About EIANZ

The Environment Institute of Australia and New Zealand (EIANZ) is Australasia's peak body for environmental practitioners. We represent 4,000 members and certified environmental practitioners in our region, as part of a global network of more than 100,000. Our members come from a diverse range of technical professions including scientists, policymakers, engineers, lawyers and economists. They are at the forefront of issues such as impact assessment, biodiversity, climate change, and nature positive.

This White Paper has been developed by a cross-section of senior environmental practitioners with expertise in ecology, impact assessment, environmental accounting, climate change and policy.

About this document

This paper outlines EIANZ's key recommendations to decision-makers on achieving 'nature positive'. These recommendations are supported by issue-specific position statements, as well as communiqués developed from three industry development events held in 2024. These events were attended by more than 800 practitioners from across Australia and Aotearoa New Zealand, including leaders from government, academia and all relevant sectors.

Each event focused on a specific topic as it relates to nature positive: Impact Assessment, Biodiversity Offsets, and Nature Positive Cities. They each provided a forum, with a foundation of best practice and ethical conduct, to explore new solutions, and hear from stakeholders at the forefront of nature positive policy and practice.

While recognising that governments and decision-makers face complex problems and that solutions are never straightforward, in the summary below we outline the key takeaways from our nature positive events and provide our overarching advice to governments, businesses and environmental practitioners on how best to deliver nature positive.

Defining 'nature positive'

EIANZ recommends a definition of 'nature positive' as an agreed goal to 'Halt and reverse nature loss by 2030 on a 2020 baseline, and achieve full recovery by 2050'. The term signifies a shift from merely minimising harm or impact on nature, towards actively and substantially restoring and promoting ecological health and resilience from a baseline.

It is vital that all actions taken to achieve nature positive are aligned with Australia's and Aotearoa New Zealand's international commitments to the UN Convention on Biodiversity, including the Kunming-Montreal Framework.

Key Recommendations

EIANZ's four key recommendations are as follows:

1. The nexus between climate change and nature positive should be front of mind for all stakeholders. This should be built into both market- and policy-based solutions.

The impact of increasing climate change upon biodiversity loss needs stronger recognition. Without consistent consideration of this nexus, efforts to address either will be undermined and economic benefits will be compromised.

EIANZ recommends that governments:

a. Appoint a single independent market regulator-operator to oversee all environmental markets (e.g. carbon, nature, waste, water) and ensure there are meaningful linkages between various markets to facilitate comprehensive environmental protection.

b. Recognise the synergies between biodiversity offsets and carbon credits by allowing stacking of benefits across markets.

c. Mandate nature-related financial disclosures and expansion of corporate reporting to include natural capital alongside climate.

d. Improve understanding of and data about the impacts of current and future climate change on biodiversity. In Australia, the proposed Environment Information Australia may fulfil this function – however, this would require capturing a broader spread of information sources than has been proposed.

e. Ensure policies and practices in designating and managing protected areas consider the impact of current and future climate change on the distribution of native and introduced species, species composition and ecosystem dynamics.

f. Mandate that the environmental regulator charged with protecting the nation's or state's biodiversity is required to integrate climate considerations into its decisions.

2. When it comes to achieving nature positive, market-based mechanisms are only one piece of the solution – they must operate alongside effective legislative measures and be underpinned with comprehensive community engagement.

EIANZ supports market-based mechanisms to progress towards nature positive. However, these alone are not sufficient to achieve the required outcomes.

EIANZ recommends that governments:

a. Establish and support independent environmental regulators (including the proposed Environment Protection Australia) with adequate powers and expert oversight to ensure compliance and to realise nature positive.

b. Enact both legislation and a philosophy of design that boldly strives for substantial Biodiversity Net Gain as the means to achieve nature positive and the aims of the Global Biodiversity Framework.

c. Adopt legislative, policy and program measures that enable Indigenous Peoples to genuinely and fully contribute to environmental management decisions and practices.

EIANZ calls upon all decision-makers, including environmental practitioners, to:

d. Conduct meaningful community engagement when undertaking individual impact assessments and strategic environment assessments, including regional planning.

e. Fulfil a broader educational role by engaging the public on the risks of failing to act on biodiversity loss and climate change, which will mobilise support for reform.

f. Increase restoration actions, in addition to conservation of existing biodiversity, including through biodiversity offsets and an effective Nature Repair Market.

3. Governments can demonstrate commitment to the goals of the Kunming-Montreal Global Biodiversity Framework, and encourage investment in nature, by supporting the training and development of qualified and ethical environmental practitioners.

EIANZ is concerned that there are insufficient skilled and qualified practitioners to meet the demands of both the clean energy transition and a nature positive future. This was made clear by the findings of the Australian Government's recent Universities Accord Review, which found that significant changes are needed in Australia's higher education system to produce the skills and knowledge required to meet current and emerging environmental, economic and social challenges, including transforming our energy grid.

EIANZ calls upon decision-makers to:

a. Invest in and promote the training of environmental practitioners through higher education and professional development.

b. Support and elevate the role of Indigenous Peoples including as rangers and environmental managers, for example through the Indigenous Protected Areas within Australia's Natural Reserve System.

c. Support the development of Environmental Accounting as a specialist discipline necessary for the move to nature positive, recognising that this requires an understanding of accounting and environmental principles in equal measure.

d. Require all essential environmental advice be given by suitably qualified practitioners, such as Certified Environmental Practitioners (CEnvPs) and members of professional associations bound by Codes of Conduct.

4. Governments and businesses must provide a timeline for achieving targets (including those in the Kunming-Montreal Framework) and regularly report on progress.

Transparent reporting on progress is essential to enabling genuine nature positive outcomes and encouraging investment.

EIANZ recommends that decision-makers in government and the private sector:

a. Define a clear baseline when setting and reporting on nature positive targets at any scale.

b. Publish regular report cards on progress towards key milestones such as the Kunming-Montreal Global Biodiversity Framework targets.

c. Make data on progress towards nature positive and climate change mitigation readily available and accessible, informed by best practice examples such as the Natura 2000 protected areas network. The proposed Environment Information Australia can play an important role in this reporting in Australia.

d. Report on and commit to reducing greenhouse gas emissions across entire value chains, including scope 3 emissions. This is essential to giving a full picture of progress towards climate change mitigation.

Next steps

EIANZ recognises the ecological, cultural, societal, economic and innate benefits that nature provides as well as the threats it is facing. The Biodiversity Convention and the Kunming-Montreal Framework provide the high-level objectives and goals for achieving nature positive. It is now time for more rapid and applied action by governments and the private sector for course correction.

Recognising both the complexity of the problem and that implementing solutions is not straightforward, EIANZ is committed to working with stakeholders to improve ecological outcomes. The above recommendations, developed by Australasia's leading environmental professionals, can make a real difference and will put Australia and Aotearoa New Zealand in the best possible position to deliver a truly nature positive and economically prosperous future.

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Environment Institute of Australia and New Zealand Inc.

Environment Institute of Australia and New Zealand Inc.

Communiqué

National Biodiversity Offsets 3.0

From offsetting to nature positive

SUMMARY

Biodiversity offsets play an important role in ecologically sustainable development in Australia and Aotearoa New Zealand, by seeking to address a project's residual impacts on biodiversity values after impacts have been avoided and minimised as far as practicable.

However, there remains significant opportunity for improvement in the way biodiversity offsets are included in the project design and assessment cycle and then (where warranted) planned, assessed and delivered.

In July 2024, the Environment Institute of Australia and New Zealand (EIANZ) held its third National Biodiversity Offsets Conference, 'From Offsetting to Nature Positive', to discuss the latest developments and, importantly, areas for improvement, in biodiversity offset legislation, policy and delivery. The event, attended by close to 400 environmental professionals from across Australia, Aotearoa New Zealand and Papua New Guinea, also provided a timely opportunity to discuss the role of biodiversity offsets in a nature positive future.

This communiqué outlines key takeaways from the event and makes recommendations for action to policymakers and regulators.

KEY TAKEAWAYS

Attendees heard from many leaders in their fields over the three-day event. Our keynote speakers shared important messages, including this from **Professor Martine Maron:**

"Offsets at the moment result in net losses. Getting [them] up to scratch will be hard work. To get them to align with nature positive will be harder still."

Professor **Hugh Possingham** echoed and built on Professor Maron's message:

"If we are serious then we have to do target-based offsetting, invest five billion [dollars] a year, encourage philanthropy and business, and tighten/enforce legislation".

The conference program was designed to lead into an interactive workshop that drew on the views of conference delegates. Importantly, the workshop was attended by representatives from all Australian mainland states and territories as well as from Aotearoa NZ and included input from multiple disciplines and leaders in their fields including but not limited to consultancy services, government, landholders / land managers, academia, legal services, finance / financial services and industry (e.g. mining, energy, development). The diversity of attendees reflects the multidisciplinary approach required for the planning, delivery and regulation of biodiversity offset and nature positive projects.

Participants were polled on a series of questions. Ninety-nine per cent of workshop participants believe that current policy settings of 'no net loss' are insufficient to achieve nature positive. Overwhelmingly, attendees also responded that the primary goal for biodiversity management should be nature positive, seen as critical to reverse biodiversity decline.

Attendees were also asked to rank which of the key messages from conference sessions were most important. In order of importance these included:

1. Outcomes (investment) should be guided by a conservation strategy or plan and sound science.
2. More investment in protection and restoration [is needed].
3. The metrics should be right [i.e. scientifically defendable] (with a clear baseline) [for both biodiversity and nature positive projects].
4. Stakeholder consultation is important, particularly landholder and [Indigenous Peoples'] involvement.
5. Business and government should transition to undertake nature related reporting and disclosures, identifying their dependencies, impacts, risks and opportunities.
6. Compliance and greenwashing remain a concern.

To achieve these outcomes, delegates were also asked to nominate specific areas for improvement according to priority (see **Figure 1**). The top three responses were:

1. Increase in restoration activities.
2. Improved provisions for protection of nature in development and agricultural regulations.
3. Increased recruitment of skilled people in the industry (consultants, land managers, etc.).

These results indicate that more is needed in the way of biodiversity offset reforms and that greater action is necessary if we are to have a nature positive future. While there have been restoration efforts in Australia for many decades, this has not been sufficient to halt biodiversity decline and so more investment is required in restoration. This is entirely consistent with one of the key findings of keynote speaker **Professor Graeme Samuel**'s 2020 Independent Review of the *Environment Protection and Biodiversity Conservation (EPBC) Act.*

The results also suggest that improved protection mechanisms and compliance actions are also required, and industry have clearly voiced a need to be consulted in any policy and legislative reforms.

