CLIMATE ANALYTICS

Submission on Safeguard Mechanism reform

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CLIMATE ANALYTICS

Supporting science-based policy to prevent dangerous climate change enabling sustainable development

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Safeguard Mechanism reform: context

- The Safeguard Mechanism has not been effective in reducing emissions.
- The fossil fuel industry represents more than 55% of Safeguard Mechanism facilities - LNG around 25%, coal around 24% and other oil and gas around 8%.
- Research highlights the urgency for Australia to play its part in limiting additional global warming by aligning its targets and policies with 1.5°C.
- Australia's partners in the Pacific particularly will be looking to see how Australia reduces emissions as opposed to engaging in accounting measures such as offsets that ultimately don't reduce emissions to the atmosphere.
- Planned new and expanded LNG, coal and gas production will significantly increase the amount of emissions from the present safeguard mechanism facilities, which means the Safeguard Mechanism must have regulatory strength, strong compliance and a 1.5 degree compatible target to provide appropriate market signals to companies considering investments in carbon intensive activities.
- The government should go beyond its 43% emissions reduction target: it is not 1.5°C compatible.
- The 2030 43% reduction target creates a situation where there is an inverse relationship between emission reductions in the safeguard mechanism sector and emission reductions from the rest of the economy. Higher emission reductions in the safeguard sector mean lower emission reductions in the rest of the economy if the 43% target remains fixed.
- The abatement potential for the Safeguard Mechanism identified in the 2021 Reputex report would reduce Safeguard Mechanism emissions to 35% below 2021 levels, but given the constraints of the 43% target would require only a small reduction of 4% from 2021 levels by the rest of the economy, which would account for about 48% of Australia's emissions in 2021.
- For 1.5°C compatibility, Australia would need to reduce emissions to at least 60% below 2005 levels by 2030.

Key recommendations

1. **If the government does not increase its present 43% target it should ensure that the Safeguard Mechanism facilities in aggregate reduce real emissions without offsets at least the same rate as the rest of the economy (excluding the power sector and LULUCF) with target of at least a 15% reduction from 2021 levels by 2030.**

   The Safeguard Mechanism needs to reduce industrial facility emissions at least by 15% from 2021 levels by 2030 and then accelerate reductions post 2030, in line with meeting the national 2050 net-zero target.

2. **In order to match the abatement potential identified in the Reputex 2021 report[1] for the safeguard mechanism sector the government needs to increase its 2030 target to about 59% below 2005 levels.**

   This would have the safeguard sector at about 25% below 2005 levels by 2030 with the rest of the economy around 28 to 29% from 2005 levels. From 2021 the safeguard mechanism would reduce at about the same percentage rate as the rest of the economy.

3. **The government should set emission limits for individual industrial facilities based on a linear emissions pathway from current levels to zero emissions by 2050.**

   This is possible through setting absolute emission targets for each facility, based on a linear emissions pathway from current levels to zero emissions by 2050. This would support the government's net zero target.

4. **To ensure real emissions reductions, the government should use the opportunity of reforming the Safeguard Mechanism to establish a full emissions trading system (ETS), similar to the EU ETS.**

   This will allow facilities to meet their baselines and allow future integration with other international emissions trading systems, such as the EU ETS. It is essential the trading system is well-regulated, has accurate data, with independent checks and comprehensive compliance measures.

5. **The government should revisit its decision to not change the Safeguard Mechanism's coverage threshold and reduce it from the current level to 100 ktCO2e/yr to 25 ktCO2e/yr.**

[1] Reputex: The economic impact of the ALP's Powering Australia Plan

The Safeguard Mechanism currently applies to facilities that emit more than 100 $ktCO_2e$ emissions per year. Lowering this threshold to 25 $ktCO_2e/yr$ will ensure the bulk of emissions from high emitting facilities are covered. It would also avoid issues arising where, as the Safeguard Mechanism begins to effectively reduce emissions, the number of facilities that are under the 100kt/yr will increase.

6. **The government should also increase the Safeguard Mechanism's coverage overall.**

The government should also consider expanding beyond facilities to include all of the registered corporations that report their emissions to the Clean Energy Regulator. This would provide a deeper emissions trading market and would ultimately cover more than half of Australia's current emissions.

7. **Offsets should not be allowed in the reformed Safeguard Mechanism.**

The use of carbon offsets that reflect carbon storage on land by, for example, tree planting, is scientifically flawed. Carbon offsets are used by fossil fuel companies to greenwash emissions-intensive projects rather than focusing on real emission reductions. The reformed Safeguard Mechanism should drop, or quickly phase-out, the ability to use offsets to meet regulated emission limits. The focus should be on real emission reductions.

Table 1 Summary of Key Issues and Recommendations

Key Issues	Recommendation
Architecture of Safeguard mechanism (SGM)	Expand the architecture from the present baseline and credit system to a full emissions trading system. The EU ETS provide an important model for the key elements of this architecture.
Safeguard mechanism (SGM) target contribution to 2030 NDC target	Aggregate SGM emission reduction target and budget set
Scope of involvement	Expand the scope of mandatory involvement in the mechanism from the present facilities to all registered corporations. This could be phased in and fully operational by phase two of SGM. All corporates that meet the present emission reporting thresholds have to report emissions at present.
Threshold for mandatory participation	This should be lowered from 100 $ktCO_2e/yr$ to 25 $ktCO_2/yr$
Head room	This should be removed in a reset of the scheme at the beginning of Phase 1

