

INQUIRY INTO EMISSIONS FROM THE FOSSIL FUEL SECTOR

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Executive Summary

This submission warns that imminent legislative rollbacks to environmental law would codify the regulatory asymmetries between fossil fuel and renewable energy projects—and in doing so, dismantle the very protections required to achieve meaningful Net Zero outcomes.

This submission to the NSW Joint Houses Inquiry into Emissions from Fossil Fuels challenges the prevailing narrative that replacing coal with large-scale renewable energy is inherently beneficial for the climate and the environment. While the Inquiry's scope names coal and other fossil fuels, genuine environmental accountability demands that all energy sources — including wind, solar, offshore wind, and associated transmission projects — be measured against the same standards of carbon accounting, biodiversity protection, legislative compliance, and decommissioning responsibility.

Coal mining in New South Wales is subject to some of the most stringent environmental controls in the world. Under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, *Biodiversity Conservation Act 2016 (NSW)*, *Mining Act 1992 (NSW)*, and related planning laws, coal projects must undergo exhaustive environmental impact assessments, multi-season biodiversity surveys, community consultation, and offset obligations before approval. Where threatened species or critical habitat cannot be adequately protected, coal projects are often refused outright. Rehabilitation security deposits are mandatory, ensuring that mine closure and environmental restoration costs are not left to the public.

By contrast, large-scale renewable energy developments — despite their “green” branding — are frequently exempt from equivalent environmental scrutiny. Legislative amendments at both state and federal levels have been made to fast-track renewable approvals, dismantling protective guardrails that have existed for decades. As a result, projects are being approved that:

- Destroy remnant forests and threatened species habitat, including koala corridors.
- Fragment migratory bird routes in breach of JAMBA, CAMBA, and ROKAMBA treaties.
- Alter marine environments through high-decibel pile-driving and vibration from offshore wind installations, impacting whales, dolphins, and other sensitive species.
- Create heat islands and disrupt thermal belts, increasing localised temperatures and fire weather risk.

- Generate toxic legacies, including PFAS contamination from turbine blade degradation, and lithium-ion battery chemical leakage.

Lifecycle carbon accounting for renewables is incomplete and misleading. While coal's full emissions profile — from extraction through combustion — is included in national inventories, renewable energy's globalised supply chain emissions are largely excluded. The mining and processing of rare earth elements and critical minerals, the manufacture of components in overseas coal-powered factories, long-distance shipping, large-scale land clearing, and eventual decommissioning are ignored in reported figures.

The result is a double standard: coal mining is heavily regulated, frequently refused on environmental grounds, and financially bound to rehabilitate its sites; “green” energy projects, meanwhile, proceed without equivalent scrutiny, oversight, or long-term accountability, despite often having an equal — or greater — ecological footprint.

This submission adopts a **direct comparative framework**, presenting each key issue in two parts:

- **A: Coal** — assessing environmental footprint, carbon profile, legislative oversight, and community impact.
- **B: Green** — examining equivalent factors for renewable energy projects, highlighting where impacts are under-reported or regulatory requirements are absent.

The analysis concludes that the current Net Zero policy pathway is environmentally destructive, economically destabilising, and socially divisive. To genuinely reduce emissions without accelerating biodiversity collapse, New South Wales must replace its Net Zero target with a **Responsible Energy Strategy** that:

- Applies identical environmental law and carbon accounting standards to all energy developments.
- Maintains refusal powers where projects threaten Matters of National Environmental Significance.
- Introduces nuclear energy and advanced low-emission coal technologies into the generation mix.
- Uses gas, geothermal, and small-scale distributed renewables as complementary sources.
- Mandates robust decommissioning bonds for all energy projects.
- Undertakes cumulative impact assessments across the energy mix.

The choice before this Inquiry is not between coal and wind — it is between an honest, science-led, balanced energy portfolio, and a politically driven Net Zero agenda that trades one form of environmental destruction for another.

The urgency of this Inquiry is heightened by proposed amendments to the *Biodiversity Conservation Act 2016 (NSW)* and the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* that would dismantle the very

safeguards preventing irreversible harm. These changes would remove refusal powers, compress environmental assessments, bypass independent scientific scrutiny, and grant industry-specific exemptions for large-scale renewable projects. The evidence in this submission shows that such reforms would entrench the regulatory double standards already evident between coal and renewables, codifying environmental harm rather than preventing it.

