

Accelerating renewable energy development while delivering *environmental net gain*

Bioregional Planning
Case Study Research Report

April 2026

About the Australian Climate and Biodiversity Foundation

The Australian Climate and Biodiversity Foundation (ACBF) was established in 2021 to advocate for Australia's native forests, protecting and restoring them from the ongoing threats of logging and land clearing. Since then, the organisation has expanded its mandate significantly, championing a future where economic prosperity and environmental protection go hand in hand.

The ACBF's mission is to bring together governments, businesses, and communities to protect and restore nature across Australia, with the overarching goal of helping Australia become Nature Positive – a state in which thriving ecosystems support a stable climate, strong communities, and sustainable economic opportunities. Central to this mission is the organisation's commitment to delivering the Global Biodiversity Framework, agreed by the international community in 2022, which sets a shared goal to halt and reverse nature loss by 2030.

The ACBF's approach focuses on understanding the systemic forces driving biodiversity loss and intervening to shift the underlying market conditions. It supports governments and private sector leaders by building broad-based, diverse coalitions to design innovative policy and economic solutions, strengthen regulation, mobilise private investment, and create new economic

opportunities for regional communities through the protection and restoration of nature.

The ACBF's work is organised around three priority areas, all in support of the Global Biodiversity Framework: strong nature laws that underpin a prosperous economy while protecting the environment; forestry reform focused on ending native forest logging and spurring regional investment; and the development of carbon markets that recognise the economic value of Australia's forests and biodiversity.

The ACBF is led by a board that includes prominent figures from economics, finance, conservation, and public policy. Chaired by Dr Ken Henry, former Treasury Secretary under the Howard, Rudd and Gillard Governments, alongside Treasurer Tim Reed, a former head of the Business Council of Australia, and Executive Director Lyndon Schneiders, one of Australia's most recognised environmental advocates.

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Executive *summary*



Overview

Australia's biodiversity and climate challenges

Australia faces the dual challenges to prevent biodiversity loss and abate greenhouse gas emissions. As of May 2025, there were 1,962 species listed as critically endangered, endangered, or vulnerable in Australia¹. Australia's adoption in 2022 of the *Kunming Montreal Global Biodiversity Framework* means that the nation has committed to 23 action orientated targets to halt and reverse biodiversity loss by 2030 with four outcome-oriented goals to achieve by 2050. These commitments aim to ensure that Australia's natural environment is conserved, restored and sustainably used for future generations.

At the same time, Australia has legislated a net zero emissions target by 2050, and the infrastructure investment needed to support the energy sector's transition is estimated to be \$156 billion (2025 dollars)². Australia has also committed to reducing emissions to 43% below 2005 levels by 2030 and to 62–70% below 2005 levels by 2035³. The Renewable Energy Target (RET), 82% renewable energy generation by 2030, forms a key component of these commitments.

These goals cannot be pursued in isolation. They must be integrated and mutually beneficial. A healthy and resilient environment is essential for the prosperity of Australian communities and industry. Getting these settings right and acting now is in the national long-term interest.

Federal environmental approvals sit at the centre to progress renewable energy projects and yet are the single biggest barrier⁴ could slow progress towards the Government's RET putting Australia's emissions reduction target at risk⁵. Renewable industry analysis reports that since 2023, only one

in 89 projects in NSW, Victoria and Queensland referred under the EPBC Act have received a final decision⁶. However, a review of data reveals that over this period 60 renewable energy project decisions have occurred in these jurisdictions. Of these, 53 projects were determined in as little as four to six weeks to proceed without the need for full assessment and approval (i.e. Not Controlled Actions). The remaining seven projects were assessed as Controlled Actions with approvals granted within a range between 18 months to over two years.

While decision making outcomes have improved, some persistent assessment issues remain such as delays caused by additional information requirements, lengthy and uncertain conditions and duplication between federal and state conditions.

Assessment delays lead to both direct costs to proponents from collecting various types of information regulators require and indirect costs that include delayed revenues while waiting for an approval to start construction. For example, the Queensland Renewable Energy Council has reported that 'a 12-month delay in financial close on a \$400 million project can add more than \$20 million in holding and opportunity costs'⁷. A delay of up to three years may cost up to \$60 million.

Reform is therefore essential. Not just in a legislative sense, but reform of guidance and culture to support the statutory change to approval pathways. Faster, more predictable project decisions are critical to provide investment certainty, reduce costs and help Australia meet its emissions reduction targets. It is equally necessary that reforms create the foundation for stronger environmental protection and restoration and to incentivise collaborative industry investments in nature, supported by more effective engagement with local communities.

Modernised national environmental laws should meet these challenges

In November 2025, reforms to overhaul the *Environment Protection and Conservation Act 1999* (EPBC Reforms) were passed by the Australian Parliament establishing a platform for achieving Australia's biodiversity and climate goals. Reforms in support of bioregional planning provides a key new tool to achieve net-gain environmental outcomes and improve renewable energy project certainty and is underpinned by enforceable National Environmental Standards (Standards) and an independent regulator. It will also give communities upfront information on restoration priorities and the likely renewable energy rollout; both are essential for building social license.

Bioregional planning has the capacity to be game changing. It is designed to provide high-quality information that resolves difficult biodiversity and project decisions upfront, delivering faster and more reliable renewable energy project decisions, including approvals, rather than through costly, extensive and uncertain piecemeal project-by-project assessments. This approach can better manage cumulative environmental impacts, identify 'no go' zones up front, and expedite regional scale investment in conservation, restoration, and essential renewable energy projects. By providing clearer guidance on environmental protections, bioregional planning should also help reduce consultation fatigue by minimising engagement on projects unlikely to proceed.

BOX 1

What are Bioregional Plans?

Bioregional Plans are intended to streamline assessment processes by providing an upfront, region-wide assessment of actions required to achieve net environmental gain and by clearly defining unacceptable impacts for each matter of national environmental significance (MNES). A key reform is that registered priority actions (priority infrastructure developments) may proceed without project-specific approval, provided they are located within a designated development zone and comply with applicable conditions. Bioregional Plans must be made with the agreement of State and Territory governments.

Substantial budget and implementation challenges lie ahead

However, systemic under investment in biodiversity data has created a significant risk that bioregional planning becomes high-level and ineffective. Our landscape-based case studies show that federal data can be fragmented, inconsistent, unreliable, or absent and leads to relying on state and territory data. However, this data has been produced for a different purpose and can also be fragmented, inconsistent and unreliable. In Orange (NSW), coarse federal mapping has the potential to imply an overestimation of biodiversity values, locking high-potential development land in regulatory limbo. In Hughenden (QLD), a vast greenfield area, a total lack of historical surveys prevents the creation of fast-track zones, leaving a 10 GW pipeline stalled. Without improved data, proponents may face expensive multi-year studies, or projects and progress towards the RET may stall while essential data is generated to support bioregional planning.

The EPBC Reforms provide the architecture to address these issues. The recent establishment of Environment Information Australia, responsible for providing access to environment data and preparing State of Environment reports and Environmental Economic Accounts, and informing the development of National Environmental Standards for data and information, Matters of National Environmental Significance (MNES), will support progress to implement bioregional planning enabling faster, more consistent decisions.

That said, delivering the transformation expected from the EPBC Reforms will require immediate, substantial and sustained investment. It will be resource intensive to build the data infrastructure, skilled capability and capacity to establish and maintain the baseline information required to protect MNES, set Bioregional Plan outcomes and monitor progress. Further, significant resources will be needed to complete cumulative impact assessments that facilitate much needed investments in conservation, restoration and faster renewable energy decisions.

Given the urgency required to meet both biodiversity and climate goals, continued collaboration particularly across jurisdictions, academia, the community, and industry will be essential to ensure bioregional planning remains practical, scientifically credible and responsive to new information.

Many of our recommendations support the development of Bioregional Guidance Plans so that they can be implemented rigorously and as quickly as possible.

We also acknowledge the important collaborative bioregional pilot work between federal and state governments already under way. Bioregional planning would not be possible without this early coordinated work occurring.

Key findings

The next 12–18 months must be a concentrated period of action and investment to establish effective bioregional planning and assessment processes. Dedicated funding and strong jurisdictional coordination will be essential to ensure bioregional planning provides certainty and transparency.

The following findings and recommendations are intended to support this transition, drawing on planned government initiatives.

National benefits will accrue from faster approvals

Industry consistently highlights that EPBC approvals are the critical bottleneck for delivering the RET and the emissions reduction goal⁸. Swift, effective implementation of the EPBC Reforms is required to build investor confidence, reduce costs, and unlock capital for both renewables and biodiversity outcomes. Clear identification of bioregional planning priorities aligned with renewable energy zones and supported by delivery timelines for Bioregional Guidance Plans and Bioregional Plans and assessment processes will support achieving these outcomes.

Recommendation 1. Publish the roadmap.

Publish Bioregional Guidance Plan and Bioregional Plan priorities for the next four years supported by an end-to-end implementation schedule covering Bioregional Guidance Plans, Bioregional Plans, and new assessment pathways. This schedule should assist the timing and investment certainty for the renewable energy pipeline. The steps, roles, and milestones to develop Bioregional Guidance Plans and Bioregional Plans should also be spelt out.

As reforms roll out, it will be essential to ensure that new and existing processes are integrated in a way that creates a simple and streamlined end-to-end bioregional planning and environmental assessment system. However, the establishment phase of any new regulatory system is where unintended administrative complexity can emerge. Applying guidance such as a *Regulatory Policy, Practice and Performance Framework*⁹ should help ensure arrangements are integrated, risk-based, user-friendly and outcomes focused.

Recommendation 2. Ensure best practice regulation principles are embedded.

Align administration of EPBC processes to the Regulatory Policy, Practice and Performance Framework to prevent unintended complexity during establishment and ensure efficiency gains are fully realised.

Significant investment is needed to secure faster, more consistent decisions, including approvals

Delivering bioregional planning at the necessary scale and pace to achieve intended outcomes will require long-term program funding to set up new processes and to maintain capability.

While full costs will vary, bioregional pilot projects have each cost about \$2 million to investigate plan establishment¹⁰. Investing in priority renewable energy zones where multiple projects can be accelerated offers a stronger return than the high costs of project delays. For example, a \$40 million Australian Government investment in bioregional plans, the same cost as a two-year delay to a single \$400 million project¹¹ could fund 5-10 plans that speed up renewable projects while protecting and restoring high-value biodiversity areas. In addition, funding will also be required to operationalise the plans and ensure assessment teams are adequately resourced to support rapid decision making.

Speeding up renewable energy project decisions is essential, but so too are decisions on “no go” or high-risk areas. Industry needs clear signals about where projects are likely to face significant delays and higher costs, and where they may be streamlined. This clarity is critical to allocate resources efficiently and forms the rationale for the extent of funding required to deliver several bioregional plans soon along with investments needed to implement and keep them up to date once they become operational.

In addition, competition payments under the National Competition Policy should be used to incentivise states and territories to deliver high-quality, bioregional plans on time.

Recommendation 3. Fund for scale and performance.

Establish multi-year program funding for EPBC Reforms and a competition-based payment model for jurisdictions to drive timely bioregional planning.

A major shift in data quality and accessibility is essential

Bioregional pilots in QLD, NSW, VIC and SA are helping inform the planning process and potential future plans. While focused on MNES, they also consider matters referred to under state legislation (or matters of state environmental significance). Our case studies in Orange (NSW) and Hughenden (QLD) show persistent challenges in accessing reliable biodiversity data underscoring that biodiversity is poorly monitored and coordinated in Australia¹². Consequently, MNES datasets are often incomplete, fragmented, or inconsistent, reflecting longstanding underinvestment. Species, ecological community and habitat data are particularly unreliable. In addition, guidance will be required to support the consistent interpretation of the statutory definition of ‘irreplaceable habitat’ (s. 528) and to clarify the processes through which its identification and validation should occur. In Orange, (Figure 1), an area of active investment linked to the *Central-West Orana Renewable Energy Zone*, precise spatial data is essential for fast decision making. However, coarse federal mapping has the potential to imply an overestimation of biodiversity values. Given the nature of species data, particularly the challenges associated with mapping migratory and mobile species, existing mapping approaches often delineate broad areas that are likely to overestimate actual observed occurrences. The NSW Government

has completed species and potential habitat mapping for *Central West Orana Conservation Investment Strategy*¹³, but some of this data is unpublished. Hughenden, which sits at the heart of the 840 kilometre long CopperString transmission line, faces the opposite problem, (Figure 2): its large geography and limited surveys restrict the identification of potential conservation and development zones. Without predictive modelling and expert review for example, renewable energy projects may be delayed.

Across jurisdictions, hundreds of datasets exist from various federal, state, local, academic, industry and citizen-led sources. Yet proponents are unable to access relevant information and lack guidance on which are fit-for-purpose.

Bringing this data together is not a small task. It requires synthesising how large volumes of data of varying quality have been collected, interpreted, and presented. Queensland’s more integrated, state-significant values framework is comparatively streamlined. While some centralised datasets for specific regulatory purposes are housed by the Commonwealth (e.g. [Protected Matters Search Tool](#) and [Species Profile and Threats Database](#)), no national ‘single source of truth’ for MNES data exists that is adequate for the purpose of bioregional planning. Priority investment in surveys, modelling and ecological risk assessments is needed to build reliable baselines.

Clear methods for synthesising government and third-party data will be critical to integrate disparate data of various quality so that it can be reliably used as an evidence base for bioregional planning. Environment Information Australia, supported by the forthcoming Data and Information Standard, the Australian Biodiversity Information Standard¹⁴ and technical guidance, will be central to lifting data quality and its availability.

Figure 1: Location of Orange case study

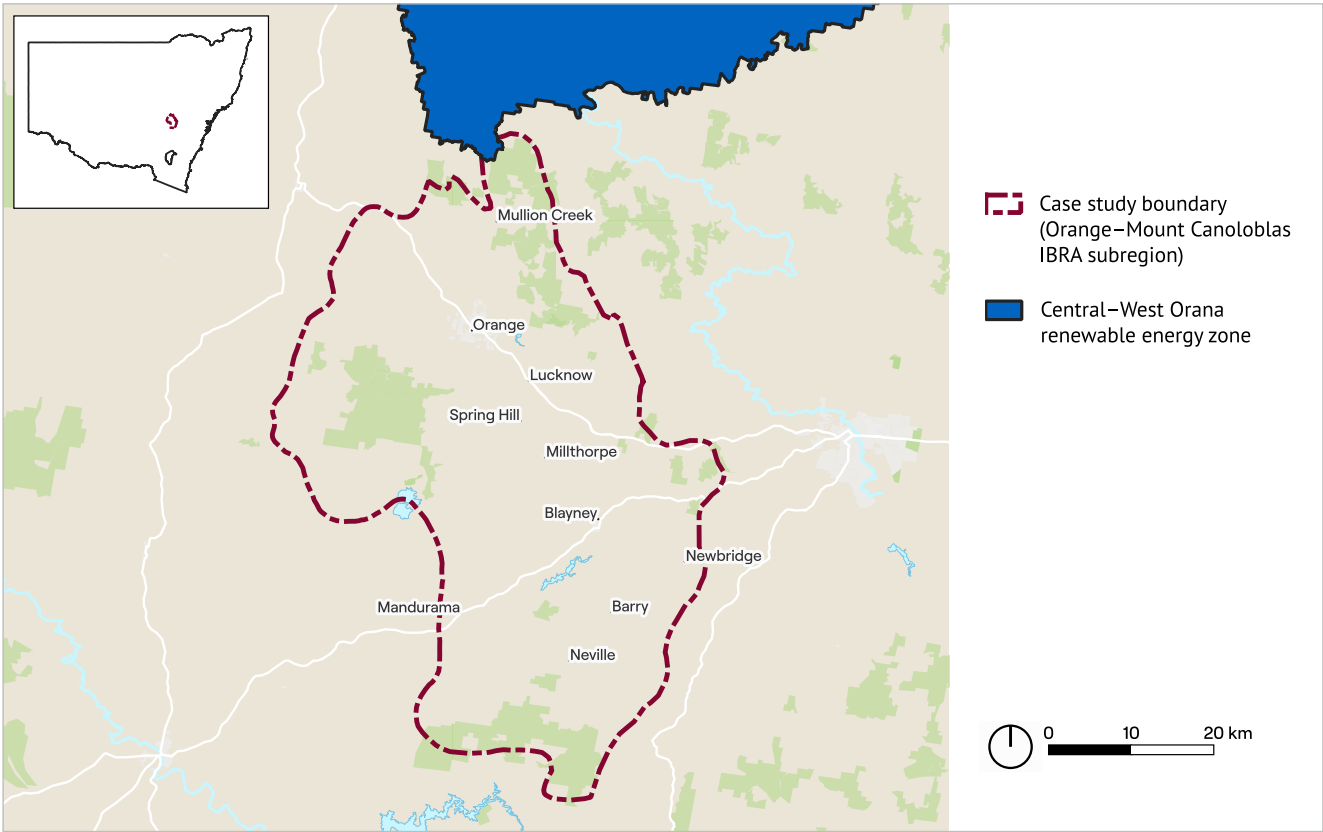
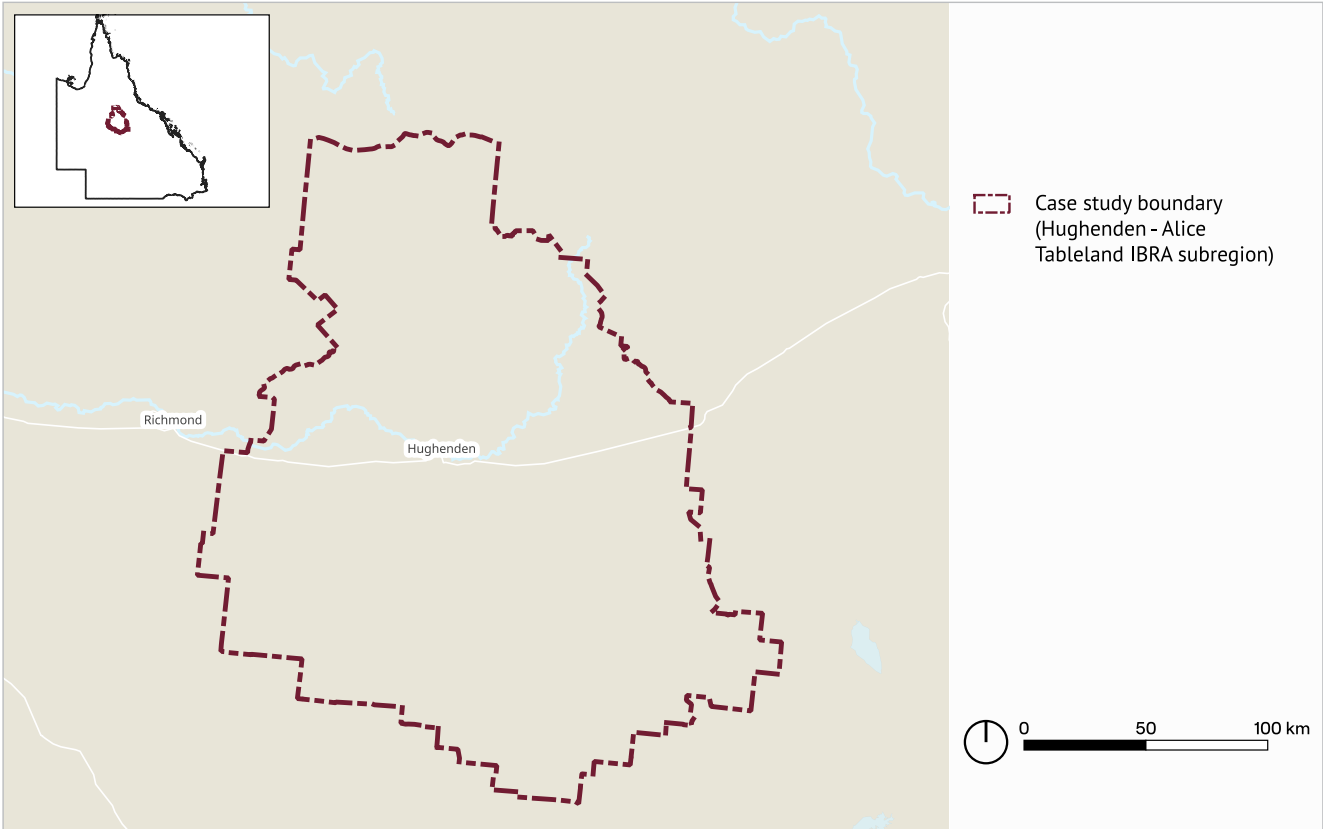


Figure 2: Location of Hughenden case study



Different methods and quality standards risk producing inconsistent Bioregional Guidance Plans. A national Bioregional Planning Standard along with supporting guidance and tools are needed to drive greater consistency.

Delivering this work will require substantial technical expertise. Partnerships with research organisations, such as those responsible for species' modelling at the Threatened Species Recovery Hub, and the industry-environment Biodiversity and Renewables Institute Australia can accelerate modelling and analysis capability and build capability across government.

As bioregional planning expands, existing information systems will need to be replaced by an integrated national data portal, a single trusted source of environmental information and a one-stop-shop for guidance, assessment and monitoring.

Recommendation 4. Set the national method.

Create a Bioregional Planning Standard and subsidiary guidance and tools to standardise modelling techniques, baseline information, and assessment requirements.

Recommendation 5. Close critical gaps.

Prioritise collection for key species, ecological communities and habitat and identification and treatment of irreplaceable habitat. Provide guidance to support the consistent interpretation 'irreplaceable habitat' and the processes through which its identification and validation should occur.

Recommendation 6. Synthesise data.

Ensure technical guidance that synthesises state/territory and third-party datasets with federal MNES data supports bioregional planning priorities.

Recommendation 7. Establish partnerships to boost capacity. *Enter partnerships with research bodies to accelerate modelling, analysis and capability building across government.*

Recommendation 8. Invest in an integrated national portal. *Prepare a business case for a centralised, trusted, single source of environmental information and a 'one-stop-shop' guidance, assessment, decision and monitoring tool.*

Robust methods will be essential to create certainty for new zones

Before Bioregional Plans are established, Bioregional Guidance Plans will provide a vital tool that will identify preferred locations for conservation and restoration and renewable energy development. There will be inevitable data gaps and inconsistencies, but they will still direct proponents to locations with low environmental values and at the same time outline regional restoration priorities. To assist proponents and decision-makers alike, Bioregional Guidance Plans should also include upfront information requirements to help clarify project information obligations and needs. This should help streamline environmental assessment decisions and support faster investment in renewable energy projects and restoration.

Bioregional Guidance Plans may transition to Bioregional Plans or they may be developed without a prior Bioregional Guidance Plan. Bioregional Plans will be different, as they will establish conservation and development zones and this will be a significant undertaking. For the first time, bioregional planning will form the

basis for environmental decisions and provide a pre-approval pathway (i.e. compliant priority actions that can proceed without the need for an approval). This raises the evidentiary standard required as information traditionally required under a project-level assessment must be resolved upfront in a Bioregional Plan especially for projects to proceed without an approval.

Bioregional Plans must therefore specify conservation and development zones with boundaries and buffers that reflect the location, condition, threats and cumulative impacts for each MNES. For plans to be effective, it is essential that they also incorporate issues such as access to transmission infrastructure for renewable energy projects and avoiding high value agricultural land. Transparent, practical and scientifically robust decision rules will be essential, with flexibility to refine zones as development, restoration outcomes or new information emerges.

Zones will not simply operate as ‘go’ and ‘no go’ due to varied environmental conditions and existing land uses. This is generally reflected in the EPBC Reforms which identify Bioregional Plans will include conservation zones where development is restricted (i.e. Zone 1) and development zones where priority actions may proceed without the need for an approval if they comply with conditions and pay a restoration charge (i.e. Zone 3). The areas “in-between” these zones would be subject to merit-based environmental assessment processes (i.e. Zone 2). This principle-based structure may therefore involve:

Zone 1: Development is not allowed.

Zone 2: Development is allowed subject to an environmental assessment and approval.

Zone 3: Development is allowed without approval, subject to conditions¹⁵.

BOX 2

What are the differences between Bioregional Guidance Plans and Bioregional Plans?

In simple terms, Bioregional Guidance Plans inform decisions while Bioregional Plans make decisions.

Bioregional Guidance Plans are strategic, region scale plans that improve transparency by bringing together information on MNES, key threats, restoration opportunities, and areas that may be suitable for development. They guide decision making by helping proponents, regulators and communities understand environmental values and priorities across a landscape or seascape.

Bioregional Plans go further by establishing conservation and development zones, together with binding conditions and restoration measures. Where a Bioregional Plan is in place, registered priority actions (priority infrastructure developments) may proceed without single project approval, provided they are located within a designated development zone and comply with the plan’s conditions.

A critical challenge will be developing the cumulative impact assessment (CIA) methods. Literature indicates that CIA is the most challenging form of impact assessment¹⁶ and practitioners have struggled to implement cost-effective and consistent processes, probably because there is no widely accepted scientific methodology¹⁷. Parameters such as defining 'reasonably foreseeable' projects when a project is a first will complicate assessment. The International Union for Conservation of Nature guidance has been applied for the QLD bioregional pilots and provides a sensible starting point. However, because it is principle-based, key decisions will still be required to determine if qualitative assessments are sufficient or when quantitative assessments should apply.

Another challenge is how to apply adaptive planning. Typically, it refers to updating plans when new information becomes available such as new species listings. However, in natural water resource management it also includes ensuring contingencies are available to respond to changing conditions¹⁸ including climate risks such as droughts.

As these plans are new, the soon to be established National Environmental Protection Agency (NEPA) would need to explore robust assurance mechanisms to provide confidence that the plans will support environmental decisions and deliver outcomes. This should include ensuring standard model conditions are outcomes-focused rather than directive.

Recommendation 9: Codify methods.

The Bioregional Planning Standard and subsidiary guidance and tools should specify the outputs for each type of plan including upfront conditions, and required methods for zone design, buffers, plan updates, impact triggers and thresholds, CIA, treatment of new information, and reporting of outcomes.

Recommendation 10: Improve planning through assurance.

NEPA should establish transparent assurance mechanisms for Bioregional Guidance and Bioregional Plans to provide confidence that they will deliver MNES and efficiency outcomes.

