

Online submission

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Australian Academy of Science submission on *National Environmental Standards for Matters of National Environmental Significance (MNES) and Environmental Offsets*

The Australian Academy of Science (the Academy) welcomes the update of these National Environmental Standards (NES) as the legal instruments enacting the Environmental Protection reform legislation.

We commend the intent of the reforms to strengthen environmental Standards, introduce new governance mechanisms, and urgently support improved environmental outcomes for current and future generations through the mitigation hierarchy.

However, to achieve the Government's net gain outcomes, there are critical amendments that must be made to the draft NES to establish clear, measurable, enforceable and scientifically grounded requirements for environmental assessment, impact avoidance, mitigation and offsetting.

The Academy recommends the draft NES be amended to:

- Refine or remove unnecessary discretionary language to strengthen the National Environmental Standards.
- Include clear definitions, key terms and test criteria, supported by quantifiable thresholds and independent scientific assessment, in the Standards.
- Amend the language in the draft Standards to ensure the Mitigation Hierarchy steps cannot be bypassed.
- Add spatial impacts on hydrological systems to the impacts to protected matters that must be considered.
- Ensure that the Standards for World Heritage and Wetlands of International Importance (Ramsar Wetlands) accord with Australia's international obligations as a signatory to the relevant international conventions.
- Underpin delegation of approvals through bilateral agreements through robust Standards.

The Academy offers its assistance to achieve these ends, as it is well placed to convene appropriate experts to work with DCCEEW across the full National Environmental Standard reform to develop robust definitions and criteria and to explore how the Standards could align with Australia's international obligations for World Heritage and Wetlands of International Importance (Ramsar Wetlands).

[Discretionary language undermines the enforceability of the Standards and integrity of protected matters](#)

The draft Standards still rely heavily on non-binding terms such as "may consider", "where appropriate", and "at the discretion of the Minister", which introduce inappropriate interpretive flexibility into environmental decision-making. To ensure the Standards are enforceable, the Academy calls for the removal of vague and discretionary language from the NES. Replacing this language with precise, mandatory requirements for environmental assessment criteria, MNES impact thresholds, the mitigation hierarchy, the use of offsets, and net gain determinations, is essential for certainty to business, the community and the regulators engaged in environmental decision making.

[Legislate key terms, criteria and requirements to enhance environmental outcomes](#)

As previously noted by the Academy in its November submission, the lack of clear statutory definitions and

test criteria is a fundamental weakness of the reform package, creating scope for inconsistent interpretation and diluted and inconsistent environmental protections.¹

A significant concern in the current legislation is the absence of clearly defined statutory criteria. Improved environmental outcomes rely on consistent, enforceable and transparent decision making. The current draft Standards lack adequate definition of fundamental concepts such as “net gain”, “baseline”, “unacceptable impact”, “critical habitat”, “national significance”, “feasible” and “ecological significance”, creating uncertainty and weakening enforceability. Legislated criteria must be introduced for each of these terms to enable proponents to understand and meet their obligations and to support a nationally consistent application of the law. Inconsistencies and undue uncertainty run the risk of undermining public confidence in decision making.

Under the draft MNES Standard, proponents must consider the mitigation hierarchy and provide evidence of its application, but the Standard does not define the level or type of evidence required. This ambiguity risks inconsistent application and weak enforcement. The Standards require science-informed evidence showing why avoidance options were not feasible, how alternative mitigation measures will reduce impacts, which measures were identified as most effective and why, and finally how those will be implemented. These measures and the evaluation process need to be explicitly documented, such as selecting suitable project sites or using innovative technologies.

The draft MNES Standard currently applies to protected matters under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), but many forms of biodiversity decline occur at landscape scales and may not be captured by narrow definitions. Decision thresholds such as “significant” and “unacceptable impacts” are undefined and open to interpretation, undermining their regulatory certainty.

The Academy recommends that reference to “permanent loss” in the draft Standard is replaced with “loss, degradation or ongoing decline”. This amendment aligns the Standard with ecological change over time and enables regulatory focus on preventing decline in condition rather than last resort outcomes. Misleading terms such as “reinstating damage” should also be replaced with clear references to “repair, rehabilitate or reverse damage” to ensure the intent of the Standard is accurately interpreted and to align with scientific restoration practice and statutory context.