Initial emission allocation/baseline	The facility baseline should be reset for phase 1 with the first year set at present emissions (grandfathering) There should be no application of an industry average baselines, and rather each facility starts from its own absolutely missions in the first year of Phase 1 of the reformed SGM.
Subsequent emission allocations	Starting from the initial allocation age facilities annual emissions allowance issuance of Safeguard Mechanism Credits *or* SMCs Should be transparent and involve a fixed reduction expressed in $ktCO_2$/yr that applies until 2030
Future emission allocation for Phase 3	The government should investigate moving towards full or partial auctioning of units in phase two or latest phase three of the system consistent with principles of economic efficiency and the polluter pays principle. Some element of auctioning could be trialled in Phase two of this system
Decline rates	The rate of decline of SMCs should set as a linear decline in $MtCO_2$/yr to reach net zero by 2050 This means facilities with higher year 1 emissions will have larger $MtCO_2$/yr decline rate
Target quantity	SMC target set in absolute emissions units No target should be set based on intensity
Annual targets	Annual targets set from year one with decrement each year for the facility
Compliance	The present compliance system is completely ineffective and even if applied the amount of fines make it more cost effective to pay the fine than to meet obligations. A rigorous compliance system linked to multiples of the market price SMC units would be appropriate to ensure that the market operates effectively and efficiently.
Crediting	The reformed safeguard mechanism should move towards a full cap and trade system cap to avoid the pitfalls and inefficiencies of a baseline and credit system which is presently proposed
Flexibility over time - Borrowing	Borrowing from future time periods should not be permitted Participants can purchase SMCs from others to cover their shortfalls

Flexibility over time - Banking	Very limited banking (eg one year) should be permitted so that participants are encouraged to place surplus units on the market
Market stability mechanism	Government should design an SMC market stability mechanism for trialling in Phase 1 and full rollout in Phase 2
Units for compliance	SMCs only
Other regulated units	Only regulated units generated within another emission trading system with legally binding caps and compliance similar to the EU ETS. Full cap and trade in general do not give rise to the additionality and permanence concerns of non-regulated units and other offset units. Incorporation of international regulated units should not happen until after 2030 and be done early on the basis of formal market linking mechanisms of the kind that were previously negotiated between Australia and the European Union. Regulated units are not offsets
Offset units	Offset units should not be permitted in the SGM system and the use of these should be phased out during Phase one of the reformed SGM.
Energy intensive trade exposed industries (EITI)	Grandfathering of emissions in the initial year of the reformed SGM is an appropriate way of reflecting emission intensity, and annual linear reduction in allowed emissions is an appropriate way of providing incentives EITI companies to accelerate investment in reducing their emissions consistent with reaching net zero by 2050 and consistent with international efforts to do the same. Where genuine issues occur they should be subject to public disclosure and review by all market participants. Stakeholders, competition authorities and regulators. An appropriate instrument would be through allocation of additional SMC units as is done within the EU ETS system, and not via subsidies.

Introduction

Climate Analytics welcomes the review of the Safeguard Mechanism.

In the reform of this mechanism, which has clearly not performed in any meaningful sense, the Government needs to focus on measures that will reduce emissions in absolute terms from all relevant sectors. Measures or mechanisms that permit emissions to continue to increase whilst allowing offsetting mechanisms of dubious benefit or quality are not appropriate for the present circumstances, where climate action is urgent.

The Paris Agreement's 1.5˚C warming limit was adopted in 2015 and reinforced in Glasgow at COP26 in 2021. It is well established that the Australian government's 43% reduction by 2030 is not Paris Agreement 1.5°C compatible.[2] For 1.5°C compatibility, Australia would need to reduce emissions to at least 60% below 2005 levels by 2030.

We have framed our input around the 43% by 2030 goal but urge the government to strengthen its target.

Important new science shows tipping points will come sooner

From a scientific point of view, the urgency for action and the significance and importance of the 1.5C limit to warming cannot be greater. An important recent paper indicates that even the current level of global warming places the world at risk of climate tipping points [3].

This work indicates that critical ice sheet tipping points for Greenland and West Antarctic are likely to be approached or crossed at 1.5-1.6°C warming, committing the world to large-scale sea level rise over centuries to come. If global mean warming gets to 2°C there is a significant chance that the high Asian glaciers, often called the water towers of the world that support two billion people with a stable water supply, may be committed to irreversible loss. The rapid loss of ice from these glaciers would also exacerbate and create substantial flooding risks in South Asia.

The report notes that the range of 1.5 to 2°C will see the die-off of low latitude coral reefs. The Australia State of the Environment Report details how Australia's Environment[4] is under extreme pressure from climate change, including risks to the Great Barrier and other Australian reefs.

This 'tipping points' paper reinforces the message from the recent IPCC assessments that every increment of warming matters, with risks and impacts increasing quickly with every fraction of a degree increase in global mean temperature. The paper also shows that

[2] Climate Action Tracker (2022) Australia Profile.
[3] David I. Armstrong McKay et al, Exceeding 1.5°C global warming could trigger multiple climate tipping points, Science (2022). DOI: 10.1126/science.abn7950.
[4] Australian Government (2022) State of the Environment Report.

many tipping point risks are higher than previously estimated for global mean warming in the range of 1.5 to 2°C. Importantly, this research reinforces the urgency for Australia to play its full part in limiting additional warming.

Safeguard Mechanism improvements required

As a first step, this paper will show the government needs to improve the Safeguard Mechanism by:

1) Setting a target for the Safeguard Mechanism to achieve at least a 15% emissions reduction from 2021 levels by 2030.
2) Increasing its coverage of facilities and of corporate emissions.
3) Limiting individual facilities by setting baselines in line with reaching net-zero emissions by 2050.
4) Implementing a comprehensive emissions trading system.
5) Dropping the use of offsets within the Safeguard Mechanism.

Australian 2030 target context and reform of the Safeguard Mechanism

With the formalisation of the Government's 2030 target of reducing emissions 43% below 2005 levels the Safeguard Mechanism needs to focus on *real emission reductions*. There are several important contextual elements relevant to consideration of the reform of the Safeguard Mechanism.

Facilities reported cover only 25% of Australia's emissions

In 2021, the Safeguard Mechanism covered around 25% of Australia's emissions. The industrial facilities it covers are an aggregate of stationary energy, transport, fugitive emissions, industrial processes and waste. These facilities cover national emissions from these sectors.