Further improvements will support faster more consistent approvals

New assessment pathways will streamline the approvals framework by enabling decisions under bilateral agreements or Bioregional Plans and by removing unnecessary assessment steps. A Bioregional Planning Standard and supporting guidance and tools will be essential to guide the development of these pathways.

Several initiatives already support faster approvals, including dedicated strike teams¹⁹ which work exclusively on renewable energy projects. These teams have begun to strengthen capability by integrating environmental and technical expertise. This model should be expanded to include industry-based guidance and a concierge function to provide proponents with a single point of contact to help them transition and navigate environmental application and assessment process as well as additional Commonwealth approvals that may be required²⁰.

Bioregional Plans will specify zones and identify which classes of renewable energy development are eligible for pre-approval. It means that project risk and impact are assessed upfront. This analysis should also inform categorising the assessment pathways for all renewable energy proposals, not just those that may be deemed to be low-risk,

low-impact and eligible for exemption from an approval. This should help reduce reliance on the referral step in the process, enabling more projects to proceed through the registration step.

Additional key process steps will need to be tightened to reduce uncertainty and delay. Currently, some 45% of referrals do not require an environmental assessment²¹, and stop-the-clock provisions and processes for minor modifications create unnecessary delays. Conditions can vary across similar developments and so it will be important to develop standard conditions to promote consistency across industry sectors, development types and bioregions while allowing for appropriate local tailoring and targeted monitoring requirements.

Restoration actions designed to offset net gain impacts from development and conservation actions to better support protect measures should be supported by a bioregional investment and research strategy (like examples adopted in NSW²²). Industry will have the ability to be nominated responsible for delivering restoration activities should they be willing to commit to the bioregional plan making process.

Given their national importance, renewable energy projects should be recognised in state and territory planning systems, such as Critical Infrastructure in NSW or Ministerial Infrastructure Designation in QLD to support alignment, streamlined (and proportionate assessment) and reduce duplication.

Federal and state assessment processes will not always operate in parallel. For example, federal pre-approval does not remove the need for state (or local) environmental assessment and approval. Aligning processes will be essential to minimise duplication and improve efficiency for proponents.

Finally, bioregional planning will intersect with state and territory land-use plans, and long-standing land uses such as agriculture and tourism, and this may lead to confusion about which takes precedence. Alignment between bioregional and state land-use planning will be important, or existing land uses should continue to be permitted within conservation zones in Bioregional Guidance Plans and Bioregional Plans, to maintain clarity for communities and industry.

Recommendation 11: Lock in efficiency.

- *Confirm (through regulation) assessment pathways for all renewable development types within Development Zones.*
- *Tighten “stop the clock” rules (narrow grounds; set maximum pause durations).*
- *Implement prescribed processes (and thresholds) for minor modifications with clear timeframes.*
- *Issue standard outcomes-based approval conditions to reduce duplication and variability.*
- *Explore with state and territory governments the need for regional and land use plans alignment to remove the risk of land use regulatory inconsistencies.*

Bioregional planning can help build the social licence to operate

A social licence to operate will be critically important to support the pace of renewable energy rollout. Bioregional planning can help build this social licence by providing upfront clarity on areas that will be avoided, such as conservation and high-value agricultural areas, and identifying preferred locations for renewable energy development. This transparency gives communities visibility of both what will be avoided and where development is likely to occur.

For the first time, bioregional planning will identify regionally based conservation areas and restoration priorities. Communities have a strong interest in the environmental outcomes associated with renewable energy projects, and spelling out the priorities for conservation and restoration should help build confidence and strengthen social licence.

To support effective engagement, targeted consultation points should occur in the lead-up to making Bioregional Guidance Plans and Bioregional Plans. Early engagement is already being incorporated into bioregional pilot projects; however, two considerations are important. First, the EPBC Reforms represent a major shift for communities accustomed to project-by-project assessments. Clear communication will be needed to explain the purpose of the reforms, what they will deliver, and why engagement at this early-stage matters. Second, early engagement must not become an overly lengthy or burdensome process; instead, it should be targeted, informative and responsive. It should also be balanced with later consultation during environmental assessment processes to avoid consultation fatigue.

The 2024 draft National Environmental Standard for Community Engagement and Consultation adopts a one-size-fits-all approach to public engagement, regardless of the levels of a proposal's risk or impact. Because different assessment pathways reflect different levels of risk and impact, consultation requirements should be proportionate and aligned with earlier bioregional planning engagement.

Recommendation 12: Strengthen measures to support social licence.

- *Promote early engagement to complement the statutory consultation requirements for Bioregional Guidance Plans and Bioregional Plans.*
- *Include 'best practice' consultation requirements that are proportionate to the risk and impact of different assessment pathways.*

In addition, regulators and industry should be encouraged to proactively engage with community including Indigenous communities after bioregional planning or project construction is completed as part of a 'good neighbour' policy.

Bioregional planning has the potential to offer additional benefits

Once implemented, bioregional planning will offer additional opportunities. It will provide the capacity to improve public awareness of nationally important environmental values, enable collaborative approaches for landholders and community and other groups to deliver local environmental outcomes and support citizen-led science which can complement monitoring and research efforts. It may also support for the first time building a body of centralised biodiversity knowledge which has been lacking in Australia.

Communities of practice should be established to support shared learning and be a venue to co-design guidance such as bioregional planning guidance. Bioregional planning skills and experience across Australia are mixed, so there is an opportunity to explore raising the skill level through short courses or micro-credentialling.

Bioregional planning also provides the capacity for strategic approaches for proponents to support coordinated public consultation, pooling resources to underpin industry sector monitoring and reporting as well as targeted investment in regional restoration priorities.

Recommendation 13: Expand mechanisms to build confidence, capability and better bioregional outcomes.

- *Explore how to incorporate additional ways for delivering community-led local environmental outcomes and citizen-led science to complement bioregional planning.*
- *Prepare a bioregional skills and knowledge strategy to provide a platform for upskilling, continuous learning and building a world leading body of biodiversity knowledge for Australia.*
- *Provide mechanisms in the Bioregional Planning Standard and technical guidance to allow for industry-led approaches that enable collaborative public consultation, surveys and monitoring and reporting and greater offset or restoration investments.*

Conclusion

Strong delivery of EPBC Reforms will rely on substantial upfront funding, all levels of government working together and robust and transparent assurance from NEPA to ensure that the community and industry have confidence in both final Bioregional Guidance Plans and Bioregional Plans. These will be essential to secure both urgently needed biodiversity restoration and Australia's renewable energy transition.

Implementing the EPBC Reforms should not be underestimated. It will involve proactive cultural change within government, require sustained funding and strong collaboration across all parties including community and industry to identify and quickly resolve inevitable early implementation issues. Equally, perfection is the enemy of good. There should be no expectation that bioregional planning will be perfect from day one as knowledge and plans will evolve and mature over time. Indeed, quite apart from the practical realities to produce Bioregional Plans, the scale of biodiversity and climate challenges means that Australia cannot afford to wait for perfect plans before acting.

We have outlined the priorities to ensure a solid foundation is developed from inception, but a continuous, ongoing approach to process improvement will need to be facilitated. This will need to be driven by strong leadership, clear communication and stakeholder engagement, and a shared culture of collaboration.

1.0 Introduction



1.1 Rationale for reform

In October 2020, the independent review of the Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act) chaired by Professor Graeme Samuel (the 2020 Review) delivered its final report to the Australian Government²³. The review found that Australia's natural environment and iconic places are in an overall state of decline and are under increasing threat. Importantly, the EPBC Act was found to be a barrier to effectively protecting Matters of National Environmental Significance (MNES)²⁴. Sweeping reforms were recommended framed to deliver stronger, more predictable outcomes for Australia's environment.

In September 2022, Australia legislated a net zero emissions target by 2050, and the infrastructure investment needed to support the energy sector's transition is estimated to be \$156 billion (2025 dollars)²⁵. Australia also committed to reducing emissions to 43% below 2005 levels by 2030 and to 62–70% below 2005 levels by 2035²⁶. The Renewable Energy Target (RET), 82% renewable energy generation by 2030, forms a key component of these commitments.

Later in 2022, Australia joined other parties to the [*Kunming Montreal Global Biodiversity Framework*](#) which aims to:

- conserve and restore biodiversity;
- enhance First Nations stewardship;
- strengthen benefit sharing;
- encourage private investment in nature; and
- mainstream biodiversity considerations into decision-making.

These aims support halting and reversing biodiversity loss by 2030 and conserving, restoring and sustainably using the natural environment for future generations by 2050. [*Australia's Strategy for Nature 2024–2030*](#) sets out targets that contribute to achieving the Framework.

On 28 November 2025, the Australian Parliament passed an environmental law reform package comprising the *Environment Protection Reform Bill, 2025* (the EPBC Reforms), the *National Environmental Protection Agency Bill, 2025*, the *Environment Information Australia Bill, 2025*, and the *Environment Protection and Biodiversity Conservation (Restoration Charge Imposition) Bill, 2025*.

At the centre of both the 2020 Review and the EPBC Reforms are measures to protect, conserve and restore MNES are measures to better support environmental outcomes through enforceable National Environmental Standards (Standards) and Bioregional Plans. Put simply, these plans are to comply with these Standards and identify zones that:

- identify conservation in areas with high environmental values including restricted actions; and
- identify development in areas with low environmental values including identification of pre-approved priority actions that may proceed subject to conditions.

Bioregional Plans represent a fundamentally important environmental planning tool for two reasons. First, it takes piecemeal MNES conservation measures plus uncertain and incremental project-by-project assessments into an upfront regionally based cumulative assessment spelling out where and how nationally significant environmental matters will be protected and restored. Second, it prioritises certain development including the

delivery of renewable energy projects needed to support achieving Australia's legislated net zero emissions target by 2050. This means that the priority developments will only require registration, and no further EPBC Act approvals will be needed. Above all, bioregional planning is to provide the settings to achieve both net environmental gain and certainty for renewable energy development.

EPBC Reforms updated and provide renewed momentum for Bioregional Guidance Plans. These plans provide information on regional environment and heritage values to help decision-makers and proponents identify preferred locations for conservation and restoration and renewable energy development. While they will have limited regulatory effect (e.g. s136 (2)) and do not depend on the same level of information compared to Bioregional Plans, they provide for the first time preferred spatial guidance on suitable development areas thereby reducing time and cost for proposals unlikely to proceed and inform Ministerial decisions.

Bioregional pilots have been undertaken in Queensland (QLD), New South Wales (NSW), Victoria (VIC) and South Australia (SA). These pilots offer practical place-based insights to inform the production of both Bioregional Guidance Plans and Bioregional Plans. Third party research is also providing useful contributions to the development of Bioregional Plans. This includes exploring data to build the baseline information on environmental values²⁷ as well as creating conservation and development zones²⁸.

Summary of environmental law reform package

National Environmental Standards: New legally enforceable standards are to apply to decision making. They will be subordinate legislation and contain objectives or outcomes and the parameters by which to achieve those objectives or outcomes. Consequently, National Environmental Standards (NESs) are to contain the minimum requirements to be satisfied and will address for example Matters of National Environmental Significance (MNES) and Environmental Offsets.

Unacceptable impacts: A project will not be able to be approved if it creates an unacceptable impact upon a MNES. An unacceptable impact refers to an impact that seriously impairs species viability or is likely to cause serious damage to critical habitat where that habitat is irreplaceable and necessary for the species to remain viable. The Minister can only make a Bioregional Plan if satisfied it will not have an unacceptable impact on MNES.

Net gain: Where there is a residual significant impact on a MNES it is to be compensated to achieve a net environmental gain. In arriving at an offset, a proponent must have demonstrated that appropriate measures that have been taken to avoid, mitigate or repair any impact. Bioregional Guidance Plans are intended to assist developers to minimise their impacts and design offsets to achieve a net gain. Bioregional Plans will include conservation zones to prevent some impacts and conditions to reduce the impacts of priority actions in development zones. Bioregional plans must also include bioregional restoration measures to ensure any residual significant impacts of priority actions are compensated to a net gain.

Bioregional Plans: Bioregional Guidance Plans contain region-specific information to show developers where and how to deliver projects with less environmental impact, speeding up approval processes. Bioregional Plans go further by creating regulatory conservation zones and development zones. The most important change is that registered priority actions (priority infrastructure developments) may be undertaken without an approval subject to being located within a development zone and conditions. These plans must be made with the agreement of State and Territory governments.

New institutions: New independent institutions are to be established. The National Environmental Protection Agency is to undertake the regulatory; compliance and enforcement functions contemplated under the package of environmental reforms. Environment Information Australia is to improve the availability and accessibility of high-quality data and information and provide regular and transparent reporting, and this includes the State of the Environment Report. A Restoration Contributions Holder will be responsible for delivering restoration actions, funded through restoration contribution charges.



1.2 Report *purpose*

The Australian Climate and Biodiversity Foundation (ACBF) has commissioned this research with renewable energy partners on the practical requirements to implement Bioregional Guidance Plans and Bioregional Plans. A [summary report](#) published 12 March 2026 preceded the release of this final report.

The research has been guided by the following objectives, derived in part from the 2020 Review:

- net environmental gain;
- principles of ecologically sustainable development;²⁹
- participation and partnership;
- simple and certain; and
- transparent and accountable.

The research is based on two landscape case studies:

- Orange/Mount Canobolas IBRA subregion, NSW; and
- Hughenden - Alice Tableland IBRA subregion, QLD.

The mapping underpinning these case studies is not intended to replicate bioregional pilots. Instead, they explore potential challenges and offer practical insights to support effective implementation.

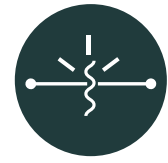
1.3 Research *methodology*



An iterative methodology was adopted that included:

- reviewing EPBC Reforms, bioregional pilots, select (EPBC Act and state) approvals and research;
- developing research principles and framework;
- consulting with federal and state officials engaged in bioregional pilots and reform, renewable energy developers and third-party experts;
- collecting MNES data from federal and state government open data sources to support mapping species distribution;
- reviewing and classifying data suitability for use in bioregional planning based on the draft National Environmental Standard for Data and Information (2024);
- building conceptual mapping outputs and exploring implications for baseline information to underpin Bioregional Guidance Plans and Bioregional Plans;
- exploring how data and information, regulatory tools (e.g. Standards, technical guidance), and governance arrangements can facilitate efficient and effective bioregional planning; and
- preparing draft and final reports.

In addition, the research has had regard to UNESCO World Heritage requirements and considered how national outcomes are integrated into state and territory planning systems.



1.4 Research *limitations*

The research has several limitations. Most importantly, the regulatory framework has evolved throughout the project both through the development and consultation of the EPBC Reforms and as bioregional pilots are underway across jurisdictions.

In addition:

- the case studies provide illustrative baseline MNES information only;
- MNES datasets rely on publicly available information and does not include for example detailed data on species locations and recorded presence or Traditional Owner knowledge;
- the case studies do not explore data requirements for habitat availability and condition, connectivity, and other values important for MNES as well as analysis of impacts such as indirect and offsite impacts;
- case study mapping was not reviewed by biodiversity experts; and
- the focus is on renewable energy developments.

2.0

Mapping *bioregions*



KEY POINTS

- 1 Bioregional planning has the potential to be game changing, forming a core component of national environmental planning and essential to achieving Australia's climate goals. To realise this potential, bioregional planning must be supported by a clear prioritised national program of work and predictable, rolling funding to establish, implement and maintain high-quality plans.
- 2 Environmental information is currently spread across hundreds of federal, state and local datasets that vary in format, quality and purpose. This fragmented landscape makes it difficult for users to determine which datasets are suitable for bioregional planning. By contrast, Queensland's approach which categorises environmental information by state significant values and integrating it into its development assessment system reduces several steps in assessing data suitability.
- 3 Federal MNES datasets are generally reliable only for matters with clearly defined boundaries such as World Heritage Areas, National Parks and Conservation Areas. For other MNES, particularly threatened species, ecological communities and habitat, federal datasets are often coarse, incomplete or outdated. State datasets tend to be more detailed, especially for species and habitat values, but they are created for state purposes and vary in coverage, accuracy and method. Their suitability for bioregional planning requires structured expert validation. Sometimes third-party data is used in federal and state environmental portals, but it is not routinely captured to build biodiversity knowledge. Species distribution data is only part of the data picture; additional information is needed on habitat availability and condition, connectivity, and other values relevant to MNES, as well as analysis of impacts such as indirect and offsite impacts.

-
- 4 The case studies show that there is no single source of truth for MNES data and of this, critical habitat and irreplaceable habitat data is unavailable or unreliable. Information has been prepared for different purposes and different standards. It means that bioregional planning is highly vulnerable to information gaps and reliability.

For example, in Orange, an area of active investment linked to the Central-West Orana Renewable Energy Zone, precise spatial data is essential for fast decision making. However, coarse federal mapping has the potential to imply an overestimation of biodiversity values. The NSW Government has completed species and potential habitat mapping for *Central West Orana Conservation Investment Strategy*, but some of this data is unpublished. Hughenden, which sits at the heart of the first phase of the CopperString transmission line, faces the opposite problem. Its large geography and limited surveys restrict the identification of potential conservation and development zones. Without predictive modelling and expert review for example, renewable energy projects may be delayed.

-
- 5 We support and encourage prioritising bioregional pilots to build bioregional capability and knowledge. However, the scale of data challenges and the pace at which plans must be produced may lead to inconsistent bioregional planning. Information to meet new definitions such as ‘irreplaceable habitat’ is unlikely to exist and will require analysis and a level of rigour not previously applied in Australia.

-
- 6 The forthcoming Data and Information Standard and technical guidance will be important. They should provide the platform to build comparable and defensible data and methods to underpin bioregional planning.

2.1 Case study context

Bioregional pilots

Bioregional pilots are underway in QLD, NSW, VIC and SA across eight locations. While the focus is on MNES, they also include matters of state environmental significance. Location selection has been based on development priorities that include urban expansion, renewable energy generation and minerals (including critical minerals) developments. These pilots are essential to support the production of Bioregional Guidance Plans.

Across jurisdictions, it appears that similar MNES data challenges are emerging particularly regarding data coverage and quality. In most cases, state government and in one example, local government data, has been used to supplement federal data gaps. Different data quality, coverage and methods may result in varying levels of bioregional planning precision. This may be complicated further where jurisdictions adopt different pilot objectives³⁰. The new definition for 'irreplaceable habitat' and the focus on critical habitat as new Standards are implemented adds another layer of complexity, as identifying these areas may require analytical approaches not previously undertaken.

These issues may lead to inconsistent Bioregional Guidance Plans and may result in different information requirements for environmental assessment decisions, posing risks to national businesses seeking to invest in renewable energy projects in more than one jurisdiction.

Why were the case study locations chosen?

The case study locations provide contrasting perspectives for research purposes. First, the Orange- Mount Canobolas (NSW) case study is a location with significant renewable energy development and therefore is an active area adjoining a renewable energy zone (REZ). It has several different land uses including agriculture, viticulture and mining along with two major centres; Orange and Bathurst and areas of high conservation value.

Second, the Hughenden- Alice Tableland (QLD) case study area is almost fifteen times larger than the Orange case study and provides a strong contrast in scale. It is largely a greenfield renewable energy area and was identified by the former QLD government as a REZ, with several proposed projects currently in the pipeline. This area is predominantly used for grazing and contains a few very small townships.

These contrasts have allowed a high-level assessment of the issues involved in developing baseline information for Bioregional Guidance Plans.

How were the case studies prepared?

Mapped baseline information is a critical foundation for bioregional planning. To build the species distribution mapping, we took the perspective of a proponent exploring the presence of MNES within the two case study areas.

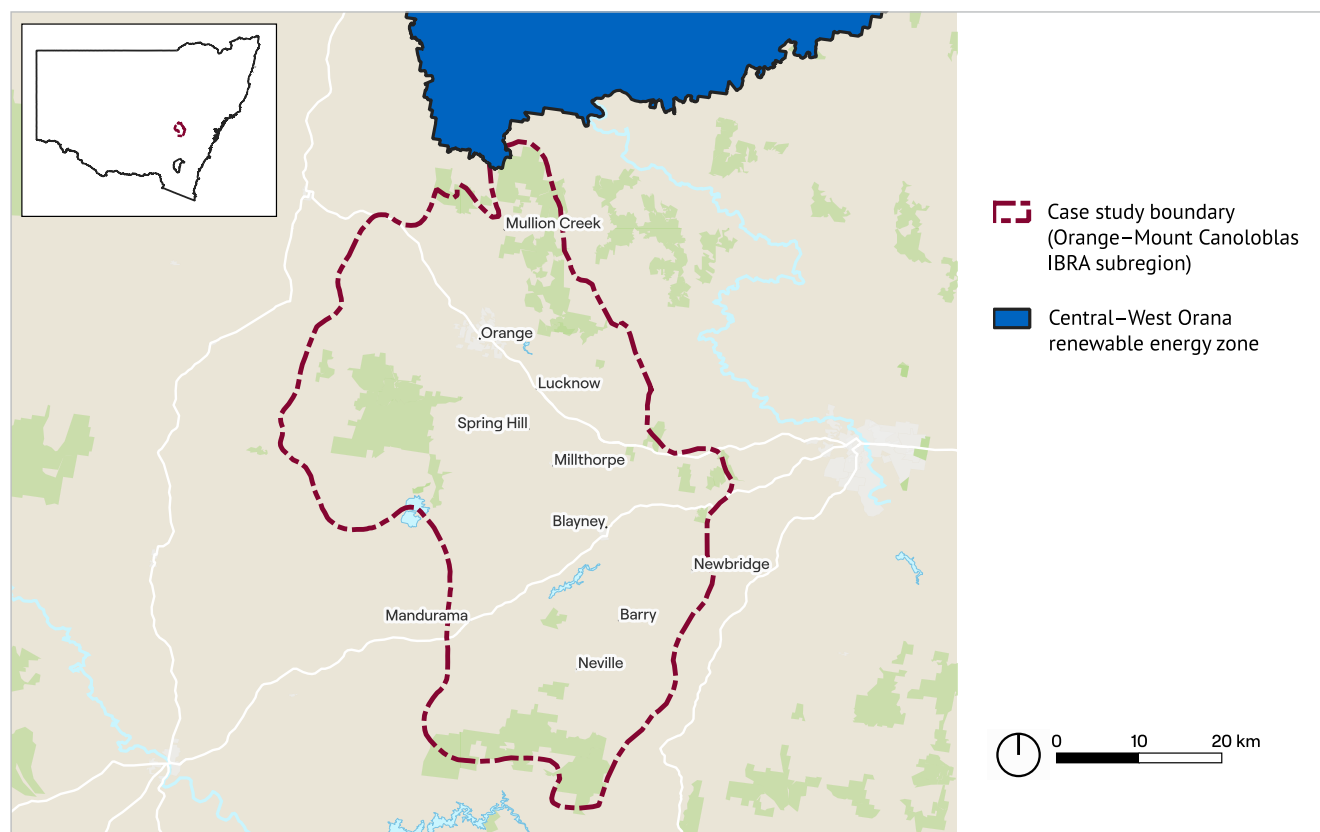
The key steps were as follows:

- **Collecting federal datasets:** Information was first sourced from publicly available Federal Government data. [The Protected Matters Search Tool](#) (PMST) located within the [DCCEEW environmental data portal](#) was used as the starting point to identify MNES and other matters protected by the EPBC Act. The PMST identified around 40 different data sources used to create case study reports.

We selected 20 datasets from NSW and 24 from Queensland that best aligned with the MNES. Refer to **Appendix 1** for a full list of datasets used. We also collected renewable energy data from [AusEnergy Services Limited portal](#) in consultation with renewable energy project partners. Four projects in NSW and four in QLD were identified within the case study areas, refer to **Appendix 2**.
- The DCCEEW environmental data portal hosts most data used in PMST comprising around 142 different datasets, available in a range of formats including PDF reports, spatial datasets, and tables. After an initial review of hundreds of datasets, some 13 datasets from Federal Government sources were analysed for the case studies.
- **Collecting state datasets:** A similar exercise was conducted to access State-level datasets. In NSW, the [Sharing and Enabling Environmental Data](#) (SEED) portal was used. It hosts over 142 datasets. In QLD, the [QSpatial Portal](#) was used, hosting more than 500 datasets.
- **Assessing dataset suitability:** A data log was created for each dataset, recording its source, abstract, update date, extent and whether the data was present in the case study area. It was used to conduct a high-level review of its suitability for the case studies using the draft National Environmental Standard for Data and Information (2024) and then federal and state MNES data to assess alignment and consistency.
- **Producing baseline mapping:** Finally, the data was layered using GIS to attempt to produce illustrative baseline information for each case study area.