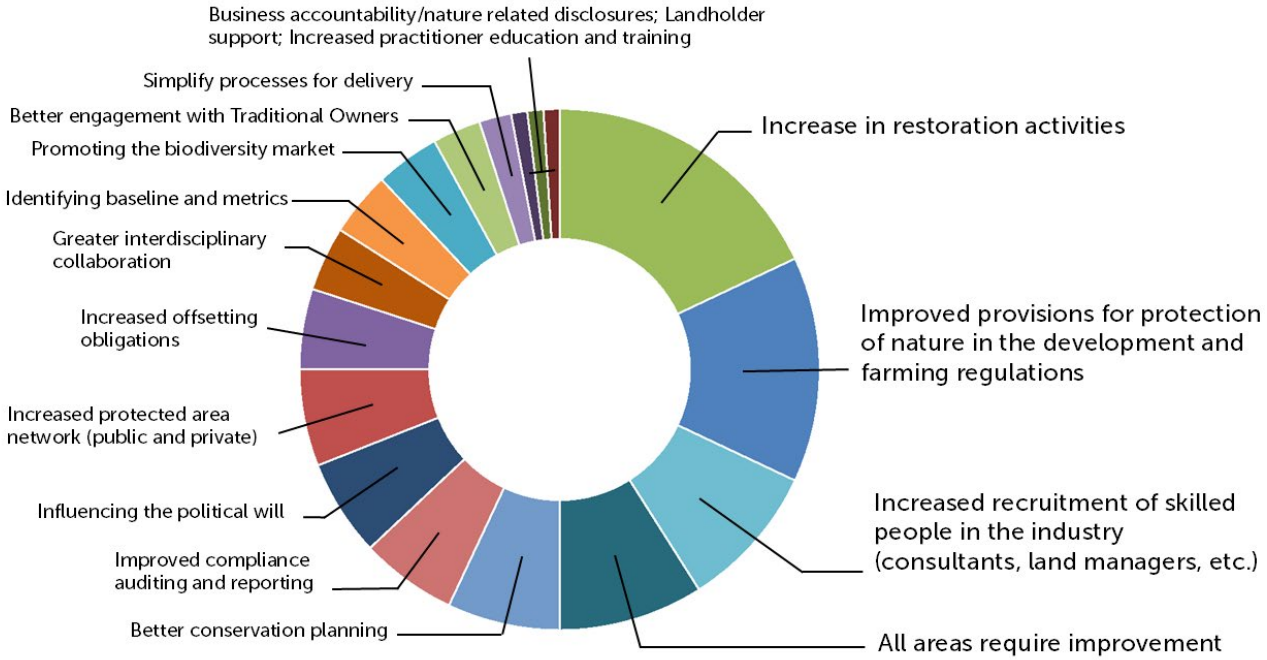
To meet future challenges, the profession has identified a need for far greater recruitment of skilled individuals – to achieve this, support will be required from governments, universities and other training institutions.

EIANZ therefore calls on policymakers and regulators to:

- Continue legislative and policy reform to improve the delivery of both biodiversity offsets and nature positive outcomes
- Address biodiversity decline by increasing restoration activities, including through biodiversity offsets, development of a meaningful Nature Repair Market, and other measures
- Improve regulatory provisions for the protection of nature in development and farming activities
- Increase recruitment of skilled people in the industry (such as consultants, land managers, and restoration practitioners) and facilitate training to improve the skills-base
- Ensure there are meaningful and measurable linkages between biodiversity and carbon markets to enable adequate supply and facilitate transparent corporate reporting.

In summary, EIANZ recognises that urgent and significant improvements are needed in the legislative and policy frameworks to deliver better protection and restoration of our region's unique environment. Biodiversity offsetting is an important tool in addressing true ecologically sustainable development and, if delivered to the highest standard, will contribute to building a nature positive future.

FIGURE 1 – Identified areas for improvement



Communiqué: Nature Positive Cities Symposium

Summary

The concept of delivering improved ecological outcomes in urban settings has been with us for some time, yet in practice, this idea appears to be in its infancy.

In March 2024, EIANZ held its inaugural Nature Positive Cities Symposium. This communiqué outlines key takeaways from the event and makes recommendations to policy makers and regulators.

The Symposium heard that:

- Connection to nature in cities has been shown to have a range of health and economic benefits such as increased physical and mental wellbeing[1], improved property values[2] and reduced crime rates[3]
- The development of Nature Positive Cities is essential to addressing the challenges of climate change and biodiversity loss in Australia and Aotearoa New Zealand
- Developing nature positive cities requires striving for Biodiversity Net Gain – which must be supported through both legislation and philosophy of design
- Successful nature-based solutions necessitate a truly multidisciplinary approach with the urban resident at the centre
- More concerted and genuine efforts must be made to incorporate the vast knowledge of First Nations peoples into the planning and design of cities.

1 White, M. P., Alcock, I., Wheeler, B. W., & Depledge, M. H. (2013). Would You Be Happier Living in a Greener Urban Area? A Fixed-Effects Analysis of Panel Data. *Psychological Science*, 24(6), 920-928. https://doi.org/10.1177/0956797612464659; Morrison N, Barns S, Dunshea A, Paine G, Pry J, Sajan J, Thompson S, Van Den Nouwelant R (2021). Making healthy places: NSW built environment practitioners' perspectives on place-making opportunities that help deliver health and wellbeing outcomes. *Marudulu Budyari Gumal* https://doi.org/10.52708/LCWA1416; Marina G. Cavuoto, Liam Davies, Ella Rowsthorn, Lachlan G. Cribb, Stephanie R. Yiallourou, Nawaf Yassi, Paul Maruff, Yen Ying Lim, Matthew P. Pase (2024), Cross-sectional associations between neighborhood characteristics, cognition and dementia risk factor burden in middle-aged and older Australians, *Preventive Medicine Reports*, Volume 41, https://doi.org/10.1016/j.pmedr.2024.102696; State of New South Wales (Department of Planning, Housing and Infrastructure) (2024). Biodiversity in Place: A framework to improve urban biodiversity in NSW. https://www.planning.nsw.gov.au/sites/default/files/2024-05/biodiversity-in-place.pdf

2 CRC for Water Sensitive Cities. How much do we value green spaces? (2017). https://watersensitivecities.org.au/wp-content/uploads/2017/05/IN_A1-1_How_much_do_we_value_green_spaces_V1.pdf.

3 S. Scott Ogletree, Lincoln R. Larson, Robert B. Powell, David L. White, Matthew T.J. Brownlee (2022) , Urban greenspace linked to lower crime risk across 301 major U.S. cities, *Cities*, Volume 131, https://doi.org/10.1016/j.cities.2022.103949.

EIANZ calls on policy makers and regulators to:

- Recognise that developing nature positive cities and meeting the targets set by the Kunming-Montreal Biodiversity Framework (GBF) requires striving for Biodiversity Net Gain – which must be supported through both legislation and philosophy of design
- Implement governance arrangements that make climate change and biodiversity loss a central consideration in policy and decision-making on urban planning
- Agree upon priorities for cities and nature through well thought-out regional and strategic planning and assessments
- Address the skills shortage in the environment industry by supporting the training of more practitioners (including First Nations peoples)
- Genuinely and authentically engage with First Nations peoples in the development of nature positive cities.

Background

Most of Australia and Aotearoa New Zealand's major cities exist within ecosystems that have numerous threatened flora and fauna. Many cities in our region also face significant water supply challenges, pollution, and a loss of connection to nature. Meanwhile, Australia is one of the most biodiverse countries on the planet yet has seen an alarming rate of species loss in the last 240 years. Notably, Australia and Aotearoa New Zealand have both committed to the GBF's '30x30' target to protect 30% of land and ocean globally by 2030.

As governments look to increase housing supply to meet growing population demand, this can come at the expense of good planning and decision making, where outcomes for nature are not integrated into planning or design. The consequences of this are deferred costs to the community in the form of extra heating/cooling costs, health consequences, and poorer pollution and water management.

Nature in cities, and the ecology of our urban spaces, are important not only due to the demonstrated economic and social benefits, but because nature provides both the ecosystem upon which a city depends and habitats for threatened species.

Although environmental and planning laws have for many decades attempted to minimise and/or protect impacts on nature, we are continuing to see its decline.

In Australia, all levels of government have the powers and resources needed to create nature positive cities. Governments also have legislative and policy commitments to implement ecologically sustainable development (ESD), defined as 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'. Yet the three levels of Government do not always align powers and resources in regional planning and implementation. Western culture's focus on property rights limits the effectiveness of Planning Codes and health of to urban ecosystems.

Following COP15 and the development of the GBF, there has been an increase in the use of terms and concepts such as Nature Positive, Nature-based Solutions, and urban ecology; however, there are generally no globally accepted definitions. One key principle behind many of the terms is that of Biodiversity Net Gain, in which a project results in a quantifiable *gain* in biodiversity. It is of vital importance that proponents and practitioners exercise caution in the use of such terms to guard against potential greenwashing and ensure that the principle of Biodiversity Net Gain is not lost.

Where to from here?

Successful nature-based solutions require a truly multidisciplinary approach with the urban resident at the centre. The different disciplines bring different skills, experiences, vocabularies, and approaches. To be successful, dedicated effort will be needed to achieve positive collaboration.

Governments, urban planners and environmental practitioners have much more to learn from First Nations peoples. More concerted and genuine efforts must be made to incorporate the vast knowledge of First Nations peoples into the planning and design of cities.

Urban planners, policymakers and environmental practitioners need to holistically design for: nature positive (and Biodiversity Net Gain), vibrant human communities, genuine collaboration with First Nations peoples, and climate resilience. Addressing each of these singly does not lead to rapid progress. Consensus and compromise will be required to achieve sustainable outcomes.

EIANZ's vision for Nature Positive Cities is as follows:

- Urban design integrates nature as an essential part of our experience
- Residents can walk, cycle or take public transport to services, dramatically reducing reliance on fossil fuel-powered cars
- Residents have access to free meeting areas, parks and play areas that include natural areas and native plantings
- Native plants that use less water, provide shade in summer and reduce our energy and water use are the default for public and private spaces
- Water and energy can be stored and used, and water infiltrates the ground rather than leading to flash floods
- Heat islands are a thing of the past, and heating and cooling are affordable to all residents
- Creeks and rivers are clear of invasive weeds and litter
- Cities provide their residents with the proven positives of nature.