At present, emissions from the covered facilities account for about 136 $MtCO_2e$ of emissions in 2020/2021, or an average about 25% of Australia's greenhouse gas emissions excluding LULUCF over the past five years. It is important to highlight the fact the fossil fuel industry contributes over half of the Safeguard Mechanism's covered emissions (around 57%, see Figure 2 below – combining coal, LNG and oil and gas production and related activities).

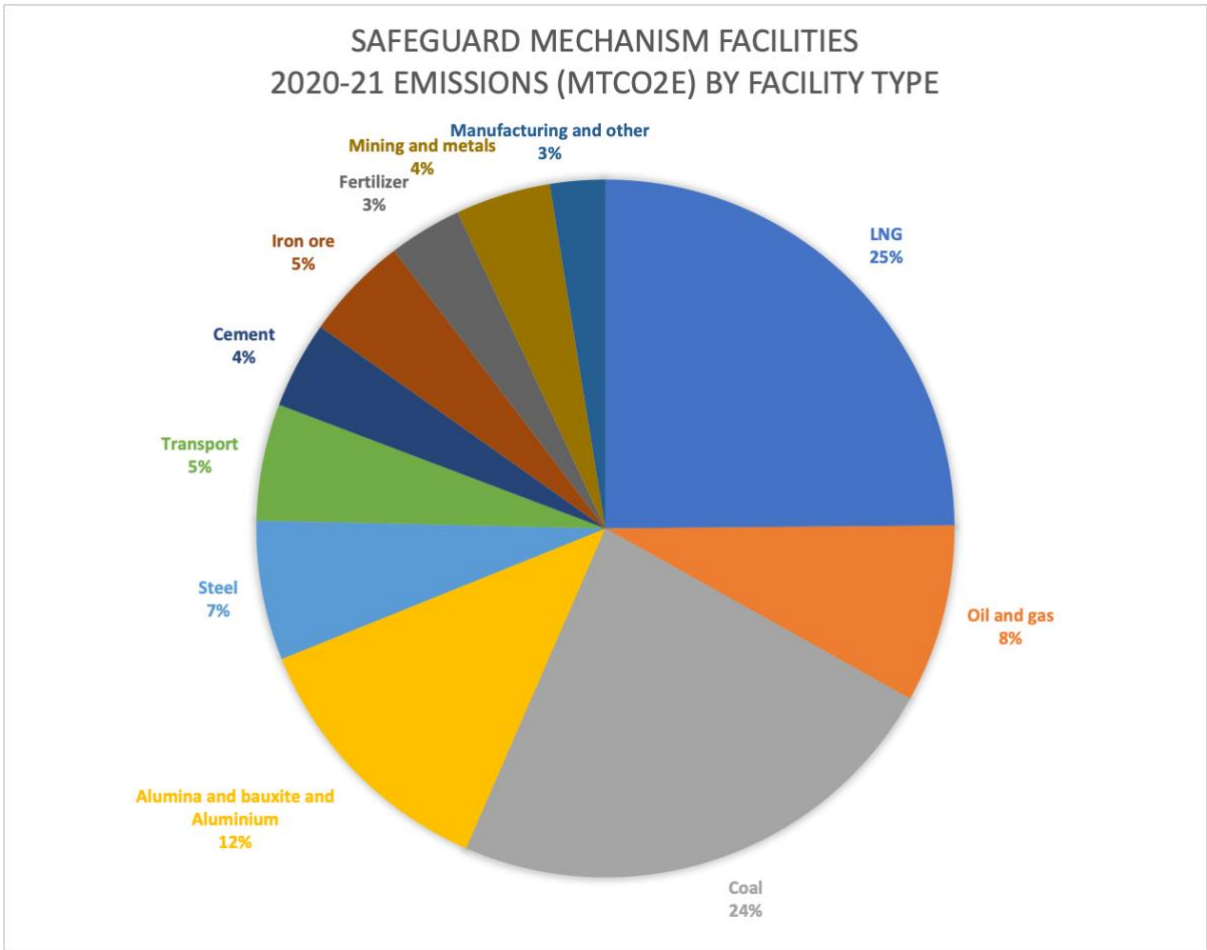

Figure 1: Safeguard Mechanism Facilities 2020-21 emissions ($MtCO_2e$) by facility type.[5]

The Safeguard Mechanism applies to facilities that emit more than 100 $ktCO_2e$ emissions in a financial year. There are several considerations that point to the need to consider lowering this threshold to around to 25kt/yr.

One issue is that if the Safeguard Mechanism begins to effectively reduce emissions, the number of facilities that are under the 100kt/yr will increase. All the facilities that drop below the 100kt/yr threshold will then not be covered and would place Australia far from reaching net-zero emissions.

In extremis, if all of the present 213 facilities drop below 100kt/yr in a few decades, as they would need to, this would leave around 20 $MtCO_2e$ of emissions uncovered: 4% of present emissions, and a much higher fraction in the 2040s. Lowering the threshold for participation to 25kt/yr would all but eliminate the potential for gaming of the threshold, given that these level of emissions are quite small.

Lowering the coverage would likely increase the number of facilities covered and increase the number of entities engaged in emissions trading in the reformed Safeguard

[5] Estimates based on own categorisations of data from Safeguard facility reported emissions 2020-21. Clean Energy Regulator.

Mechanism. At present there are around 160 different companies that appear to cover the 213 facilities; an emissions trading market would benefit by having more participants.

Lowering the threshold to 25kt/yr would also align with the practice in the European Union emission trading system (EU ETS). The EU ETS[6] is based on a 20 MW thermal rated input. However, facilities with less than 25kt/yr and less than 35MW thermal rated input can opt out, as the administrative costs per unit of emissions are considered disproportionately high beyond this point. The Business Council of Australia makes a similar recommendation for lowering the threshold to 25kt/yr.[7]

Recommendation: the government should revisit its plans to retain the present coverage threshold. It is vital to reduce the Safeguard Mechanism threshold from 100 ktCO_2e/yr to 25 ktCO2e/yr.