2.2 Orange-Mount Canobolas *IBRA subregion, NSW*

Figure 2.1: Location of Orange – Mount Canobolas



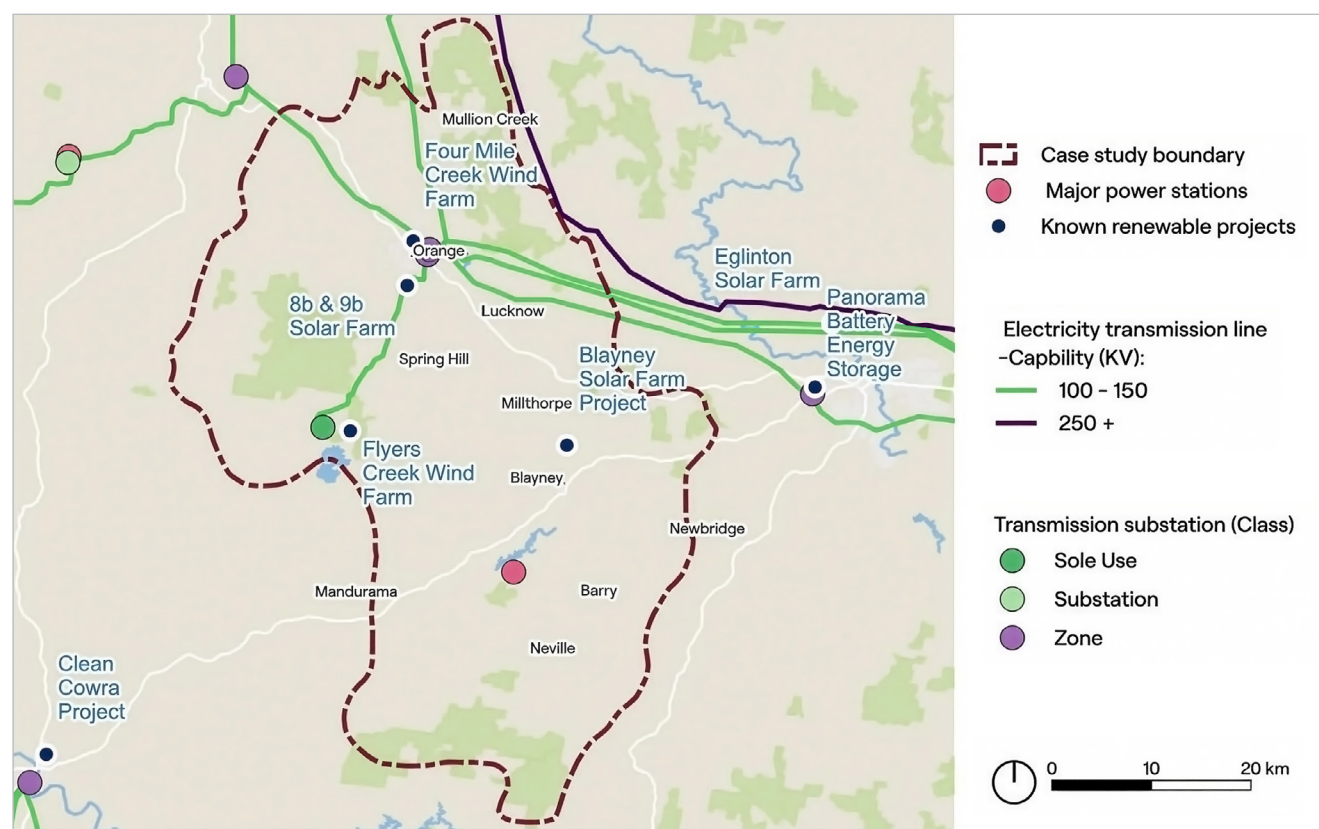
Subregion overview

The Orange-Mount Canobolas subregion is in the central west of NSW around the city of Orange (refer to **Figure 2.1**), which has a population of approximately 45,000 people. The subregion lies on the lands of the Wiradjuri people, the Traditional Owners of the area. Covering an approximate area of 2,850 km², it is situated in the western part of the Southeastern Highlands bioregion. The landscape includes several areas of high environmental value areas, including the Canobolas State Conservation Area, Mullion Range State Conservation Area, Barton Nature Reserve and Boshes Creek Flora Reserve. It also contains the Borenore Karst Conservation Reserve, known for its fossil-bearing caves and underground systems.

The climate is temperate, with mild to warm summers, cool to cold winters at higher elevations, and higher rainfall than many inland plains. Land uses in the area include agriculture, viticulture and mining. In 2021, around 50% of the land use was for grazing on modified pastures and 23% was for grazing on native vegetation³¹.

The case study area is located just south of the NSW Central-West Orana Renewable Energy Zone (REZ). Although outside the REZ boundary, the area contains existing electricity infrastructure, including high-voltage powerlines and substations. There are several wind and solar projects that are operating or in development. Nearby some renewable energy projects are underway, including the Panorama Battery Energy Storage Project. **Figure 2.2** lists the renewable energy projects for the area.

Figure 2.2: Orange – Mount Canobolas renewable energy projects



Accessing and mapping data

A large volume of environmental, ecological and land-use data is available through federal and state government sources that use a combination of government, academic research and third-party sources. This indicates many years of survey activity. **Table 2.1** summarises the identified MNES for the case study and assesses the suitability of federal and state datasets to create bioregional plans. GIS data layers that were in the case study were compared with the outputs of the PMST. It includes listed marine species triggered through migratory species considerations.

Table 2.1: Federal and NSW datasets

	MNES	Number of individual records from PMST	MNES present in study area?	Federal data availability	Comments	State data availability	Comments	Key priorities
	Matters of National Environmental Significance							
	Wetlands of International Importance (Ramsar Wetlands)	5	No – while records are shown upon desktop search, presence is spatially mapped as outside the study area boundary	Data is comprehensive. The identified areas are located 500-800km from the case study boundary.	<i>PMST says that Ramsar wetland should be considered</i>	Not needed		Clear directions needed to indicate that whilst MNES may not be present in a particular study area (i.e. a site), there could still be impacts to MNES through indirect impacts (i.e. downstream impacts to wetlands from works or operations on a development site).
	Listed Threatened Ecological Communities	4	Yes – however, lack of certainty on coverage	Publicly available survey data covers the study area. The accuracy of the data is not suitable with accuracy scales varying from 1 km to 10 km.	<i>The data is not suitable for use in its current format or coverage</i>	NSW Bionet datasets, vegetation mapping and landscape mapping and High Environmental Values mapping provide coverage within the case study.	<i>Each dataset will need to be assessed and reviewed for survey coverage and quality before being able to be used in the case study</i>	Work with NSW to assess the suitability and application of State data. Investigate how to make more detailed data available by reviewing data licencing and publishing arrangements
	Listed Threatened Species	59	Yes – however, lack of certainty on coverage					
	Listed Migratory Species	8	Yes – however, lack of certainty on coverage					Does map known locations of species.
	Other Matters Protected by the EPBC Act							
	Listed Marine Species	18	Yes – however, lack of certainty on coverage	Publicly available survey data covers the study area. The accuracy of the data is not suitable, nor does it map known locations of species	<i>Guidance on how use marine species data to assess impacts of migratory species is unclear</i>	It is not clear how NSW Bionet datasets map the extent of marine species	<i>A comparison of listed Federal marine species and NSW Bionet datasets will be needed to determine if the State data is usable</i>	Work with NSW to assess the suitability and application of State data. Provide guidance on how to assess migratory species and apply necessary buffers
	Commonwealth Lands	33	Yes – however, lack of certainty on coverage	A point location of commonwealth lands is available. Data on the boundary and size of the lands is not available	<i>The current data does not provide enough detail</i>	Not needed		Investigate how to make more detailed data available by reviewing data licencing and publishing arrangements
	Commonwealth Heritage Places	1	Yes	Data is comprehensive				Maintain current data and update on regular cycles
	Additional Information							
	State and Territory Reserves	6	Yes	Data is comprehensive	<i>Aligns with State datasets that report on the same information</i>	Not needed if both State and Federal datasets continue to align		Maintain current data and update on regular cycles
	EPBC Act Referrals	13	Yes	Data is comprehensive		Not needed		

Legend:


Federal data can be mapped and used in its current format.



Federal data is suitable, but guidelines are needed on how to access and use the data.



Federal data is not suitable and either needs to be complemented with State data or needs to be updated.

Key issues

In summary, we found the following issues.

Data access

- The underlying PMST data is published across many Federal Government websites in different formats, making it challenging and at times impossible to replicate PMST outputs with publicly available data.
- Data is stored in a repository format organised according to theme, the agency responsible for collecting it, and the program under which it was produced. It requires users to have prior knowledge of and where to locate relevant data.
- The PMST includes a list of known threatened species expected in the case study area, whereas the DCCEEW Environmental Data Portal excludes some of these species due to different licence agreements between survey data providers. This means that two federal data sources present inconsistent information.
- The species and ecological community data in the DCCEEW Environmental Data Portal originate from surveys conducted at different times and varying scales ranging from 1 km to 10 km resolution.
- NSW environmental data is published like federal datasets according to theme, agency responsibility and the program however, it is generally more comprehensive. For example, the [NSW BioNet Species Sightings Database](#) provides an online map and spatial dataset containing over 13 million flora and fauna observations from across NSW.
- There is minimal guidance available to help users determine which datasets are most appropriate. Some NSW datasets are restricted. For example, to obtain the location of Biodiversity Stewardship sites data users must apply for access and sign a licence agreement. Although, users can view the location of sites via the [Biodiversity stewardship agreements mapping portal](#).
- Despite its breadth, NSW data is not integrated and is not linked to regional and local land use planning and development assessment requirements. While the NSW planning portal has started integrating environmental mapping, it remains incomplete, it is not adaptive, nor does it link to development assessment pathways.
- The NSW government has identified High Environmental Value (HEV) areas, one of which is within the case study area. The [Central West Orana Conservation Investment Strategy](#) identifies the key strategic conservation priorities to protect, restore and improve connectivity and resilience of biodiversity values. This demonstrates how raw, complex environmental data can be modelled and transformed into information that guides investments in conservation and restoration. This is aligned to approaches performed by the Australian Conservation Foundation³² and researchers³³.
- Overall, there is an enormous library of data and information for the Orange – Mount Canobolas area, but identifying which datasets are most appropriate and then applying them effectively is a significant challenge.

Data results

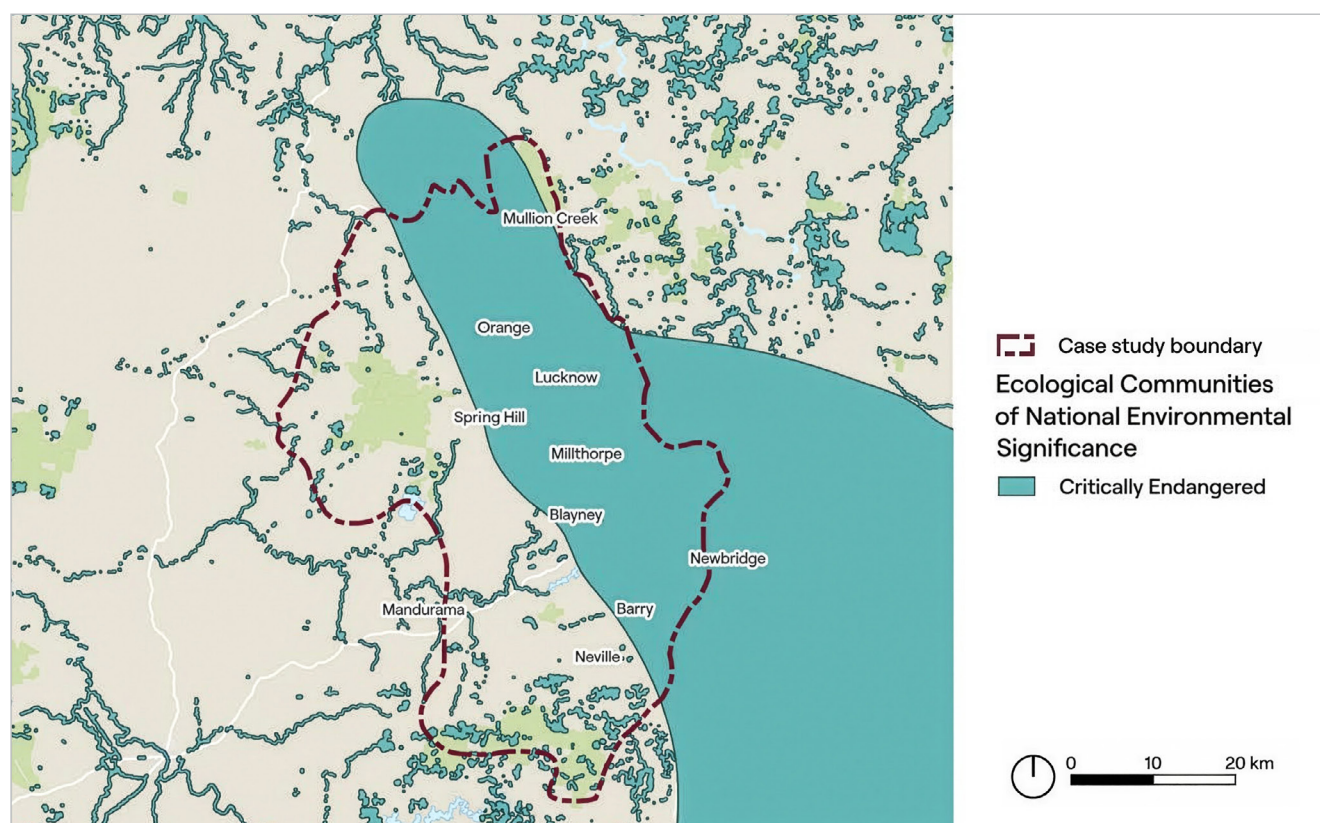
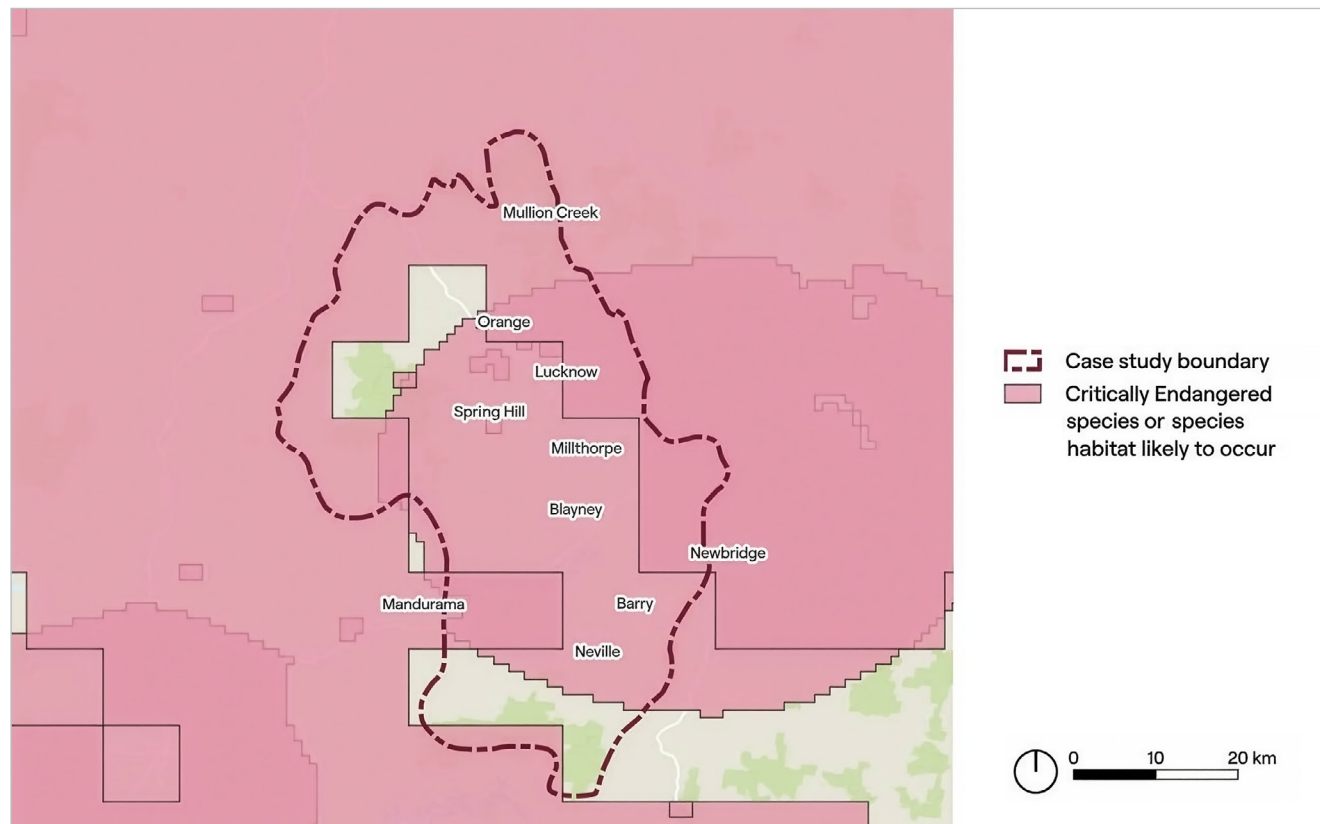
- The PMST identified the presence of four MNES, three matters protected under EPBC and two other matters of importance.
- A high-level review of federal and state-related MNES data identified 33 datasets, and these were used to compare this spatial data with the results of PMST. Federal datasets for threatened species, ecological communities and migratory species were found to be unsuitable. **Figure 2.3** maps the federal datasets for critically endangered species and ecological communities that are likely to occur in the area. These datasets map very large, coarse areas that if used without more technical analysis, have the potential to significantly overestimate areas of high biodiversity value. This finding aligns with an ecological risk assessment of impacts on birds and bats from onshore wind farms research prepared for DCCEE³⁴.
- State datasets have the capacity to support MNES habitat mapping for the Orange-Mount Canobolas area. For example, there is a list of individual and historical vegetation surveys via the [NSW vegetation map](#) that cover the case study area. However, survey scale and extent varies. Some span the entire case study area, while others focus on much smaller sections, such as the [Hunter \(2000\) study](#), which covers only the Mount Canobolas State Recreation Area.

Despite the availability of data, the volume and variability make it impractical to produce mapping for critically endangered species or ecological communities.

Building baseline information

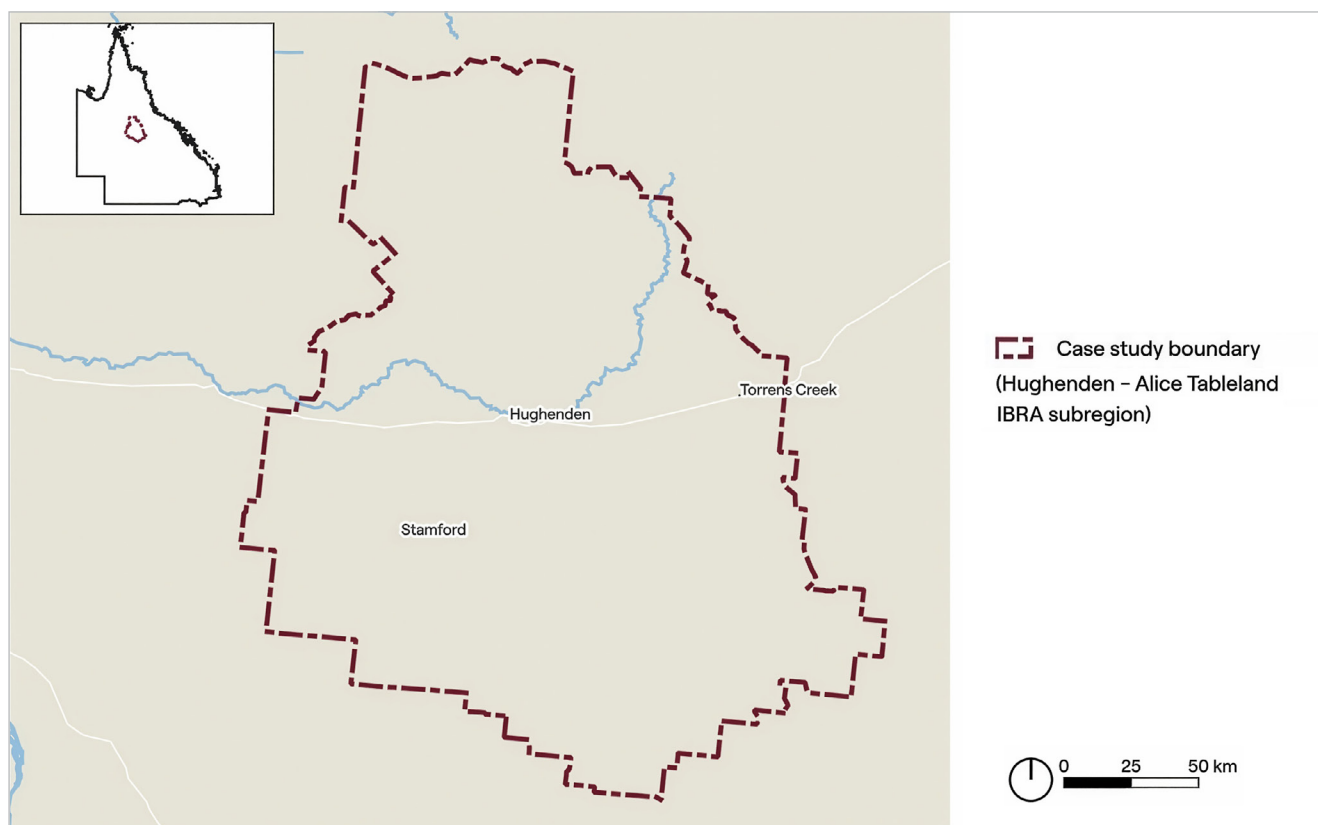
For this case study, there is a substantial volume of environmental information, and each dataset must be assessed to determine its suitability. Expert ecological assessment is needed to evaluate if this data is capable of being incorporated into baseline bioregional mapping. Distribution modelling and ecological assessments would be needed to confirm species and habitat location and quality before this information can support bioregional planning. Further technical work will also be needed to identify and validate 'irreplaceable and critical habitat' specific to each MNES.

Figure 2.3: Map of critically endangered species and ecological communities that are likely to occur



2.3 Hughenden - Alice Tableland *IBRA subregion, QLD*

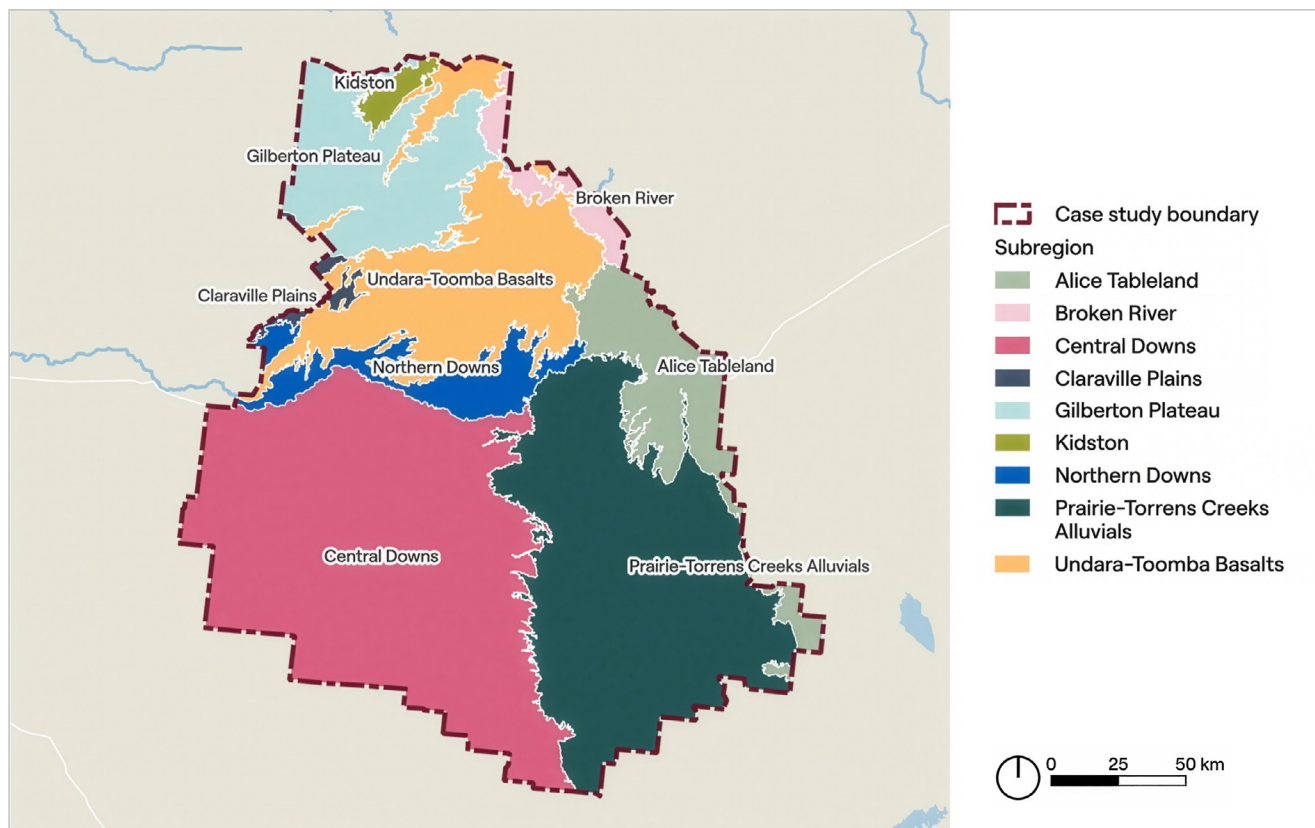
Figure 2.4: Location of Hughenden - Alice Tableland



Subregion overview

The Hughenden - Alice Tableland case study is in northwest QLD. Due to the long, narrow geography it was not practical to select a single subregion as the case study area (see **Figure 2.4**). Instead, the Flinders Shire Local Government Area was chosen as the study boundary, encompassing nine different IBRA subregions (see **Figure 2.5**).

The case study is located on the lands of the Yirendali people, the Traditional Owners of the region, and spans approximately 41,000 km² which is significantly larger than the Orange – Mount Canobolas case study (2,850 km²). Hughenden, the main town, has a population of around 1,100 people and is located about 380 km from Townsville, the closest major town centre on QLD's east coast. The case study area includes several high environmental value areas, including White Mountains, The Lakes, Porcupine Gorge and Moorrinya National Parks, as well as Strathtay Nature Refuge and White Mountains Resource Reserve. In 2021, over 90% of the land was classified as native vegetation grazing³⁵.