As stated above, EIANZ calls on policy makers and regulators to:

- Recognise that developing nature positive cities and meeting the aims of the Global Biodiversity Framework requires striving for Biodiversity Net Gain – which must be supported through both legislation and philosophy of design
- Genuinely and authentically engage with First Nations peoples on the development of nature positive cities
- Agree upon priorities for cities and nature through well thought-out regional and strategic planning and assessments
- Address the skills shortage in the environment industry by supporting the training of more practitioners (including First Nations peoples)
- Implement governance arrangements that make climate change and biodiversity loss a central consideration in policy and decision-making

EIANZ calls on its members and all environmental professionals to:

- Work with a diverse group of people, including First Nations Peoples, urban residents, planners, social scientists, engineers, and developers, to establish sustainable needs and solutions
- Put Nature at the heart of urban design, making it a key stakeholder
- Refer to international frameworks such as the IUCN's Global Standard for Nature-based Solutions to develop robust and equitable solutions

- Make use of rapidly developing tools and solutions that are becoming available to support the development and understanding of the importance of nature in urban areas, while remaining critical and avoiding greenwashing.

Over the next three years, EIANZ will:

- Seek to form a Nature Positive Cities Community of Practice (within the Ecology Special Interest Section) to promote good urban ecology practice amongst its members and environmental practitioners more generally
- Hold a follow-up symposium to review progress and set new objectives before the end of 2026
- Strengthen our link with allied urban planning, land management and impact assessment professions
- Encourage all members to engage with First Nations perspectives in their work and promote these perspectives wherever possible.

The Environment Institute of Australia and New Zealand (EIANZ) is Australasia's peak body for environmental professionals and part of a global network of more than 25,000 environmental practitioners. We are a not-for-profit organisation representing members from a diverse range of technical disciplines including environmental scientists, policy makers, engineers, lawyers, and economists. Our members are at the forefront of challenging and complex issues such as climate change, sustainability and preserving biodiversity. Through our Code of Ethics and Professional Conduct, EIANZ sets high ethical standards for environmental practitioners.

Communiqué: Impact Assessment Symposium

BACKGROUND

Australia and Aotearoa New Zealand have committed to two significant global environmental pacts: the Paris Agreement and Kunming-Montreal Global Biodiversity Framework[1234]. Together, these agreements represent a commitment to both transition to a clean, low-carbon environment and to halt and reverse the loss of nature.

In August 2024, the Environment Institute of Australia and New Zealand (EIANZ) held its annual Impact Assessment Symposium to prepare impact assessment professionals for the challenges of the transition to a nature and socially positive, clean economy. More than 220 environmental professionals attended the event which included 34 presentations, a debate and two workshops.

This communiqué outlines key takeaways from the symposium regarding the role of impact assessment (IA) in this transition.

The communiqué uses the term 'environment' and 'environmental' as defined in EIANZ's Rules of Association, to include 'all aspects of the surroundings of human beings, whether affecting human beings as individuals or in their social groupings'. IA considers the environment in this broad context and includes biophysical, social and cultural impacts.

[1] New Zealand Government Department of Foreign Affairs and Trade, 2022. Global agreements. [Online] Available at: https://www.mfat.govt.nz/en/environment/climate-change/working-with-the-world/building-international-collaboration. [Accessed 7 August 2024].

[2] Australian Government Department of Foreign Affairs and Trade, 2022. International cooperation on climate change. [Online] Available at: https://www.dfat.gov.au/international-relations/themes/climate-change/international-cooperation-on-climate-change. [Accessed 24 July 2024].

[3] New Zealand Government Department of Foreign Affairs and Trade, 2023. Biodiversity and species conservation. [Online] Available at: https://www.mfat.govt.nz/en/environment/biodiversity-and-species-conservation. [Accessed 13 August 2024].

[4] Australian Government Department of Climate Change, Energy, the Environment and Water, 2024. Draft National Roadmap for protecting and conserving 30% of Australia's land by 2030. [Online] Available at: https://consult.dcceew.gov.au/draft-national-roadmap-for-protecting-and-conserving-30-of-australias-land-by-2030. [Accessed 13 August 2024].

THE SYMPOSIUM HEARD THAT:

Note: text in inverted commas represents direct quotes from the symposium.

- **There is an urgent need for a clean energy transition to mitigate worsening climate change.**

The world is facing a "climate, nature and resilience crisis" which is nothing short of a "hair-on-fire" situation. Climate change impacts both biodiversity and human wellbeing, disproportionately affecting vulnerable areas/regions, including the Pacific Islands, and people with minimal resources to adequately respond.

"*The time for action is now.*"

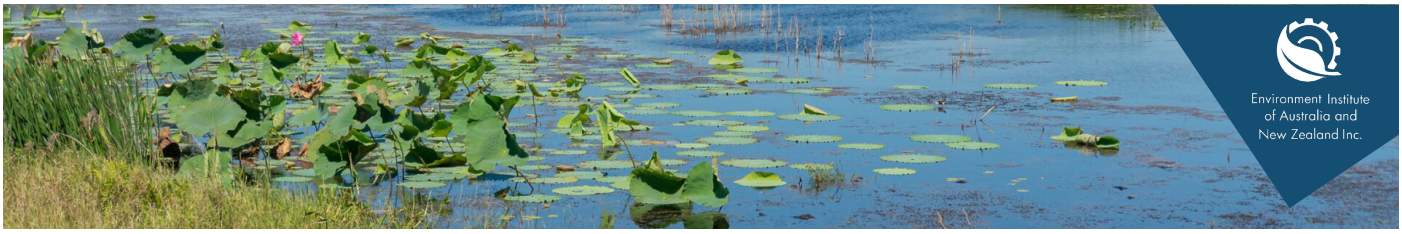
- **IA professionals are well placed to provide input.**

The procedural function of IA is to inform regulator decisions, support the planning of development and infrastructure, and provide a transparent assessment of matters so that stakeholders have sufficient information to make informed decisions. As specialists in this area, IA professionals have the knowledge and tools to undertake robust and defendable environmental assessments and contribute to well-informed decision-making.

Conferences such as the EIANZ IA Symposium promote knowledge exchange, while initiatives like the Certified Environmental Practitioner Impact Assessment Specialist certification and the Registered Environmental Assessment Practitioner module (NSW) provide assurance of competence and ethical practice to industry and regulators. Both are important for improving the processes and outcomes of IA and should be expanded into other jurisdictions.

- **There is potential for tension between the need for a fast transition to a clean energy network, and biodiversity conservation, community interests, cultural heritage and other values.**

To meet carbon reduction targets, renewable energy projects are being planned or expanded at a rapid pace. However, this infrastructure can encroach on ecologically sensitive areas, farmland, Indigenous title holdings and socially and culturally significant landscapes, leading to biodiversity loss and social unrest.



Depending on jurisdiction, some renewable energy projects may also be assessed against lesser statutory requirements, meaning impacts to sensitive environmental values are not considered. To achieve a net positive impact, renewable energy projects must be planned and communicated in such a way to consider and minimise impacts on the environment and community.

- **Balancing development with nature positive outcomes during IA is a key challenge in the transition to a clean energy economy.**

The potential for tension across social, environmental and cultural perspectives and the cumulative impacts of new projects may result in trade-offs. An ethical approach to managing trade-offs is to ensure that actions taken "are based on the maxim that, if they were adopted universally, would sustain human society, and all forms of life indefinitely".

- **Robust project IAs are vital to adequately quantify impacts and plan for minimisation of harm. There are opportunities to make these processes more streamlined and efficient without fast-tracking assessments and lowering standards.**

Careful planning and comprehensive IAs are key to navigating the transition. IAs assist in quantifying impacts and generating risk minimisation plans. There are areas for improvement in ensuring IAs adequately factor in social, cultural and natural environmental effects. Early interactions with key stakeholders and attention to scoping allow for a more efficient, effective and holistic review of impacts. Robust analysis of alternatives can optimise project design from environmental, social and technical perspectives.

However, standards and best practice must be upheld to produce robust and defensible assessments.

- **Strategic environmental assessments should play a larger role in quantifying cumulative impacts of clean energy developments and understanding broader regional sustainability trends. They enable tiering of IAs to create more efficient project approval processes.**

Project IAs may not adequately address cumulative impacts and broader ecosystem trends due to their narrow, site-specific focus. This limitation makes it difficult to quantify trade-offs and understand the regional or landscape-scale impacts of energy projects.

Strategic environmental assessments (SEAs) offer a more holistic approach by evaluating clean energy developments (including plans and programs) at a regional level. SEAs, usually undertaken by governments, proactively identify potential impacts of proposed developments, reduce consultation fatigue, and involve communities in developing effective mitigation strategies at a regional scale. They also provide an opportunity to streamline project approvals by creating clear, informed roadmaps, derisking the area for industry to invest, and integrating socio-economic and environmental objectives. However, challenges remain in implementing these strategic mechanisms effectively, particularly in complex, multi-industry precincts.

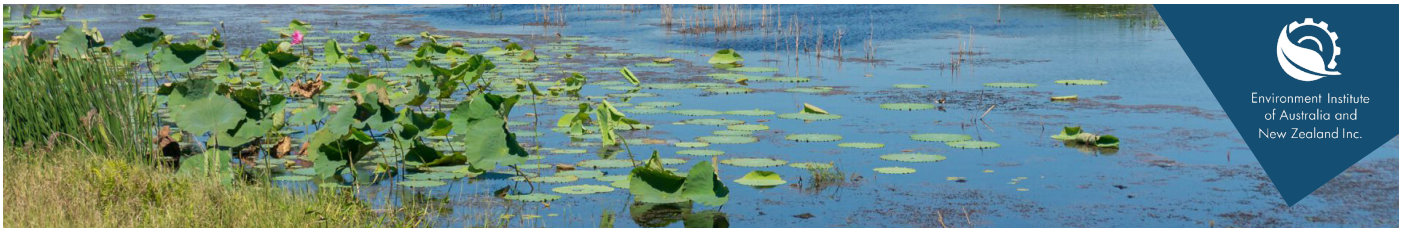
- **Regional planning and SEA should include community engagement, alternatives analysis and constraints analysis.**

SEA and regional planning require clear, respectful and effective channels of communication with stakeholder and community groups including Indigenous Peoples. Early and high-level engagement with affected communities is vital to reduce uncertainty and create collaborative plans.

Good practice SEA and regional planning includes robust alternatives analysis to consider development options from environmental, social and technical perspectives. Environmental constraints to development and preferred outcomes need to be clearly identified in regional land use planning. Effective SEA and regional planning assist in directing clean energy proponents to areas that are most suitable and minimise conflict with environmental and community values by providing a robust decision-making framework.