Registered corporations reporting emissions cover more than half Australia's emissions

In 2021 the greenhouse gas emissions of all registered corporations accounted for about 56% of Australia's national emissions, covering around 409 entities. The Safeguard Mechanism as it's presently structured reports emissions from facilities owned by around 160 of these entities that equal or exceed 100 ktCO_2e/yr.

Much better coverage would be obtained by requiring all registered corporations above an emissions threshold to have a binding emission limit (which would also cover the present facilities that are reported under the Safeguard Mechanism) and thereby take part in the nascent emission trading system that appears likely to be developed under the Safeguard Mechanism reforms.

Table 2 shows that limiting the participation in such an expanded system to registered corporations whose emissions are above the threshold in the European Union trading system of 25kt CO_2e/yr would result in around 300 corporations taking part in the Safeguard Mechanism with a loss out of the system of 1 MtCO_2e/yr. A limit set at 100kt CO_2e/yr leaves out around 9 MtCO_2e/yr of emissions, equivalent to around 2% of Australia's current emissions, and reduces the number of corporations taking part in the system to only about 150.

[6] EU ETS (2017) Handbook.
[7] BCA (2021) Achieving a net zero economy

Table 2 Registered corporations reporting emissions in 2021 aggregate

	GHG & energy information by registered corporation 2020-21	Percentage of registered corporations	$MtCO_2e$
Total	409	100%	303
Number <0.25 $MtCO_2$/yr	111	27%	1
Number <0.1 $MtCO_2e$/yr	247	60%	9
Number of registered corporations covered with 25 $MtCO_2$/yr threshold	~300	73%	295 (55-59% of 2021 Australian emissions

Recommendation: the government should consider expanding the coverage scope beyond the present facilities to include all greenhouse emissions from registered corporations with a coverage threshold of >= 25 $ktCO_2e$/yr.

Corporate net zero commitments in Australia

Recent reporting by the Australian superannuation industry[8] indicates that net zero commitments are growing, with an estimated 70% of the ASX200 market capitalisation now covered by companies with these commitments.

Expanding coverage of the Safeguard Mechanism in the manner proposed above, to include all corporate greenhouse gas emissions above a minimum threshold would provide a clear line of sight through official reporting mechanisms. This would ensure that companies are indeed implementing and tracking appropriately on net zero targets.

Including corporate emissions that are reported to the Clean Energy Regulator would enable transparency as well as provide guidance and incentives to those companies that are generally interested in moving to net zero emissions. It would also strengthen and lock in the policy engagement of companies through their participation in the emissions trading system that is likely to grow under the reformed Safeguard Mechanism.

Complete failure of previous baseline system

The Safeguard Mechanism was introduced by a government determined to do as little as possible; designed to give the *appearance* of climate action. The Safeguard Mechanism aims to reduce emissions of the largest greenhouse gas emitters.

[8] ACSI, 2022: *Promises , pathways & performance Climate change disclosure in the ASX200*. https://acsi.org.au/wp-content/uploads/2022/08/WEBSITE-VERSION-ACSI-Climate-Change-Disclosure-in-ASX200-designed-1.pdf (Accessed September 16, 2022).

But as the current government notes in the consultation paper "*the Safeguard Mechanism has not been effective in reducing emissions*" and has allowed the "*aggregate emissions from safeguard facilities to grow*".

In other words, the baselines set (i.e. the limits placed on emissions) have had little impact on business as usual activities from high emitting facilities.

Figure 1 below shows how, year on year, the reported emissions of Safeguard Mechanism facilities are below the aggregated baseline emissions (i.e. emissions limits). Overall, the difference shown between reported and baseline does not fulfil the purpose of emissions reductions.

For example, the baseline for 2020-21 is 43 $MtCO_2e$ above the reported emissions. Reported emissions from these facilities increased from 2016-17 to 2018-19. It is abundantly clear that this system is not working.

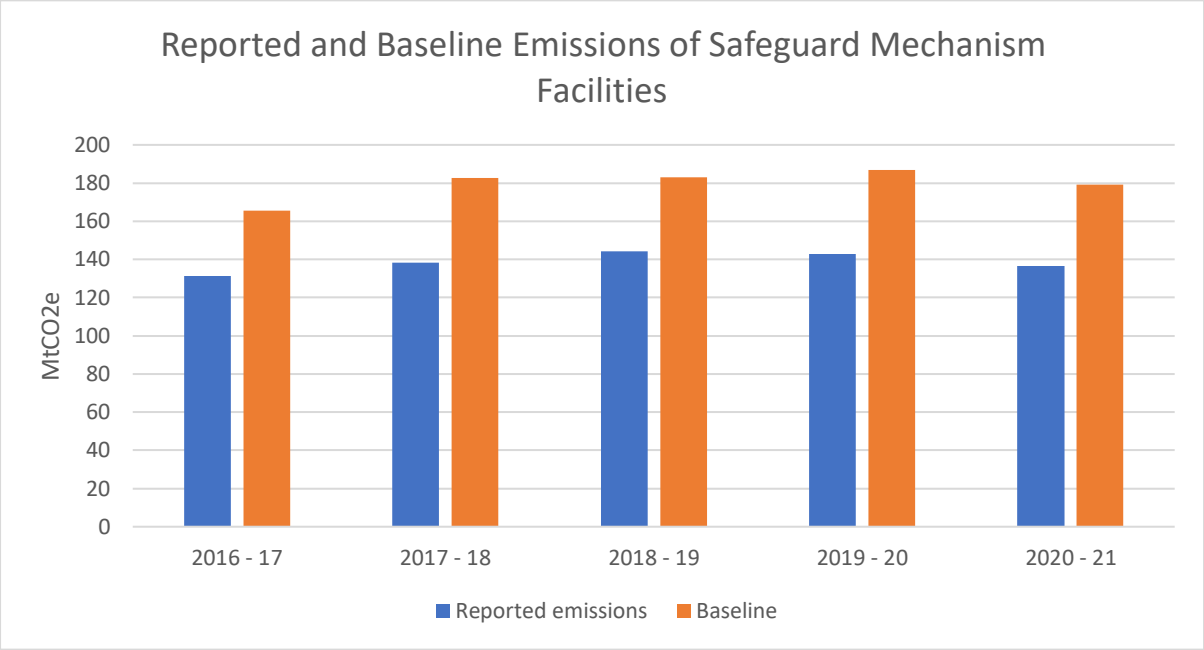

Figure 2: Reported and baseline emissions of Safeguard Mechanism facilities.