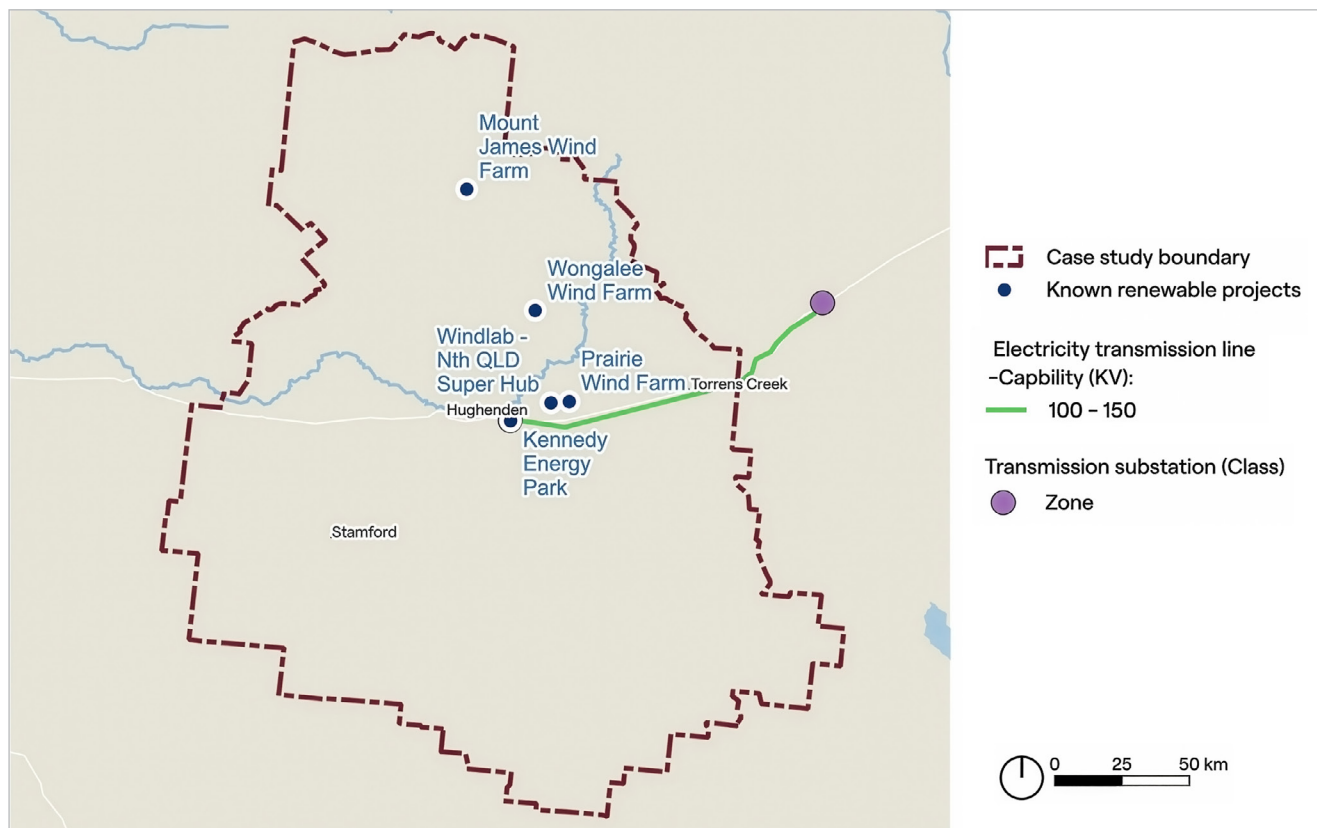
Figure 2.5: IBRA subregions

The climate is hot and semi-arid, with very hot summers, warm to mild winters and low annual rainfall. These conditions predominantly support a cattle grazing economy, with cropping also playing a significant role in the local economy. The Flinders River runs through the case study area with terrain that is relatively flat in the west, while the land becomes more elevated and steeper around Porcupine Gorge.

The case study area has a small number of active renewable energy projects, with several wind and solar developments at different stages of approval. The former Queensland Government designated this area a REZ accommodating potential wind, solar and battery power storage projects, linking the Copper String 2032 project.

Unlike the Orange case study, Hughenden is a greenfield area, with potential for multiple new renewable projects needing an EPBC Act approval. **Figure 2.6** shows the renewable energy projects in the case study area.

The Queensland Energy Roadmap 2025 identifies the Hughenden Hub as part of the CopperString transmission line project which provides power between the Northwest Minerals Province and the QLD north coast. It includes a new Flinders Substation, programmed in 2025-26. However, there is no suitable transmission infrastructure servicing the case study area for the proposed renewable energy developments. Although the CopperString transmission line is a significant State-led initiative, it has experienced delays. Bioregional planning has the capacity to consider renewable energy transmission alongside biodiversity considerations, rather than in isolation of each other, helping to identify preferred locations for coordinated development thereby avoiding delays.

Figure 2.6: Hughenden - Alice Tableland renewable energy projects

Accessing and mapping data

There is limited environmental, ecological and land use data available through federal and state government sources. Compared to the Orange – Mount Canobolas case study, this indicates that this area has not been subject to extensive surveys. Federal and QLD datasets were compared using the same approach as for Orange – Mount Canobolas area, refer to **Table 2.2**.

Table 2.2: Federal and QLD datasets

	MNES	Number of individual records from PMST	MNES present in study area	Federal data availability	Comments	State data availability	Comments	Key priorities
	Matters of National Environmental Significance							
	Wetlands of International Importance (Ramsar Wetlands)	1	No – while records are shown, presence is outside study area boundary	Data is comprehensive. The identified area is located 600-700km from the case study boundary	<i>PMST says that Ramsar wetland should be considered</i>	Not needed		Clear directions needed to indicate whilst MNES may not be present in a particular study area (I.e. a site), there could still be impacts to MNES through indirect impacts (i.e. downstream impacts to wetlands from works or operations on a development site)
	Listed Threatened Ecological Communities	1	Yes – however, lack of certainty on coverage	Survey data is not complete and does not cover the case study area	<i>The publicly available data is not suitable for use in its current format or coverage</i>	QLD MSES and Core Habitat Suitability Models provide coverage within the case study mapping the existence of surveyed communities and species. They also model the likely existence based on suitability models	<i>Each MSES and Core Habitat Suitability Model dataset will need to be assessed and reviewed for survey coverage and quality before being able to be used in the case study</i>	Work with QLD to assess the suitability and application of State data
	Listed Threatened Species	33	Yes – however, lack of certainty on coverage					
	Listed Migratory Species	12	Yes – however, lack of certainty on coverage					Work with QLD to assess the suitability and application of State data. Guidance needed on how to assess migratory species and apply necessary buffers to address matters such as indirect impacts outside the study area
	Additional Information							
	State and Territory Reserves	7	Yes	Data is comprehensive	<i>Aligns with State datasets that report on the same information</i>	Not needed if both State and Federal datasets continue to align		Maintain existing data updates
	EPBC Act Referrals	9	Yes	Data is comprehensive		Not needed		Maintain existing data updates
	Bioregional Assessments	1	Yes – however, lack of certainty on coverage	Data is comprehensive	<i>Guidance on how use marine bioregional assessment data is unclear</i>	Not needed		Guidance needed on how to use the dataset

Legend:

- Federal data can be mapped and used in its current format.
- Federal data is suitable, but guidelines are needed on how to access and use the data.
- Federal data is not suitable and either needs to be complemented with State data or needs to be updated.

Key issues

In summary, we have found the following issues.

Data access

- The Hughenden case study experienced similar data access challenges to those observed in the Orange–Mount Canobolas case study. QLD data is provided in a centralised location through [Queensland Globe](#), which also provides a framework for identifying, planning for and offsetting matters of state environmental significance (MSES).
- MSES are defined under the State Planning Policy as including around 12 state-significant environmental values, including protected areas, wetlands and waterways, regulated vegetation, threatened wildlife and others. These values are mapped ‘indicatively’ in a State Planning Policy (SPP) integrated mapping system for use in regional and local land use and infrastructure planning, and in a separate ‘development assessment mapping system’ (DAMS) that triggers the requirement for assessment of certain development proposals.
- Mapping often does not align with on-ground conditions. Updating the mapping is complex, time-consuming and costly, creating frustration for landholders and proponents. Despite these limitations, Queensland’s information is generally better organised than NSW’s, reducing the number of steps required to locate and sort relevant datasets.

Data results

- The PMST identified the presence of eight MNES with four identified to occur in the case study. A high-level review of federal and state-related data identified 36 data sets, and these were used to try to align this spatial data with the PMST results.
- Federal mapping of threatened species, ecological communities and migratory species proved unsuitable. For example, **Figure 2.7** shows that survey data at the southern boundary of the case study area. The assumption is the survey focussed on a specific location. Consequently, this data is not representative for identifying the presence of critically endangered ecological communities.
- QLD data was therefore used. Twenty-two MNES-related datasets were available through the QLD MSES, reporting and mapping habitat conditions for individual species, protected areas, high environmental value areas, and identified areas. However, like federal data, it does not report the coverage and quality of the underlying data, which limits its precision. **Figure 2.8** provides an example by mapping the location of MSES for endangered or vulnerable wildlife.
- QLD has created [Core Habitat Suitability Models](#), which predict the likely habitat for threatened species and identifies potential areas for conservation. These models offer a useful starting point, despite data limitations.
- Overall, there is a limited number of records given its large geography.

Figure 2.7: Map of critically endangered and endangered ecological communities

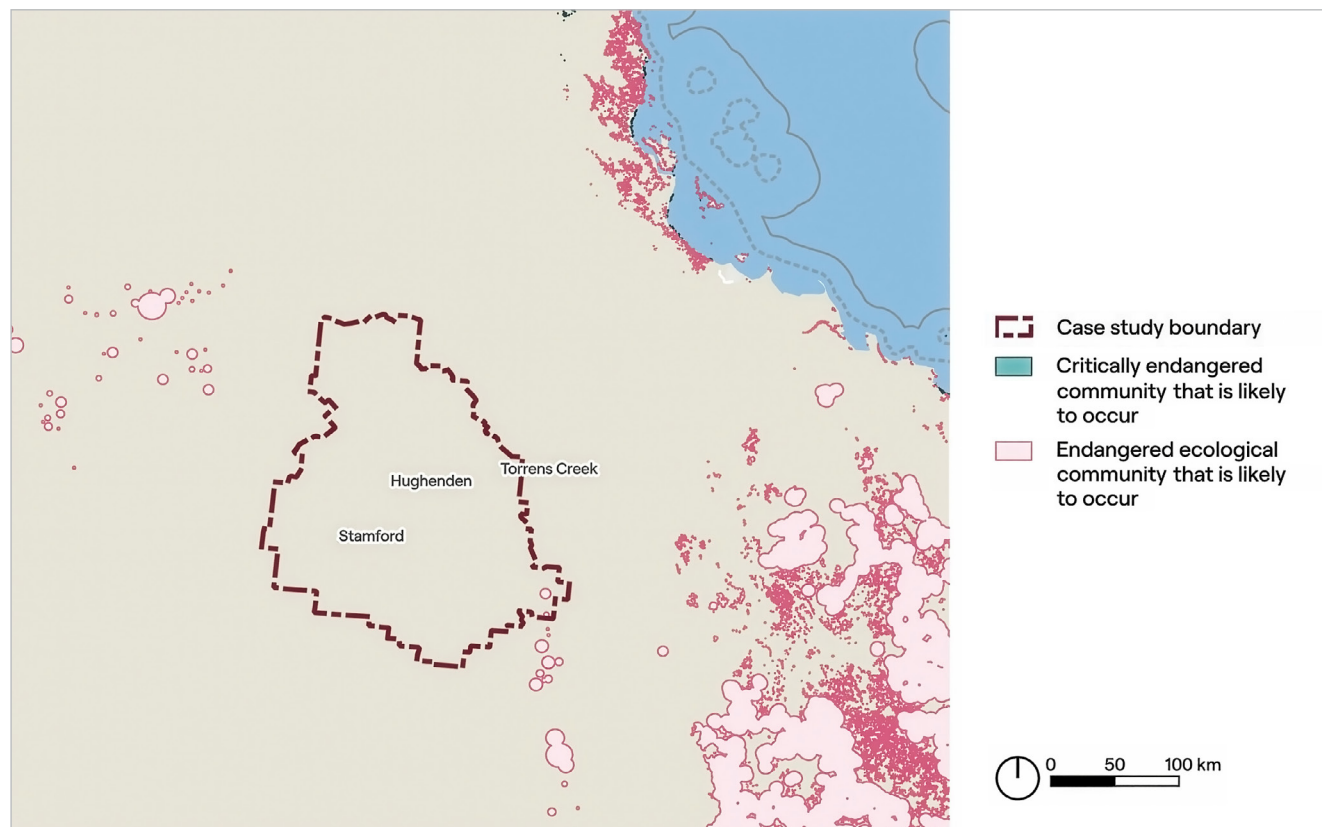
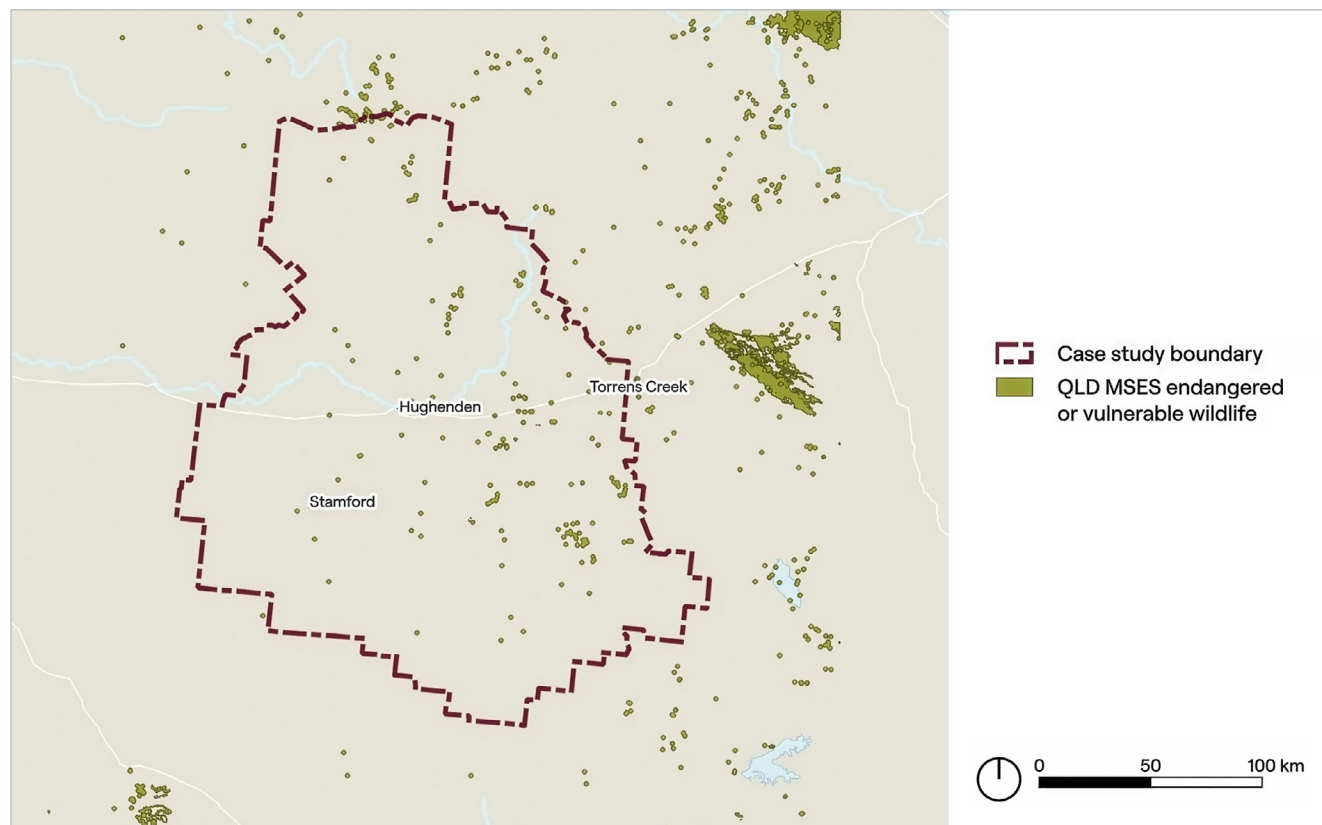


Figure 2.8: Map of QLD MSES endangered or vulnerable wildlife



Building baseline information

Preparing baseline information for the Hughenden - Alice Tableland will require substantially more work due to its large size and the limited availability of data supporting critically endangered species and ecological communities. It may take years to conduct all the surveys required and so predictive modelling to inform ecological risk assessments along with expert technical advice may be necessary to help build bioregional baseline information. Additional work will also be required to identify and validate 'irreplaceable habitat'.

2.4 Implications

The case studies are illustrative yet demonstrate the significant opportunities and the practical challenges to consistently generate reliable Bioregional Guidance Plans while major reforms to the EPBC Act are delivered. A coordinated investment program and predictable investment will be essential to build credible bioregional baseline information to deliver environmental outcomes and accelerate renewable energy development.

Bioregional planning priorities and delivery

Priorities

Bioregional pilot locations have been selected to support national policy priorities such as urban expansion, renewable energy and critical minerals development priorities that reflect the [National Housing Target](#), [National Energy Transformation Partnership](#) and the [Future Made in Australia National Interest Framework](#).

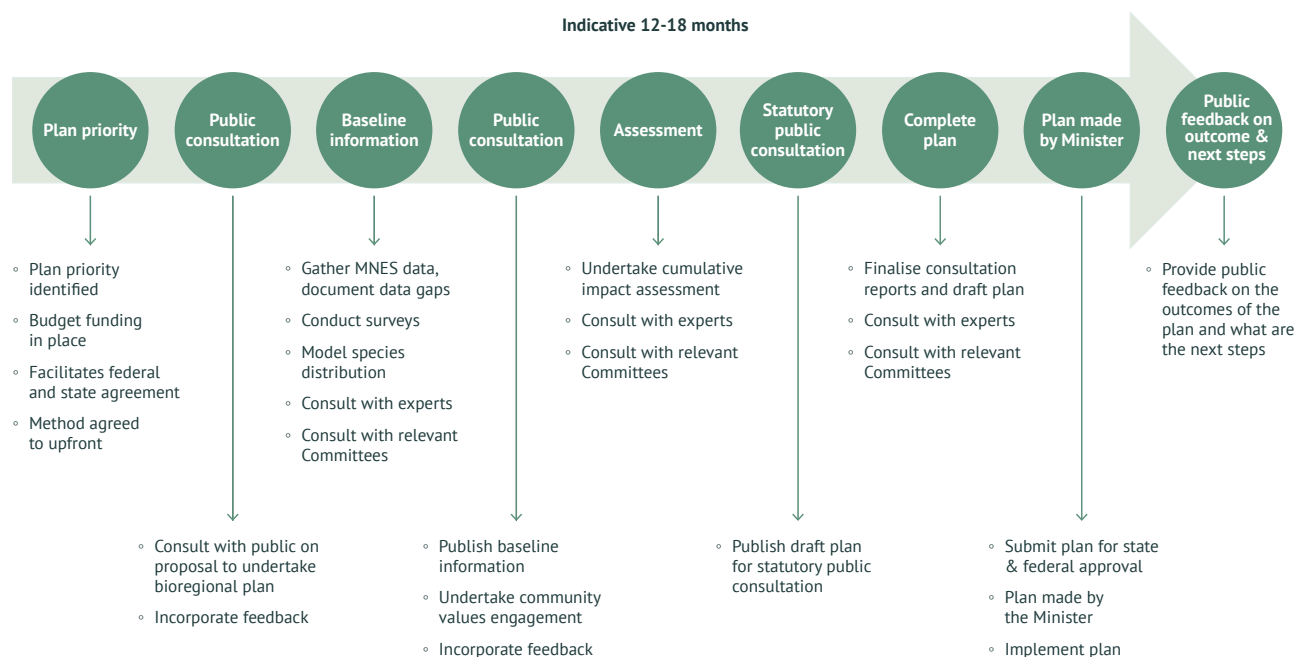
Both Orange-Mount Canobolas and Hughenden-Alice Tableland case study locations show significant renewable energy investment interest and therefore both could be candidates for Bioregional Guidance Plans. However, there is currently no coordinated national prioritisation that links bioregional planning to renewable energy zones. Industry consistently highlights that EPBC approvals are the critical bottleneck for delivering the RET and the emissions reduction goal³⁶. Consequently, a clear, nationally coordinated plan to sequence bioregional planning aligned to renewable energy planning is needed to build investor confidence, reduce costs, and unlock capital for both renewables and biodiversity outcomes.

Drawing on the experience from the bioregional pilots, an indicative end-to-end process should be developed that sets out the steps, roles and responsibilities to develop Bioregional Guidance Plans. This will become increasingly important given public and industry interest in the benefits of bioregional planning. However, the time required to produce credible baseline information that guides restoration and development must not be compromised. **Figure 2.9** provides an example of how an end-to-end bioregional plan making process might be represented.

Recommendation 1. Publish the roadmap.

Publish Bioregional Guidance Plans and Bioregional Plan priorities for the next four years supported by an end-to-end implementation schedule covering Bioregional Guidance Plans, Bioregional Plans, and new assessment pathways. This schedule should assist the timing and investment certainty for the renewable energy pipeline. The steps, roles, and milestones to develop Bioregional Guidance Plans and Bioregional Plans should also be spelt out.

Figure 2.9: Indicative end-to-end bioregional plan making process



Delivery

Bioregional planning will be delivered while reforms to the EPBC Act environmental assessment process are implemented. Our experience indicates that the establishment phase of any new regulatory system is where unintended administrative complexity can emerge. Consequently, it will be essential to ensure that new and existing processes are integrated in a way that creates a simple and streamlined end-to-end bioregional planning and environmental assessment system. Applying guidance such as a [*Regulatory Policy, Practice & Performance Framework*](#), should help ensure arrangements are integrated, risk-based, user-friendly and outcomes focused.

Recommendation 2. Ensure best practice regulation principles are embedded.

Align administration of EPBC processes to the Regulatory Policy, Practice and Performance Framework to prevent unintended complexity during establishment and ensure efficiency gains are fully realised.

Funding

Delivering the reforms will require immediate, substantial and sustained investment. It will be resource intensive to build the data infrastructure, skilled capability and capacity to establish and maintain the MNES baseline information. Further, significant resources will be needed to complete cumulative impact assessments that facilitate much needed investments in conservation, restoration and faster renewable energy decisions.

Given the urgency required to meet both biodiversity and climate goals, continued collaboration across

governments, academia, the community, and industry will be essential to ensure bioregional planning remains practical, scientifically credible and responsive to new information.

Meeting these goals at the required scale and pace to achieve intended outcomes will require long-term program funding not only to set up new processes but to maintain capability over time. Delivering bioregional plans will not be possible without adequate funding. In the 2025-26 Federal Budget \$51.5 million was allocated to the new Environment Information Australia and \$121 million to the new national Environment Protection Authority³⁷. The 2026-27 budget, which includes funding for bioregional planning, focused on fast-track environmental approvals in priority areas including renewable energy, along with other measures funding the implementation of the reforms. Funding includes \$26.4m to enable DCCEEW and NEPA to work with states and territories to develop new bioregional plans and strategic assessments, plus an undisclosed amount of funding to support the states and territories in this work. Prior to that, some \$60 million was allocated to support 10 [bio]regional plans³⁸. It is understood that some \$16 million has been committed to the QLD, SA, NSW and VIC governments, and to CSIRO, to support the delivery of regional planning pilots and on-ground research. While costs will vary, based on limited available information, bioregional pilot projects appear to have cost about \$2 million each to establish³⁹. This level of funding does not account for investments needed to implement, monitor and review the plans once they become operational.

Targeted investment in priority renewable energy zones where multiple projects can be accelerated offers a stronger return than the high costs of project delays. For example, a \$40 million Australian Government investment in bioregional plans, the same cost as a two-year delay to a single \$400 million project⁴⁰ could fund 5-10 plans that speed

up renewable projects while protecting and restoring high-value biodiversity areas. In addition, funding will also be required to operationalise the plans and ensure assessment teams are adequately resourced to support rapid decision making.

Faster decisions for renewable energy project decisions are essential, but equally important are decisions on “no go” or high-risk areas. Industry needs clear signals about where projects are likely to face significant delays and higher costs, and where they may be streamlined. This clarity is critical to allocate resources efficiently and forms the rationale for the extent of funding required to deliver several bioregional plans soon.

To support delivery across jurisdictions, competition payments under the National Competition Policy should be used to incentivise states and territories to deliver high-quality, bioregional plans on time.

Recommendation 3. Fund for scale and performance.

Establish multi-year program funding for EPBC Reforms and a competition-based payment model for jurisdictions to drive timely bioregional planning.

Bioregional information

Information challenges

The case studies highlight the significant challenges involved in accessing, interpreting and mapping MNES data and demonstrate that a major shift in data quality and accessibility will be essential.

There are substantial gaps in data coverage and quality for threatened species and ecological communities, and these issues are likely to extend to ‘critical habitat’ and ‘irreplaceable habitat’. This finding aligns with the 2020 Review which reported that there is a lack of distribution, condition and trend data for terrestrial biodiversity⁴¹ underscoring that biodiversity is poorly monitored and coordinated in Australia⁴². As a result, MNES datasets are often incomplete, fragmented, or inconsistent, reflecting systemic underinvestment because the previous EPBC Act framework which relied heavily on proponents and researchers generating data on a project-by-project impact basis. In addition, guidance will be required to support the consistent interpretation of the statutory definition of ‘irreplaceable habitat’ (s. 528) and to clarify the processes through which its identification and validation should occur.

The case studies illustrate these shortcomings. In Orange, an area of active investment linked to the Central-West Orana Renewable Energy Zone, precise spatial data is essential for fast decision making. However, coarse federal mapping has the potential to imply an overestimation of biodiversity values. Given the nature of species data, particularly the challenges associated with mapping migratory and mobile species, existing mapping approaches often delineate broad areas that are likely to overestimate actual observed occurrences. Consequently, improvements will be necessary while accounting for the need to take a precautionary approach. The NSW Government has completed species and potential habitat mapping for *Central West Orana Conservation Investment Strategy*⁴³, but some of this data is unpublished. Hughenden, which sits at the heart of the first phase of the CopperString transmission line, faces the opposite problem: its large geography and limited surveys restrict the identification of potential conservation and development zones. Without predictive modelling and expert review for example, renewable energy projects may be delayed.

The experience from the bioregional pilots indicates that jurisdictions are supplementing federal datasets with state and local data, conducting additional surveys, applying modelling techniques and seeking expert advice to build baseline information. However, it appears that different approaches are being adopted and there is limited guidance to ensure bioregional planning is comparable. A national Bioregional Planning Standard is therefore needed to drive consistency, build confidence and support timely and robust decisions.

Across jurisdictions, hundreds of datasets exist from various federal, state, local, academic, industry and citizen-led sources. These datasets are dispersed across multiple repositories, organised by theme, agency or relevant program and this leaves proponents struggling to access relevant information as there is a lack of guidance on which are fit for purpose. Integrating these disparate datasets requires synthesising large volumes of information collected using different methods, at different scales and for different purposes. Bringing this information together will not be a small task. The Australian Biodiversity Information Standard⁴⁴ should assist but it will need to ensure that the task is aligned to bioregional planning priorities. Queensland's more integrated, state significant values framework is comparatively streamlined, but data challenges remain.