- **The right type of community engagement is vital in transitioning to a renewable energy economy and requires significant effort.**

IAs can fail to adequately incorporate the breadth of community voices, leading to mistrust and resistance. The disparity in knowledge resources and influence between traditional community networks and the incoming project proponents creates a power imbalance. Early and inclusive engagement with host communities, individual landholders, Indigenous Peoples, and other impacted groups must be prioritised to facilitate co-learning, build trust and learn about and protect community rights.



Respectful engagement prioritising longevity, collaboration, inclusion and patience, and remaining open to the possibility of changes, builds trust and a foundation for achievement of project outcomes and nurtured social contracts. There is a clear opportunity for co-designed initiatives, particularly with Indigenous Peoples, increasing the chance of mutual benefits and successful project outcomes.

"*Listen local, speak local. Failing to engage means failing to achieve project outcomes.*"

- **Community engagement also involves acknowledging procedural fairness and distributive justice. Active listening and early, respectful interactions are vital for an equitable transition.**

There is a distributive disconnect between the impacts and net benefits of the transition, particularly with regards to clean energy. Clean energy sources have numerous benefits from both economic and environmental perspectives that are shared across a nation-wide population. Negative impacts, including land usage, community disruption and amenity impacts, by contrast occur on a smaller scale and disproportionately affect rural communities, who bear the brunt of short-term socio-environmental costs. Communities must be actively listened to and "see demonstratable changes as a result of their input" to uphold procedural fairness and distributive justice.

Further, there must be trust in the planning decision process from all parties, including the community and industry. If there is no trust in the process, there is significant risk that a project will result in mistrust to outrage, further leading to time delays.

- **The issues arising are not necessarily new. Similar problems have been encountered in different sectors and countries and we can learn from these.**

The Paris and Kunming-Montreal Agreements are global pacts, meaning that other nations are also facing similar issues. Learnings from other nations, such as the United Kingdom for offshore wind aspirations, can provide useful insights to help pave an improved way forward in managing the transition. IA, SEA, regional planning and stakeholder engagement in other fields can provide key learnings and help shape a way forward that prioritises best practice.

This symposium provided a valuable opportunity to raise and explore these issues and debate best practice.

LOOKING AHEAD

The transition to a clean energy economy and nature positive future requires navigating an intricate maze of potential conflicts and long-term benefits. How can we best manage the approach to achieve global goals and minimise impacts on the environment and affected communities? The discussions that occurred at this symposium will allow EIANZ to consolidate better practice to inform IA processes and public policy crucial for balancing environmental protection with sustainable development.

Many thanks to the EIANZ Impact Assessment Special Interest Section for their efforts in putting together such a valuable, informative and successful symposium. A position statement to be released in coming months will detail recommendation actions for EIANZ, policymakers and the general community.

BIODIVERSITY POLICY AND ACTION

EIANZ Position Statement

EIANZ believes:

- Nature positive actions (i.e. where nature is being repaired and is regenerating) drive positive biodiversity outcomes.
- The commitment by Australia's and Aotearoa New Zealand's Governments to a target to protect and conserve 30% of land and 30% of marine areas by 2030 (the '30 by 30 target'), including through Australia's proposed roadmap and expansion and enhancement of Protected and Conserved Areas, is an important step in preventing biodiversity loss.
- Biodiversity provides a wealth of ecosystem services fundamental to economic, environmental, social and cultural wellbeing. Ecosystem services include food, fibre and water production; climate regulation; disease control; nutrient cycling; crop pollination; and provision of spiritual and cultural benefits.
- Biodiversity loss is a critical issue facing Australia and Aotearoa New Zealand and must be urgently addressed. Pressures on biodiversity are increasing, despite investments in management.
- Regulatory and planning frameworks require comprehensive reform as well as further research and management tools. Stakeholder awareness, education and consultation is necessary to protect and enhance biodiversity of Australia and Aotearoa New Zealand.
- Partnerships with Indigenous Peoples will improve environmental management and protect cultural heritage.

Definition

Biodiversity is the term used to encompass the variety of all living organisms on Earth, including their genetic diversity, species diversity and the diversity of marine, terrestrial and aquatic ecosystems, together with their associated evolutionary and ecological processes.

Biodiversity Offsets are addressed separately to this statement in EIANZ's Biodiversity Offsets Position Statement.

Background

The biodiversity of both Australia and Aotearoa New Zealand is unique. Australia is one of 17 mega-diverse countries – with over 80% of its mammals, flowering plants, reptiles, frogs, fungi, molluscs and insects known to exist only in Australia. Aotearoa New Zealand is also a significant contributor to global biodiversity, with an estimated 80,000 species of native animals, plants and fungi. A comparatively large proportion are endemic.

Biodiversity is of particular and unique importance to Māori and Aboriginal and Torres Strait Islander peoples who have long supported and been supported by it, incorporating it into their customs, stories and way of life.

Biodiversity is not only significant for the health of the environment – it is also, culturally, socially and economically important. World Economic Forum research shows that USD44 trillion of economic value generation – over half the world's total GDP – is moderately or highly dependent on nature and its services (ref 1).

Biodiversity is now declining globally at rates unprecedented in human history. A 2023 UN report on the UN Sustainable Development Goals found that around one million species of plants and animals are threatened with extinction. The report identified the central causes of this crisis as habitat destruction, invasive species, overexploitation, illegal wildlife trade, pollution, and climate change.

The average abundance of native species in most major land-based habitats has fallen by at least 20%, mostly since 1900. The rate of biodiversity loss in Australia and Aotearoa New Zealand is no exception.

Australia has lost more mammal and plant species over the past 200 years than any other country. Although about 44% of Aotearoa New Zealand's land area is covered by native vegetation, almost 2,500 native land-based and freshwater species were listed as threatened in the decade to 2005. During the same period, the number of Australian terrestrial fauna species listed as extinct, threatened or rare rose by 41 per cent to a total of 169. Extinctions alone now total 116 species and counting.

There are diverse conservation measures internationally (e.g. the UN Convention on Biological Diversity and Ramsar convention), nationally (e.g. the Australian *Environment Protection and Biodiversity Conservation Act 1999* and the New Zealand *Environment Act 1986*), provincially and locally, and through voluntary undertakings. However, the trend of biodiversity loss largely continues unabated.

Role of decision-makers

Biodiversity must be conserved at all levels and scales – that is, structure, function, and composition should be conserved at site, regional, state, national and international scales.

Australia's and Aotearoa New Zealand's governments should extend their national and international actions and improve the design and implementation of international biodiversity and conservation agreements to protect biodiversity across borders and migration routes.

The Environment Institute calls on decision-makers at all levels of government and industry to:

- Formally protect representative and adequate examples of species and ecosystems in national reserve systems.
- Develop and implement action plans for threatened species and ecosystems.
- When conservation planning, incorporate a landscape-level approach and connect across different land tenures, including private lands.
- Develop the knowledge required for the conservation and sustainable use of biodiversity and improve understanding of Australia's and Aotearoa New Zealand's unique ecological systems and species.
- Develop consistent, quality baseline data across users and adopt national systems for assessing the status of biodiversity and ecosystem health.
- Set realistic and meaningful indicators and targets of biodiversity status and improve coordinated reporting on protected and off-reserve areas.
- Design, implement and adequately resource policies, legislation and regulations that protect and enhance biodiversity, recognising that biodiversity and human wellbeing are inextricably linked. This will require redressing the current chronic underfunding of biodiversity conservation, which is impacting the scope and effectiveness of action.
- Improve understanding of the impacts of climate change on biodiversity and implement adaptation and mitigation actions.
- Ensure policies and practices in designating and managing protected areas consider the impact of climate change on the distribution of native and introduced species, species composition and ecosystem dynamics.
- Champion the rights of, connection to and stewardship of biodiversity by Indigenous Peoples.
- Assist landowners in actively managing and enhancing biodiversity, while accelerating studies on threatened species and further assessing threatening processes.
- Ensure appropriate controls are incorporated into policies and regulations that allow or promote land use change and use of resources that also impact the fate of flora, fauna and habitat.
- Implement requirements for Biodiversity Net Gain (similar to requirements in the United Kingdom for 10 per cent BNG for all planning approvals) across Aotearoa NZ and Australia to drive nature positive outcomes.

Policy into practice

EIANZ has a clear interest in environmental protection and sustainable development and in applying objective professional standards for the conservation and sustainable use of biodiversity.

EIANZ's role is to:

- Educate – Train and certify environmental and sustainability professionals to build capacity and capability that addresses biodiversity issues.
- Engage – Work with peer institutes, associations, and Indigenous Peoples to promote sound outcomes and accelerate improved biodiversity management.

EIANZ encourages environmental policymakers and practitioners to undertake the following:

- Consider biodiversity from inception in all environmental planning and impact assessments based on a wide range of evidence including science and Traditional Knowledge and embed biodiversity-related risk assessment into strategic decision-making and planning.
- Include national or regional contexts when undertaking project- and site-specific decision-making.
- Develop consistent but flexible ways of evaluating biodiversity change, accounting for the impact of external influences such as climate.
- Ensure regional natural resource management bodies include spatial and temporal biodiversity issues in their work.
- Use consistent decision-making processes and consider a range of spatial and temporal scales and performance measures at all analysis levels and adopt adaptive management approaches to mitigate inherent risks and uncertainties.
- Strengthen biodiversity assessment and management professionalism, capacity and capability in industry and government.
- Develop best practice guidelines and competency frameworks.
- Estimate and describe the economic, social and cultural benefits of protecting and enhancing biodiversity to promote community understanding of the value and requirements of biodiversity conservation.
- Foster information sharing networks (whilst recognising natural catchment or bio-regional boundaries) across governments, non-government organisations, land and water users and the public.

About EIANZ

The Environment Institute of Australia and New Zealand (EIANZ) is Australasia's leading body for environmental professionals. We represent over 3,500 members and Certified Environmental Practitioners across Australia and Aotearoa New Zealand. Our members are at the forefront of environmental issues and come from a range of technical disciplines including science, policy, law, engineering and economics.

The Institute is responsible for the leading environmental certification scheme in Australasia, the Certified Environmental Practitioner (CEnvP) Scheme. We also provide professional development to environmental professions and advocate for sound environmental policy and ethical practice.

Environment Institute of Australia and New Zealand Inc.

