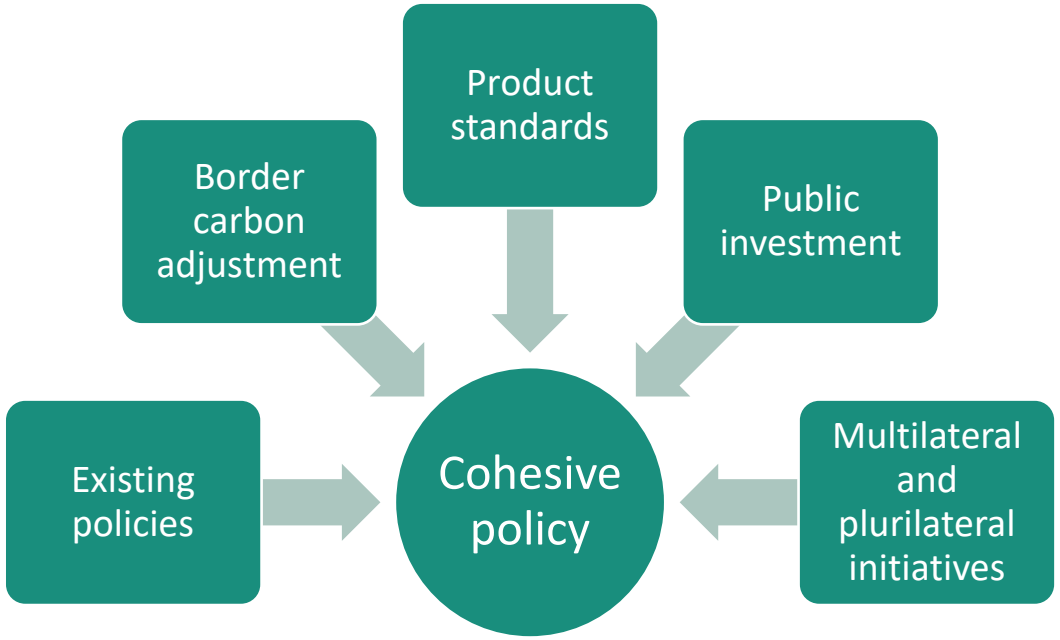
Refined petroleum
Low trade leakage risk levels and low carbon cost as share of product price.
Second most vulnerable sectoral group in investment leakage.

Paper
Material trade leakage risk in export market. Approaching material in domestic market.
Highest investment leakage exposure sectoral group.

Policy options

Policy options considered

- The Review's second consultation paper seeks feedback on preliminary findings about the feasibility and suitability of these options to address carbon leakage risk.
- These preliminary findings have not yet been considered by government and do not reflect government policy.
- Existing carbon leakage policies under the Safeguard Mechanism served as a benchmark.



Public investment

- Several existing public investment programs target decarbonisation, including under the Future Made in Australia program.
- Some existing public investment is targeted at sectors at risk of carbon leakage.
- There is a role for government investment in the net zero transition, including accelerating innovation and bringing forward low emissions production.

Preliminary finding for consultation

Public investment to help reduce emissions intensity **can help** address the risk of carbon leakage **in specific cases and is particularly relevant for export-oriented industries. A range of such programs exist in Australia.**

While fulfilling a range of functions, public investment **would not be sufficient as a systematic and fiscally sustainable standalone solution for commodities with high carbon leakage risk.**

A border carbon adjustment

- A border carbon adjustment is a policy that seeks to mirror climate policy between domestically and internationally produced goods.
- It creates market premiums for low and zero-emissions products.
- There has been increased international consideration of border carbon adjustments. The EU CBAM is in implementation stage; UK has announced it will introduce a border carbon adjustment by 2027.
- The Review makes several preliminary findings regarding the suitability of a border carbon adjustment for Australia. The Review's preliminary findings have not yet been considered by government.

Preliminary finding for consultation

A border carbon adjustment applied to imports **could be an appropriate policy measure** for selected Safeguard-covered commodities with high carbon leakage risk from imports.

Should it be pursued by Government, any border carbon adjustment would **need to mirror domestic emissions policy settings for imports to provide a level playing field** and be designed to **minimise administrative burdens**.