Together, this means that there is no national 'single source of truth' for MNES data that is capable of providing an efficient and comprehensive basis for bioregional planning. Species distribution data is only part of the data picture; additional information is needed on habitat availability and condition, connectivity, and other values relevant to MNES, as well as analysis of impacts such as indirect and offsite

impacts. Consequently, priority investment in surveys, modelling and ecological risk assessments is needed to build reliable baseline information.

Environment Information Australia, supported by the forthcoming Data and Information Standard and technical guidance, will be central to lifting data quality and accessibility. Data and information used in the making of a bioregional plan or bioregional guidance plan including subsidiary guidance will be consistent with the principles set out in the National Environmental Standard for Data and Information. Clear, consistent methods for synthesising government and third-party data will be critical to ensure that information can be reliably used as an evidence base for bioregional planning.

Recommendation 4. Set the national method.

Create a Bioregional Planning Standard and subsidiary guidance and tools to standardise modelling techniques, baseline information, and assessment requirements.

Recommendation 5. Close critical gaps.

Prioritise collection for key species, ecological communities and habitat and identification and treatment of irreplaceable habitat. Provide guidance to support the consistent interpretation 'irreplaceable habitat' and the processes through which its identification and validation should occur.

Recommendation 6. Synthesise data.

Ensure technical guidance that synthesises state/territory and third-party datasets with federal MNES data supports bioregional planning priorities.

Indigenous information

Indigenous information was not included in the case studies partly because there are limited listings of nationally significant Indigenous cultural heritage, and there is no culturally appropriate guidance on how this information should be included in bioregional planning. In NSW, tools like the [Aboriginal Heritage Information Management System](#) (AHIMS) and the State Heritage Register provides information on items and places. In QLD, there is a [Cultural Heritage Database and Register](#).

However, this information is generally regarded as incomplete. Existing datasets record details of those sites known by regulators, meaning that some sites remain undocumented. Recorded site locations are often imprecise, the information can lack cultural context, and there are limited protocols and licensing agreements to support sharing culturally sensitive information. Further, Indigenous communities have had little involvement in how their own cultural data should be collected, managed and used⁴⁵.

To improve Indigenous knowledge and information in bioregional planning will require significant review and reform⁴⁶. The Standards for Information and Data and for Indigenous Engagement and Participation should assist addressing these types of issues.

Third party information

Science and conservation stakeholders have reported that species data, Indigenous knowledge and baseline ecosystem information are often missing or inaccessible⁴⁷. Data collected by proponents to support EPBC Act environmental assessments or through offsets obligations is not always provided in a form that can be readily shared or re-used by governments⁴⁸. As a result, third party information and data are not treated as an asset and so it remains unable to be shared and leveraged to build knowledge.

The EPBC Reforms recognise the role of utilising third party data. The National Environmental Standard for Data and Information should promote sharing through trusted platforms and agreements to utilise this data while respecting legitimate confidentiality restrictions⁴⁹.

Bioregional experts

The case studies demonstrate that high-quality data alone is not enough to create and maintain Bioregional Guidance Plans and Bioregional Plans. Expert knowledge and interpretation will always be needed.

Academics and research bodies are likely to be well-placed to create models, predictive habitat analysis and other technical assessments that transforms raw environmental survey data into usable information that can be fed into Bioregional Guidance Plans and Bioregional Plans.

Given the scarcity of specialist expertise and experience, jurisdictions should leverage partnerships such as those responsible for species' modelling at the [Threatened Species Recovery Hub](#) and the industry-environment Biodiversity & Renewables Institute Australia to support the production of baseline bioregional information. Partnerships with these types of bodies should be explored to expedite bioregional planning capability and support knowledge transfer and skills development.

Recommendation 7. Establish partnerships to boost capacity.

Enter partnerships with research bodies to accelerate modelling, analysis and capability building across government.

Government environmental portals

The case studies and third-party research shows that there is no single, authoritative source of environmental data to support bioregional planning. EPBC Reforms will see the establishment of environmental information assets (section 14), including a Biodiversity Data Repository. This repository is intended to make certain kinds of data available in a form, quality and coverage suitable for all levels of government, business and the public⁵⁰. The forthcoming Data and Information Standard and supporting technical guidance will be essential to ensure data is maintained to consistent quality and can be reliably used across bioregions.

Bioregional planning will shift industry and public interest in environmental information, placing additional pressure on its availability and accessibility. The Biodiversity Data Repository will need to support expert and non-expert users with simple, consolidated and trusted information supported by online learning tools. The [SANBI-GBIF](#) portal in South Africa is an example of comprehensive environmental information. It hosts open access to over 41 million species occurrence records, images and data sets published by South African institutions, all underpinned by global data standards. Therefore, the Biodiversity Data Repository will need to facilitate linked open data and interoperability so that MNES data can be visualised spatially.

User expectations are likely to extend further. As bioregional planning is inherently spatial, information will need to be capable of being presented at a bioregional scale, provide users with simple and clear explanations of mapped values, restoration priorities and the basis upon

which they have been calculated. Industry will rely on this digital information to inform site selection and investment decisions. Currently, however, the [EPBC Act Public Portal](#) presents information on individual projects, their status, decision notices and other information are separate from each other. Environmental portals will need to be capable of providing a single integrated environmental 'one-stop-shop' portal for bioregional science, research and learning programs, as well as a spatial tool for bioregional plans, online application and offsetting services, guidance and community participation.

Advances in AI provide further opportunities to strengthen the system. AI enabled tools have the capacity to support species distribution modelling, linking other data such as climate modelling and support spatial decision making. Already, state and territory governments are adopting AI to support development assessment decisions⁵¹ and recently, the federal government has begun to explore using AI for data insights and informing environmental decisions⁵².

Recommendation 8. Invest in an integrated national portal.

Prepare a business case for a centralised, trusted, single source of environmental information and a 'one-stop-shop' guidance, assessment, decision and monitoring tool.

3.0

Implementing *bioregional planning*



KEY POINTS

- 1 Bioregional planning has the capacity to resolve difficult decisions upfront to support environmental outcomes and renewable energy development certainty.
- 2 Bioregional Guidance Plans will be a significant contribution. They move from disparate trigger-based environmental mapping to provide, for the first time, a single source of spatially relevant information clarifying areas to be avoided such as conservation and high-value agricultural land and identifying preferred areas for renewable energy development.
- 3 Bioregional Plans will determine the zones for conservation and restoration priorities and for developments and will have regulatory effect. The differences between Bioregional Plans and Bioregional Guidance Plans mean that the standard of evidence to underpin these plans will be different.
- 4 There remains a risk that the data underpinning these plans will be incomplete due to the data limitations and this could limit their effectiveness. This risk could be minimised with Bioregional Plans transparently reporting data gaps and setting out clearly defined 'pre-conditions' that specify the information required to accompany an application.
- 5 Cumulative impact assessments will underpin these plans; however, experience shows that this is a very challenging form of assessment and practitioners have often struggled to implement cost-effective and consistent processes. This is a particular risk for bioregional planning because knowledge and experience are limited and there are no government-led guidance or tools available to support these assessments.

-
- 6 Restoration and conservation actions should be underpinned by a clear investment and research strategy. To maximise restoration actions, mechanisms are available for industry to undertake restoration actions in a bioregion or pay a restoration contribution. Collaborative restoration actions by proponents should be encouraged to support investments.
 - 7 Impact assessment processes will be streamlined and improved. However, further processes need to be tightened to support faster more consistent approvals. This includes providing clear up-front guidance at the pre-referral stage, providing limited specified circumstances for applying 'stop-the-clock' provisions, applying standard outcomes-based conditions and ensuring clear steps for managing modifications.
 - 8 Bioregional planning can help provide upfront clarity on areas that will be avoided. Statutory consultation alone is unlikely to be sufficient. Instead, there should be targeted consultation points should occur in the lead up to making Bioregional Guidance Plans and Bioregional Plans that is balanced with consultation requirements through environmental assessment processes.
 - 9 State and territory governments will need to explore the implications of bioregional planning and impact assessment reforms. For example, bioregional planning and regional planning will need to align to avoid the risk of regulatory inconsistency between Bioregional Plans and state and territory strategic and land use plans. Also, jurisdictional collaboration on conditions should be undertaken to ensure they are fit-for-purpose, standardised and remove duplication.
-

3.1 Bioregional planning differences

Reforms

Bioregional planning is a landscape or seascape environmental management tool that sets environmental values for MNES and conservation and development zones. Bioregional Plans are to be underpinned by relevant scientific evidence, expert judgment and Traditional knowledge⁵³ to identify values (protected matters) and specify:

- unacceptable impacts for each MNES;
- net environmental gain for each MNES;
- restricted actions within conservation zones;
- registered priority classes of actions and priority actions that will be permitted without an approval within development zones subject to conditions; and
- restoration measures.

The EPBC Reforms provide for **Bioregional Guidance Plans** (Part 12) and **Bioregional Plans** (Part 12A). Bioregional Guidance Plans may transition to Bioregional Plans. While they will have many data similarities, these plans will have fundamental regulatory and operational differences.

Implications

Bioregional Guidance Plans

Bioregional Guidance Plans will play a critical role identifying preferred locations for conservation and restoration and renewable energy development. These plans are intended to provide information on environment and heritage values, including threats to those values; areas that may be suitable for protection, conservation and restoration measures; measures that manage cumulative impacts; and areas that may be suitable for renewable energy development.

Bioregional Guidance Plans represent a significant shift in bioregional planning. They move the system away from fragmented trigger-based environmental mapping and provide, for the first time, a single source of spatially relevant information that will guide net environmental gain outcomes and deliver national policy priorities such as renewable energy development. Although these plans do not have regulatory effect, they have relevance to proposed assessment decisions and have the capacity to facilitate streamlined assessment pathways.

For these pathways to be effective, Bioregional Guidance Plans will need to do more than provide guidance on restoration and development. They should include benchmarks or measurable indicators⁵⁴ for conservation and restoration to clarify what is expected to be

achieved by governments and proponents alike. Without this level of detail, these plans may become high-level and ineffective resulting in the continued reliance on project-level assessment to determine unacceptable impacts and net gain.

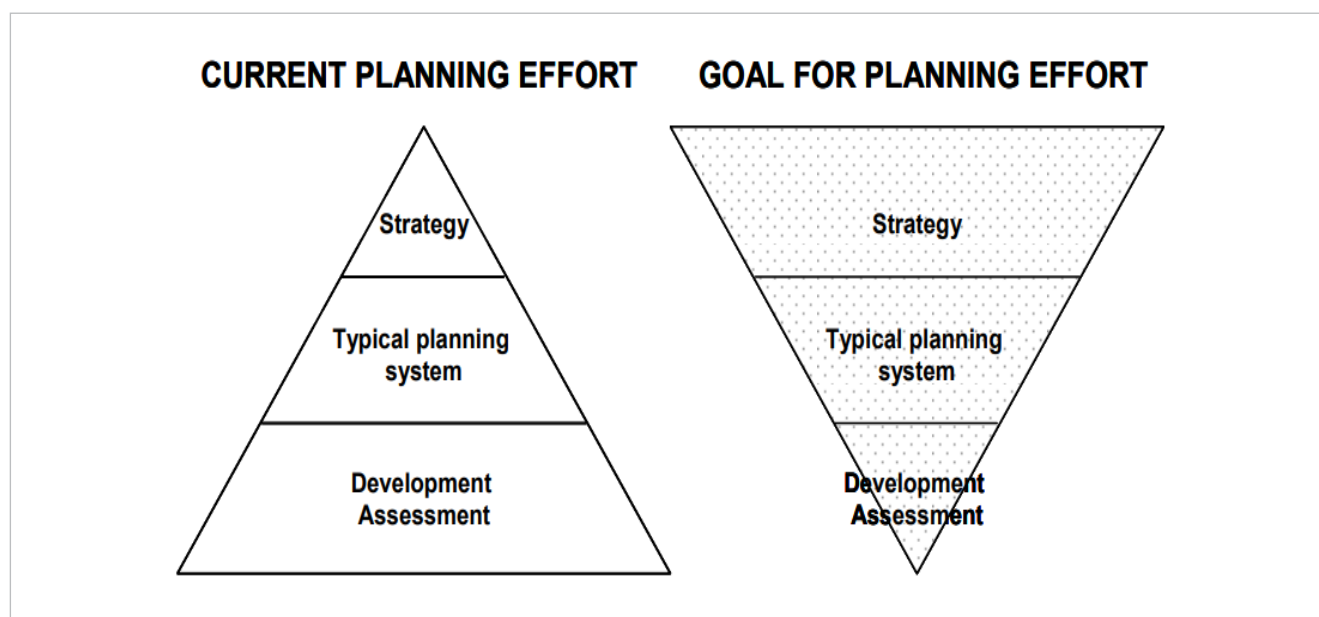
As outlined in Chapter 2, there will be inevitable MNES data gaps and inconsistencies at this early stage. Even so, Bioregional Guidance Plans will still help direct proponents to locations with low environmental values and at the same time outline regional restoration priorities. This transparency gives communities visibility of both what will be avoided and where development is likely to occur. To assist proponents and decision-makers, these plans should also include information about data uncertainty and upfront information requirements to help clarify project information obligations and needs. This may involve identifying where MNES values require confirmation through ground truthing and

identifying the parameters for how potential development impacts should be investigated. When implemented well, information gathered through environmental assessment processes should be used to resolve bioregional information gaps over time.

Bioregional Plans

Bioregional Plans will direct the locations for conservation, restoration and development through the establishment of zones. These plans have the potential to transform environmental assessments by resolving difficult decisions upfront thereby reducing delays and uncertainty in assessment processes (refer to **Figure 3.1**). To achieve this, the quality of MNES mapping and analysis needed to make Bioregional Plans cannot be understated. They must be informed by credible science-based information that enables two critical Bioregional Plan features.

Figure 3.1: Shifting the focus of environmental planning



Source: [Productivity Commission, 2011](#)

First, Bioregional Plans must define conservation and development zone boundaries (s. 177AJ and s.177AD). In doing so, each must have regard to the location, condition, threats and cumulative impacts (refer to **section 3.2**) for each MNES. It is also essential that they incorporate issues such as access to transmission infrastructure for renewable energy projects and avoiding high value agricultural land. This requires decision rules and information requirements that guide how zone boundaries and buffers are established and how they are refined over time as new conservation, restoration and development outcomes evolve or new information emerges.

Zones may not simply involve ‘go’ or ‘no go’ areas. Given varying environmental conditions and existing land uses, zones generally as contemplated in the EPBC Reforms will involve:

- **Zone 1:** Development is not allowed.
- **Zone 2:** Development is allowed subject to an environmental assessment and approval (i.e. the areas “in between” Zones 1 and 3.
- **Zone 3:** Development is allowed without single project approval, subject to conditions⁵⁵.

Table 3.1 summarises this approach for Critically Endangered, Endangered ecological communities. Note that 32 unique rules were developed for five MNES and were subject to consultations with experts⁵⁶.

Table 3.1: Possible zone decision rules

Matters of National Environmental Significance	ZONE 1:	ZONE 2:	ZONE 3:
	<i>Development is not allowed</i>	<i>Development is allowed subject EPBC Act approval i.e. no unacceptable impacts: application of mitigation hierarchy; and net gain for each impacted listed matter</i>	<i>Development is allowed without an EPBC Act approval, but subject to conditions</i>
Critically Endangered, Endangered ecological communities	Areas adjoining, connected, or near a Critically Endangered or Endangered ecological community that are irreplaceable when considering the ongoing protection and maintenance of the ecological community. Sites that are irreplaceable when considering the recovery of the Critically Endangered or Endangered ecological community, including under future climate change scenarios assessed as reasonably likely. All offset sites and areas set aside for the conservation of the community.	Sites that require assessment to determine if it is needed to ensure recovery, including under future climate change impacts. Sites that still require adequate assessment to determine if it is irreplaceable or contains irreplaceable elements. Areas adjoining, connected, or near threatened ecological communities that require assessment to determine if they are needed for the ongoing protection and maintenance of the ecological community values. Areas that do not meet the category for Avoidance Zone but are not adequately surveyed for threatened ecological communities.	Areas that are adequately surveyed and do not meet the criteria of Zones 1 and 2 for any MNES.

Source: Adapted from Aska et al (2025). Applying Avoidance Zone decision rules for development planning: A Central Queensland case study

Second, the data underpinning the zones must be sufficient to allow registered priority actions pass the ‘consistent with National Environmental Standard test’, the ‘avoid unacceptable impacts test’ and the ‘net gain test’. Meeting these requirements enables certain projects to proceed, subject to conditions, and without the need for an EPBC Act approval. This is a major shift from the present case-by-case ‘significant impact test’ and ‘no net reduction test’. To minimise subjectivity, these tests will presumably need to be supported by transparent quantitative evidence.

These features raise the type and standard of scientific evidence needed to implement Bioregional Plans, and it is likely to be a higher standard than Bioregional Guidance Plans given the regulatory differences between the two. Moreover, it transfers some of the evidence used in project assessments to Bioregional Plans. This standard is without precedent in Australia, and it may give rise to an expectation for ‘complete information’. The draft Regional Planning Standard (2024), notes that information gaps are expected to be identified and addressed through risk-based management, which may include collecting additional information⁵⁷. However, the process for doing so and its purpose requires further clarification.



Source: [Energy and Industry Geography Lab](#)

Environmental zoning for renewable energies: Spain

The scope of the zoning is restricted to the Spanish terrestrial environment and is focused on projects for large renewable energy generation facilities, wind and photovoltaic.

The zoning does not exempt environmental assessments as it is guidance to support the environmental conditions associated with the locations of proposed projects. This new resource is a flexible tool that requires continuous review, since the information will be subject to improvements, adjustments and updates.

The environmental zoning tool consists of two layers of information (one for wind energy and the other for photovoltaic energy) that show the value of the environmental sensitivity index existing at each point on the map, and the environmental indicators associated with that point.

The environmental zoning model contains maps classified according to five classes of environmental sensitivity - Maximum, Very High, High, Moderate and Low. These spatial values are represented in the screenshot from Spain's [Geospatial portal](#).

BOX 4

Drawing on the case studies in Chapter 2 and insights from bioregional pilots, MNES data gaps and uncertainty are highly likely. For this reason, the National Environmental Standard for Data and Information (2024) and for Bioregional Planning should specify appropriate criteria to be achieved in data collection and modelling. This could be ‘best available scientific information’ so that it reflects it being reliable, valid, up to date as referenced in the draft National Environmental Standard for Data and Information.

Even with this approach, data uncertainty may persist and it may take time to identify and delineate zones with confidence. As a result, areas within a bioregion may be unable to be designated as Zone 3 and instead fall into the “in-between” areas of Zone 2. Like the suggestions above for Bioregional Guidance Plans, one way this could be overcome is through ‘pre-conditions’ that identifies the information required to accompany an application in areas such as Zone 2. This may include the type and nature of surveys to be undertaken by a proponent to either satisfy:

- registering that an area become a development zone;
- eligibility requirements to register projects (priority actions) even if in Zone 2; and/or
- information requirements for assessment pathways.

In essence, pre-conditions have the potential to unlock areas in a bioregion where priority actions, and where a more streamlined approval pathway may be accessed, if those specific requirements can be met/satisfied. Pre-condition information requirements could be given effect, for example, via a Ministerial ruling (Part 19C).

Finally, the methods to produce Bioregional Guidance Plans and Bioregional Plans should be conducted through consistently applied guidance. Given their importance to environmental outcomes and development decisions, they should rely on the:

- consultation and parliamentary disallowance process to create a Bioregional Planning Standard that provides an assured framework; and
- National Environmental Protection Agency’s (NEPA’s) assurance role (refer to **section 3.2** below) in assessing bioregional plans against standards and advising the Minister for the Environment.

National interest exemptions

The EPBC Reforms allow for discretionary national interest exemption for defence, security and national emergency matters. These broad Ministerial powers are likely to be open to interpretation.

Bioregional planning can help clarify the circumstances in which these exemptions may be appropriate. By establishing MNES targets and thresholds, bioregional planning will illustrate the practical limits and potential consequences should an application for an exemption be under consideration. The more these plans spell out scientific evidence, social importance and risks to MNES, the more they can help narrow the practical circumstances in which national-interest exemptions are applied.

3.2 Bioregional assessment methods

Reforms

Bioregional pilots are incorporating cumulative impact assessments and jurisdictions such as Queensland have published the methodology they are applying⁵⁸. This appears to align with the EPBC Reforms explanatory material which refers to the role of Bioregional Plans to better manage cumulative impacts and threats to nature⁵⁹.

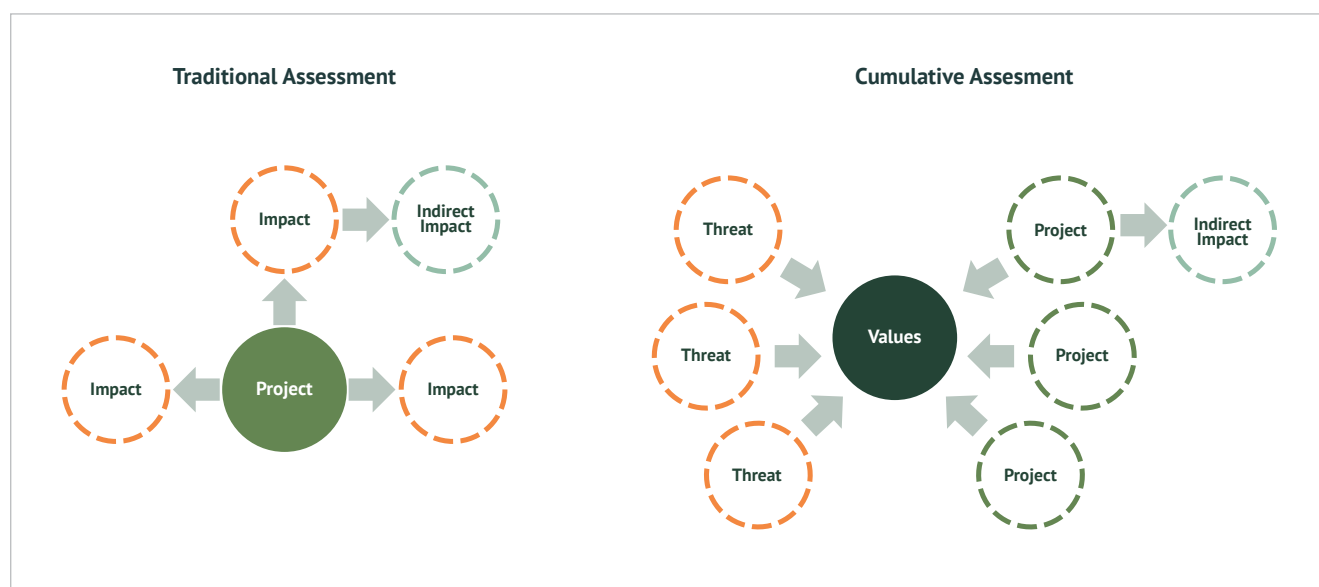
Implications

Cumulative impact assessment

Traditional environmental impact assessments focus on a project's individual and incremental impacts on environmental values. CIA's form part of this assessment but typically centres on how the footprint of a single project will add and impact to nearby existing and future pressures.

In contrast, landscape-scale CIA begins with environmental or MNES values themselves (refer to **Figure 3.4**), and identifies existing and future threats (e.g. climate, invasive species, land clearing) before assessing how existing and proposed projects contribute to those threats.

Figure 3.4: Impact assessment techniques

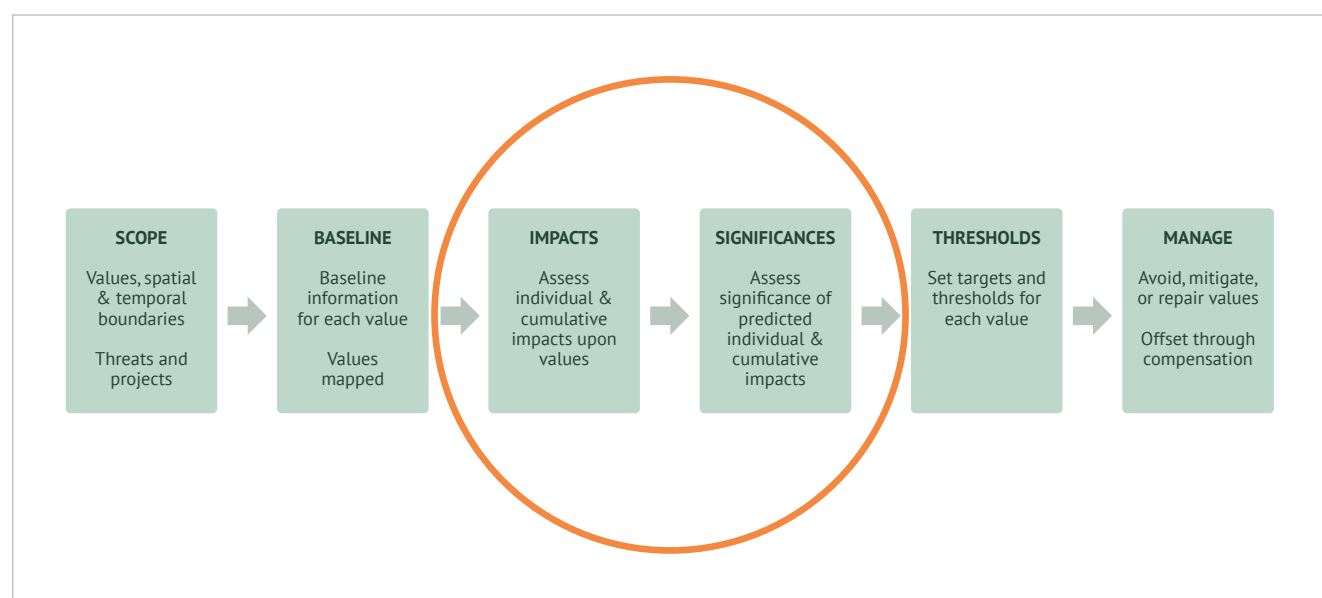


Source: Adapted from [ifc-goodpracticehandbook-cumulativeimpactassessment.pdf](https://www.environment.gov.au/system/uploads/attachment_data/file/438881/ifc-goodpracticehandbook-cumulativeimpactassessment.pdf)

Landscape-scale CIA aggregates multiple threats and project impacts and uses this information to inform conservation targets and thresholds. Examples of cumulative risks and impacts may include interference with migratory routes or wildlife movement, increased pressure on the carrying capacity or the survival of indicator species, or wildlife population reduction caused by increased land clearing, road kills and forestry operations⁶⁰.