Key Findings

- Coal projects in NSW are refused outright where endangered species or critical habitat are present; large-scale renewable projects with similar impacts are approved under SSD/REZ exemptions.
- Lifecycle carbon accounting for renewables omits upstream mining, manufacturing, transport, and decommissioning emissions, creating a false “near-zero” profile.
- PFAS contamination from turbine blades, solar panels, cabling, and batteries is unmonitored and unregulated, with no end-of-life containment plans.
- Large-scale wind and solar developments create heat islands, disrupt thermal belts, and increase fire weather risk — impacts rarely assessed in approvals.
- No statutory decommissioning bonds exist for renewable projects, leaving landholders and taxpayers at risk for rehabilitation costs.
- Legislative rollbacks now under consideration would permanently embed these regulatory asymmetries into NSW and Commonwealth law.

1. Introduction

This submission is provided to the NSW Joint Houses Inquiry into Emissions from Fossil Fuels in response to the terms of reference examining the environmental, social, and economic implications of fossil fuel use. While the Inquiry’s scope explicitly names emissions from coal and other fossil fuels, this submission contends that any credible policy or legislative framework must evaluate all energy sources — including renewable energy projects — under identical environmental, legislative, and lifecycle carbon accounting standards.

Coal mining in New South Wales operates under some of the strictest environmental and legislative frameworks in the world. The *Environmental Planning and Assessment Act 1979 (NSW)*, *Mining Act 1992 (NSW)*, and *Biodiversity Conservation Act 2016 (NSW)* impose detailed requirements for environmental impact assessment, biodiversity offsets, water management, public consultation, and rehabilitation. Critically, the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) provides national oversight for projects with potential impacts on Matters of National Environmental Significance (MNES), including threatened species, migratory birds, and critical habitats. This often results in projects being refused if significant, unavoidable harm is identified.

By contrast, large-scale renewable energy developments — including wind farms, solar arrays, offshore wind projects, and associated transmission corridors — are often exempted from, or fast-tracked through, environmental processes. Legislative amendments at both state and federal levels have dismantled key environmental guardrails to facilitate rapid renewable rollout. In practice, this has enabled:

- The clearing of remnant forests and destruction of endangered species habitat ie. koalas and greater gliders, irreplaceable carbon sinks that store centuries of accumulated biomass — and the encroachment of industrial energy infrastructure into national parks, state forests, and declared wilderness areas, undermining decades of conservation investment.
- Interference with international migratory bird routes in breach of JAMBA, CAMBA, and ROKAMBA agreements.
- Fragmentation of landscapes critical for threatened species survival, with cumulative impact assessments rarely undertaken despite evidence that overlapping renewable projects can magnify habitat loss, disrupt genetic flow, and reduce climate resilience in already fragmented ecosystems (NSW DPE, 2024a).
- Marine noise and vibration impacts on whales, dolphins, and other sensitive ocean species from offshore wind projects, compounded by the release of PFAS-containing microplastics from turbine blade erosion, a permanent contaminant that bioaccumulates in marine food webs (Guelfo et al., 2024).

The irony is stark: while coal mining can be — and often is — refused where endangered species are present, “green” energy projects are approved even when their impacts are certain, severe, and permanent.

This submission systematically compares **coal** and **renewable (“green”)** energy developments across multiple dimensions, including:

- Lifecycle carbon accounting and transparency.
- Land use, habitat loss, and biodiversity impact.
- Water contamination and hydrological change.
- Legislative compliance and regulatory oversight.
- Microclimate change, thermal belt disruption, and fire weather risk.
- PFAS contamination and toxic waste legacies.
- Decommissioning obligations and financial security bonds.

The evidence presented shows that the environmental footprint of “green” energy projects is, in many cases, equal to or greater than that of coal mining — yet is not subject to the same rigorous controls. This asymmetry is not the product of scientific assessment but of deliberate policy design to achieve Net Zero targets by 2050 without accounting for the full environmental cost.

In addition to exposing this imbalance, the submission calls for the abandonment of the current Net Zero pathway in favour of a **Responsible Energy Strategy** — one that is diversified, science-led, and environmentally honest. This includes the introduction of nuclear energy, advanced coal technologies with carbon capture, gas as a transitional fuel, geothermal in viable regions, small-scale distributed renewables on already-cleared land, and strict application of environmental law to all energy developments without exception.

Only by applying the same standards, protections, and carbon accounting methods across all energy sources can New South Wales achieve genuine emissions reduction while safeguarding its biodiversity, landscapes, and communities.

Each core theme in this submission is presented in two directly comparable sub-sections: **A: Coal**, examining the footprint, impacts, and legislative controls on coal mining, and **B: Green**, presenting equivalent analysis of large-scale renewable energy projects. This format ensures a like-for-like comparison based on identical criteria.