It would need to be consistent with Australia's longstanding support of an **open, rules-based trading system and its international trade law obligations**. Australia could advance relevant work with plurilateral initiatives and support trade partner countries with implementation.

An export border carbon adjustment

- A border carbon adjustment could in theory apply to both imports and exports.
- An export border carbon adjustment would rebate domestic climate policy costs for exports.
- But this would effectively exempt exports from local emissions reduction obligations and raise considerable international trade law concerns.
- Export sectors will benefit from a faster global energy transition and growth in markets that provide a premium for low-emissions goods.

Preliminary finding for consultation

A border carbon adjustment that provides rebates for exports would be **inconsistent with Australia's emissions reduction targets** and could **raise considerable international trade law concerns**.

For these reasons a border carbon adjustment for exports is **unlikely to be appropriate for Australia or achieve the relevant policy objectives**.

Well-designed border carbon adjustments in other countries would provide market premiums to Australian low emissions export commodities.

Sectoral application of a border carbon adjustment – possible first movers

A specific commodity's suitability for a border carbon adjustment depends in part on:

- the extent of carbon leakage risk
- the practical feasibility of a border carbon adjustment
- the extent of domestic production subject to Safeguard obligations.

Preliminary finding for consultation

Cement and clinker would be suitable for **initial consideration** for a border carbon adjustment.

Lime would also be suitable for early consideration, however production coverage under the Safeguard Mechanism is only partial and would need to be carefully considered to align with the international trade law principle of non-discrimination between domestic products and imports.

Cement

Relatively homogenous product.
100% Safeguard Mechanism domestic coverage.
No obvious other domestic considerations.
Relatively good emissions data, including proxies for measurement.
Supply chains not complex, although traceability may be an issue.

Clinker

Relatively homogenous product.
100% Safeguard Mechanism domestic coverage.
No obvious other domestic considerations.
Relatively good emissions data, including proxies for measurement.
Supply chains not complex, although traceability may be an issue.

Lime

Relatively homogenous product.
74% Safeguard Mechanism domestic coverage.
No obvious other domestic considerations.
Relatively good emissions data, including proxies for measurement.
Supply chains not complex, although traceability may be an issue.

Sectoral application of a border carbon adjustment – possible later additions

Preliminary finding for consultation

Based on current analysis, **ammonia and derivatives, and steel, as well as glass** would be worth further policy consideration and **could be candidates for a border carbon adjustment later**.

A border carbon adjustment would most suitably be implemented in a **phased approach**, starting with commodities at relatively high risk of carbon leakage and for which implementation is likely to be simplest.

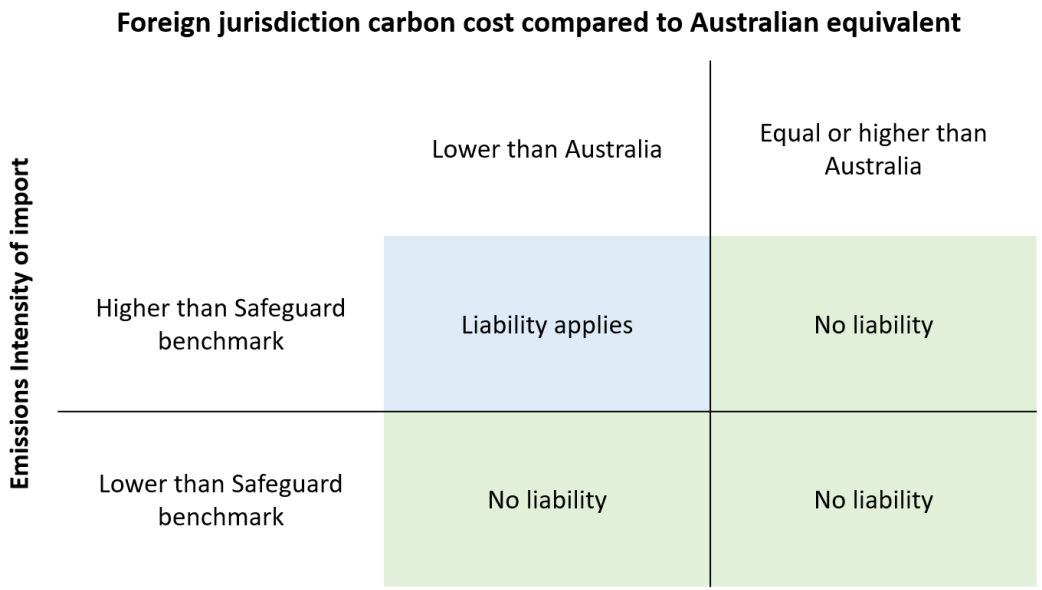
Should a border carbon adjustment be pursued, **coverage of commodities could be expanded over time** where the suitability criteria are met, as experiences accrue and reliable emissions monitoring is expanded. **Further stakeholder consultation would need to be undertaken** before the addition of other commodities.

