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23rd February 2023

Department of Climate Change, Energy, Environment and Water

Dear Sir/Madam

Re: Safeguard Mechanism Reforms, Position Paper January 2023.

Engineers Australia is the peak body for the engineering profession in Australia. We are a professional association with over 115,000 individual members, constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community. Our members represent every discipline of engineering and work across all sectors of the economy impacting the lives of all Australians every day.

EA is also formally accredited as an observer to the business of the United Nations Framework Convention on Climate Change (UNFCCC), United Nations Environment Assembly (UNEA) and United Nations Environment Programme (UNEP).

Engineers Australia (EA) welcomes the opportunity to provide further commentary on the proposed Safeguard Mechanism (SGM) reforms. We recognise the SGM is the Commonwealth's flagship climate mitigation response and so it needs to be reformed in such a way that it can facilitate the scale and pace required to deliver Australia's legislated emissions reduction commitments.

This means the SGM needs to compliment the need for other urgent, coordinated and economy wide actions where either the impacts of the SGM are not felt (non-SGM sectors and emitters) or in regard to emissions reduction, including public support for Australia's systems of innovation and environmental safeguards such as biodiversity protection.

EA offers its support for the introduction of many of the reforms outlined in the design discussion paper and recognises the pivotal role engineers can and need to play in the development and implementation of abatement solutions at SGM facilities - and more broadly across the economy.

EA urges the Government to consider in-depth engineering perspectives as part of implementing its technology driven pathways to mitigation, facilitated by the SGM's price signals and the Emissions Reduction Fund's (ERF) funding incentives. In short, the engineering profession stands ready to be more deeply engaged and consulted.

Risk Assessments for Climate Change – An Engineering Perspective

Engineering quality assurances and certifications generally deal in >99 percentiles where potential loss of life from engineering failure is evaluated to be less than 1 in 10,000 or 100,000 (or greater) pending specific circumstances. By means of comparison, the IPCC states that achieving net zero by 2033 will only deliver an 83% chance of successfully avoiding a greater than 1.5°C global warming increase[1]. From an engineering perspective, these risks are unacceptable and do not offer any safe margin for error.

[1] Refer Engineers Australia Safeguard Mechanism submission September 2022.
https://consult.dcceew.gov.au/safeguard-mechanism-reform-consultation-paper/submission/view/217

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In evaluating these risks, the proportionately low chance of success in avoiding a global 1.5°C temperature increase for virtually every engineering code is severe at best and catastrophic at worst. Importantly, this excludes any consideration of environmental tipping points which potentially adds another set of variables to consider in long-term climate risk evaluations.

Given we are already seeing loss of life caused by increases in severity and intensity from global extreme weather events, climate risks need to be translated into practical engineering-led policy responses.

Engineering-led Policy

Bolstering the SGM to remove headroom and introduce declining baselines to 2030 is a welcomed direction, however, the reforms should be viewed as a partial solution to an urgent and economy wide issue.

The position paper states the SGM's ability to reach emissions targets to 2050 as "delivering a strong investment signal and a clear trajectory to net zero in 2050", however it unilaterally will not and cannot deliver those outcomes - even if the current reforms are given full effect.

The setting of a proportionally shared target from 143 million tonnes ($MtCO_2$-e) in 2022-23 to "no more" than 100$MtCO_2$-e by 2030 represents only a 30 per cent reduction on emissions at a mitigation rate of under four per cent (4%) per annum. This annual mitigation rate is insufficient to transition Australia to net zero emissions by 2050 considering the SGMs limited coverage, particularly within the context of engineering assessed climate risks.

In consequence, an engineering-led response to research, innovation and implementation of emissions reduction methods and technologies needs to be facilitated at pace. It stands to reason therefore that an engineering-led approach prioritises point source abatement under the SGM.

In response to the SGM reforms, EA strongly urges the government to design an SGM scheme that facilitates aggregate emissions reductions to be achieved *prior* to the proposed minimum baseline trajectory to 2050.