This analysis is not purely theoretical. The NSW and Commonwealth Governments are pursuing legislative changes that, if enacted, would strip away refusal powers, weaken biodiversity offset standards, and reclassify conservation and agricultural land for industrial energy use without restoration obligations. Such amendments would formalise the very asymmetries documented in this submission, ensuring that industrial renewable energy projects continue to bypass the environmental, social, and economic safeguards applied to coal. The Inquiry must consider not only the current regulatory imbalance but also the imminent risk of its permanent legalisation.

2. Carbon Accounting and Measurement

Accurate and transparent carbon accounting is fundamental to any credible emissions reduction strategy. Without consistent and complete measurement across all energy sectors, policy decisions risk being based on partial data that understate true environmental impacts. In New South Wales, coal projects are subject to detailed and legislated carbon accounting frameworks, while large-scale renewable projects operate under far looser requirements. This section compares the two systems, exposing significant discrepancies in scope, methodology, and regulatory oversight.

A. Coal

Coal mining and combustion in New South Wales are subject to comprehensive carbon accounting requirements under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act) and the NSW planning and environmental approval system. All facilities that exceed the reporting threshold must quantify Scope 1, Scope 2, and Scope 3 emissions, including fugitive methane from underground and open-cut mining, fuel combustion, and purchased electricity.

Fugitive emissions are measured using methodologies prescribed by the Clean Energy Regulator, incorporating mine-specific operational data and verified through annual audits (Clean Energy Regulator, 2025). These data feed into Australia's National Greenhouse Gas Inventory in accordance with obligations under the UNFCCC and the Paris Agreement. The methodology distinguishes between the 100-year and 20-year Global Warming Potential (GWP) for methane, with growing recognition that the 20-year measure is critical due to methane's significantly higher short-term warming effect (IPCC, 2021).

Coal project proponents must disclose full emissions profiles during the Environmental Impact Statement (EIS) process and propose mitigation measures such as methane capture, flaring, or utilisation. These obligations ensure that coal's carbon footprint is transparent and subject to both public and regulatory scrutiny before approval is granted (*Environment Protection and Biodiversity Conservation Act 1999*; *Biodiversity Conservation Act 2016*; *Protection of the Environment Operations Act 1997*; *Mining Act 1992*).

B. Green

In contrast, large-scale renewable energy projects in New South Wales are not required to undertake equivalent lifecycle carbon accounting. Operational emissions from wind and solar facilities are often reported as close to zero, and, in most cases, carbon accounting begins only once the facility is operational, excluding the emissions generated during site preparation, manufacturing, transport phases and decommissioning. This omission distorts true lifecycle impacts and creates the false perception of near-zero carbon cost. These figures omit major upstream and downstream sources, including:

- Mining and refining of rare earth elements and critical minerals used in turbine magnets, solar cells, and battery systems, and the extensive use of concrete for turbine foundations and solar array mounts, with cement production alone responsible for approximately 8% of global CO₂ emissions (IEA, 2022);
- Offshore manufacturing emissions from production facilities often powered by coal-heavy electricity grids;
- Emissions from international transport of heavy components to Australia;
- Land-use change emissions from clearing remnant vegetation and soil disturbance, permanently erasing ancient carbon sinks that cannot be regenerated within meaningful climate timelines;
- Construction of transmission lines, access roads, substations, and foundations;
- Energy losses and associated emissions from battery storage and grid balancing;
- End-of-life decommissioning, waste management, and replacement infrastructure.

There is no statutory requirement for renewable energy projects to report full Scope 3 emissions or to account for offshore manufacturing and transport. Consequently, lifecycle emissions are systematically underestimated, creating a misleading comparison with fossil fuels and enabling flawed policy decisions that do not reflect the true environmental cost of these projects (International Energy Agency, 2022; Australian National Audit Office, 2023; World Bank, 2023).

3. Environmental Footprint and Biodiversity Protection

Protecting biodiversity and minimising ecological disturbance are central to sustainable land and marine management. In New South Wales, coal mining projects and large-scale renewable energy developments both have the potential to impact threatened species, migratory pathways, and critical habitats. However, the legislative obligations, pre-approval requirements, and operational safeguards applied to each sector are markedly different.