INDIGENOUS PEOPLES' KNOWLEDGE AND ENGAGEMENT

EIANZ Position Statement | February 2022

Acknowledging and valuing the rights and interests of Indigenous Peoples, the EIANZ:

1. Recognises the *United Nations Declaration on the Rights of Indigenous Peoples*, to which the Australian and Aotearoa / New Zealand governments are signatories, as framing the context of Indigenous Peoples' rights and interests.
2. Accepts the invitation from the *Uluru Statement from the Heart* to support fair and practical reform that will enable Aboriginal and Torres Strait Islander Peoples to fully participate in Australian society.
3. Recognises the Treaty of Waitangi and the settlement process through the Waitangi Tribunal as the foundation for Māori and Moriori Peoples to fully participate in Aotearoa / New Zealand society.
4. Recognises the important contribution Indigenous Peoples' knowledge and values make to achieving effective environmental management practices.
5. Supports the remuneration of Indigenous Peoples for services relating to the provision of traditional knowledge about places and natural resources.
6. Seeks to foster and support an environment profession that participates in culturally appropriate and competent ways of working with Indigenous Peoples in personal and professional multicultural settings.
7. Advocates, in the protection of environmental values and mitigation of harms, adoption of a multiple evidence approach that draws on science and the knowledge, values and perspectives of Indigenous Peoples.
8. Seeks to foster and support an inclusive environment profession that provides opportunities for Indigenous Peoples to share their knowledge.

The Environment Institute of Australia and New Zealand (EIANZ) acknowledges and values the rights and interests of Indigenous Peoples. In doing so it recognises Indigenous Peoples' long prior history of occupation, knowledge of, and connection to place, natural resources, and the cosmos.

The *United Nations Declaration on the Rights of Indigenous Peoples* sets out a universal understanding of the scope and nature of the rights and interests of Indigenous Peoples.

These rights are codified through the provisions of treaties, laws, policies, settlements, and agreements. They are also found in the traditional obligations that Indigenous Peoples have for their culture and connection to place, natural resources, and the cosmos.

The EIANZ recognises that there is a history of dispossession and exploitation of Indigenous Peoples, with disregard for their rights and interests, that must be understood and reconciled through genuine engagement, truth telling, and collaborative decision making and governance.

The EIANZ seeks to foster and support an inclusive environment profession by setting the expectation that environmental practitioners will understand the importance of including Indigenous Peoples' diversity, culture, knowledge, history, and protocols in environmental practice and engage in culturally appropriate and competent ways in personal and professional intercultural settings.

The environment profession shares an affinity with the ideals of 'caring for Country', that in Australia is associated with protecting environmental values and maintaining culture; and with *kaitiakitanga* (to suitably use the environment for future generations) that in Aotearoa / New Zealand is associated with the stewardship of natural resources.

Environmental practitioners care for and mitigate past and contemporary harms to the environment. To be effective they must draw from multiple sources of evidence including science and the rich body of knowledge stemming from Indigenous Peoples' connection to places and natural resources, their cycles and values.

Role of decision makers

Governments are key to protecting and managing environmental values as a foundation for the maintenance of culture through clear leadership, legal instruments, and policy frameworks. To be effective governments must engage with those who understand, own and care for the environment and its associated cultural values.

The EIANZ encourages governments to:

1. Adopt legislative, policy and program measures that enable Indigenous Peoples to fully contribute to environmental management decisions and practices, especially when these decisions and practices may impact on Indigenous peoples' wellbeing, their places or natural resources;
2. Promote the training, employment, retention, and leadership of Indigenous Peoples as environmental practitioners; and
3. Promote the integration and sharing of scientific and Indigenous Peoples' knowledge about the nature and protection of environmental values, the mitigation of environmental harms, and the maintenance of culture.

Policy into practice

Environmental practitioners prepare and implement environmental legislation, policies, standards, and practices. They have a moral and ethical obligation to engage with Indigenous Peoples about activities that are planned or are being undertaken that may impact on places and natural resources, their cycles and values. In some cases, these obligations may be codified in treaties, laws, policies, settlements or agreements.

The EIANZ supports action by environmental practitioners to implement laws and policies for environmental management that include Indigenous Peoples in culturally appropriate and competent ways in decision making and governance; and incorporates their knowledge systems and values, and economic and social interests, in environmental management practice using a multiple evidence based approach.

It will continue to:

1. Implement the EIANZ Code of Ethics and Professional Conduct as the standard for professional practice by environmental practitioners;
2. Encourage environmental practitioners to become culturally competent in their practice;
3. Encourage Indigenous Peoples to be members and leaders of the environment profession;
4. Encourage knowledge sharing that benefits the environment, Indigenous Peoples, and environmental practitioners; and
5. In Australia, implement an approved Reconciliation Action Plan.

Notes:

1. *Cultural competence* means the ability of individuals, professions and organisations to understand and respect values, attitudes, beliefs and practices that allow them to function effectively in multicultural settings.
2. *Environmental practitioners* are persons who use their skills, knowledge, and experience to protect environmental values, mitigate environmental harms, and facilitate the maintenance of culture in a professional role (paid or unpaid). They may have extensive cultural knowledge and authority, practical experience, formal education in relevant disciplines, or some or all of these credentials. They may be members of a professional organisation that requires members and those certified for the competence of their practice to follow a code of ethics.
3. ***Interests*** includes cultural and spiritual connections with and knowledge about places, natural resources, and the cosmos, their cycles and values; and economic and social interests.

The EIANZ is a not-for-profit, professional association for environmental practitioners from across Australia and Aotearoa / New Zealand. The Institute has a certification scheme that recognises ethical and professional practice which assures government, industry and the community of practitioners' professional standing. It is represented by jurisdictional Divisions, a New Zealand Chapter and supported by Special Interest Sections covering climate change, heritage, contaminated land, ecology, environmental accounting, and impact assessment. Its membership is drawn from all areas of environmental practice, and includes practitioners with industry, government, community and academic careers.

SCOPE 3 EMBEDDED EMISSIONS

EIANZ Climate Change Supplemental Position Statement

November 2023

Environment Institute of Australia and New Zealand Inc.

Summary

Addressing climate change requires work across international affairs, domestic mitigation, adaptation, and disaster recovery, with close attention to supporting the most impacted people and ecosystems.

This paper supports the EIANZ Climate Change position statement (2022) by giving further attention to Scope 3 greenhouse gas (GHG) emissions.

In relation to Scope 3 emissions, the EIANZ:

i. Recognises that Scope 3 emissions are a major contributor to global emissions and a source of domestic economic risk for Australia and Aotearoa New Zealand.
ii. Considers it important for governments, companies and other organisations to understand, report and reduce their Scope 3 emissions.
iii. Calls on Australia and Aotearoa New Zealand to report and reduce Scope 3 emissions, through implementing domestic policies and programs, whilst recognising that the Paris Agreement does not require countries to specifically address Scope 3 emissions.
iv. Considers that governments should work with organisations and trading partners on meaningful accounting, reporting, target setting, and strategy development and implementation.
v. Recognises the complexity of Scope 3 emissions accounting and mitigation.

In addition, the EIANZ considers that specific actions should be undertaken in the near term that focus on reporting and reducing emissions embedded in internationally traded goods and services, particularly given the volumes of estimated GHG emissions from these sources in Australia and Aotearoa New Zealand.

Background

Under the UNFCCC and the IPCC, Scope 3 emissions have not been a primary focus. While there have been some bilateral and multilateral studies into mitigation pathways for major traded goods (e.g. steel, aluminium, and cement production), and Europe is instigating a carbon border adjustment mechanism, the EIANZ considers that more action is needed.

While the following recommended approaches are generally relevant to all Scope 3 emissions, the EIANZ considers that there should be a specific focus on the emissions embedded in internationally traded goods and services, particularly given the volumes of estimated GHG emissions from these sources in Australia and Aotearoa New Zealand.

Role of Decision Makers

- **National Scope 3 Accounting** – Australian and Aotearoa New Zealand governments should prepare annual Scope 3 emissions inventories by sector to inform management of national import and export risks and opportunities as the world transitions to net zero. These should be staged to firstly capture the largest Scope 3 sources and then eventually to cover all sources.
- **National Scope 3 Targets and Mitigation Strategies** – Governments should set Scope 3 emissions targets, implement strategies to achieve them, and report on progress. Scope 3 targets must be consistent with Paris Goals, the remaining GHG budget, and domestic emission reduction targets.
- **Corporate Scope 3 Reporting** – Government-mandated corporate GHG reporting schemes should be expanded to include Scope 3 emissions for current reporting entities and for other entities with Scope 3 emissions greater than current direct emissions reporting thresholds.
- **Environmental Impact Assessments** – Scope 3 emissions should be included in the assessments of potential impacts of new and expanded projects. New developments should demonstrate that predicted Scope 3 emissions are consistent with the Paris goal of limiting global warming to 1.5°C and apply a precautionary approach to likely actions by other organisations and governments.
- **Socio-economic Studies** – Governments should disclose, under a range of global scenarios, national environmental, economic, and social risks associated with the nation's Scope 3 emissions, and the pathways to reduce adverse risks.
- **Commence taking action** – Governments and companies should immediately start to build understanding, capability and capacity through incentives to those that are already willing, and in priority areas (e.g.

new green materials and fossil fuel trade), whilst making it clear that those that delay will bear higher risks and costs.

- **Smart and Just Transition** – Governments should help the most vulnerable and adversely impacted as regions decarbonise. They should promote investment in low emission export activities that can substitute for loss of carbon intensive exports, to enable developing economies to have low Scope 3 emissions profiles in the future.
- **Shared Accountabilities** – Governments should work internationally and with Scope 3 supplier- and customer-countries to advance low emissions technology development and implementation, whilst avoiding carbon leakage, economic disruption, or bureaucratic delay.
- **Transparency** – Governments should use clear and internationally recognised protocols for calculating and disclosing Scope 3 emissions, reduction strategies, and actual mitigations. Disclosed information should be readily accessible to consumers for informed decision-making. Sanctions will be needed to drive real emissions mitigation and manage willfully misleading or materially inaccurate national or individual entity disclosures.

Role of EIANZ

- **Membership Engagement** – The EIANZ will promote understanding and refinement of our message and recommendations and support practical implementation by environmental practitioners.
- **External Engagement** – The EIANZ will continue to collaborate with governments and like-minded organisations.