CIA provides the basis to apply the **mitigation hierarchy** (e.g., s. 527J), by clarifying where and how to avoid, mitigate, repair or the eligibility to offset protected matters. It will help give effect to Principle 1 of the Draft MNES Standard⁶¹. CIA analysis will be fundamental to underpin suitable areas and zones for conservation and restoration and for renewable energy development. High-level CIA steps are illustrated in **Figure 3.5**.

Figure 3.5: High-level CIA steps



Source: Adapted from IUCN guidance on biodiversity cumulative impact assessment & IFC good practice handbook

CIA requires a holistic, spatial and temporal approach. Depending on the level of data confidence, information and models available, analysis may be quantitative, semi-quantitative or qualitative⁶².

Literature indicates that CIA is the most challenging form of impact assessment⁶³ and practitioners have struggled to implement cost-effective and consistent processes, probably because there is no widely accepted scientific methodology⁶⁴. A comparative review of jurisdictional approaches (i.e., California, British Columbia, Canada; Queensland, Australia; and New Zealand) found differences in how baseline, scale, and significance were determined and that practice and science were not closely aligned⁶⁵. The 2020 Review also identified that cumulative impacts of decisions on the landscape are not well considered, a key shortcoming of the EPBC Act⁶⁶. Researchers have indicated that clear and transparent requirements are needed to guide effective cumulative impact assessments⁶⁷. A range of CIA guidance exists, as shown in **Table 3.2** below.

Table 3.2: Examples of CIA guidance

Institution	Guideline
International	
United Nations Educational, Scientific and Cultural Organisation (UNESCO)	Renewable energy development and impact assessment in a World Heritage context
International Union for Conservation of Nature (IUCN)	Guidance on biodiversity cumulative impact assessment for wind and solar developments and associated infrastructure - resource
International Finance Corporation (World Bank Group)	ifc-goodpracticehandbook-cumulativeimpactassessment.pdf
United State National Environmental Policy Act	NEPA National Environmental Policy Act - Cumulative Effects
United States Environmental Protection Agency (US EPA)	Guidelines for Cumulative Risk Assessment Planning and Problem Formulation
Government of Canada	Policy Framework for Assessing Cumulative Effects under the Impact Assessment Act
Australia	
Australian Government, Bioregional Assessments	Methodology for bioregional assessments of the impacts of coal seam gas and coal mining development on water resources
Australian Government, Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Significant Impact Guidelines 1.1 - Matters of National Environmental Significance
DCCEEW	Key environmental factors for offshore windfarm environmental impact assessment under the Environmental Protection and Biodiversity Conservation Act 1999
QLD Government, Department of the Environment, Tourism, Science and Innovation	Fact sheet: Bioregional planning cumulative impact assessment
NSW Government, Department of Planning Housing and Infrastructure	Cumulative Impact Assessment Guidelines for State Significant Projects
VIC Government, Department of Transport and Planning	Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978

Most CIA guidelines are principle-based and share common steps, objectives and methods. All treat CIA as a form of impact and risk assessment. However, federal and state government guidance treats CIA as a technical component of a project-based environmental assessment⁶⁸. In contrast, principled-based UNESCO, International Union for Conservation of Nature (IUCN) and International Finance Corporation guidance aligns more closely to bioregional planning. Despite this, most guidance lacks clarity on how to develop suitable targets, thresholds or carrying capacities for protected matters. One exception is that DCCEEW bioregional assessment guidance for coal seam gas mining developments provides some detail on the models and analysis to support bioregional assessments.

QLD has applied the IUCN guidance for its bioregional pilots, and this is a sensible approach. However, because the guidance is principled based, the federal government still needs to determine when qualitative assessments are sufficient or if quantitative assessments are required. It is anticipated that the learnings from the bioregional pilots will help shape CIA guidance to provide jurisdictions, proponents and the community with a clear and consistent framework. This guidance will also need to address the potential challenges for bioregional pilots such as those identified in **Table 3.3**.

Table 3.3: Potential bioregional CIA issues

Baseline issues	Stakeholder issues	Assessment issues
- a lack of conservation indicators or targets - limited research or knowledge regarding values - limited baseline data confidence - proponents may be limited in their ability to share information due to commercial considerations	- stakeholders may assign different values - how to engage stakeholders in discussions on cumulative impacts - how best to share information and modelling - making available experts	- temporal scale that supports predictable futures - creating inventories for past, present and reasonably foreseeable projects - developing scenarios to inform assessments - assessment scale and assessment framework (e.g., types of individual and combined impacts and effects) - integrating climate change modelling - undertaking sensitivity testing - availability of scientific (quantitative) methods to conduct assessments - decision rules for targets, thresholds and restoration - designing protected matters monitoring frameworks

Source: Adapted from IFC good practice handbook

As far as practicable, the CIA inputs and methods should leverage existing arrangements and expertise to help shape the guidance.

For example:

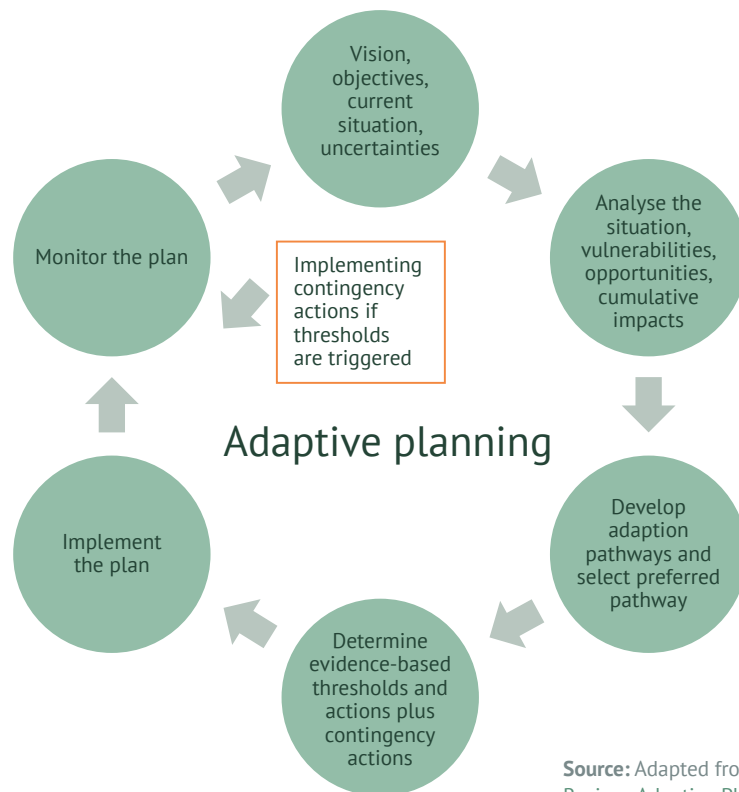
- **temporal scales** could align to future planning horizons used in regional planning;
- **inventories of past and present projects** could be based on state significant projects in bioregions. These projects could be sourced from a combination of:
 - » approved projects sourced from state development assessment portals;
 - » environment protection licenses from environmental regulator portals;
- **reasonably foreseeable projects** could be sourced from a combination of:
 - » projects under assessment sourced from state development assessment portals (reflecting market activity);
 - » project pipelines sourced from agencies such as the Australian Energy Market Operator, federal and state infrastructure bodies, and state regional plans (reflecting potential future activity); and
- **scenarios and sensitivity testing** could leverage federal or state⁶⁹ scenario frameworks (e.g., energy, climate⁷⁰, water⁷¹ scenarios).

Given that CIA is fundamental for establishing bioregional planning preferred areas and zones, it will be essential that robust methods are referenced in the Bioregional Planning Standard and supporting guidance and tools.

Managing risk

Environmental risk management is already embedded in federal and state and territory planning and assessment processes. Generally, the level of assessment is intended to be proportionate to the impact and risk of development to the environment. This means that higher risk proposals require intensive more detailed assessment methods, while lower risk proposals require less⁷². In practice however, project assessments have been criticised for being risk adverse no matter the level of risk and impact and this has contributed to unnecessarily long timeframes and costly and extensive information requirements⁷³.

Bioregional planning represents a significant shift in practice. It will move practitioners to assessing risks across a much larger spatial scale involving multiple species and habitats. In other words, it will be more complex. Managing risk is a principle incorporated in the EPBC Reforms (e.g. section 177DD (3) (j), (k)) and in draft National Environmental Standards (2025). However, the specific role of risk assessment in developing and implementing Bioregional Guidance Plans and Bioregional Plans is unclear. This is why clear methods will be essential to underpin the Bioregional Planning Standard and supporting guidance and tools to avoid costly and time-consuming processes that burden both regulators and proponents.

Figure 3.6: Adaptive planning illustration

Managing uncertainty and change

Landscape and seascape planning is inherently uncertain. Bioregional Guidance Plans and Bioregional Plans will therefore need to adapt to new or emerging information regarding changes to environmental conditions, significant risks or events as well as new MNES listings.

Adaptive management is widely used in natural resources planning⁷⁴ and it is being used to support biodiversity outcomes⁷⁵. It is a forward-looking approach that allows for flexible plans by setting science-led targets or thresholds that triggers pre-agreed actions (or contingency actions) when conditions (or threats) change, such as climate conditions. This **proactive approach**, supported by monitoring and reporting, responds to risks that affect the resilience of species and habitats. Refer to **Figure 3.6**.

The draft MNES Standard (November 2025) proposes adaptive management and monitoring⁷⁶. Under the EPBC Reforms both Bioregional Guidance Plans (s. 176E) and Bioregional Plans (s. 177AB) can incorporate non-legislative documents as they are updated from time to time. These mechanisms allow plans to be amended as new information arises within the five-year Bioregional Plan (s. 177CD and s. 177AS), including issues such as new species or ecological community listings, an ecological event has occurred or a change in development pressures. However, it will be beneficial for these circumstances to be spelt out in supporting guidance. Importantly, projects under assessment and existing project decisions must be grandfathered to prevent unintended disadvantage.

Adaptive management is currently framed as a largely reactive tool, applied when new information emerges. This approach does not allow for incorporating proactive triggers that would activate contingency actions when MNES thresholds or targets become threatened or breached. To avoid delayed responses that may be insufficient to prevent or mitigate environmental decline, the Bioregional Planning Standard should explicitly incorporate **proactive adaptive management** supported by clear triggers and contingency measures.

Recommendation 9: Codify methods.

The Bioregional Planning Standard and subsidiary guidance and tools should specify the outputs for each type of plan including upfront conditions, and required methods for zone design, buffers, plan updates, impact thresholds, CIA, treatment of new information, and reporting of outcomes.

Bioregional planning assurance

As highlighted above, bioregional planning is a relatively new approach for all Australian jurisdictions, and it will take time to build public awareness and, critical public confidence in the system. To support this transition, NEPA should establish an assurance process to help agencies build capability and provide the Federal Government with confidence that Bioregional Guidance Plans and Bioregional Plans are being developed to a standard that will support conservation and restoration and reliably inform environmental decisions.

There are several ways an assurance process could be applied. Its purpose should not be to audit or endorse a plan. Rather, assurance should be constructive and complement plan making by identifying gaps that may impede plan completion or implementation, thereby strengthening the quality and credibility of plans.

Recommendation 10: Improve planning through assurance.

NEPA should establish transparent assurance mechanisms for Bioregional Guidance and Bioregional Plans to provide confidence that plans will deliver MNES and efficiency outcomes.

3.3 Environmental assessments

Reforms

The EPBC Reforms provide new assessment pathways, while retaining some existing mechanisms in updated form to improve efficiency, flexibility and environmental oversight. Under the reformed framework, the assessment pathways for controlled actions are:

- accredited assessment process;
- streamlined assessment;
- environmental impact statement; and
- public inquiry.

The reforms also streamline the broader assessment and approvals framework by:

- consolidating several existing assessment methods into a single streamlined assessment pathway; and
- updating accreditation and bilateral agreement arrangements to provide greater flexibility and reduce duplication, while maintaining consistency with National Environmental Standards and other statutory safeguards.

As indicated earlier, the reforms establish a new pathway under which development may proceed without an approval where it is located within a Bioregional Plan development zone and undertaken in accordance with conditions.

Implications

For these new pathways to be implemented effectively, clear and targeted guidance will be required to assist proponents navigating them. This guidance should be directed to address long standing criticisms of environmental assessment processes.

Federal environmental approvals sit at the centre to progress renewable energy projects and yet are the single biggest barrier⁷⁷ and could slow progress towards the Government's RET putting Australia's emissions reduction target at risk⁷⁸. It has been reported that since 2023, only one in 89 projects in NSW, VIC and QLD referred under the EPBC Act have received a final decision⁷⁹. However, a review of data reveals that over this period 60 renewable energy project decisions in VIC, NSW and QLD under the EPBC Act. Of these, 53 projects determined Not Controlled Action decisions or Not Controlled Action-Particular Manners decisions, allowing them to proceed without full assessment and approval and in as little as four to six weeks. The remaining seven projects were assessed as controlled actions with approvals granted within 18 months to over two years.

While decision making outcomes have improved, some persistent assessment issues have included:

- delays or unnecessary pauses caused by information requirements to:

- » prepare submitting 'referral ready' projects;
- » conduct assessments which lead to using 'stop-the-clock' provisions;
- delays in assessment processes caused by limited government resources or organisational changes to government personnel;
- » lengthy and uncertain conditions which cause unnecessary costs to proponents;⁸⁰
- » duplication between federal and state protections⁸¹ and conditions.

Assessment delays lead to both direct costs from collecting various types of information regulators require and indirect costs that includes delayed revenues while waiting for an approval to start construction. For example, the Queensland Renewable Energy Council has reported that 'a 12-month delay in financial close on a \$400 million project can add more than \$20 million in holding and opportunity costs⁸². For these reasons the following points must be addressed before these pathways are operationalised.

Resourcing

As the Federal Government implements resourcing for EPBC Reforms, assessment functions should be organised according to those industry sectors that make up priority classes of actions. Structuring teams in this way would help build specialist knowledge and expertise, strengthen capability and reduce the risk of inconsistent assessments. This approach is used in many state planning agencies.

Several initiatives already support faster approvals, including dedicated strike teams⁸³ which work exclusively on renewable energy projects. These teams are beginning to improve capability by integrating environmental and technical expertise.

Bioregional planning guidance

Guidance should be produced from a user perspective. Given the reforms will considerably change pathways and processes, government should provide as much public information as possible upfront to support efficient assessments. This guidance should clearly outline the end-to-end assessment process including how bioregional pilots and/or Bioregional Guidance Plans relate to assessment pathways.

To support this transition, a comprehensive training and education program should be developed to support practitioners and proponents transition to the new system. For example, in late 2023, the Australian Capital Territory's planning system was overhauled through significant reforms, and it established training resources to support stakeholders to understand the new system through provide fact sheets, step by step guides, and process maps and the like. It facilitated topic specific webinars (introductory and advanced breakout sessions) to run through processes for stakeholders to ask questions and provide feedback. A dedicated hotline was also established which continues to be available today.

Given the focus towards priority classes such as renewable energy, guidance should be tailored to specific industry sectors. Also, consideration should be given to establishing a concierge function to provide proponents with a single point of contact that supports them navigating environmental application and assessment process as well as additional Commonwealth approvals that may be required⁸⁴.

Pre application referral processes

Pre application referral discussions should be encouraged, particularly during bioregional pilots and in the early stages of implementing Bioregional Guidance Plans. These discussions should help clarify expectations, assessment requirements and desired outcomes in the context of each bioregion. Once bilateral agreements are updated, federal officials should participate alongside state and territory officials in pre-application referral processes to show joined-up and consistent messaging underpinning bioregional planning and environmental assessments. Feedback from officials should be sufficiently detailed and reliable for proponents to rely on to support the preparation of a project application.

Clarify eligibility

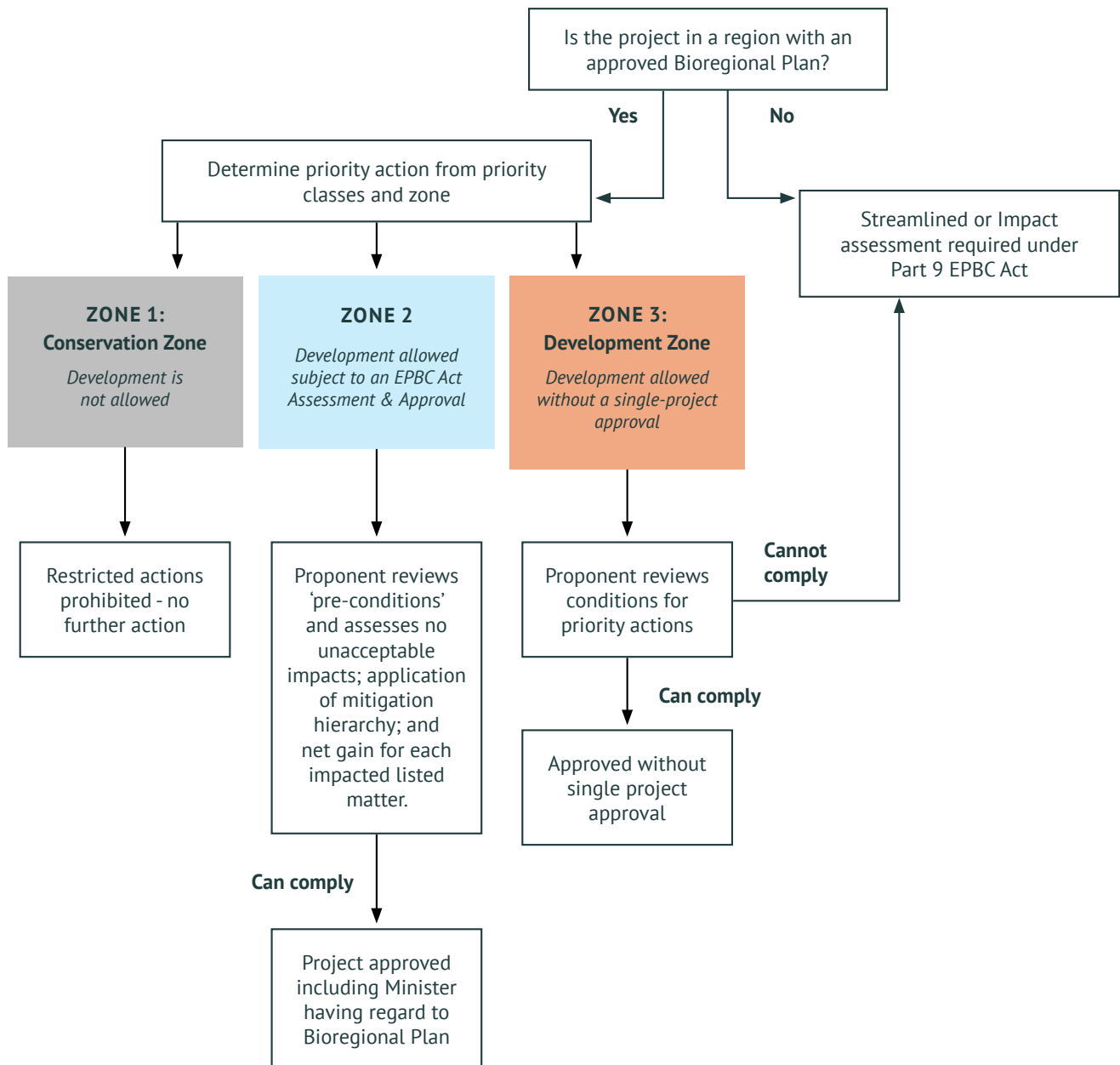
Bioregional Plans will identify renewable energy projects that once registered are eligible to be compliant priority actions and therefore able to proceed without a single-project approval (or analogous to a pre-approval) within a development zone (Zone 3). This represents a shift from EPBC Act processes requiring an assessment of environmental significance to determine eligibility for an assessment pathway. It means that project risk and impact are assessed and addressed upfront. This analysis should also inform categorising the assessment pathways for all renewable energy proposals, not just those compliant priority actions. This should help reduce reliance on the referral step in the process, enabling more projects to proceed through a registration step rather than a referral step.

In addition, as Bioregional Plans will take time to mature and fully delineate zones (refer to **section 3.1**), as an option, they could provide an upfront identification of renewable energy projects that may be eligible to proceed as compliant priority actions, subject to meeting defined 'pre-conditions' that outline additional information requirements because data is inadequate to support designating Zone 3. Where projects do not meet these conditions, they would continue to proceed through standard environmental assessment pathways. A stylised representation of this approach is provided in **Figure 3.7**.

Stop-the-clock

Stop-the-clock provisions invariably cause significant delays across federal, state and local jurisdictions. Their use should be tightened, and proponents should be incentivised to provide good information upfront. Improvements could include:

- **narrowing the grounds to pause the clock** to clearly defined circumstances, such as missing essential documentation or when a regulator requests information that is critical to make decisions; and
- **limiting the time of a pause** such that if a proponent does not provide information within a set timeframe, the clock resumes thereby encouraging proponents to move as quickly as possible.

Figure 3.7: Stylised EPBC Act Option under Bioregional Plans

Conditions

Our review of three recent approvals each made after the introduction of the [conditions policy and guidance](#), shows improved alignment with this approach. However, without a comprehensive review, there is a risk that conditions remain burdensome, duplicative, inconsistent (across projects in the same sector) and uncertain. Key observations are summarised in **Box 5**.

To address these issues, standardised outcomes-based approval conditions should be developed and linked to Bioregional Guidance Plans and future Bioregional Plans, to support streamlined environmental assessments and for priority classes of actions eligible to be exempt from approval. While standard conditions may need to be nuanced to reflect bioregional MNES and context, they should remain broadly comparable across bioregions to promote consistency and reduce unnecessary variation. They should also reduce duplication with state processes, such as integrating or aligning dual offset regimes and separate federal and state approvals for the same management plans.

Critically, many conditions such as those involving assessment requirements, clearance caps, or extensive monitoring arise due to information gaps or uncertainty about risks. These are matters that should be addressed upfront and transparently in bioregional planning, rather than being resolved at the project scale via approval conditions. Examples of matters better addressed through bioregional planning include:

- **baseline surveys for birds and bats**, current conditions requiring 24-month multi-seasonal surveys, risk modelling and impact assessment could be replaced with environmental baseline information embedded in Bioregional Plans. Post approval conditions

should then focus on validation, not generating new baseline information;

- **cumulative impacts**, these should be assessed at the bioregional scale. Post approval conditions should be focussed on avoidance, mitigation or restoration measures linked to bioregional thresholds derived from bioregional CIAs;
- **clearing limits**, limits for specific habitat types and vegetation communities are more effectively defined at a bioregional scale, consistent with the intent to manage impacts at a cumulative landscape scale;
- **cessation of operations**, requirements to cease operations after a single mortality should be risk-based and informed by species rarity, irreplaceability and conservation status as set out in Bioregional Plans;
- **monitoring and reporting**, requirements, especially bat and bird impacts from onshore windfarms, should reflect bioregional monitoring frameworks and vary according to MNES characteristics; and
- **research financial contributions**, these should be coordinated through bioregional conservation and restoration investment and research strategy, rather than inconsistently through individual projects.

If bioregional planning is delivered effectively, standard “outcomes-focused” approval conditions aligned with bioregional planning should minimise the need for bespoke conditions. They should enhance predictability and allow assessments to focus on known controls, compliance monitoring and reporting rather than project level impact assessment, baseline data collection and negotiating offsets post-approval.

Comparative analysis of EPBC Act conditions for three wind farm approvals

Three recent onshore wind farm approvals under the EPBC Act - Liverpool Range (NSW), Prairie (QLD), and Rye Park (NSW) - were assessed whether conditions are consistent and outcomes-focused. Key issues are:

Variability in Scope and Operational Limits. Different project impact limits:

- Rye Park and Prairie impose strict caps on clearance areas and turbine numbers.
- Liverpool Range is less prescriptive, relying partly on cross-references to NSW approvals for operational limits.

Divergent Bird and Bat Management Approaches. Differences include:

- Prairie requires prescriptive baseline surveys (24 months), strict one-bird mortality thresholds, and near-immediate shutdown responses.
- Liverpool Range uses adaptive management with cumulative thresholds but no fixed mortality caps.
- Rye Park omits baseline surveys and hard shutdown limits, instead relying on corrective triggers.

Offset Structures. Offset obligations differ:

- Prairie requires offsets to be secured before works commence, including reactive offsets for mortality.
- Liverpool Range adopts a phased approach with evidence required within four years.
- Rye Park mandates retirement of biodiversity credits, with turbine shutdown enforced for non-compliance.

Species-Specific and Pre-Clearance Requirements. Each approval imposes different pre-clearance survey obligations on arboreal mammals, Julia Creek dunnart, or Superb Parrot with varied methods, timing, and decision triggers.

Cumulative Impacts. These impacts are sometimes deferred to subsequent mechanisms:

- Rye Park requires cumulative impacts on species (e.g. superb parrot) to be addressed through a monitoring program.
- Liverpool Range requires cumulative impacts to be overseen via management plans.

Compliance, Monitoring and Reporting. Audit cycles vary between three and five years. Requirements for monitoring and reporting (e.g., 20 business days vs 60 days) differ across approvals. Dual compliance systems arise where EPBC approvals incorporate or defer to State requirements, giving rise to the need for an approval at a state level and a federal level on management programs before construction can commence.

Duplication. Within some approvals, conditions are repeated. For instance, Rye Park independently prohibits clearing of Superb Parrot nest trees in both general and management-plan-specific conditions. Further, there are duplicative approval processes for the same management plans, which increases time and regulatory burden.

As EPBC Act processes devolve to states and territories through accreditation processes, standard conditions must be developed collaboratively with state and territory governments to support efficient implementation, minimise duplication especially as it relates to monitoring and reporting requirements and ensure desired outcomes are achieved. Before standard conditions are implemented for a bioregion, they should be the subject of public consultation and industry feedback, which presumably will be captured in the forthcoming Community Engagement Standard.

Modifications

The EPBC Reforms are yet to set how proposed minor or major project changes or changes to conditions will be addressed in a proportionate sense. Minor modifications that do not affect compliance with a Bioregional Plan should be determined within a specified timeframe. Major modifications should be managed in a fast-track process aligned with the streamlined assessment process. These processes should be clarified through regulations and supported by guidance.