The scope and structure of a reformed Safeguard Mechanism

The consultation paper proposes fairly modest structural changes to the Safeguard Mechanism, but this reform provides an opportunity to move the system towards a full-blown emissions trading system, delivering real emission reductions.

The consultation paper proposes that the Clean Energy Regulator will issue Safeguard Mechanism Credits (SMCs) to facilities with emissions below their baseline, which can be

sold to other Safeguard Mechanism facilities and be surrendered to meet their compliance obligations.

A better approach would be to instigate a system where facilities, including all the corporate entities that report to the Clean Energy Regulator, are issued allowed emission credits equal to their entire baseline for a given year or period, and must match these against their reported emissions.

Where reported emissions are lower than the SMC baseline allocation for that year, they may be sold or, within a limited period, banked. Where emissions are higher than the baseline allocation, the company would need to purchase units from other participants so that its holdings of SMCs equals or exceeds its emissions for the given period of compliance.

The trading systems would work on the assumption that the total amount of emissions which can be emitted is finite and known (through the baselines), and then can be traded amongst users. This allows the facilities with the least cost of most efficient emissions reduction options to reduce emissions, whilst hard to abate emitters purchase these credits.

Facilities can gain units by regulation or by auction. Then at the end of each financial year facilities emissions are compared to their emissions limit and facilities would need to buy units when they are short or can sell when they are not, providing an incentive for emissions reductions. The baseline or emissions limit can be reduced, and the policy would reduce aggregate emissions covered by the policy.

It is essential for any carbon trading system to have regulation, accurate data, with independent checks. Examples on how this is done can be taken from the EU trading system which operates on thorough compliance measures.

A comprehensive emissions trading scheme (ETS), such as the EU ETS, would need to consider the emission-intensive trade-exposed industries (EITEs). EITEs are facilities that emit large amounts of greenhouse gas emissions and have significant national or international competition.

If poorly implemented, a trading scheme could limit or halt operations or transfer operations overseas. EITEs need to be considered by setting emissions limits close to their present level (grandfathering), and introducing the trading system so that they can buy units from the Safeguard Mechanism trading system. An ETS would then allow for future integration with the EU ETS, and other similar regulated trading systems, so that the issue of losing to international competition is moot.

If the government were to implement a complete ETS, then emissions can be effectively lowered. Climate Analytics proposes that the facilities get SMCs equivalent units when emissions are lower than their emissions cap, and then can trade their units.

Recommendation: to ensure real emission reductions, the government should use the reform of the Safeguard Mechanism to establish a comprehensive emissions trading system (ETS), similar to the EU ETS.

How much of the 2030 target should the Safeguard Mechanism meet?

Australia's target of reducing net emissions by 43% emission reductions from 2005 levels by 2030 has implications for the level of emission reductions that different sectors would need to achieve.

What is critical to the level of action required in the economy, excluding land use change and forestry, is the level of assumed sequestration in the land sector in 2030. The Australian government's December 2021 projections estimated the land sector sink in 2030 would be around 16 $MtCO_2e/yr$, whereas the reported land sequestration in the most recent inventory was around 39 $MtCO_2e/yr$.

Assuming a 43% reduction target and electricity sector emissions level of about 51 $MtCO_2e/yr$ consistent with the Government's 82% renewable goal by 2030, this means that the level of emission reductions from the economy, excluding electricity and LULUCF, would be 6% below 2005 levels if there were a sink of 16 $MtCO_2/yr$ in 2030 or, if the higher sequestration level prevailed, an increase of about 1%. To orient with respect to recent levels in 2021, this means emissions from the rest of the economy would need to decrease by 15% or, in the case of the higher level of sequestration, by only 9%.

Given the 43% reduction target - and if it is assumed that the facilities covered by the Safeguard Mechanism would not make deeper relative reductions than the rest of the economy - then the reductions for the Safeguard Mechanism would range between 9% and 15% from 2021 levels for the assumed carbon sequestration in the land sector in 2030. Results for this are shown in Table 3 below.

Table 3 Safeguard Mechanism (SGM) emission reductions at same rate as rest of economy

SGM equal share of budget used For rest of economy excluding Power sector and LULUCF	GHG incl. LULUCF	LULUCF	GHG excl. LULUCF	Power	Rest of economy excl. power & LULUCF	SGM	Rest of economy excl. SGM, power & LULUCF
2005	621	85	536	197	339	118	221
% of 2005 emissions	100%	14%	86%	32%	55%	19%	36%
2021	501	(39)	541	164	377	136	240
% of 2021 emissions	100%	-8%	108%	33%	75%	27%	48%
2030	354	(16)	370	51	319	116	203
% of budget used	100%	-6%	106%	25%	81%	30%	52%
% below 2005 emissions	-43%	-119%	-31%	-74%	-6%	-2%	-8%
% below 2021 emissions	-29%	-59%	-32%	-69%	-15%	-15%	-15%
Reduction rate $MtCO_2e/yr$	(16.4)	2.6	(19.0)	(12.6)	(6.4)	(2.3)	(4.1)
Linear reduction rate as % of 2021 emissions	-4.6%	-16.1%	-5.1%	-24.6%	-2.0%	-2.0%	-2.0%

The discussion paper refers to a possible means of assigning a share of the mitigation burden to the Safeguard Mechanism by associating it with its share of emissions in 2021 (here calculated at 27%) and assuming this as the share of the emissions budget for the period 2021 to 2030.