Differences between Scope 1 & 3 reporting:

- **Materiality** - Only some types of upstream and downstream emission categories need to be reported e.g. where they: are large relative to the organisation's Scope 1 & 2 emissions; contribute to the organisation's GHG risk exposure; are deemed critical by key stakeholder (e.g. customers, suppliers, investors, or civil society); and can be reduced by actions undertaken or influenced by the organisation.
- **Overlap with others** – Two or more entities may report the same Scope 3 emission sources – where they share responsibility and /or exposure.
- **Interorganisation comparisons** – These can be difficult where companies are in different sectors or have their emissions predominantly in different reporting categories.
- **Non-additivity** – Companies have different levels of influence across the 15 reporting categories. The value of Scope 3 reporting is in the strategic insights gained rather than the number derived from simple summation of the emissions from each category. There can often be double counting within a Scope 3 inventory – e.g. the emissions from two products sold may overlap in their estimated emissions, or overlap with upstream emission sources.

Concluding comments

National reporting of emissions embedded in traded goods is not a substitute for current national reporting arrangements under the Kyoto Protocol or the Paris Accord. It will come into more focus as countries / regions address issues of carbon leakage to places with lesser emissions controls.

Summary Sheet

Estimation of Emissions in Traded Goods and Services

Environment Institute of Australia and New Zealand Inc.

Introduction

This summary sheet sets out what is known about the emissions embedded in Aotearoa New Zealand's and Australia's traded goods and services. These facts are provided to support EIANZ's related position.

Summary

• Government estimates of emissions embedded in Aotearoa New Zealand's imports are published. No comparable estimates have been found for Australia's import commodities. For Aotearoa New Zealand, these represent half of national emissions.

• Australia's three largest exported (mineral and energy) commodities have large carbon intensities and emissions footprints that represent 50%-250% of the national emissions inventory. Australia should be planning for leading in the inevitable adjustments as the world progresses to net zero emissions.

• Aotearoa New Zealand's main exports are not as Scope 3 emissions intense as Australia's.

• Much more analysis is necessary in order to properly understand and manage these Scope 3 emissions.

Aotearoa New Zealand

For the year ended March 2023, Aotearoa New Zealand's GDP was NZ$385 billion. In 2022, exports (US$44bn) and imports (US$54) were roughly one-fifth of GDP.

Aotearoa New Zealand's 2021 net emissions were 55.7Mt CO2-e - 3% less than the 57.2 Mt CO_2- e of emissions in 2005. Aotearoa New Zealand's Nationally Determined Contribution (NDC1) under the Paris Agreement is to reduce net GHG emissions to 50% below gross 2005 levels by 2030.

Exports – Eight of the top 10 export commodities are primary products or processed primary products. All of them are expected to have relatively low Scope 3 downstream emissions intensities.

Aotearoa New Zealand's Top 10 Exports (2022)

Commodity	US$ billion	Per cent
Dairy, eggs, honey	13.4	30.4
Meat	6.3	14.3
Wood	3.3	7.6
Fruits, nuts	2.4	5.6
Beverages, spirits, vinegar	1.6	3.7
Modified Starches, glues	1.6	3.6
Cereal/milk preparations	1.6	3.5
Fish	1.2	2.6
Machinery	1.1	2.6
Aluminium	1.1	2.4
Other	11	23.7
Total	44	100

Imports – Machinery and equipment, vehicles, fuels, and pharmaceuticals are Aotearoa New Zealand's largest 2022 import items. There are 30.7 Mt CO_2-e emissions associated with 2019 imports – equivalent to 51% of NZ's carbon footprint in that year. Seventy-six per cent and 8% of these emissions respectively were "manufacturing" and "transport" related.

Aotearoa New Zealand's Top 10 Imports (2022)

Commodity	US$ billion	Per cent
Machinery incl computers	7.3	13.4
Vehicles	7.2	13.2
Mineral fuels	6.2	11.5
Electrical machinery, equipment	4.7	8.6
Plastics	2.0	3.7
Optical, technical, medical	1.7	3.1
Pharmaceuticals	1.7	3.1
Food industry waste, fodder	1.3	2.3
Articles of iron or steel	1.2	2.2
Furniture, bedding, lighting, sign	1.1	2.0
Other	20	36.9
Total	54	100

Australia

No definitive publication has been identified that details Australia's Scope 3 emissions.

For the year ended March 2023, Australia's GDP was A$2.2 trillion – placing it, in size, in the low teens globally. The economy is open to both imports and exports and in the year ended June 2022 both were valued at around $A0.5 trillion (roughly one-quarter of GDP).

Exports - The three most valuable exports (iron ore, coal [both metallurgical and thermal] and natural gas) have high Scope 3 emissions intensities (i.e. emissions per $M revenue). The remaining seven of the top 10 exports were mineral, energy, agriculture, or education related. Aluminium metal production is also emissions intensive.

The Australian economy, certain regions and society in general, would be much poorer without the export revenue from these export items.

Australia's Top 10 Exports (2021-22)		
Commodity	$A billion	Per cent
Iron ore & concentrates	132	22.3
Coal	114	19.1
Natural gas	71	11.9
Gold	23	3.9
Education-related travel services	21	3.5
Crude petroleum	14	2.3
Wheat	11	1.9
Aluminium ores & conc (incl. alumina)	10	1.7
Beef	10	1.7
Copper ores & concentrates	8	1.3
Other	182	30.5
Total	595	100

Imports - The top 10 imported items include: petroleum products, vehicles, technology equipment, pharmaceutical items, and professional services. No quantitative estimate of their upstream emissions has been carried out. Several of the commodities could have embodied emissions in the low tens of Mt CO_2-e and there are similarities with Aotearoa New Zealand in the types of commodities imported.

Apart from the refined petroleum products, each of these imports contain appreciable non-energy intensive value-add in their production and hence will be not as emissions intensive as the top three export commodities. Emissions associated with petroleum refining will be a fraction of that at the final point of use.

Australia's Top 10 Imports (2021-22)		
Commodity	$A billion	Per cent
Refined petroleum	40	8.7
Passenger motor vehicles	23	5.1
Freight	23	5.0
Telecom equipment & parts	16	3.4
Goods vehicles	13	2.8
Computers	12	2.7
Professional services	11	2.4
Pharm products (excl. medicaments)	9	2.1
Medicaments (incl veterinary)	9	1.9
Crude petroleum	8	1.8
Other	295	64.2
Total	460	100

Size relative to domestic emissions – The combined Scope 3 emissions associated with Australia's main exports are 2 – 3 times Australia's domestic emissions.

The Scope 3 emissions from the use of exported coal and the processing exported iron ores (assume 62% iron in the ore) both significantly exceed Australia's domestic emissions. These two emission sources cannot be added as metallurgical coal is used in steelmaking and effectively is the source of steelmaking emissions. The quantity of metallurgical coal exported from Australia is insufficient to smelt all of Australia's iron ore exports.

Emissions from use of liquified natural gas (LNG) are equivalent to around half of Australia's national emissions, whereas those from the production of aluminium from bauxite and alumina are dependent upon the source of electricity used in the smelting process, and the quoted figure could rise to 200Mt CO2-e if the electricity is fossil fuel derived.

Changes since 2005 - The physical amounts of these exports have all increased since 2005, which is the base year for Australia's domestic emissions targets under the UNFCCC Paris accord (i.e. 43% reduction by 2030 and 100% by 2050).

Economic and greenhouse gas contributions and growth of key Australian exports

	Iron Ore	Coal total	LNG	Al - feed
Export Revenue ($bn)	132	114	71	10
MTonnes Exported	874	359	83	18
Per Cent commodity growth (from 2005);	283%	54%	686%	116%
Downstream Emissions (Mt CO2-e)	1200	880	230	40
Downstream Emissions Relative to 2022 National Emissions	250%	180%	50%	10%

NOTES:

Coal total = Thermal + Metallurgical coal exports. In 2022 47% of exported coal was metallurgical coal. Assume carbon content for bituminous coal (0.663 t C/t fuel). DISR (2021) National Greenhouse Account Factors.

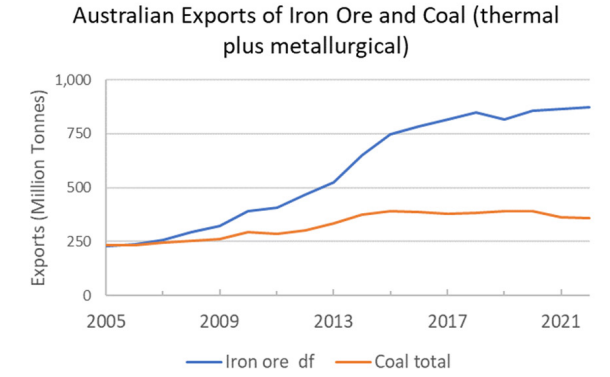
Al feed = approximation of the amount of aluminium made from bauxite and alumina exports - viz ~ 2 tonnes of bauxite is needed to produce 1 tonne of alumina and 2 tonnes of alumina is required to produce one tonne of aluminium metal

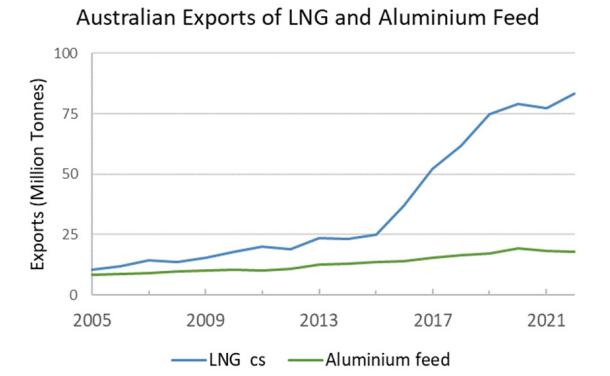
Emissions from processing of exported Al-feed is dependent upon emissions intensity of electricity used in smelting. This figure assumes 1.2t CO2-e/t alumina and 1.7 t CO2-e from anode use and PFC emissions during smelting. Emissions associated with smelter electricity consumption are excluded but can be quite high depending upon country of location.

Percent commodity growth (from 2005) - growth in physical exports since 2005 (the base-year for Australia's greenhouse gas emissions targets). For comparison of the same period Australia reduced its emissions by 22% (to 487Mt CO2-e) and has committed to a 46% per cent reduction by 2030 and net zero by 2050.

The emissions in traded goods and services are not included in Australia's Nationally Determined Contribution, so in this regard Australia is not in breach of international undertakings. However, as

the world works to the Paris Accord goal of net zero, Australia and its subregions will likely have to accommodate large changes in the markets for each of these commodities.





Concluding comments

There are plausible decarbonisation pathways for steelmaking, using hydrogen and electrification, and for aluminium production, using zero emissions electricity and inert anodes.

