Australian Government
Productivity Commission

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5-year Productivity Inquiry: A competitive, dynamic and sustainable future

The Australian Energy Council ('AEC') welcomes the opportunity to make a submission to the Productivity Commission's Interim Report no. 4 titled *5-year Productivity Inquiry: A competitive, dynamic and sustainable future.*

The Australian Energy Council is the peak industry body for electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. AEC members generate and sell energy to over 10 million homes and businesses and are major investors in renewable energy generation. The AEC supports reaching net-zero by 2050 as well as a 55 per cent emissions reduction target by 2035 and is committed to delivering the energy transition for the benefit of consumers.

The AEC and its predecessors have long advocated for national, market-based mechanisms such as the aborted National Energy Guarantee (NEG) and the repealed Clean Energy Act (CEA). The vexed political discourse that emerged around such mechanisms – and continues to shape any political consideration of a national carbon policy – has made this support a futile endeavour. It has led to an unnecessarily bumpy and costly transition for the electricity sector which, despite these challenges, is still almost single-handedly driving Australia's emissions reductions to date.

Thus, the AEC wholeheartedly supports the principled intent of the Productivity Commission to promote least-cost abatement across the economy (and agrees that 'broad-based explicit carbon pricing mechanisms' would be less costly than the 'suite of alternative policies' Australia has pursued instead). However, given the progress the electricity sector has already made via these alternative policies, we consider the sector has moved so far ahead that to now include it in the Safeguard Mechanism is not the appropriate pathway to take.

Our reasons for this are explained in detail below but, in short, the Safeguard Mechanism reforms are designed to drive carbon abatement in sectors where there otherwise is little to no progress. Extending its coverage to include the electricity sector risks losing sight of this intent and might make it easier for lagging industrial facilities to further delay abatement action. Furthermore, it will only confuse, rather than cleanse, the interventionist policy landscape, as state and territory governments will continue to remain heavily involved in carbon and energy policy.

Australia's Emissions Trajectory

Each year, the Department of Industry, Science, Energy and Resources (DISER) publishes a ten-year projection for Australia's emissions trajectory. The most recent projections, Australia's Emissions Projections 2021, show that the electricity generation sector is doing almost all of the heavy-lifting, both now and for the course of this decade, to drive Australia's emissions reductions.[1] Emissions in the

[1] Department of Industry, Science, Energy and Resources (DISER) 2021, 'Australia's Emissions Projections 2021', https://www.industry.gov.au/sites/default/files/October%202021/document/australias_emissions_projections_2021_0.pdf.

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electricity generation sector are expected to fall by over 55 percent on 2005 levels by 2030. Despite the enormity of this effort, the estimate may even be conservative given previous forecasts have been revised upwards and that the new Federal Government modelled an election policy with even greater renewable penetration by 2030.[2]

Table 1: Sectoral breakdown of 2021 projections results to 2030, Mt CO_2-e

Emissions by sector (Mt CO_2-e)	National Greenhouse Gas Inventory		Projection
	2005	2019	2030
Electricity	197	179	88
Stationary energy	82	99	99
Transport	82	100	97
Fugitives	41	55	56
Agriculture	86	75	76
Industrial processes and product use	31	32	28
Waste	16	14	11
Land use, land-use change and forestry	89	−25	−16
Total	**624**	**529**	**439**

Note: totals do not sum due to rounding.

Source: DISER

While these projections point towards a substantial decarbonisation of the electricity generation sector, the outlook of other sectors is less positive. Key sectors like transport and stationary energy are projected to *increase* their emissions by 2030 and will respectively become the two largest sources of emissions. The inaction in other sectors has some silver lining as it means there is immense opportunity for "low-hanging fruit" emissions reductions that can be immediately taken. The AEC recently published a series of research papers that explores how sectors like transport and stationary energy can efficiently reduce their emissions now.

The role of the Safeguard Mechanism

The AEC believes the role of the Safeguard Mechanism reforms are to target those industries in sectors that have shown limited progress to date and provide an incentive for them to start taking action. The graph below, taken from the Reputex modelling that the Federal Government used to support its Safeguard Mechanism reforms, shows the different emissions trajectories of electricity generation facilities compared to captured safeguard facilities.