It links a hypothetical straight-line trajectory to 2050 to the fraction of national emissions by associating it with its share of emissions in 2021 that the Safeguard Mechanism emitted in the most recent period 2020/21. This produces an emissions reduction of around 18% below 2005 levels. However, as a consequence, the rest of the economy does not have to reduce below 2005 levels, although it would reduce by 7% below 2021 levels by 2030, as set out in Table 4.

Table 4 Safeguard Mechanism (SGM) target based on 2021 emissions share of cumulative emissions budget 2021-2030.

	GHG incl. LULUCF	LULUCF	GHG excl LULUCF	Power	Rest of economy excluding power & LULUCF	SGM	Rest of economy excl. SGM, power & LULUCF
2021	501	(39)	541	164	377	136	240
% of 2021 emissions	100%	-8%	108%	33%	75%	27%	48%
2030	354	(16)	370	51	319	96	223
% of budget used	100%	-6%	106%	25%	81%	27%	54%
% below 2005 emissions	-43%	-119%	-31%	-74%	-6%	-18%	1%
% below 2021 emissions	-29%	-59%	-32%	-69%	-15%	-29%	-7%
Reduction rate $MtCO_2e/yr$	(16.4)	2.6	(19.0)	(12.6)	(6.4)	(4.5)	(1.9)
Linear reduction rate as % of 2021 emissions	-4.6%	-16.1%	-5.1%	-24.6%	-2.0%	-4.6%	-0.9%

Note: The SGM target is calculated on a 27% share of the national cumulative emissions budget from 2021-2030 for the Australian 2030 43% reduction from 2005 levels target, with 27% being the SGM share of national emissions in 2021.

Adopting a linear approach, similar to that deployed in the EU ETS - a straight-line trajectory from the present time to net zero in 2050 - implies a reduction of around 3.4% per year or around 4.7 $MtCO_2e$ per year from reported 2020/21 emissions of around 136 $MtCO_2e$. Assuming the Safeguard Mechanism would do no more in relative emission reductions, then the rest of the economy (excluding power and land use change and forestry), this trajectory would correspond to about 52% of the national emissions reduction target for 2030.

Another approach is that of the Reputex 2021 report[1] estimated 48 $MtCO_2e$ emission reductions by 2030 from 2020/21 SGM emission levels, which would translate into a 2030 target of 89 $MtCO_2e$. This generates an emissions reduction of around 25% below 2005 levels – or 35% below 2021 emissions.

On the other hand, within the framework of the 43% national target, this approach would allow the rest of the economy (LULUCF, the power sector and the Safeguard Mechanism facilities) to increase emissions by around 4% above 2005 levels, or a small 4% decrease below 2021 emission levels. In this case it would also be expected that the Safeguard Mechanism facilities reduce emissions at around five times the rate of the rest of the economy (see Table 4 above -4.6% p.a. reduction for SGM emissions and -0.9% p.a. rate

for the rest of the economy (all emissions excluding LULUCF, power and SGM) which was 48% of national emissions in 2021).

Table 5 Safeguard Mechanism (SGM) with Reputex 2030 mitigation estimate

SGM: 89 $MtCO_2e$ limit in 2030	GHG incl. LULUCF	LULUCF	GHG excl. LULUCF	Power	Rest of economy excluding power & LULUCF	SGM	Rest of economy excl. SGM, power & LULUCF
2005	621	85	536	197	339	118	221
% of 2005 emissions	100%	14%	86%	32%	55%	19%	36%
2021	501	(39)	541	164	377	136	240
% of 2021 emissions	100%	-8%	108%	33%	75%	27%	48%
2030	354	(16)	370	51	319	89	230
% of budget used	100%	-6%	106%	25%	81%	26%	55%
% below 2005 emissions	-43%	-119%	-31%	-74%	-6%	-25%	4%
% below 2021 emissions	-29%	-59%	-32%	-69%	-15%	-35%	-4%
Reduction rate MtCO2e/yr	(16.4)	2.6	(19.0)	(12.6)	(6.4)	(5.3)	(1.1)
Linear reduction rate as % of 2021 emissions	-4.6%	-16.1%	-5.1%	24.6%	-2.0%	-5.9%	-0.5%

Note: Reputex in 2021[1] estimated emission abatement of about 48 $MtCO_2e$by 2030 from SGM 20/21 emissions levels

The inverse relationship between increasing safeguard mechanism reduction targets and decreasing reductions in the rest of the economy illustrated above can be quickly generalised given the closed algebraic relationships involved and the constraints of the 43% emission reduction target. The rest of the economy is defined here as the total national emissions LULUCF emission or removals, electricity sector emissions and safeguard mechanism emissions. In 2021 this amounts to around 240 $MtCO_2e$ or approximately 47% of national emissions in that year.

Figure 3 below shows this relationship. This can be used to develop an understanding of the consequences of any given safeguard mechanism emission reduction from either 2005 or 2021 levels and the resulting emission reductions needed from the rest of the economy. As an illustration, for example a 20% reduction from 2021 levels of SGM emissions would yield a 13% reduction in reductions for the rest of the economy – or from

the same horizontal axis point, a 20% reduction from 2005 levels implies about a 2% increase above 2005 emission in the rest of the economy.