The only approach currently suggested for decarbonisation of fossil fuels is carbon capture and storage (CCS). CCS remains under-performing, expensive, socially contested, and dependent upon local geology and cannot be relied upon.

Some coal types are less emissions intensive than others (e.g. they have lower moisture content). Even so, relative to the need to achieve net zero by 2050 or earlier, there must be rapid phase-out of coal use, irrespective of differences in coal qualities.

Environment Institute of Australia and New Zealand Inc.

CLIMATE CHANGE POLICY AND ACTION

EIANZ Position Statement

The Environment Institute of Australia and New Zealand (EIANZ):

1. Accepts the consensus of the Intergovernmental Panel on Climate Change Sixth Assessment Report (IPCC AR6) that:
   - global temperatures have risen more than 1°C since pre-industrial times;
   - human-induced climate change is causing increasingly frequent, intense, and destructive natural events such as droughts, floods, fires, and cyclones;
   - immediate and bold action is required to reduce emissions, develop low emission energy and food production systems, and build adaptive capability so that we limit the increase in global average temperature to no more than 1.5°C above pre-industrial levels; and
   - a global temperature increment of 2°C above pre-industrial levels would have very high impacts for many important environmental and societal systems and must be avoided.
2. Recognises the challenges of the actions required to mitigate and adapt to climate change particularly for fossil fuel dependent communities and developing economies, and encourages comprehensive planning and action for a just transition, noting that since the formation of the UNFCC in 1992 emission increases have yet curtailed and immediate increased action is required;
3. Demands that national, state, and local governments, industry, business and environmental practitioners to lead by promoting mitigation, building resilience, and scaling-up the application of technologically, socially, and economically viable low-emissions alternatives.

Context

Climate change affects everyone and everything, but not equally. Its impacts are broad, complex, discriminatory, and cumulative. In 2022, scientific consensus and the IPCC confirmed that human activities have caused 1.0°C of global warming above pre-industrial levels – with a range of 0.8°C to 1.2°C. This change in global temperature is driving a change in sea level and global and regional climates.

Land and ocean ecosystems and the services they provide are being degraded. Species are under threat, components of our cultural heritage[1] are being destroyed and degraded, destructive weather events are increasing in frequency and intensity, and human social and economic systems (especially for disadvantaged groups) are being impacted.

Global warming is likely to reach 1.5°C between 2030 and 2050 if it increases at current rates – and then further increase. The 2022 IPCC synthesis report warns of a need to limit warming to 1.5°C to avoid the more serious impacts on terrestrial, freshwater and coastal ecosystems and their services to humans and cultural landscapes[2].

Limiting temperature rise this century to 1.5°C involves stabilising global emissions now and achieving net zero emissions before 2050 and requires lifestyle changes and technological transformation in our energy, transport, industrial processes, and land management systems. It also requires governments to enact legislation that obliges commerce and industry to drive down emissions and encourages development of low emission alternatives.

Even in achieving this, resilience-building through adaptation to and recovering from residual impacts (loss and damage) will be necessary and, as part of this, governments must listen to and work with custodians and managers of cultural landscapes, including Traditional Custodians and Indigenous Peoples, to manage, protect and conserve cultural heritage under threat or degraded by climate change.

1 2 The terms 'cultural heritage' and 'cultural landscape' are defined broadly. They encompass landscapes, seascapes, artefacts and elements of intangible heritage. The UNESCO operational guidelines for the World Heritage Convention also broadly define 'cultural landscape' as "cultural properties which represent the 'combined works of nature and of man'".

International efforts to understand and manage climate change have been underway through the International Panel on Climate Change (IPCC) since 1988. The 2015 Paris Agreement set two temperature increase goals ((i) less than 2°C and (ii) well below 2°C and as close to 1.5°C as possible), and introduced a new approach, the "bottom up" Nationally Determined Contributions (NDCs).

Up until COP28 (2023), the cumulative NDC pledges were insufficient to limit temperatures to 2°C and national actions to implement these pledges have lagged, raising doubts as to whether the pledges will actually be delivered.

Role of decision makers

Australia and Aotearoa New Zealand are both signatories to the Paris Agreement and have been implementing specific climate related policies for over the past quarter century. Both have stated positions to achieve net zero by 2050. However, their emissions profiles, options, policies, legislated requirements and end of decade (i.e. 2030) targets and ambition differ.

While climate change is a global challenge, solutions require personal, organisational, local, regional, national, and international action in a participatory and integrated manner.

Decision and action to address the causes and impacts of climate change need to occur at multiple levels across a broad range of sectors.

Governments have a key obligation to protect and enhance the environment by providing clear leadership, policy and legal frameworks that achieve the necessary emission reductions and adaptive responses. The business community has an obligation to support and implement these policies and actions and go beyond mere compliance to achieve zero emissions as soon as possible.

EIANZ proposes and advocates for the following broad responses from Australia and Aotearoa New Zealand:

1. Internationally – Engage with urgency to achieve effective, fair, and sustained global action and develop NDCs and implement responses that are consistent with limiting warming to 1.5°C (or less).

2. Cooperation – Collaborate with countries regionally to adapt to impacts of climate change and transition to low carbon economies. Support developing economies in our region, including by sharing technology. This includes Australia and Aotearoa New Zealand meeting all of their NDC obligations to developing economies.

3. Collaboration - Engage and support custodians and managers, including Indigenous Peoples and Traditional Custodians, of at-threat cultural landscapes, in work to protect these cultural landscapes from further climate change related degradation or destruction (noting and working with various intiatives that support this work[3]).

4. Strategy – Implement a detailed strategy for delivering net zero by 2050, including short- and medium-term targets (50% by 2030 as a minimum).

5. Regulation and policy – Enact legislation that obliges industry and commerce to drive down emissions and encourages development of low emissions technology and adaptive capability.

6. Whole of society – Consider climate change impacts and opportunities for emissions reduction in every decision relating to planning, industry, business, finance, health, building, energy, transport, cultural heritage, land and environment policy and law.

7. Technology and capacity building – Fund research into mitigation and adaptation; pilot low emissions technologies; and plan for the transition of fossil fuel related jobs to roles within a net zero economy.

3 See: the United Nations Preserving Legacies Program funded by ICOMOS and National Geographic Society; and, Organisations such as Seed, First Nations Clean Energy Network and Our Islands Our Home which advocate and develop initiatives for preserving cultural landscapes at threat by climate change.

8. Mitigation – Provide clear, simple, and credible legal and commercial frameworks for the efficient and economic shift to sustainable zero emissions technologies.
9. Adaptation and impact response – Build resilience through adaptability, strengthen emergency response capability, and ensure that adaptation strategies are supported by cutting edge research. This should include cooperation with regional neighbours and Indigenous Peoples to ensure capacity to adapt to and manage impacts, including the potential for relocation of Pasifika communities affected by shore erosion and sea level rise.
10. Consultation - Engage communities in the transition to a low carbon economy including the provision of clear information to enable informed decisions on investments, insurance, and other activities. Consult and engage with Indigenous Knowledge-holders and Traditional Custodians on this transition.
11. Equity – Ensure that socioeconomic capacity does not limit communities' abilities to mitigate and adapt to climate change. Utilise the transition to achieve greater equity nationally and internationally.

Policy into practice

EIANZ has a clear interest in environmental protection, sustainable development and maintaining objective professional standards as we address the risks and opportunities from climate change.

It will continue to:

1. Educate – Train and certify environmental and sustainability professionals to drive emissions reduction and climate change adaptation activity. Provide opportunities to custodians and managers of cultural landscapes for climate change specific training that includes Indigenous perspectives.
2. Engage – Work with peer institutes, associations, government, custodians of cultural landscapes, and communities to promote sound outcomes and accelerate climate action.
3. Influence – Actively advocate for necessary change and engage governments and other decision makers at all levels to urgently reduce emissions consistent with IPCC targets and immediately build resilience and adaptive capacity.

EIANZ encourages environmental policy makers and practitioners to undertake:

1. Climate risk assessment – Embed assessment of climate related risk into strategic decision making and long-term planning.
2. Informed decision-making – Remain informed of climate science and policy as well as mitigation and adaptation practice, and to use credible research results as foundations for policies and strategies to respond to and mitigate climate change.
3. Resilience building – Consider the impacts of a changing climate on the current and future needs of human communities, cultural landscapes and values, other species, and ecosystems, and design management plans accordingly.
4. Verification – When monitoring and evaluating the outcomes of policy, ensure strategies and actions account for both direct (e.g. increase in temperature, reduced rainfall) and indirect (e.g. altered fire regimes, shifting seasons) impacts of climate change (as distinct from a narrower process focus on management interventions).
5. Advocacy and collaboration – Be champions for climate action and advocate for necessary change. Co-design and implement strategies with sectors and communities to encourage behaviour change that increases mitigation and adaptation. EIANZ recognises that environmental practitioners will act directly, to increase factual attention to the climate crisis and to affect solutions necessary in government policy and business practice.
6. Landscape connectivity – Protect and reconnect natural landscapes to allow wildlife and plants to migrate and adapt in response to the effects of climate change as well as our understanding of cultural environments and the interconnection of cultural, spiritual, historical and scientific values.

The Environment Institute of Australia and New Zealand (EIANZ) is Australasia's peak body for environmental professionals. As part of a global network of more than 100,000 environmental practitioners, we advocate for sound environmental policy and promote ethical and competent practice.

EIANZ represents members and certified practitioners from a diverse range of technical disciplines including environmental scientists, policy makers, engineers, lawyers, and economists. Our members are at the forefront of challenging and complex issues such as climate change, sustainability and preserving biodiversity.

EIANZ has Position Statements on a range of key environmental issues. These are periodically reviewed by our Policy and Standards Committee and re-endorsed by the EIANZ Board. All current Position Statements can be accessed here.

Environment Institute of Australia and New Zealand

Water Position Statement 2024

Summary

Water is vital for life on earth. However, communities and ecosystems are feeling the impact of historically poor water practices and increasing climatic events.

EIANZ believes:

1. Water needs to be better and more sustainably managed nationally and locally to provide resilience and enhance environmental, economic, cultural and wellbeing outcomes.
2. We must better engage with First Nations peoples to understand their values and imperatives for decision making.
3. Reform of our practices needs to accommodate water's relationships with ecosystem health, climate change, energy, and cultural and regional needs.
4. Reforms should encourage catchment-scale management practices.
5. Sustained and sustainable investment is needed in infrastructure, assessment tools and monitoring.
6. Ongoing awareness raising, and education are essential.
7. A robust approach to compliance and enforcement should support awareness raising.