A. Coal

Coal mining proposals in NSW are subject to rigorous biodiversity assessment processes under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Biodiversity Conservation Act 2016* (NSW). Before any approval is granted, proponents must conduct detailed field surveys to identify threatened flora and fauna, migratory species, and ecological communities of national or state significance (Department of Climate Change, Energy, the Environment and Water, 2024). These surveys are typically multi-seasonal to ensure accurate species detection, particularly for migratory or breeding-dependent fauna.

If endangered species or critical habitats are confirmed within the proposed disturbance footprint, the project faces significant redesign or potential refusal (Biodiversity Conservation Act 2016 (NSW)). Offsets, when permitted, must be legally secured through Biodiversity Stewardship Agreements, managed for conservation in perpetuity, and calculated to achieve “no net loss” in biodiversity values (NSW Department of Planning and Environment, 2024). Cumulative impacts from nearby or concurrent projects must also be assessed under the NSW planning system, with findings subject to public exhibition and review by consent authorities.

Rehabilitation obligations for coal mines extend to restoring landform, hydrological function, and native vegetation communities post-mining. These requirements are enforced through financial assurance bonds and progressive rehabilitation monitoring (Mining Act 1992 (NSW); Protection of the Environment Operations Act 1997 (NSW)). Breaches of environmental conditions can trigger enforcement actions including fines, stop-work orders, or approval revocation.

B. Green

Large-scale renewable energy developments, including wind farms, solar arrays, and associated transmission corridors, have caused significant biodiversity losses, particularly in remnant native vegetation. Several NSW projects have been constructed in or adjacent to habitat for EPBC-listed species such as the Swift Parrot (*Lathamus discolor*), Regent Honeyeater (*Anthochaera phrygia*), and migratory shorebirds protected under the *Environment Protection and Biodiversity Conservation Act 1999* and international agreements including the Japan-Australia Migratory Bird Agreement (JAMBA) and the China-Australia Migratory Bird Agreement (CAMBA) (BirdLife Australia, 2023).

Current proposals in NSW include onshore wind towers reaching heights of up to 300 metres, taller than the Sydney Tower with some developments located in or adjacent to national parks and declared wilderness areas such as Kosciuszko National Park. These extreme structure heights expand rotor-swept zones into altitudes used by high-flying migratory birds and raptors, increasing collision risk far above previously modelled scenarios (Smallwood, 2022).

Wind farms are known to cause direct mortality to birds and bats via blade strike, with cumulative mortality increasing where multiple wind farms are sited along key migratory flyways (Smallwood, 2022). Offshore wind developments present additional threats to marine biodiversity, including disruption of whale migration corridors (e.g., Humpback Whale *Megaptera novaeangliae*) and acoustic interference with marine mammal navigation and communication (Erbe et al., 2021). Seabed disturbance from turbine foundation installation can alter benthic habitats and increase turbidity, affecting fish spawning areas and seagrass meadows that support coastal food webs (Inger et al., 2009).

Unlike coal mining proposals, many large-scale renewable energy projects are advanced through expedited approval processes under NSW Renewable Energy Zone (REZ) frameworks or “State Significant Development” pathways. These can reduce the scope and duration of biodiversity surveys, sometimes limiting them to desktop assessments (NSW Department of Planning and Environment, 2023). Cumulative impacts across multiple renewable projects and transmission corridors are rarely assessed in detail, despite the compounding nature of habitat fragmentation and species displacement.

Offset requirements for renewable projects are inconsistent and may not require “like-for-like” replacement of lost habitat. In some cases, offsets are approved in degraded areas that do not provide equivalent ecological function to the land being cleared. This creates a net biodiversity loss despite claims of mitigation. Furthermore, the absence of binding rehabilitation bonds for renewable energy sites increases the risk that disturbed land will remain degraded after decommissioning.

Case Example 1 – Glendell coal mine refusal (NSW) vs Lotus Creek wind farm approval (QLD): In October 2022, the NSW Independent Planning Commission refused Glencore’s Glendell (Ravensworth) mine expansion due to its “significant, irreversible and unjustified impacts” on the Ravensworth Homestead cultural heritage site (The Guardian 2022). By contrast, in Queensland—where the koala is listed as *endangered* under the Environment Protection and Biodiversity Conservation Act 1999—the Lotus Creek Wind Farm, located in one of the state’s largest known koala populations, was approved despite documented risks to habitat connectivity, mortality from collision, and displacement (Queensland Department of State Development 2024). No suitable mitigation measures were identified given the project’s location within critical koala habitat, and there were likely no offsets—if considered at all—that could realistically compensate for the loss, as koalas are territorial and dependent on established home ranges for survival. This contrast illustrates the stark difference in regulatory thresholds applied to coal and renewable projects, even where the ecological stakes are comparable or higher.