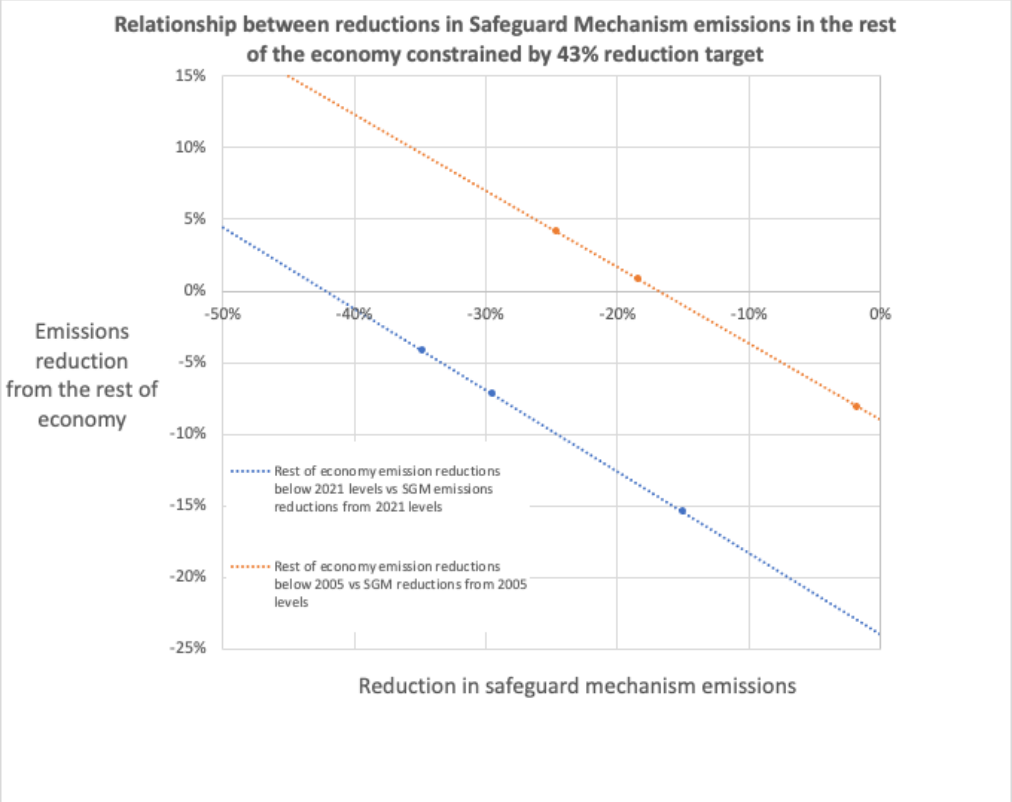

Figure 3 Relationship between Safeguard Mechanism Reduction targets and emissions reductions from the rest of the economy

It is a reasonable assumption that the facilities in the Safeguard Mechanism would not reduce emissions at an above average rate (excluding the power sector), given that many of the industrial facilities it covers are energy intensive.

Given the limitations of the 43% target, and if the Safeguard Mechanism facilities make the same level of reduction as the rest of the economy (excluding the power sector and LULUCF) means the government should set a binding target for this sector of real emission reductions not less than 15% below 2021 levels, or 2% below 2005 levels – by 2030.

If the 43% target remains fixed the Safeguard Mechanism should ensure at least a 15% reduction from 2021 levels by 2030 in emissions from the facilities it covers.

These reduction numbers are lower than those estimated by Reputex in 2021[1] which has a pathway to 13% below 2005 levels by 2030 – or 25% below 2021 levels by 2030[9].

[9] Reputex (2021) The economic impact of the ALPs Power Australia Plan.

If the reduction potential for the safeguard mechanism facilities estimated by Reputex in 2021[1] is robust This would reduce emissions to around 89 $MtCO_2e$ per year. Given that the facilities covered by the safeguard mechanism generally recognised to be in the hard to abate category, relative to the rest of the economy it can be assumed that the rest of the economy would reduce at least the right of the safeguard mechanism.

A 2030 target that matches this is at least a 59% reduction compared to 2005 levels of emissions come out significantly higher than the government 43% reduction target, and very close to a 1.5 degree compatible pathway for Australia.

Table 6 Revised 2030 target upgraded to match Safeguard Mechanism mitigation potential identified by Reputex

Revised 2030 target of 59% reduction	GHG incl LULUCF	LULUCF	GHG excl LULUCF	Power	Rest of economy excluding electricity and LULUCF	SGM	Rest of economy excluding SGM, power and LULUCF
2005	621	85	536	197	339	118	221
2021	501	(39)	541	164	377	136	240
% of 2021 emissions	100%	-8%	108%	33%	75%	27%	48%
2030	258	(39)	297	51	246	89	157
% of budget used	100%	-10%	110%	28%	82%	30%	52%
% below 2005 emissions	-59%	-146%	-45%	-74%	-28%	-25%	-29%
% below 2021 emissions	-49%	-1%	-45%	-69%	-35%	-35%	-35%
Reduction rate MtCO2e/yr	(27.1)	0.0	(27.1)	(12.6)	(14.5)	(5.3)	(9.3)
Linear reduction rate as % of 2021 emissions	-10.5%	-0.1%	-9.1%	-24.6%	-5.9%	-5.9%	-5.9%

Notes: A revised 2030 national emissions reduction target of 49% was calculated that would match the abatement potential identified for the safeguard mechanism facilities by Reputex[1] of 48 $MtCO_2e$ compared to 20/21 emission levels assuming that the safeguard mechanism made emission reductions at a rate equal to the reductions in the rest of the economy. In this case this is about 6% linear reduction from 2021 levels per year.

Setting baselines for an equitable distribution of costs and benefits

For the reasons mentioned in the consultation paper, the initial allocation of allowances for each facility - the baseline - should be based on grandfathering. This would help overcome a number of the complexities of any other alternative approach to dealing with EITE issues and has been used effectively in the EU ETS to get the system going in its initial phase.

Recommendation: the government should set emission limits for individual facilities based on a linear emissions pathway from current levels to zero emissions by 2050.

Lowering costs with crediting and trading, offsets & international units

A full blown ETS offers many options for cost effective emission reductions, although it does require a strong compliance system. The consultation paper raises a number of key points, and responses are outlined below.

Should banking and borrowing arrangements be implemented for Safeguard Mechanism Credits?

Banking arrangements can be operationalised effectively with an ETS, provided they are strictly limited and also linked to market stability reserve systems. Banking should be strictly limited time wise on 1-2 year timeframes in order to ensure compliance. If the emissions unit market is operating effectively, there may need to be only limited application of banking or borrowing. In particular, allowing borrowing to any significant extent could work against the incentives required for companies to make the required investments to reduce their real emissions.