This may be supported in a number of ways:

- Further increase the SGM's abatement task.
    - Amend the aggregate 2030 emissions reduction target from 100Mt CO_2-e, as per the January 2023 Position Paper to 90Mt CO_2-e. As illustrated in EA's previous submission, this significantly reduces the amount of time taken to reach net zero by a number of years and represents a proportionately modest abatement reduction, overall.
    - Include additional high emitting sectors such as agriculture and energy generation/transmission.
        - The energy sector alone generates 190$MtCO_2$-e annually, representing an additional 125% of total aggregate emissions over and above all SGM facilities.
- Amend the threshold for inclusion in the SGM scheme.
    - Presently, NGERS total Scope 1 & 2 greenhouse gas emissions reporting threshold for a facility is 25Kt CO_2-e per annum and 50Kt CO2-e for controlling corporations (groups). EA

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suggests that aligning the two thresholds over time via a sliding scale would deliver a significantly improved rate of decarbonisation throughout the economy.
    - Aligning the NGERS and SGM thresholds also presents an opportunity for reduced administrative burden (Government and industry) for existing (and new) emissions intensive SGM facilities.
    - As part of this, reporting metrics could be reviewed to include a range of engineering-led practices aimed at decarbonising major projects, in particular metrics aimed at:
        - Product design: material choice; use, re-use & recycling potential; waste avoidance/generation.
        - Project design: feasibility assessments, supply chains including Scope 3 emissions, end of life facility utilisation, etc.
    - It would further allow for a range of small to medium sized enterprises (SME) to be captured in the SGM scheme, offering greater potential to generate Safeguard Mechanism Credits (SMC) by businesses more able to respond to declining baselines through provision of innovative methods and technologies, particularly start-ups.
        - EA considers the generation and trading of SMCs preferrable to ACCUs, primarily as SMCs are more likely to represent point source abatement of emissions intensive activities than ACCUs.
        - EA further queries the long-term reliability of agriculture based, soil carbon generated ACCUs as being susceptible to relative impacts from climate change itself by means of flooding and extreme weather events.
- Harmonise funding opportunities.
    - As noted in EA's previous submission, there are many funding agencies with emissions reduction mandates (Powering Australia, Powering the Regions Fund, Regional Infrastructure Fund, National Reconstruction Fund, Emissions Reduction Fund, Clean Energy Finance Corporation, ARENA).
    - As Safeguard facilities navigate reducing baselines, it will be necessary to further define how they can interact with these funding opportunities, noting that facilitation at pace underpins the scheme's ability to respond effectively.
    - Consequently, EA recommends harmonising funding scope across the various agencies so as to define a complimentary set of economically efficient abatement goals.
- Prioritise engineering skills development and the availability of the engineering workforce as a key enabler of point source carbon abatement.
    - Knowing where the skills shortages are and fostering targeted retraining opportunities for workers needing skills transference, potentially with a regional focus to capture existing communities.
    - Reviewing Visa conditions for skilled engineers with relevant experience.
    - Increase Government spending on higher education aimed at renewable energies and carbon abatement innovations including research grants and funding opportunities.
    - Providing leadership to academia and industry in aiding research pilots reach industry-ready projects.

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Resetting Baselines and Emissions Intensity Factors

Although a fixed baseline would achieve an emissions reduction target with certainty, it is also critically important that the SGM does not serve to undermine Australia's economic prosperity through an arguably blunt instrument (at a sectoral level); and so, a production adjusted baseline (PAB) is supported.

The process of re-calculating allowable baselines for all SGM facilities in removing headroom and adopting a hybrid Emissions Intensity (EI) factor poses a number of informational challenges though.