[2] For example, emissions from the electricity sector in 2020 projections were forecasted to be 111 million tonnes in 2030. This has now been revised down to 88 million tonnes.

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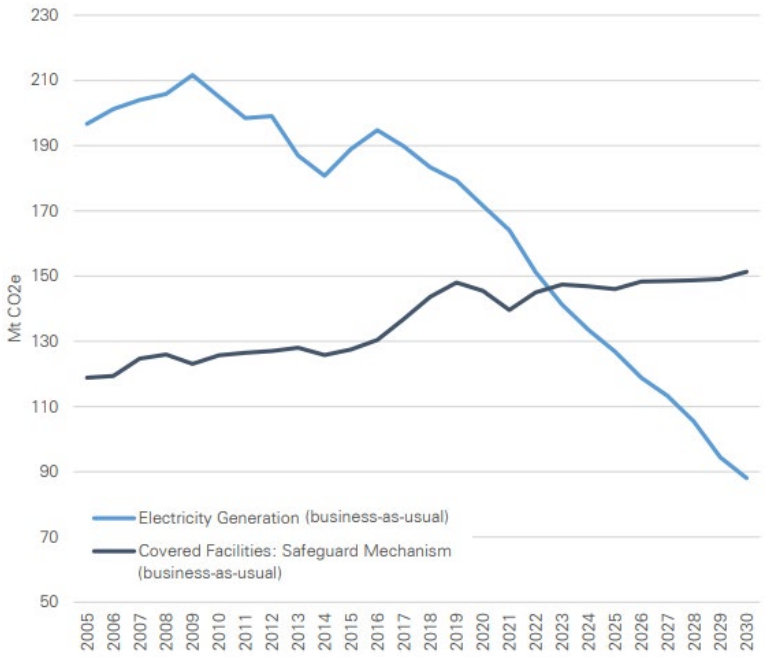
Figure 2: Electricity sector vs. Safeguard facility emissions (business as usual)



Source: Reputex

The primary drivers of the electricity sector's abatement are the significant drop in technology costs of renewable generation, investor appetite for clean energy assets, and state policies and/or schemes designed to accelerate the electricity sector's transition. These drivers appear here to stay and have already set in motion accelerated coal closure arrangements across each state. The benefits then of adding a carbon price on top appear small.

The Productivity Commission makes the argument that including electricity can broaden the scope of the Safeguard Mechanism to be economy-wide and still maintain a focus on tightening the individual baselines of those lagging industrial facilities. The AEC disagrees for two, principal reasons:

1. An interconnected electricity grid operates more like a whole facility and therefore applying a "Baseline and Credit" (BAC) scheme such as the Safeguard Mechanism to its individual parts is inappropriate and potentially counter-productive.
2. Including electricity will compromise the individual baselines, with facilities either relying on credits from electricity abatement to meet their baseline or baselines not being revised as aggressively if electricity was excluded.

1. *The Safeguard is the wrong instrument for electricity grids*

A BAC scheme works by assuming each covered facility operates independently of each other, and at the margin each is incentivised to reduce carbon equally with equal environmental effect. An electricity grid is peculiar in that although it has a great range of independent emitters, each is producing an identical product to meet an effectively fixed demand. The only way an electricity grid can materially reduce its emissions is by reducing the dispatch of high emitting generators and increasing the dispatch of low emitting generators. This applies both in the short-term and investment timeframe. This is what occurs in

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a cap-and-trade emissions scheme (such as the CEA) and in an emissions intensity scheme (such as the NEG).

The challenge with applying a BAC in an electricity grid is that it incentivises a reduction in dispatch from all emitting generators, including those with an emissions intensity below the grid's average intensity. This gives low-emitting generators a perverse incentive to reduce their own dispatch, which may be replaced by high-emitting generators. Furthermore, low emitting generators have historically often had peaking roles, and would thus inherit baselines consistent with very low dispatch, whilst the high emitting generators would inherit high baselines from a base-load type role with high dispatch. Late in its life, a high-emitting generator typically progressively reduces its dispatch for various reasons, so is likely to fortuitously inherit some spare emissions capacity against its baseline that might perversely replace above-baseline generation from a low-emitter.