Introduction

Australia is the world's driest inhabited continent. Water scarcity, droughts and floods are common and are exacerbated by climate change. Since the 1880s, Australia has extensively developed its rivers and groundwater resources, and over-allocation of water has impacted the quantity and quality of water. Irrigated agriculture accounts for around 70% of annual water use.

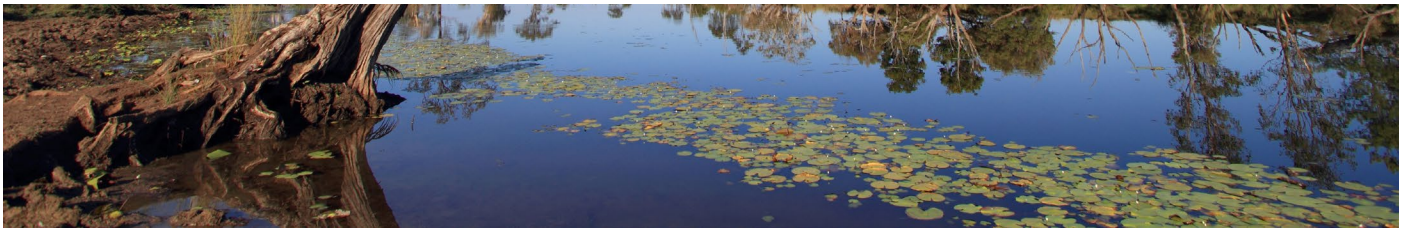
Water is core to life for Aboriginal and Torres Strait Islander peoples. Protecting and managing water is a custodial and intergenerational responsibility, and First Nations Australians have many dreaming stories linked to water. If the cultural and spiritual values of water are sustained, many other components of First Nations life will be healthy.

Aotearoa New Zealand is rich in water; however, its ecosystems are under strain from human activity. Some nationally important rivers are subject to large scale hydroelectric or irrigation projects, and municipal wastewater and industrial discharges. Most freshwater resources are affected by excess nutrient runoff from farming.

Māori regard water as a living entity (having its own lifeforce or *mauri*) and the concept of *Te Mana o te Wai* has been written into government policy since 2014. This recognises that protecting the health of freshwater protects the health and well-being of the wider environment.

Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community. It protects the mauri of the water.It refers to the vital importance of water; and when managing freshwater, it aims to ensure the health and wellbeing of the water is protected and human health needs are provided for, before enabling other uses of water.

The New Zealand coalition government (formed November 2023) intends to review and "rebalance" these objectives to better reflect the interests of all water users.



Looking ahead

Despite efforts to improve water management over the past 30 years, issues remain. Nationally significant resources, such as Australia's Murray Darling Basin, continue to degrade, and the fate of World Heritage Places, such as the Great Barrier Reef, in part, will be decided by water management controls.

It is now time to move away from viewing water as a commodity, to value our natural resources for future generations, and recognise water's intrinsic value as part of a natural cycle. Key factors requiring attention are:

- Integration of First Nations perspectives including use of local knowledge to inform sustainable water practices.
- Climate change, which is increasing rainfall intensities, droughts and wildfires.
- Water degradation through increased urbanisation and diffuse discharges.
- Clearance of native vegetation, the draw-down of aquifers, and the loss of wetlands through land drainage.

Water policy is complex, with tensions caused by the multiple stakeholders involved, the multiple uses of water, and the multiple issues being faced. Tensions also arise due to the broad geographic areas needing to be addressed, the complexity of ecological and hydrological processes, over allocations, quality degradation, and poor understanding of groundwater and its connection with surface water. Trade-offs are inevitable and to date the natural environment has tended to come off second best.

Decision-makers (including policy makers, regulators, and managers at all levels) are often heavily lobbied by significant water users.

Role of decision makers

Cooperation and coordination – Collaboration is required at all levels of government and between departments, planners, the primary and energy sectors, business and community to ensure aquatic systems are used and managed sustainably. First Nations perspectives, especially those based on local knowledge and partnerships, must be respected. Decisions should include wide stakeholder engagement and be made in partnership with First Nations Peoples.

Risk – Decisions need to be based on an understanding of risk and be future looking. Ecological, social, cultural and economic risks must be understood for a range of scenarios and the precautionary principle applied. The consequences and acceptability of trade-offs must be understood. Water management needs to be evidence-based, holistic, accountable and economic. Assessment of water-related risk should be part of strategic decision making and long-term planning.

Investment – Investment is needed in new approaches and technologies that have been developed over recent years. Investments should anticipate future needs and be evaluated. Specific investment areas include sustainable water harvesting; water efficiency; water sensitive urban design; integrated water and catchment management; water cycle accounting and budgeting; and industrial best water practices.

Innovative funding – Innovative funding is needed for: establishing a fair value for water for commercial and ecological needs; offsetting of nutrients and sediments; and evaluating insurance claim benefits from improved water and catchment management.

Awareness and involvement – Decision makers must provide relevant information to everyone with an interest in water. Stakeholders need to understand key issues and their effects and the future of water as natural asset.

Water rights and environmental flows – Environmental flows must be protected and accounted-for. Governments, when separating water rights from land (in terms of entitlement, volume reliability, transferability, and quality), should consider the physical, cultural, and natural constraints of the catchments and environmental priorities. Water allocation should be carefully considered and monitored with enforcement provisions.

Resilience and adaptation – Policies and plans should reasonably anticipate the impacts of natural and climate change induced cycles.

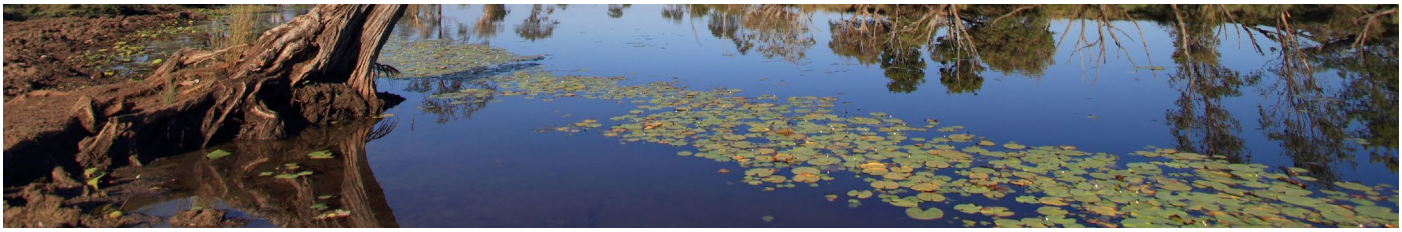
Policy into practice

EIANZ has a clear interest in environment protection, sustainable development and maintaining objective professional standards. The Institute will continue to:

Educate – Train and certify environmental professionals to build capacity and capability to address water related issues.

Engage – Work with other associations with aligned interests to promote sound outcomes and accelerate improved water management.

Influence – Work with government at all levels by reviewing and providing submissions on relevant policy and participating in governmental workshops and consultation processes.



EIANZ encourages environmental practitioners to be guided by the following principles:

1. *Understanding and incorporating* – Take steps to understand and incorporate First Nations values and requirements for sustainable water management.
2. *Informed decision-making* – Develop and use credible research results and consider cultural knowledge and local First Nations perspectives in decision making.
3. *Resilience building* – Consider the impacts of a changing aquatic environment on the future needs of species, ecosystems and communities and design for their protection.
4. *Verification* – When monitoring and evaluating the outcomes of policy, strategies and actions, account for hydrological, ecological, social, cultural and economic changes.
5. *Collaboration* – Co-design and implement strategies with sectors, Te Mana o te Wai and communities to increases water use efficiency, water quality, habitat conservation and community resilience.

The Environment Institute of Australia and New Zealand (EIANZ) is a not for profit, professional association for environmental practitioners from across Australia and Aotearoa New Zealand. EIANZ has a certification scheme that recognises ethical and professional practice which assures government, industry, and the community of practitioners' professional standing. EIANZ is represented by jurisdictional Divisions, a New Zealand Chapter and supported by Special Interest Sections covering climate change, heritage, ecology, environmental accounting, and impact assessment. Its membership is drawn from all areas of environmental practice, and includes practitioners with industry, government, community, and academic careers.

Environment Information Australia

Extract from EIANZ's March 2024 submission on Australia's nature positive reforms

The creation of Environment Information Australia (EIA) and the National Environmental Standard for Data and Information (the Standard) provide a unique opportunity to create a transparent, reliable, comprehensive and accessible source of data relating to environmental impacts and pressures across a range of indicators.

A very high number of stakeholders in the public and private sphere would find this valuable to inform decision making in a range of contexts.

However, as we outline below, there is work to be done on the scope and mechanics of the Standard and the EIA.

Aligning the Scope of the National Environmental Standard for Data and Information with the work of Environment Information Australia (EIA)

Current documentation suggests there is misalignment between the scope of the Standard and the work of the proposed EIA. The fact sheet produced by the Department states that the Standard "will apply for all environment data and information used by decision-makers when making relevant decisions" for planning and approval purposes. The Standard also specifies that it includes data and information related to understanding patterns and dynamics of nature and the environment, as required to meet decision making needs under the Act and cites several examples. Almost all the included datasets are derived from ecological studies or surveys. While very important, these datasets do not paint a complete picture of the systemic interconnections that are an inherent part of natural systems.

Given that the Department's website and consultation documents describe the role of the head of the EIA (HEIA) as being quite broad and including initiatives such as State of the Environment reporting, environmental-economic accounting, tracking environmental outcomes, and establishing a baseline and report on nature positive progress and outcomes, it is difficult to see how information limited to these data sources cited above will adequately satisfy these deliverables.

To be able to fulfill their proposed role, the HEIA will require access to a broader spread of information sources than are currently provided for in the draft Standard, with its current narrower focus on the EPBC Act. As currently outlined, the information and data to be overseen by the EIA appear limited to the condition of Matters of National Environmental Significance (MNES) without consideration of external dependencies, impacts or pressures that should be recorded or referenced in order to enable positive outcomes. Useful additional information includes emissions of pollutants such as greenhouse gases, noxious gases and particulate matters, excessive nutrient and effluent flows or meteorological changes over extended periods.

There are many potential sources for this type of information, including:

- National Greenhouse and Energy Reporting scheme data
- National Pollutant Inventory
- The Atlas of Living Australia
- National Performance Report for water utilities.

EIANZ recommends increasing the scope of information for which the EIA is responsible to allow for a more holistic overview. This would also allow stakeholders outside the public sphere to make environmentally important decisions more consistently and transparently.