Outlined below are some issues requiring either clarification or amendment to the SGM reforms:

- Further define Production Output, including Site Boundary
    - Further consultation is required to provide clarity on what is captured as a measure of output and site boundary.
        - As part of this, circumstances will arise where the Government will be asked to describe how they will assess business models with multiple operational facilities and/or sites. For example, models where only one site captured by the SGM, and others are not.
        - Within this, accounting for production variables could be easily shifted to other non-SGM facilities, giving effect to perverse outcomes, even avoiding the SGM trigger entirely.
        - This will be particularly relevant for new enterprises where no historical production data is available.
- Further define Best Practice for EI factors
    - Models of industry average and international best practice will need to be carefully balanced in context of overall aggregate abatement goals, ensuring the final EI factor delivers the required abatement.
- Describe how facilities at end of life will be treated if they are both captured by the SGM and due to close either in lead up to 2030, or shortly thereafter – to 2035 or 2040.
    - Enforcing operational carbon abatement (i.e., capital expenditure) at such facilities is largely incongruous to standard decommissioning planning.
- Describe how facilities will engage with the SGM if they fall below the 100Mt CO_2-e trigger level, if having once been captured by the scheme.
    - The absence of a reducing baselines once under the 100Mt CO_2-e trigger is counterproductive to overall emissions reduction engineering-led policy outcomes.
    - EA suggests that once a reducing baseline has been applied, it should continue to be applied irrespective of the 100Mt CO_2-e trigger level until the 2030 review period, at a minimum.
    - EA believes this will continue to drive an ongoing commitment to point source carbon abatement.
- Enforcing the Hybrid Model (sliding scale of site-specific EI to best practice to 2030).
    - For facilities that have implemented effective emissions reduction to date and are imposed with a new EI factor above their existing lower site-specific EI, their calculated baseline would actually increase, giving rise to a perverse outcome, potentially dis-incentivising further abatement in a timely fashion.
    - In such circumstances, EA proposes that SMCs be credited to those facilities to the value of the difference between their site-specific baseline and the best practice baseline, which

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should be applied retrospectively so as to foster ongoing innovation whilst ensuring enough SMCs are available on the market for other yet-to-abate facilities.

EA urges the government to consider all climate reforms, including these SGM reforms, within a context of engineering-led actions and responses. The SGM reforms however, which are expected to take effect from July 1, 2023, look to have already been dealt a blow with a key element, the Safeguard Mechanism (Crediting) Amendment Bill 2022 not receiving bipartisan support. The ability to arbitrage surplus allowance rights in the form of Safeguard Mechanism Credits (SMCs) within the SGM framework is considered to be a critically important element to facilitate legal compliance and point source carbon abatement at least cost.

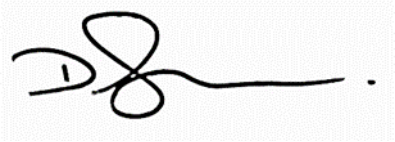
As global carbon markets mature, Australia's economy will need to internalise its emissions related externalities and so formal linkages between domestic (SMC, ACCU) and international markets will be increasingly important to facilitate least cost abatement. It is especially relevant to achieve this 'at pace' as abatement outcomes for hard-to-abate sectors becomes increasingly challenging and disproportionately more costly over time.

To date, Australia's emissions reductions have seemingly relied more upon good corporate stewardship and business sector prowess. However, this should not solely be the basis for enduring and sustainable investment and divestment decisions including access to international capital markets such as offshore super funds. These considerations, which are highly relevant to the SGM reforms, including a domestic Carbon Abatement Adjustment Mechanism (CBAM) to address trade-related carbon-leakage issues, should be more deeply explored in the short-medium term.

The talents of all engineering disciplines need to be at the forefront of an engineering-led policy response to the SGM reforms. Engineers Australia remains ready to engage in all future consultation processes on what is a critically important economic and environmental issue.

Please do not hesitate to reach out if you would like clarification or to discuss anything further. You can contact Simon Koger, *Senior Policy Advisor - Climate Change* at skoger@engineersaustralia.org.au

Sincerely yours



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