This dilemma arguably highlights the limitations of a de-facto carbon price that is determined artificially by a central entity, as would be the case here, versus a pure economy-wide carbon price determined by the market. The AEC considers these limitations will detract from the efficiency benefits the Commission is trying to realise.

2. *Electricity's rapid emissions decline will dilute the Safeguard Mechanism*

Many industrial facilities have already indicated they will probably rely on offsets or credits to meet their revised baselines, rather than achieve actual abatement at their facility. If electricity generation was included, the accelerated date of decarbonisation in the electricity sector occurring due to other factors would invariably lead to a flooding of Safeguard Mechanism Credits (SMCs) being awarded. There is a risk this might obfuscate the progress of other industrial facilities, which might free ride on the SMCs from electricity generation when it comes to meeting their own baselines, as well as the aggregate emissions target.

The Federal Government could set a more aggressive aggregate target, but this would then shift responsibility from lagging industrial facilities onto the electricity sector to again do the heavy lifting, contrary to the policy's intent. It is also probable any new aggregate target would be less than the anticipated emissions reductions from the electricity generation sector over the next decade – creating another free-ride problem.

Right now, the Federal Government has assumed the unenviable, but much needed, responsibility of incentivising abatement at these industrial facilities and has separate policies targeting the electricity sector (in addition to state polices). This is not the AEC's ideal philosophical position but, given how far advanced the electricity generation sector is in its decarbonisation journey, it is sensible now to treat electricity separately to other sectors.

Reduced sectoral intervention

The Productivity Commission also reasons that by capturing electricity, and having an economy-wide abatement policy, it would 'reduce the policy case for additional sectoral interventions' by sub-national governments. Similar to above, as ideal as this would be from a philosophical viewpoint, the AEC considers there to be minimal prospect of state and territory governments withdrawing from carbon and energy policy.

Interventionist policies like the NSW Electricity Roadmap, and more recently QLD Energy Plan, are substantial commitments that cannot be easily unwound. There is too much political capital attached to

such policies and the desire to be seen as proactive far outweighs any government's principled policy concerns about abatement efficiency or costs. In fact, the recent announcement by the NSW EPA of its carbon policy shows that the number of policymakers in this space is only expanding. Adding the Safeguard Mechanism to the mix will only further complicate the already complicated policy landscape.

'Move on' mechanism

The AEC supports the recommendation for a 'move on' mechanism that places conditions on the continued government funding of potential, future abatement technologies like CCS and hydrogen.[3] The Productivity Commission recognises the problem of sunk costs, but there is also the additional side-effect that waiting for these technologies to mature only delays alternative abatement options. This is particularly pertinent in the context of hydrogen.

While the AEC supports work towards using hydrogen to replace natural gas for hard-to-abate large industrial uses, electrification is a more economically efficient, and immediately available, solution compared to hydrogen for decarbonisation of residential and commercial gas use. With these sectors electrified, there would appear to be no ongoing requirement to maintain a low-pressure gas distribution network.

Yet governments are promoting hydrogen blending approaches for the existing gas distribution networks in what appears an unlikely goal to, at some future time, fully convert the distribution network. Even though these early blends are extremely diluted (typically as little as 3 percent by energy value), they impose immediate costs and inconveniences on customers due to the change in technical fuel characteristics. The government support for hydrogen blending adds unnecessary costs to and delays the abatement that can occur now through electrification.

Any questions about this submission should be addressed to Rhys Thomas,

Yours sincerely,

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[3] Page 82 of the report: *Mechanisms to prompt a 'moving on' from such technologies include making further funding conditional on the meeting of pre-defined progress thresholds and introducing formal institutional arrangements, such as sunset clauses, to allow reconsideration and rigorous assessment of the costs and benefits of additional funding.*

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