We support the points made in the consultation paper in this respect.

Should Safeguard facilities no longer be able to generate ACCUs for reducing direct (scope 1) emissions unless they have an existing registered ERF project?

Safeguard facilities should not be permitted to generate ACCUs and no new ERF projects should be registered.

Use of offsets within the reformed Safeguard Mechanism

The consultation paper notes that it is proposed to retain the ability of participants to surrender carbon offsets rather than to reduce emissions.

Offsets cannot be equivalent to reducing CO_2 emissions. A tonne of CO_2 added to the atmosphere has an extremely long lifetime[10], and after 50 years 0.4-0.5 tonnes will be left, after 100 years 0.3-0.4 tonnes, after 1,000 years 0.18-0.24 an after 10,000 years around 0.15-0.2 tonnes.

The CO_2 added to the atmosphere from fossil emissions will warm the atmosphere for centuries to millennia. Most offsets have a very short time horizon and for land sequestration in Australia this is around 25 to 100 years. There is no requirement for permanence once an offset has expired. The use of carbon offsets that reflect carbon storage on land by, for example, tree planting, is scientifically flawed. Carbon offsets are used by fossil fuel companies to greenwash emissions-intensive projects rather than focusing on real emissions reductions. Issues include:

- There are limitations of carbon storage in ecosystems; carbon sequestration reflects the loss of carbon in the past.
- Carbon storage in terrestrial and marine ecosystems is inherently temporary and subject to natural variability and increasingly to the impacts of climate change itself, which are reducing the ability of these systems to hold and store carbon. An example is California, which has lost one fifth of its offset "buffer" to wildfire in less than a decade.[11]
- Offsets can create low biodiversity value for example with monocrop tree planting, causing other issues such as maladaptation.
- The accounting method of ACCUS have been criticised for a lack of integrity[12]

Recommendation: In order to restore integrity to the Safeguard Mechanism, the government should not allow offsets within the system. This would also facilitate the Australian Safeguard Mechanism joining with high integrity systems such as that of the EU ETS.

[10] Joos, F. et al., 2013. Carbon dioxide and climate impulse response functions for the computation of greenhouse gas metrics: A multi-model analysis. Atmospheric Chemistry and Physics, 13(5), pp.2793–2825.

[11] Badgley et al (2022). "California's forest carbon offsets buffer pool is severely undercapitalized"

[12] Climate Action Tracker (2022) Australia Profile; The Australia Institute. (2021). *Questionable integrity Non-additionality in the Emissions Reduction Fund's Avoided Deforestation Method*; Macintosh, A., Butler, D., Evans, M. C., Larraondo, P. R., Ansell, D., & Gibbons, P. (2022). *The ERF's Human-induced Regeneration (HIR): What the Beare and Chambers Report Really Found and a Critique of its Method*.

Should international units be able to be used for compliance under the Safeguard Mechanism at a future time, noting that any decision would depend on the rules for international trading?

For environmental integrity reasons, any international units entering the Safeguard Mechanism Should be derived only from systems that have binding emission reduction limits and similar strong emission trading systems.

The EU ETS provides strong guidance in this area.

Should the Safeguard Mechanism evolve into a high-quality trading system then it would be possible to link with other systems, such as the EU ETS, as had been negotiated between Australia and the European Union in earlier times. This is unlikely to be possible in the first two phases of the system, but could be something to be developed post 2030, and would require substantial work between the relevant institutions.

Would additional funding opportunities effectively assist EITE facilities to adapt to declining Safeguard baselines?

EITE facilities can be assisted through the allocation of units within an emissions trading system and this is the appropriate vehicle rather than subsidies.

What kinds of funding, finance or other arrangements and measures would best support EITE Safeguard facilities to reduce their emissions?

Providing flexibility to EITEs through the allocation of supplementary units within the Safeguard Mechanism would be more appropriate than providing subsidies. The EU ETS has mechanisms and approaches for this which could be modified and applied in the Australian context.

As noted in the consultation paper, there would be implications for other market participants that would need to be thoroughly evaluated and worked through.

Any provision of flexibility EITEs at scale needs to be the subject of public consultation and transparency involving all market participants and stakeholders.

Tailored treatment for emissions-intensive, trade-exposed businesses

Is the direct provision of SMCs an appropriate way to mitigate cost impacts for EITE facilities?

This can be inappropriate method but needs to be subject to transparency and public review if applied at scale due to competition concerns, environmental integrity and market integrity issues.

Are differential decline rates an appropriate way to reduce the impact on EITE facilities?

Differential decline rates are not supported. There may be other ways to deal with issues that are proven to be substantive. The risk of differential declining rates is that incentives are not provided aggressively enough for investment in transformational technology and decarbonisation and instead lead to delays in EITEs Making appropriate investment decisions.

Taking account of available and emerging technologies

Should multi-year monitoring periods be extended to allow facilities with limited near-term abatement opportunities to manage their own abatement path?

This is to be discouraged. Limited banking and borrowing can provide opportunities for companies to phase in investments. In the initial stages of the reformed SMC it is unlikely there would be substantial abatement opportunities that would need to be deferred for years, and there would instead be an escalating risk of non-compliance.

At the end of the day the corporates in this sector are very dynamic, make investment decisions relatively quickly when it comes to building up productive capacity and should become able to do so when it comes to quickly reducing greenhouse gas emissions.

Indicative baseline decline rates

What are the appropriate characteristics for the decline trajectory to 2030 that can deliver the Safeguard Mechanism's share of Australia's climate targets, and the process for setting baselines post-2030?

Moving towards a full-blown emissions trading system with more and more of the emission allowances auctioned and less delivered by allocation would be an entirely appropriate outlook. Once again, much can be learned from the way the EU ETS has developed and been reformed over the years to apply in this context. The overall baseline for the covered facilities or sectors should be designed to be consistent with the achievement of Australia's goal of net zero emissions by 2050.