Ammonia and derivatives (ammonium nitrate, ammonium phosphate, sodium cyanide and urea)
Relatively homogenous product.
100% Safeguard Mechanism domestic coverage.
Possible interactions with government investment programs.
International standards and verification schemes being developed.

Steel
Not a homogenous product. Primary and secondary production methods, multiple types of steel product.
100% Safeguard Mechanism domestic coverage.
Complex supply chains, traceability could be an issue, international standards being developed.

Glass
Some complexity in product differentiation, although relatively homogenous production processes.
100% flat, 44% container Safeguard Mechanism domestic coverage.
Small production volume may warrant alternative policy.
Limited work towards international standards.

Border carbon adjustment - Design considerations



Preliminary finding for consultation

Any border carbon adjustment would need to mirror key provisions of the Safeguard Mechanism. Should a border carbon adjustment be pursued, a border carbon liability could be applied to **emissions in exceedance of the Safeguard Mechanism baselines** and to the extent that the **assessed effective carbon price paid in the originating country is lower than in Australia.** This assessment would be based on explicit emissions prices only.

The basis for emissions assessment should be the same as the Safeguard Mechanism, **covering only scope 1 emissions and all relevant greenhouse gases.**

A border carbon adjustment **may generate revenue**. Stakeholders have suggested that in addition to offsetting the costs of implementation of the policy, **funds could also be provided to programs to support implementation and industrial decarbonisation** objectives in trade partner developing countries.

Border carbon adjustment – TEBA & thresholds

TEBA

- A border carbon adjustment would ensure that imports and domestic production would receive equivalent policy treatment, removing the policy basis for TEBA.
- Potential to remove or phase out TEBA for sectors where a border carbon adjustment is introduced.

Thresholds

- The Safeguard Mechanism applies to facilities that emit more than 100,000 CO2-e in a year. This means not all domestic producers are necessarily covered.
- This would create complexity for applying a border carbon adjustment to imports (as some may come from facilities that would not be covered by the Safeguard Mechanism if they were in Australia).

Preliminary finding for consultation

A border carbon adjustment for a particular commodity would **remove the policy basis for TEBA provisions for facilities producing that commodity**.

Preliminary finding for consultation

Further consideration will be needed before a border carbon adjustment is applied to a commodity with less than 100% Safeguard Mechanism coverage of domestic production.

Border carbon adjustment - Administrative considerations

- Administrative challenges were part of the Review's feasibility assessment.
- If the government chose to implement a border carbon adjustment, administrative issues would be considered more closely in an implementation stage.
- Stakeholders emphasised that, if Australia pursued a border carbon adjustment, it should consider a design that was non-discriminatory, had low transaction and compliance costs, and supported an open and fair trading system.

Preliminary finding for consultation

Should a border carbon adjustment be pursued, frameworks relating to reporting and verification of emissions **should minimise administrative burden**, including through streamlined reporting processes that **maintain confidentiality for producers; effective yet efficient emissions verification; and suitable emissions intensity default values.**

These frameworks should **align with existing and future international standards when possible**, including supporting the development of frameworks for emissions monitoring and industrial decarbonisation for Australia's trade partners.