3.4 Restoration and environmental offsets

Reforms

As indicated above, the EPBC Reforms contain important concepts aimed at improving environmental outcomes as part of environmental assessment requirements for regulators and proponents. These are:

- **the unacceptable impacts test** (e.g., s. 527F) - projects cannot be approved where there is an unacceptable impact on protected matters, nor can offsets be used to overcome unacceptable impacts. Further, the Minister cannot accredit processes under a bilateral agreement if there is an unacceptable impact on a protected matter;
- **the mitigation hierarchy** - proponents must first avoid, mitigate or repair the impact or the damage (e.g., s. 527J) from a proposed action (project). Only as a last resort, an offset is available where a project causes a residual significant impact upon a protected matter;
- **the net gain test** (e.g., s. 527K) – where a residual significant cannot be avoided, mitigated or repaired, proponents compensate to achieve a net environmental gain. This compensation is delivered through a Restoration Actions and Restoration Contributions (Offsets) Framework. Compensation or

the restoration contribution charge is intended to cover the cost of restoration and includes monitoring, management and administrative costs.

The Offset Framework is to be implemented via a new independent office of the Restoration Contributions Holder, responsible for delivering restoration actions. Restoration contribution payments are to be made into a Restoration Contributions Special Account. An Environmental Offsets Standard and supporting regulations will outline operating arrangements. Restoration actions may be carried out by contracting delivery partners including NGOs, landholders, or accredited providers, with all actions required to align with a relevant Bioregional Plan.

Another important reform enables Nature Repair Market biodiversity credits to be used for offsetting (s. 76A of the *Nature Repair Act, 2023*). These credits represent verified conservation or restoration outcomes (e.g., habitat restoration, species recovery) but they must meet standards set by the Environmental Offsets Standard.

Implications

Bioregional planning will be a critical tool to establish restoration measures to achieve a net gain. They should provide clear conservation and investment choices for the independent

Restoration Contributions Holder and for industry to either make offset payments or purchase or retire like-for-like biodiversity credits.

Recently, NSW introduced a new offsetting pathway for renewable energy projects where there is now the option for proponents of eligible projects to enter into Strategic Offset Delivery Agreements⁸⁵ (SODAs) to satisfy all or some of their biodiversity offset liability under a NSW planning approval. Actions under a SODA may be carried out in relation to the development as a whole or in stages and must be consistent with the conservation investment strategy⁸⁶ that identifies priority investment areas and actions (such as that developed for Orange-Mount Canobolas⁸⁷). Offsetting is prioritised based on:

1. like-for-like credits created via (Biodiversity stewardship agreements) BSAs in the:

- priority investment area within the Central West Orana (CWO) region
- CWO region
- priority investment area within 50 km of the CWO region;

2. conservation action (on ground) in the:

- priority investment area within the CWO region
- CWO region;

3. like-for-like credits created via BSAs within:

- 50 km of the CWO region
- within the Interim Biogeographic Regionalisation for Australia sub-region/s in which the obligation arises; and

4. Conservation action (research) with direct application to on-ground management outcomes.

These types of conservation and restoration investment and research strategy arrangements should be mirrored in Bioregional Plans to coordinate conservation and restoration investments that are likely to flow from approvals for priority classes of actions. Indeed, these arrangements could also support priorities for research and could help inform conditions attached to pre-approved projects as well as other assessment pathways.

While Bioregional Plans may provide an investment strategy for restoration, they should also outline the locations where industry is encouraged to undertake (or collaboratively undertake) restoration (e.g., habitat restoration, species recovery, connectivity improvements) to maximise outcomes, rather than relying on the independent Restoration Contributions Holder alone.

3.5 Interaction with state and territory planning systems

Reforms

The EPBC Reforms contain several provisions aimed at reducing duplication between federal and state and territory planning systems.

First, the Federal Government is to cooperate with state and territory governments when making Bioregional Guidance Plans (s.176(5)) which is already occurring through the state-led bioregional pilots. Bioregional Plans on the other hand require the agreement of state and territory governments (s. 177AN(a)) before they are made. These two requirements ensure that collaboration and agreement underpin bioregional planning. Second, existing powers to accredit state and territory-based assessment processes have been strengthened to ensure that approval powers can also be accredited (except for approval of nuclear installations per s. 46). For accreditation to occur, state and territory assessment and authorisation frameworks must be capable of complying with minimum criteria⁸⁸ that will need to be updated to reflect the reforms.

For these arrangements to operate effectively, several state and territory strategic planning, and environmental assessment issues that will need to be addressed.

Implications

Strategic planning and land use

Bioregional Guidance Plans will identify areas suitable for conservation and restoration, and for development. Bioregional Plans will go further and identify conservation and development zones. However, state-based regional plans across Australia typically identify national parks, state forests and water bodies (refer to **Figure 3.8**) and major land use types, but they generally, do not set out zones with regulatory effect. Zones are typically located in local land use plans known as 'environmental planning instruments' (i.e. state environmental planning policies and local planning schemes) in NSW and 'planning instruments' (i.e. regional plans and local planning schemes) in Queensland.

Before Bioregional Guidance Plans and Bioregional Plans are made, aligning with existing state-based land use plans will need to be considered. At a minimum, this includes understanding the types of development that are contemplated within areas that may be designated as a conservation zone or development zone in a Bioregional Plan. Some land use plans may encourage for example tourism and high value agricultural land that could conflict with a proposed bioregional conservation zone. Aligning these planning regimes as much as possible will help avoid regulatory uncertainty and inconsistency with a zone and local and state-based environmental

assessment processes. While Bioregional Guidance Plans do not have the same regulatory effect as Bioregional Plans, the same principle applies to areas they identify suitable for conservation.

Environmental assessment processes

Bioregional pilots are shaping up to provide information about not only MNES but also matters of state environmental significance. This consolidated biodiversity information is likely to make its way to Bioregional Guidance Plans and Bioregional Plans and will benefit accredited (or devolved) streamlined and environmental impact assessment processes.

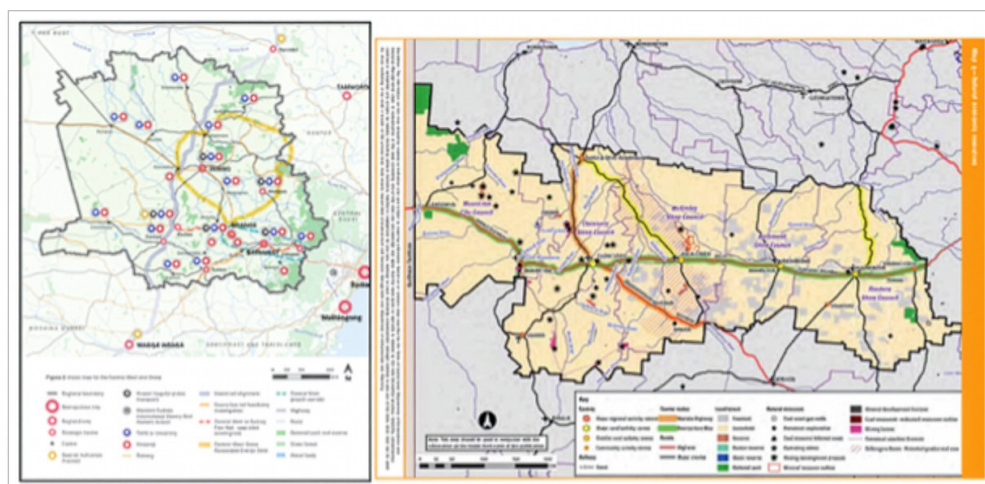
Given their national importance, renewable energy projects should be recognised in state and territory planning systems, such as Critical Infrastructure in NSW or Ministerial Infrastructure Designation in QLD to support alignment, streamlined (and proportionate assessment) and reduce duplication.

Federal and state assessment processes will not always operate in parallel. For example,

federal compliant priority actions that may proceed without the need for an approval does not necessarily remove the need for state (or local) assessment. Aligning processes, conditions and outcomes will be essential to minimise duplication, improve efficiency for proponents and outcomes for the public.

There are also matters considered under state and territory assessment frameworks that may not be addressed at the federal level. For example, while disclosure of scope 1 and 2 greenhouse gas emissions is required federally (s.84A), these emissions are not considered in federal assessment decisions. In NSW, however, scope 1, 2 and 3 emissions must be assessed under planning laws (e.g., disclosure of embodied emissions for non-residential development under clause 35BA of the *Environmental Planning and Assessment Regulation, 2021*). Climate change and resilience may also be relevant considerations under some state and territory systems, whereas the extent to which they are considered in federal assessments is less clear (noting references in the draft *Environmental Offsets Standard, 2025*).

Figure 3.8: Central West and Orana Regional Plan and North West Regional Plan



Source: Central West and Orana Regional Plan 2041, 2022. North West Regional Plan, 2010.

This could lead to:

- inconsistency in how climate-related impacts are addressed across jurisdictions; and
- confusion about differences between disclosure and assessment requirements.

A clear and coordinated assessment and disclosure framework between federal, state and territory governments will be necessary to avoid this confusion.

Finally, listings of threatened species and ecological communities differ between federal, state and territory jurisdictions because they have been developed separately using different classification and assessment methods⁸⁹. Bioregional pilot processes present an opportunity to align these listings before Bioregional Guidance Plans are finalised.

Recommendation 11. Lock in efficiency.

- *Confirm (through regulation) assessment pathways for all renewable development types within Development Zones.*
- *Tighten “stop the clock” rules (narrow grounds; set maximum pause durations).*
- *Implement prescribed processes (and thresholds) for minor modifications with clear timeframes.*
- *Issue standard outcomes-based approval conditions to reduce duplication and variability.*
- *Explore with state and territory governments the need for regional and land use plans alignment to remove the risk of land use regulatory inconsistencies.*

3.6 Public consultation and social licence

Reforms

The EPBC Reforms require 30 business days for public consultation on a draft Bioregional Plan (s. 177AL) and for draft Bioregional Guidance Plans (s. 176C). These consultation periods are intended to give communities an opportunity to shape the vision, values, objectives and actions for each plan. The plans will be supported by National Environmental Standards such as those for MNES and Data and Information which themselves will be subject to public consultation (s.514YH) and consultation with the Indigenous Advisory Committee (s. 514YI) prior to approval. The draft Community Engagement and Consultation Standard (2024) does not currently specify complementary requirements for bioregional planning consultation.

For project-level assessments, the EPBC Reforms set out the required timeframes for consultation and engagement. The draft Community Engagement and Consultation Standard (2024) complements these processes by, for example, encouraging proponents to conduct pre-application consultation. The draft Standard also outlines a requirement for proponents to prepare a Stakeholder Engagement Plan setting out how consultation will be undertaken for a proposed project.

Implications

One of the greatest challenges for the successful implementation of the EPBC Reforms will be ensuring they help build and maintain a social licence to achieve environmental net gain while supporting the renewable energy transition. A social licence reflects the informal acceptance by the communities and stakeholders for companies to conduct their activities^{90 91}.

Bioregional planning can help build this social licence by providing upfront clarity on areas that will be avoided, such as conservation and high value agricultural areas, and identifying preferred locations for renewable energy development. This transparency gives communities visibility of both what will be avoided and where development is likely to occur. Moreover, bioregional planning will identify regionally based conservation areas and restoration priorities. Communities have a strong interest in the environmental outcomes associated with renewable energy projects, and spelling out the priorities for conservation and restoration should help build confidence and strengthen social licence.

Trust is built through consistent practices, transparency and meaningful engagement. Statutory consultation alone is unlikely to be sufficient. Instead, there should be targeted consultation points in the lead up to making Bioregional Guidance Plans and Bioregional Plans.

Early engagement is already being incorporated into bioregional pilot projects, and these lessons should inform a balanced and consistent engagement framework for future plans. However, two considerations will be critical:

- the reforms represent a major shift for communities accustomed to project-by-project assessments. Clear communication will be needed to explain the purpose of the reforms, what they will deliver, and why engagement at this early stage matters; and
- early engagement must not become an overly lengthy or burdensome process; instead, it should be targeted, informative and responsive. It should also be balanced with later consultation during environmental assessment processes to avoid consultation fatigue.

Furthermore, Indigenous engagement and participation should enable Indigenous perspectives and knowledge to be incorporated into bioregional planning and decision-making through Indigenous-led processes⁹². To this end, the draft Community Engagement and Consultation Standard (2024) should be expanded to accommodate these issues and reflect lessons from bioregional pilots⁹³.

As indicated above, the draft Community Engagement and Consultation Standard (2024) requires proponents to prepare Stakeholder Engagement Plans. Because these plans may apply to all environmental assessment pathways regardless of scale, risk or impact, this could lead to proponents adopting different engagement

approaches leading to inconsistencies, risking the social licence to operate. There should be 'best practice' Stakeholder Engagement Plan requirements that are proportionate to the risk and impact of different assessment pathways. Best practice models could be drawn from [OECD Guidelines for Citizen Participation Processes](#) or International Association for Public Participation Australasia (IAP2).

Recommendation 12: Strengthen measures to support social licence.

- *Promote early engagement to complement the statutory consultation requirements for Bioregional Guidance Plans and Bioregional Plans.*
- *Include 'best practice' consultation requirements that are proportionate to the risk and impact of different assessment pathways.*

In addition, regulators and industry should be encouraged to proactively engage with community including Indigenous communities after bioregional planning or project construction is completed as part of a 'good neighbour' policy.

4.0

Additional benefits *from bioregional planning*



KEY POINTS

- 1 As Australia will now take concerted steps to implement bioregional planning, it presents an important opportunity to build national capability, strengthen the body of biodiversity knowledge for research purposes, and support greater public and industry awareness of nationally significant environmental values.
- 2 This work can also support more effective on-the-ground outcomes for landholders and community organisations. It could also provide the basis for citizen-led science to complement monitoring and reporting and public and academic research.
- 3 Bioregional planning will provide more upfront information; it can support complementary initiatives. The renewable energy industry can use clear regional information to explore more coordinated forms of engagement, pooling survey data and collaborate on investments into regional restoration.

4.1 Achieving environmental outcomes with the community

Bioregional planning will increase transparency and improve awareness of the importance of MNES conservation and restoration.

Bioregional monitoring and reporting frameworks (e.g. sections 176A (l) and 177CP (e)) will hold regulators and industry to account, strengthening bioregional knowledge to better manage MNES outcomes over time. The National Environmental Standard for Data and Information will improve consistency of, and access to, data and information through national systems and tools, including the Biodiversity Data Repository⁹⁴.

Monitoring and reporting frameworks will need to shift from modular species-specific or project-by-project approaches to a system capable of supporting multiple spatial scales to meet both national and bioregional reporting requirements. A consistent outcomes-based indicator framework will be required to generate long-term datasets and demonstrate progress to meet Australia's response to the *Kunming Montreal Global Biodiversity Framework*. This approach must combine both a bottom-up and top-down inputs and remain simple enough to be practical for various users and not overly burdensome.

In addition, bioregional planning and monitoring and reporting should be a basis for regulators and industry to lay the foundation for an ongoing relationship with landholders and community organisations. These relationships will be important to improve on the ground local environmental outcomes and sharing lessons learned as bioregional planning is implemented. It should also provide a basis to build scientific literacy for the public and support citizen-led research to complement monitoring and reporting, and public and academic research. In other words, broader engagement should be used to help solve difficult policy problems⁹⁵.

4.2 Building skills and knowledge

Given the significance of bioregional planning to transform biodiversity conservation and restoration, it provides a valuable opportunity to better coordinate building practices, skills, continuous learning and a world-leading body of knowledge to further contribute to academic and citizen-led research to complement *Australia's Strategy for Nature 2024-2030*.

Building on the momentum created through the bioregional pilots', and with the collaborative leadership of DCCEEW, consideration should be given to:

- **establishing bioregional communities of practice** to support shared learning on data and mapping, bioregional assessments, restoration measures and environmental assessment. These communities should be used to co-design bioregional guidance and include selected experts from industry and academia as technical advisers;
- **offering short courses or micro-credentials in partnership with academia** to lift practitioner capability, support consistent application of methods and encourage continuous professional development;
- **forming research partnerships with academic institutions** to:
 - » advance MNES data collection, modelling and reporting;
 - » improve bioregional planning practice;
 - » undertake targeted research on critical and irreplaceable habitat; and
 - » build a world-leading body of biodiversity knowledge.

4.3 Industry-led collaboration and environmental restoration

While bioregional planning is being used to meet statutory outcomes, it has the capacity to support greater collaboration to improve environmental outcomes, and it supports a more consistent approach to managing and restoring the environment across jurisdictions. When Bioregional Plans are clear, adaptive and transparent in terms of the renewable energy project pipeline and conservation/restoration priorities, proponents will be incentivised to pursue collaborative industry-led arrangements that could optimise bioregional outcomes.

For example, this may include:

- **coordinated community engagement**, for the renewable energy sector, where multiple regional projects are proposed, upfront coordination could help avoid piecemeal engagement and consultation fatigue;
- **shared survey programs**, enabling proponents to pool resources and generate consistent, high-quality data across several projects, reducing the risk of conflicting or duplicative survey results;
- **collaborative offset and restoration initiatives**, where industry partners work together to achieve greater restoration outcomes or make targeted investments in priority areas such as biodiversity corridors. It is noted that industry will have the ability to be nominated responsible for delivering restoration activities should they be willing to commit to the bioregional plan making process. This could also include co-funding bioregional research, consistent with the priorities set out in bioregional conservation and restoration investment strategies;

- **joint risk assessments**, allowing proponents within a region to collectively examine common threats or pressures and develop consistent mitigation approaches; and
- **coordinated monitoring and reporting**, enabling industry to demonstrate collective contributions to MNES targets and improving transparency for communities and stakeholders.

These types of initiatives should be actively explored. Supporting regulations and/or guidance should enable and encourage greater industry collaboration to maximise the benefits of bioregional planning.

Recommendation 13: Expand mechanisms to build confidence, capability and better bioregional outcomes.

- *Explore how to incorporate additional ways for delivering community-led local environmental outcomes and citizen-led science to complement bioregional planning.*
- *Prepare a bioregional skills and knowledge strategy to provide a platform for upskilling, continuous learning and building a world leading body of biodiversity knowledge for Australia.*
- *Provide mechanisms in the Bioregional Planning Standard and technical guidance to allow for industry-led approaches that enable collaborative public consultation, surveys and monitoring and reporting and greater offset or restoration investments.*

5.0

Recommended *next steps*



5.1 Key implementation issues

Implementing bioregional planning under the EPBC Reforms represents a fundamental shift in how Australia manages nationally significant biodiversity and delivers the renewable energy transition. The case studies and bioregional pilot experiences demonstrate that high quality data, clear methods and coordinated governance are essential to realising the potential of Bioregional Guidance Plans and Bioregional Plans. They also underline the scale of the challenge: MNES datasets remain fragmented and inconsistent, federal mapping is often unsuitable for regional decision making, and significant gaps exist for threatened species, ecological communities and irreplaceable habitat. These issues reinforce the need for a Bioregional Planning Standard and investment in survey effort, ecological modelling and predictive tools.

The analysis confirms that bioregional planning has the potential to greatly reduce delays and uncertainty in environmental assessments, but this will only be achieved if cumulative impact assessment, zone design, and risk-based decision rules are supported by consistent national guidance. The report finds that CIA is one of the most technically challenging components of assessment and that jurisdictions are potentially using varied approaches, risking inconsistency and reduced public confidence. Standardised methods, clear triggers and thresholds, and transparent approaches to managing uncertainty will be critical to ensure decisions are scientifically credible and proportionate.

Similarly, the implementation of new assessment pathways will depend on tightening long standing inefficiencies in the EPBC Act system. Federal approvals have been a major constraint on renewable energy rollout, with unclear information requirements, delays arising from 'stop the clock' provisions, duplicative processes and inconsistent conditions. The report identifies practical reforms including sector-based guidance, a concierge-style single point of contact and support function, enhanced pre-application guidance, standardised outcomes-based conditions, and streamlined modification processes are aimed at helping improve efficiency and consistency.

Delivering net environmental gain will also depend on the effectiveness of restoration and offset frameworks. Bioregional Plans will need to guide where restoration investment should occur, how cumulative pressures are managed, and how offsets or restoration contributions align with regional priorities. The report highlights the importance of coordinated restoration strategies, alignment with state offset systems, and mechanisms that enable collaborative, industry-led restoration across multiple projects.

Equally, the report emphasises that bioregional planning must build and maintain community trust and a durable social licence. Early, proportionate engagement; clear communication; Indigenous-led processes; and long-term relationships with landholders and community organisations are essential. Public confidence will

also rely on NEPA's assurance role, transparent monitoring and reporting frameworks, and accessible digital systems including the creation of a national biodiversity data repository and an integrated 'one stop shop' portal for mapping, assessment and monitoring.

Finally, the scale and pace of reform will require significant uplift in skills, capability and shared collaboration across governments, industry, academia and communities. The report identifies opportunities to develop communities of practice, micro-credentials, research partnerships and shared monitoring programs to build a world leading national expertise base in bioregional planning. Facilitating this uplift is essential to delivering credible plans, reducing project delays, and ensuring that environmental and climate goals are met concurrently.

In conclusion, the successful implementation of bioregional planning will depend on sustained investment, strong leadership, clear national guidance, and a culture of continuous improvement. We have outlined that multi-year funding will be necessary to provide bioregional plan certainty for the renewable energy transition required over the next 20-30 years.

Critically, there should be no expectation that bioregional planning will be perfect from day one as knowledge and plans will evolve and mature over time. Indeed, quite apart from the practical realities to produce Bioregional Plans, the scale of biodiversity and climate challenges means that Australia cannot afford to wait for perfect plans before acting.

5.2 Suggested timeline to implement recommendations

The following timeline provides a suggested sequence for the recommendations to support the implementation requirements for Bioregional Guidance Plans and Bioregional Plans.

Table 5.1: Suggested timing to implement recommendations

Suggested timing	Recommendation
2026	
R1	Publish the roadmap. Publish Bioregional Guidance Plan and Bioregional Plan priorities for the next four years supported by an end-to-end implementation schedule covering Bioregional Guidance Plans, Bioregional Plans, and new assessment pathways. This schedule should assist the timing and investment certainty for the renewable energy pipeline. The steps, roles, and milestones to develop Bioregional Guidance Plans and Bioregional Plans should also be spelt out.
R2	Ensure best practice regulation principles are embedded. Align administration of EPBC processes to the Regulatory Policy, Practice and Performance Framework to prevent unintended complexity during establishment and ensure efficiency gains are fully realised.
R3	Recommendation 3. Fund for scale and performance. Establish multi-year program funding for EPBC Reforms and a competition-based payment model for jurisdictions to drive timely bioregional planning.
R4	Set the national method. Create a Bioregional Planning Standard and subsidiary guidance and tools to standardise modelling techniques, baseline information, and assessment requirements.
R6	Synthesise data. Ensure technical guidance that synthesises state/territory and third-party datasets with federal MNES data supports bioregional planning priorities.

R7	Establish partnerships to boost capacity. Enter partnerships with research bodies to accelerate modelling, analysis and capability building across government.
R9	Codify methods. The Bioregional Planning Standard and subsidiary guidance and tools should specify the outputs for each type of plan including upfront conditions, and required methods for zone design, buffers, plan updates, impact triggers and thresholds, CIA, treatment of new information, and reporting of outcomes.
R11	Lock in efficiency. • Confirm (through regulation) assessment pathways for all renewable development types within Development Zones. • Tighten “stop the clock” rules (narrow grounds; set maximum pause durations). • Implement prescribed processes (and thresholds) for minor modifications with clear timeframes. • Issue standard outcomes-based approval conditions to reduce duplication and variability. • Explore with state and territory governments the need for regional and land use plans alignment to remove the risk of land use regulatory inconsistencies.
2027	
R5	Close critical gaps. Prioritise collection for key species, ecological communities and habitat and identification and treatment of irreplaceable habitat. Provide guidance to support the consistent interpretation ‘irreplaceable habitat’ and the processes through which its identification and validation should occur.
R8	Invest in an integrated national portal. Prepare a business case for a centralised, trusted, single source of environmental information and a ‘one-stop-shop’ guidance, assessment, decision and monitoring tool.
R10	Improve planning through assurance. NEPA should establish transparent assurance mechanisms for Bioregional Guidance and Bioregional Plans to provide confidence that they will deliver MNES and efficiency outcomes.

R12	Strengthen measures to support social licence. • Promote early engagement to complement the statutory consultation requirements for Bioregional Guidance Plans and Bioregional Plans. • Include 'best practice' consultation requirements that are proportionate to the risk and impact of different assessment pathways.
R13	Expand mechanisms to build confidence, capability and better bioregional outcomes. Explore how to incorporate additional ways for delivering community-led local environmental outcomes and citizen-led science to complement bioregional planning. • Prepare a bioregional skills and knowledge strategy to provide a platform for upskilling, continuous learning and building a world leading body of biodiversity knowledge for Australia. • Provide mechanisms in the Bioregional Planning Standard and technical guidance to allow for industry-led approaches that enable collaborative public consultation, surveys and monitoring and reporting and greater offset or restoration investments.