The Environmental Offsets Standard similarly needs clarity on how residual significant impacts are to be measured and compensated to ensure that “net gain” outcomes are defensible and enforceable. Without clear quantitative thresholds and evidence criteria, decisions could be made without adequate justification or due consideration of plausible alternatives, undermining the stated objective of the reforms to produce fair, consistent and outcomes-based regulation.

Amend legislation to ensure “not referable” meets the mitigation hierarchy principle

The draft Standards lack a clear requirement to apply the mitigation hierarchy. This hierarchy is a core mechanism for protecting MNES and ensuring that offsets are only used as a last resort.

The present wording requires decision makers to only “appropriately consider” the mitigation hierarchy and impacts on protected matters, creating gaps in discretion, application and enforcement. This approach in the draft Standard runs the risk that actions could be treated as not referable without sufficient evidence demonstrating that the principles of the hierarchy have been met (first avoid impact, then mitigate residual impact, then repair and offset remaining impacts), contradicting the protective intent of the legislation.

The Academy recommends the Standards be amended to ensure the mitigation hierarchy is applied in all instances, with clear and mandatory criteria to ensure consistent assessment and alignment with the intent of the legislative reform.

The Standards should require the decision-making process for each project to be transparent and publicly available in a Statement of Reasons providing rationale for determining that a project has non-referable or referable impact on each MNES in its footprint, and if referable, how the impact is considered under the

mitigation hierarchy.

Extend the Standards to capture spatial impacts beyond the immediate footprint to strengthen protections for water resources

The Principles in the MNES Standard refer to impacts on protected matters, including context and cumulative effects but do not define “spatial impacts” from dust, polluted run-off, erosion or spread of invasive species. This provides insufficient clarity on the unacceptable impacts and treatment of water-dependent ecosystems and hydrological systems.

The absence of a legislated definition of spatial impact weakens the water trigger provisions of the EPBC Act under unconventional gas and large coal mining projects where impacts can be significant at broader spatial and temporal scales.

The Academy recommends embedding a clear, mandatory definition and assessment pathway for spatial impacts which requires evidence-based demonstration of how the condition and connectivity of hydrological systems will be maintained and restored.

Ensure that the MNES Standards for World Heritage and Wetlands of International Importance (Ramsar Wetlands) accord with Australia’s international obligations as a signatory to the relevant conventions.

Australia’s obligations under international Conventions are broader and more continuous than required by project-centric Standards. The current Standards do not provide assurance that Australia’s full range of obligations under each relevant Convention will be met.

Under the Ramsar Convention, the baseline for maintaining ecological character is defined at the time of its listing, which in many cases occurred decades prior. The draft Standards frame repair as restoring to a condition “as near as possible” to the original state, without articulating the Convention baseline. Equivalent clarification is required for World Heritage sites.

The inclusion of the offset mechanisms for residual impacts risks weakening the protection of Outstanding Universal Value by shifting emphasis away from the preventative focus embedded in the World Heritage Convention. Clear alignment with international obligations is required to ensure the Standards do not diminish or contravene existing levels of protection.

Delegation of approvals through bilateral agreements should be underpinned by the full suite of robust Standards recommended by the Samuel Review

The Standards are the framework for implementation of the bilateral agreements with States and Territories. Without a complete, robust and enforceable framework of Standards, they run the risk of encouraging divergent state-level application. This would undermine national oversight of MNES and erode transparency and public confidence in their effectiveness. Delegation of approvals to States and Territories through bilateral agreements should be strengthened by enforceable criteria, compulsory scientific advice and review, as well as monitoring and enforcement systems and independent governance bodies.

To discuss or clarify any aspect of this submission, please contact Lauren Sullivan, Manager Science Policy and Advice at science.policy@science.org.au.

1. Submission—Environmental Protection Reform Bill 2025 and six related bills | Australian Academy of Science. <https://www.science.org.au/supporting-science/science-advice-and-policy/submissions-to-government/submission-environmental-protection-reform-bill-2025-and-six-related-bills> [Accessed January 29, 2026].