Modelling a border carbon adjustment

- Two scenarios were modelled, each applying a border carbon adjustment on imports of steel, cement, clinker, lime, and ammonia including derivatives combined with:
  - current Safeguard Mechanism arrangements; and
  - removal of TEBA for these sectors.

- Climate policy modelling is highly complex. The outcomes should not be viewed as forecasts, but as an illustrative description of a possible future outcome given a potential carbon leakage policy.

Preliminary finding for consultation

The Review used a variety of analytical tools to assess the potential impacts of border carbon adjustments on prices and output.

None of this analysis found material impacts on the macroeconomy.

Computable General Equilibrium (CGE) modelling of a potential border carbon adjustment on cement, clinker, lime, steel, ammonia and ammonia derivatives shows no material impact on aggregate economic activity and negligible changes to imports and exports when compared to current policy settings.

Modelling a border carbon adjustment

- Modelling was also undertaken to assess industry impacts, effects on trade partners, and impacts on downstream activity and prices.

- This modelling indicates a very limited impact on downstream activity and prices and negligible changes to imports and exports trading partners.

Table 6: Summary of potential macroeconomic impacts in 2030 (% deviation from current policy)

Variable	Scenario 1 – combined sectors	Scenario 2 – combined sectors	Scenario 1 – cement only	Scenario 2 – cement only
Real GDP	~	-0.002%	~	~
Real exports	-0.003%	0.007%	~	0.001%
Real imports	-0.004%	~	~	0.002%
CO_2-e net emissions	0.001%	0.006%	~	0.001%

Note: ~ The value is smaller than ±0.001% and is considered to be zero

Table 9: Real import volumes in 2030, aggregated by region (% deviation from current policy)

Regional average	Scenario 1 – combined sectors	Scenario 2 – combined sectors	Scenario 1 – cement only	Scenario 2 – cement only
North East Asia	0.021%	0.019%	0.001%	0.004%
Rest of the World	-0.021%	-0.011%	~	0.003%
South and Southeast Asia	-0.024%	-0.022%	-0.006%	-0.009%

Note: ~ means the value is smaller than ±0.001% and is considered to be zero.

Mandatory emissions product standards

- A mandatory emissions product standard would make it unlawful for products that do not meet an emissions intensity standard to be sold in Australia.
- It would have similar administrative and design considerations to a border carbon adjustment.
- Any standard that applied to imports would also apply to domestically produced commodities. This may lead to unintended consequences.
- There was very little support for a mandatory emissions product standard as a policy to address carbon leakage in response to the first consultation paper.

Preliminary finding for consultation

While mandatory emissions product standards can be suitable for other policy objectives, they are **not likely to be an effective policy intervention** to address carbon leakage risk.

Multilateral cooperation - Global climate ambition and solutions

Preliminary finding for consultation

Given Australia's strong stake in the international rules-based system, policy responses to address carbon leakage risks **should advance and support the international system**.

Enhanced global climate action would reduce carbon leakage, but **divergences in ambition and policy approaches will persist in the medium-term**.

An **internationally agreed solution** to address carbon leakage risk developed through multilateral and plurilateral initiatives **would be ideal, but is uncertain and would take time to develop**. Possible long-term international solutions **will not replace the near- and medium-term need** for domestic policy action.

Multilateral and plurilateral cooperation to support domestic policy implementation

Preliminary finding for consultation

Multilateral and plurilateral initiatives can support the implementation of a border carbon adjustment through the development of **interoperable standards and approaches**, for example development of agreed default emissions intensities or standards to measure embedded emissions.

Australia's **active engagement in these initiatives would support the development of best practice policy** to address carbon leakage. Enhanced engagement is an opportunity for Australia to contribute positively to international policy development.

Next steps

Second consultation paper

- The consultation period for the second consultation paper closes on 3 December 2024.
- The Review's preliminary findings have not yet been considered by government and do not reflect government policy on the matters being reviewed.
- We are seeking feedback on all aspects of the Review's paper, including preliminary findings and analysis.
- We welcome submissions to the Review from all stakeholders.

Final advice

- Following consultation on this paper, the Review will provide advice to the government by the end of 2024.

Contact us

carbonleakagereview@dcceew.gov.au

Questions