6.0

Appendices



Appendix 1 – All environmental datasets that have been reviewed

Data Name	MNES use	GIS File Name	Abstract / Description	Last	Licensing / Use Constraints	Contact / Point of Contact		Source	Data downloaded	Scale/	Data in case study	
											NSW	QLD
Interim Biogeographic Regionalisation for Australia (IBRA) Version 7 (Subregions)	Bioregional assessment	N/A	IBRA v7.0 is a landscape-based classification of Australia's land surface. It delineates 89 biogeographic regions and 419 subregions, with boundary refinements from v6.1 and standardized coding/naming.	2023-10-17	Creative Commons Attribution 3.0 Australia (CC BY 3.0 AU). Acknowledge the Australian Government as the source; © Commonwealth of Australia, Department of Climate Change, Energy, the Environment and Water.	Australian Government Department of Climate Change, Energy, the Environment and Water		https://www.arcgis.com/sharing/rest/content/items/fa066cfb26ff4ccd8172a38734905cc/info/metadata/metadata	2025-09-24		Yes	Yes
Australia, World Heritage Areas	World Heritage	ProjectData7844 – australia_world_heritage_areas7844	National dataset of Australian properties on the World Heritage List; combines property datasets (incl. buffer zones where they exist).		CC BY 3.0 AU; Â© Commonwealth of Australia (DCCEEW).	Heritage Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW)	https://www.arcgis.com/sharing/rest/content/items/bd46da1431cc4250b6be4017958fc1c6/info/metadata/metadata	26/09/2025	AU	No	No
National Heritage List Spatial Database (NHL) - public	World Heritage		These data provide locational and attribute information for places nominated to and included in the National Heritage List.		Creative Commons Attribution 3.0 Australia (CC BY 3.0 AU); Â© Commonwealth of Australia (DCCEEW) 2025.	Heritage Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/66aa321b360b4cf29bef342c5766ba58/info/metadata/metadata	29/09/2025	AU	No	No
Ecological Communities of National Environmental Significance (ECNES) database - PUBLIC	Listed Threatened Ecological Communities	ECNES_LTEC7844	Indicative spatial distribution of threatened ecological communities listed under the EPBC Act; mapping based on geospatial units and related data. Not for local/regional-scale use or area calculations; intended as a starting point pending ground-truthing.		Creative Commons Attribution 4.0 International (CC BY 4.0); Â© Australian Government Department of Climate Change, Energy, the Environment and Water.	Species Data Manager, Environment Information Australia (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/3ce27fab85194f468bcfb106e5be15ee/info/metadata/metadata	29/09/2025	VIC, Most of NSW (except Northwest) Part of QLD (Costal and South), TAS ,small part in SA (North), and Small Part in WA	Yes	No
Species of National Environmental Significance and selected marine and cetacean species - indicative habitat models	Listed Threatened Species	SpeciesNationalEnvironmentalSignificance7844	Managed by Environment Information Australia; generalised, national-scale indicative habitat models for EPBC-listed threatened/ migratory species and selected marine/cetacean species. Not for local/regional analysis or area calculations.		Creative Commons Attribution 4.0 International (CC BY 4.0); Â© Commonwealth of Australia (Department of Climate Change, Energy, the Environment and Water).	Spatial Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/9d313bb078b9421ebeb835b3a69c470/info/metadata/metadata	2/10/2025	AU	Yes	Yes
Australian Marine Parks	Great Barrier Reef Marine Park		Spatial and contextual information about Australian Marine Parks proclaimed under the EPBC Act; includes networks and Coral Sea/Indian Ocean Territories.		Creative Commons Attribution 4.0 International (CC BY 4.0); Â© Commonwealth of Australia (DCCEEW) 2025.	Marine Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/2b3eb1d42b8d4319900cf4777f0a83b9/info/metadata/metadata	1/10/2025	Outside AU	No	No

Ramsar Wetlands of Australia	Wetlands of International Importance		National dataset of Australia's Ramsar Wetlands under the Ramsar Convention; national coverage compiled from State/Territory agencies.		Creative Commons Attribution 3.0 Australia (CC BY 3.0 AU); Â© Commonwealth of Australia (DCCEEW). See AUSGOAL.	Water Data Metadata (geospatial@awe.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/70f25570514d44bf9246ac7fa9c4c200/info/metadata/metadata	26/09/2025	AU	No	No
Indigenous Protected Areas (IPA) - Dedicated			Dedicated Indigenous Protected Areas across Australia under the Indigenous Protected Areas Programme; boundaries are indicative and not legally binding.		CC BY 3.0 AU. Acknowledge DCCEEW and the National Indigenous Australians Agency; Â© DCCEEW & NIAA, 2023.	Parks Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/75c48afce3bb445f9ce58633467e21ed/info/metadata/metadata	9/10/2025	AU	Yes	Yes
Referrals Spatial Database - Public			Locations of referrals submitted under the EPBC Act (1999); boundaries indicate maximum extent submitted by proponents and are not development footprints.		CC BY 3.0 AU. Cite: â€”Referrals Spatial Database Â© Australian Government DCCEEW (2022)â€™; additional other Restrictions notes.	Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/ff8ef1108dd148c99fad93799d67ee94/info/metadata/metadata	29/09/2025	AU	Yes	Yes
Commonwealth Heritage List Spatial Database (CHL) - public			Locational and attribute information for places on the Commonwealth Heritage List (listed and nominated). Confidential places not included.		CC BY 3.0 AU. Â© Commonwealth of Australia 2021; additional restrictions for display/attributes/geometry noted.	Heritage Data Manager (geospatial@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/bf02ea66970c40d18b15e782b20a2fa9/info/metadata/metadata	2/10/2025	AU	No	No
Collaborative Australian Protected Areas Database (CAPAD)		Collaborative Australian Protected Areas	CAPAD provides spatial/textual information on protected areas (government, Indigenous, private) in marine and terrestrial environments; snapshot current for 30 June 2024.		CC BY (acknowledge DCCEEW as source). Cite: â€”CAPAD 2024, Commonwealth of Australia 2025â€™. Â© DCCEEW 2025.	Parks Data Manager (capad@dcceew.gov.au)	Australian Government Department of Climate Change, Energy, the Environment and Water	https://www.arcgis.com/sharing/rest/content/items/76d8c36ce39b462aad903126b8c0e757/info/metadata/metadata	9/10/2025	AU	Yes	Yes
Commonwealth Owned Land 2025			Owned Estate data from the Australian Government Property Register (AGPR) for non-corporate Commonwealth entities as at 30/06/2025; subset with exclusions noted by the Department of Finance.		Creative Commons Attribution 2.5 Australia (CC BY 2.5 AU).	Department of Finance â€” propertydata@finance.gov.au	Department of Finance	https://data.gov.au/data/dataset/8e6f625f-6644-40db-8d35-df215e53a059/resource/4931ad16-3a58-45d8-9cb8-d563b7a87c9f/download/commonwealth-owned-land-2025.csv	1/10/2025	AU	Yes	No
High Environmental Value for Central West Orana Regional Growth Planning area - detailed		Clipped_HEV_CentralWestOrana	This polygon shape file is a 1:25,000 – 1: 50 000 environmental datasets combining 14 input data sources. These are outlined in the lineage statement. The input data sets identify agreed HEV criteria for the purposes of regional strategic planning and other environmental assessment projects that require identification of significant biodiversity values. This project was undertaken by Planning Services Unit, OEH with input from all the Planning teams in Regional Operations, OEH. The Central West Orana High Environmental Values dataset covers the Central West Orana Regional Growth Planning area.	weekly	No-Limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au ; Web address: https://www.nsw.gov.au/departments-and-agencies/departments-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/high-environmental-value-for-central-west-orana-regional-growth-planning-area-detailed7053e/metaexport/iso19115_html	29/10/2025	NSW	Yes	No

Strategic Regional Land Use Policy (SRLUP) - Strategic Agricultural Land - Biophysical		Strategic Agricultural Land	Biophysical Strategic Agricultural Land (BSAL) is land with high quality soil and water resources capable of sustaining high levels of productivity. These lands intrinsically have the best quality landforms, soil and water resources which are naturally capable of sustaining high levels of productivity and require minimal management practices to maintain this high quality.	weekly	No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/srlup-salbiophysical/metaexport/iso19115_html	29/10/2025	NSW	Yes	No
Environmental Planning Instrument - Terrestrial Biodiversity		NSW_Terrestrial_Biodiversity_8058	This spatial dataset identifies the land where development implications exist due to the presence of terrestrial biodiversity as designated by the relevant NSW environmental planning instrument. The data identifies areas of biodiversity in NSW.	weekly	No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/epi-terrestrial-biodiversity/metaexport/iso19115_html	29/10/2025	NSW	Yes	No
Environmental Planning Instrument - Heritage (HER)		NSW_Heritage_8058	This spatial dataset identifies areas subject to Heritage conservation as designated by the relevant NSW environmental planning instrument (EPI) under the Environmental Planning and Assessment Act 1979. The specific EPI which defines the planning requirement is described in the attribute field LEP_Name.	weekly	No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/environmental-planning-instrument-heritage-her/metaexport/iso19115_html	29/10/2025	NSW	Yes	No
Environmental Planning Instrument - Height of Buildings (HOB)		NSW_Height_Of_Building_8058	This spatial dataset identifies the maximum height of a building that is permitted on land as designated by the relevant NSW environmental planning instrument (EPI) under the Environmental Planning and Assessment Act 1979.	weekly	No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/environmental-planning-instrument-height-of-buildings-hob/metaexport/iso19115_html	29/10/2025	NSW	Yes	No
NSW National Parks and Wildlife Service (NPWS) Estate		NPWS_NSW National Parks and Wildlife Service_clipped	The NSW National Parks and Wildlife Service (NPWS) Estate database provides information on areas reserved under the NP&W Act 1974. Areas include National Parks, Nature Reserves, Regional Parks, State Conservation Areas, Aboriginal Areas, Historic Sites and Karst Conservation Reserves.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/nsw-national-parks-and-wildlife-service-npws-estate3f9e77/metaexport/iso19115_html	10/11/2025	NSW	Yes	No

Conservation value of NSW Travelling Stock Reserves (TSRs)	State and Territory Reserves	Conservation value of NSW Travelling Stock Reserves 2019	The "Linear Reserves – Managing Travelling Stock Reserves. A key component of the project was the creation of a statewide dataset of conservation values on TSRs to assist public land managers with their asset management. This dataset is a compilation of 'best available' information from new and historical assessments of TSRs. Each TSR has been assigned High, Medium and Low conservation value and is contained in the field 'BIOC/FINAL'.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au ; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/travelling-stock-reserves/metaexport/iso19115_html	11/11/2025	NSW	Yes	No
Native Vegetation Management Benefits - Landscape benefits	Bioregional Assessments	Landscape benefits -(Raster)	Landscape benefits (aka consolidate benefit) mapping highlights areas where conservation of existing vegetation, condition improvement of degraded vegetation, or rehabilitation of cleared areas are most likely to contribute to maintaining and enhancing connectivity across a region		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au ; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/native-vegetation-management-nvm-landscape-value-mapping-benefitsbb846/metaexport/iso19115_html	12/11/2025	NSW	Yes	No
Priority Populations for the NSW Koala Strategy 2021-26	Key Ecological Features	Revised_ARKS_and_Priority_Populations_under_	The NSW Koala Strategy identifies 50 koala populations in New South Wales based on the Areas of Regional Koala Significance (ARKS) identified by the NSW Government (DPIE 2020), noting that koalas are also found outside these areas.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au ; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/priority-populations-for-the-nsw-koala-strategy/metaexport/iso19115_html	13/11/2025	NSW	Yes	No
Biodiversity Values	Key Ecological Features	NSW_Biodiversity Values_8058	The Biodiversity Values Map (BV Map) identifies land with high biodiversity value that is particularly sensitive to impacts from development and clearing. The BV Map is one of the triggers for determining whether the Biodiversity Offset Scheme (BOS) applies to a clearing or development proposal.	weekly	No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au ; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/biodiversity-values-map/metaexport/iso19115_html	14/11/2025	NSW	Yes	No
NSW State Vegetation Type Map	Key Ecological Features	State Vegetation Type	The State Vegetation Type Map (SVTM) is a regional-scale map of NSW Plant Community Types. This map represents the current extent of each Plant Community Type, Vegetation Class and Vegetation Formation, across all tenures in NSW. This map is updated periodically as part of the Integrated BioNet Vegetation Data program to improve quality and alignment to the NSW vegetation classification hierarchy.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au ; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map/metaexport/iso19115_html	15/11/2025	NSW	Yes	No

Ecological carrying capacity of terrestrial habitat	Key Ecological Features	Ecological carrying capacity of terrestrial habitat	This Indicator accounts for how the generalised quality of terrestrial habitats supporting biodiversity at each location and its connection with habitat at other locations within a neighbourhood enables biological movement such as foraging, dispersal and migration. It is used to account for the carrying capacity of a landscape to support its original complement of biodiversity and ecosystems		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/ecological-carrying-capacity-of-terrestrial-habitat/metaexport/iso19115_html	16/11/2025	NSW	Yes	No
Ecological condition of terrestrial habitat	Key Ecological Features	Ecological condition of terrestrial habitat	This Indicator measures the intactness and naturalness of terrestrial vegetation as habitat to support biodiversity, without considering the indirect effects of fragmentation or connections with surrounding suitable habitat.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/ecological-condition-of-terrestrial-habitat/metaexport/iso19115_html	17/11/2025	NSW	Yes	No
Persistence of ecosystems (including undiscovered species) (vascular plants)	Key Ecological Features	Persistence of ecosystems	This indicator measures the proportion of ecosystem diversity that is still existing or likely to persist based on a classification of known and undiscovered taxonomic groupings of species. The results presented here are for vascular plants. Future variants of this indicator will include results for other taxonomic groups. The persistence of ecosystems indicator 2.2c, reported here, is one of a series of indicators on the status of biodiversity and ecological integrity in NSW developed to contribute to assessing the performance of the Biodiversity Conservation Act 2016. The overarching indicator framework which outlines how indicators are related and derived is presented in the "method to assess biodiversity and ecological integrity across New South Wales"		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/persistence-of-ecosystems-vascular-plants/metaexport/iso19115_html	18/11/2025	NSW	Yes	No
Ecological connectivity of terrestrial habitat	Key Ecological Features	Ecological connectivity of terrestrial habitat	This Indicator is a measure of local scale contribution to ecological carrying capacity. It accounts for the generalised quality of terrestrial habitats supporting biodiversity at each location, the fragmentation of habitat within its neighbourhood and its position in the landscape (e.g. as part of a habitat corridor, or a stepping stone).		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/department-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/ecological-connectivity-of-terrestrial-habitat/metaexport/iso19115_html	19/11/2025	NSW	Yes	No

NSW National Parks and Wildlife Service (NPWS) All Managed Land	State and Territory Reserves	NPWS Reserve	The NSW National Parks and Wildlife Service (NPWS) All Managed Land dataset combines following four separate NPWS datasets: NPWS Estate Land Vested in NPW Act Minister - acquisition of land for reservation Land Vested in NPW Act Minister - acquisition of land for management and other purposes NPWS Managed Land Other This combined dataset is for reporting purposes when it is deemed necessary to include all of the land that is managed by NSW National Parks and Wildlife Service.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/departments-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/npws-all-managed-land	20/11/2025	NSW	Yes	No
NSW National Parks and Wildlife Service (NPWS) Estate	State and Territory Reserves	NPWS_	The NSW National Parks and Wildlife Service (NPWS) Estate database provides information on areas reserved under the NP&W Act 1974. Areas include National Parks, Nature Reserves, Regional Parks, State Conservation Areas, Aboriginal Areas, Historic Sites and Karst Conservation Reserves.		No limitations on public access	Data Broker; Organisation name: NSW Department of Planning, Housing and Infrastructure; Telephone number: 131555; Email address: data.broker@environment.nsw.gov.au; Web address: https://www.nsw.gov.au/departments-and-agencies/departments-of-planning-housing-and-infrastructure	NSW Department of Planning, Housing and Infrastructure	https://datasets.seed.nsw.gov.au/dataset/nsw-national-parks-and-wildlife-service-npws-estate3f9e7	21/11/2025	NSW	Yes	No
Core Habitat Suitability Models	Geological and Bioregional Assessments	FAUNA & FLORA group	This product depicts the combined spatial representation of species habitat models for 23 Threatened or Near-threatened species listed under the Nature Conservation Act 1992. Modelled habitat depicted in this dataset may include both remnant and non-remnant areas	4 Mar 2024	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2021	https://qldspatial.information.qld.gov.au/catalogue/custom/detail.page?fid={EC3AB633-A946-464E-998A-9A223C72BA98}	9/11/2025	QLD	No	Yes
MSES wildlife habitat [special least concern animal]	Key Ecological Features	MSES_wildlife_habitat_special_least_concern_animal	This dataset depicts areas of remnant or regrowth vegetation in which a fauna species that is listed as a Special Least Concern taxa under the Nature Conservation Act 1992 (NCA) is known or considered likely to occur. This dataset was created specifically for the purpose of facilitating the update to relevant Matters of State Environment Significance Spatial Layers.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2022	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	26/09/2025	QLD	No	Yes

MSES wildlife habitat [sea turtle nesting areas]	Key Ecological Features	MSES_wildlife_habitat_sea_turtle_nesting_areas	The mapping is a line representing underlying sea turtle nesting areas. The inclusion of rocky coastlines and headlands is deliberate to reflect how artificial light can influence not only the behaviour of hatchlings on the beach but also the wayfinding of both adult turtles and hatchlings in coastal waters around nesting beaches. Local refinement is required to determine "turtle sensitive areas" under the Sea Turtle Sensitive Area voluntary model code.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2023	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	27/09/2025	QLD	No	No
MSES wildlife habitat [SEQ koala habitat - core]	Key Ecological Features	MSES_wildlife_habitat_koala_habitat_areas_core	Core koala habitat delineation for SEQ based on habitat suitability modelling and expert rules; replica of mapping used under the Koala Conservation Plan 2017 for MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2024	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	28/09/2025	QLD	No	No
MSES wildlife habitat [SEQ koala habitat - locally refined]	Key Ecological Features	MSES_wildlife_habitat_koala_habitat_area_locally_refined	Locally refined koala habitat areas provided by SEQ local governments to protect locally identified habitat for a defined period; replica of SEQ koala mapping used for MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2025	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	29/09/2025	QLD	No	No
MSES wildlife habitat [endangered or vulnerable]	Key Ecological Features	MSES_wildlife_habitat_endangered_or_vulnerable_wildlife	Modelled habitat suitability and records for listed endangered or vulnerable species relevant to MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2026	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	30/09/2025	QLD	No	Yes
MSES strategic environmental area [designated precinct]	State and Territory Reserves	MSES_Strategic_environmental_area_designated_precinct	This layer shows Strategic Environmental Areas (designated precincts) that are matters of state environmental significance (MSES). All enquiries regarding SEAs should refer to Regional Planning, Department of State Development, Infrastructure, Local Government and Planning (DSDILGP).	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2027	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	1/10/2025	QLD	No	No
MSES regulated vegetation [defined watercourse]	Key Ecological Features	MSES_Regulated_vegetation_intersecting_a_watercourse	Vegetation management watercourse and drainage features relevant to MSES proximity rules (defined distance from relevant watercourses).	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2028	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	2/10/2025	QLD	No	Yes
MSES regulated vegetation [essential habitat]	Key Ecological Features	MSES_Regulated_vegetation_essential_habitat	MSES regulated vegetation, specifically essential habitat , refers to mapped areas in Queensland, Australia, critical for endangered/vulnerable wildlife survival, part of the State Planning Policy (SPP) framework, guiding land-use planning and development assessment to protect biodiversity.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2029	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	3/10/2025	QLD	No	Yes

MSES regulated vegetation [category R- GBR riverine]	Key Ecological Features	MSES_Regulated_vegetation__category_R_GBR_riverine	MSES Regulated Vegetation Category R (GBR riverine) in Queensland refers to native woody vegetation within 50m of mapped regrowth watercourses, crucial for Great Barrier Reef catchments	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2030	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	4/10/2025	QLD	No	No
MSES regulated vegetation [category C- endangered or of concern]	Key Ecological Features	MSES_Regulated_vegetation__category_C_endangered_or_of_concern	MSES regulated vegetation Category C in Queensland refers to High Value Regrowth vegetation , which are significant areas of regenerating native plants on freehold or leasehold land, often for farming, and while not "remnant" (Category B), these areas are protected under the Vegetation Management Act (VMA) for their environmental importance, requiring specific approvals for clearing, especially if they contain endangered or 'of concern' regional ecosystems.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2031	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	5/10/2025	QLD	No	No
MSES regulated vegetation [category B - endangered or of concern]	Key Ecological Features	MSES_Regulated_vegetation__category_B_endangered_or_of_concern	MSES Category B Regulated Vegetation refers to remnant native vegetation in Queensland that is officially classified as "endangered" or "of concern," meaning it's highly significant, protected under the Vegetation Management Act (VMA), and has strict clearing rules to prevent further loss, often requiring specific approvals or codes for any management	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2032	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	6/10/2025	QLD	No	Yes
MSES regulated vegetation [100m from wetland]	Nationally Important Wetlands	MSES_Regulated_	MSES regulated vegetation near wetlands (within 100m) in Queensland means the area likely contains significant environmental values, such as endangered/of concern remnant vegetation, essential habitat, or High Ecological Value (HEV) wetlands.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2033	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	7/10/2025	QLD	No	Yes
MSES protected area [special wildlife reserves]	Biologically Important Areas	MSES_Protected_area_special_wildlife_reserve	Special Wildlife Reserves established under the Nature Conservation Act; a class of private protected area; included as MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2034	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	8/10/2025	QLD	No	No
MSES protected area [nature refuges]	Biologically Important Areas	MSES_Protected_area__nature_refuges	Gazetted nature refuges recognised under the Nature Conservation Act; included as MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2035	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	9/10/2025	QLD	No	Yes
MSES protected area [estates]	Biologically Important Areas	MSES_Protected_area__estates	Protected area estate managed under the Nature Conservation Act; included as MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science	State of Queensland (Department of Environment and Science) 2036	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	10/10/2025	QLD	No	Yes

MSES legally secured offset area [vegetation offsets]		MSES_Legally_secured_offset_area_vegetation_offsets	Regulated vegetation offset areas that are legally secured; included as MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2038	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	12/10/2025	QLD	No	No
MSES legally secured offset area [offset register]		MSES_Legally_secured_offset_area_offset_register	Land-based offset areas on the Queensland environmental offsets register; included as MSES.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2039	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	13/10/2025	QLD	No	No
MSES declared high ecological value waters [wetland]	Nationally Important Wetlands	MSES_High_ecological_value_waters_wetlands	This feature class contains wetland areas that intersect with selected areas scheduled under the EPP for Water as HEV	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2040	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	14/10/2025	QLD	No	Yes
MSES declared high ecological value waters [watercourse]	Key Ecological Features	MSES_High_ecological_value_waters_watercourse	Watercourses associated with High Ecological Value waters for MSES purposes; polyline features.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2041	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	15/10/2025	QLD	No	Yes
MSES high ecological significance wetlands	Nationally Important Wetlands	MSES_High_ecological_significance_wetlands	This map shows MSES—wetlands in a wetland protection area shown on the Map of Great Barrier Reef wetland protection areas.	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2042	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	16/10/2025	QLD	No	Yes
MSES declared fish habitat area [A and B areas]	Key Ecological Features	MSES_fish_habitat_area	This layer shows Fish Habitat Areas (FHAs) that are that are management A areas or management B areas under the Fisheries Act 1994. These areas are matters of state environmental significance (MSES) for the purposes of the State Planning Policy 2017 (SPP).	27 May 2025	Creative Commons Attribution 4.0	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2043	https://spatial-gis.information.qld.gov.au/arcgis/rest/services/Environment/MattersOfStateEnvironmentalSignificance/MapServer	17/10/2025	QLD	No	No
Queensland Parks and Wildlife Service access	Key Ecological Features	Queensland Parks and Wildlife Service access	Queensland Parks and Wildlife Service (QPWS) Estate access data including roads, tracks and trails, and associated data.	27 May 2026	Creative Commons Attribution 4.1	State of Queensland (Department of Environment and Science)	State of Queensland (Department of Environment and Science) 2043	https://qldspatial.information.qld.gov.au/catalogue/custom/detail	17/10/2025	QLD	No	Yes

Appendix 2 – NSW and QLD renewal energy projects

NSW projects

Project Name	Status (November 2025)	Type of Project	Within Study Area	Brief description
Flyers Creek Wind Farm	Operational	Wind	Yes	145 MW
Four Mile Creek Wind Farm	Feasibility study	Wind	Yes	TBC
8b & 9b Solar Farr	Approved (7 Oct 2025)	Solar	Yes	5 MW solar project
Eglinton Solar Farm	DA withdrawn	Solar	No	200-250 MW solar project
Panorama Battery Energy Storage	In approval	Battery storage	No	100 MW / 200 MWh
Blayney Solar Farm Projects – there are two in Blayney	Solar approved Solar and battery seeking approval	Solar and battery	Yes	5 MW solar project 2 x 4.99 MW battery storage
Clean Cowra Project	Biomass project approved (2017) – construction has been paused	Biomass	No	12 MW

QLD projects

Project Name	Status (November 2025)	Type of Project	Within Study Area	Brief description
Prairie Wind Farm	Approved Jan 2025	Wind	Yes	116 turbines and 800 MW
Blair Athol Solar Farm	Approved	Solar	No	60 MW
Clermont Solar Farm	Operational	Solar	No	497 acres and 89 MW
Munna Creek Solar Farm	Operational	Solar	No	120 MW, 233 ha
Wongalee Wind Farm	Approved (15 May 2025)	Wind	Yes	1.4 GW
Mount James Wind Farm	Seeking approvals	Wind	Yes	1 GW, 166 turbines
Kennedy Energy Park	Operational	Solar, wind and battery storage	Yes	Solar 15 MW Wind 43.2 MW Battery 2 MW / 4 MWh

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Note that the authoritative source for listing information refer to the Species Profile and Threats Database (SPRAT)
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- ³ Australian Government, (2025). [Setting our 2035 target and path to net zero](#), news web page, Department of Climate Change, Energy, the Environment and Water
- ⁴ Productivity Commission, (2025). [Investing in cheaper, cleaner energy and the net zero transformation](#), Interim report, August 2025 referencing the Clean Energy Investor Group, p 36
- ⁵ Productivity Commission (2025). *Investing in cheaper, cleaner energy and the net zero transformation*, [Inquiry report no. 113](#), Canberra, referencing the Climate Change Authority, p 38
- ⁶ Herbert Smith Freehills Krammer, (2025). [The latest on EPBC clean energy project approvals](#), 21 November 2025
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- ⁸ Smart Energy Council, (2024). *Submission to the Nature Positive (Environment Protection Australia) Bill 2024 [Provisions] and related bills*, Submission 111
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- ¹⁰ For example, refer to South Australia Government, (2025). *State Budget 2025-26*, Budget Paper 4, Agency Statements, [Volume 2](#), p 136
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- ¹⁹ Minister for the Environment and Water, (2025). *Roundtable consensus drives fast-tracking of EPBC reform*, [media release](#), 26 August 2025
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- ²¹ Ibid, Herbert Smith Freehills Krammer, (2025)
- ²² Refer to the [Central West Orana Conservation Investment Strategy](#), [Hunter Conservation Investment Strategy](#), and the [South West Conservation Investment Strategy](#)
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