Case Example 2 – Upper Burdekin wind farm approval (QLD): The Upper Burdekin Wind Farm, approved in 2024, is located within a high-value biodiversity corridor that supports multiple threatened species, including the endangered koala (*Phascolarctos cinereus*), greater glider (*Petauroides volans*), and red goshawk (*Erythrorhynchus radiatus*) (Queensland Department of State Development 2024b). Scientific assessments warned that the clearing of large tracts of remnant vegetation in this area could not be offset due to the territorial nature of koalas and the site-specific nesting requirements of the red goshawk. Despite these findings, the project proceeded, highlighting an ongoing trend where large-scale renewable developments in Queensland receive approval without effective mitigation or viable offsets for critical habitat loss.

4. PFAS and Hazardous Substances

Per- and polyfluoroalkyl substances (PFAS) and other hazardous chemicals present long-term contamination risks due to their persistence, mobility, and toxicity in the environment. While both coal and renewable energy sectors can involve hazardous substances, the scale, source, and regulation of these risks differ markedly.

A. Coal

In NSW, the primary PFAS risks in coal mining have historically been associated with the legacy use of aqueous film-forming foams (AFFF) in firefighting systems. These foams, once used for fire suppression in coal handling and processing facilities, are now largely phased out under national and state chemical management reforms (NSW EPA, 2023a). Where PFAS contamination is identified, coal operators are subject to strict containment,

remediation, and reporting obligations under the *Protection of the Environment Operations Act 1997* (NSW) and hazardous waste regulations (NSW EPA, 2023b).

Coal mining operations also generate other hazardous substances — such as diesel hydrocarbons, heavy metals, and process chemicals — but their storage, handling, and disposal are tightly controlled through Environmental Protection Licences (EPLs) issued by the NSW Environment Protection Authority. These licences stipulate containment infrastructure, spill response protocols, and mandatory monitoring of soil and water quality to detect potential leaks or spills (NSW EPA, 2022).

B. Green

In contrast, large-scale renewable energy infrastructure contains significant volumes of PFAS and other hazardous substances embedded in core components, with no equivalent regulatory framework for lifecycle management. Notable sources include:

- **Wind turbine blades** — coated with PFAS-based fluoropolymers for weather and UV resistance; gradual erosion during operation releases microplastic fibres containing PFAS into terrestrial and marine environments (Guelfo et al., 2024). Blade erosion rates have been estimated at up to 25–60 kg of fibreglass microplastic per turbine per year, with offshore installations contributing directly to marine contamination and onshore shedding contaminating agricultural soils (EPRI, 2021). PFAS and associated compounds persist indefinitely and are now entering the human food chain. In some states, proximity of livestock to renewable infrastructure is considered in meat quality assessments, potentially affecting market access and grading outcomes.
- **High-voltage cabling and transformers** — insulated with PFAS-containing polymers to enhance heat and chemical resistance (OECD, 2022).
- **Lithium-ion batteries** — used for grid-scale storage, containing bis-perfluoroalkyl sulfonimides (bis-FASIs), a subclass of PFAS shown to leach into water, soil, and air during operation and disposal (Guelfo et al., 2024).
- **Solar panels** — utilising fluoropolymer back sheets that can degrade and release PFAS into surrounding soils at end-of-life (Masanet et al., 2020).

Unlike the coal sector, there is no mandatory requirement for renewable project proponents in NSW to identify PFAS sources in environmental assessments, nor to monitor PFAS release over the project's operational life. Decommissioning plans rarely include PFAS containment measures, raising the risk of unmitigated contamination when components are landfilled, stockpiled, or abandoned.

Although PFAS use in certain Australian products is now restricted, components imported from China, India, and other countries often arrive without full chemical disclosure, making it highly likely that PFAS-containing infrastructure continues to enter the market without regulatory scrutiny.”

The absence of equivalent hazardous chemical controls for renewables means that PFAS contamination from the sector is largely unquantified and unregulated, despite growing international concern over PFAS's persistence and bioaccumulation in ecosystems and food chains (OECD, 2022).

5. Water Use and Contamination

Water is a critical environmental consideration in both coal mining and large-scale renewable energy projects, yet the **regulatory standards, risk profiles, and transparency requirements differ dramatically** between the two. Coal mining is subject to comprehensive statutory controls on water extraction, contamination prevention, and post-closure rehabilitation. By contrast, renewable projects — while marketed as low-water-use in operation — often bypass equivalent licensing and oversight, particularly during construction, manufacturing, and decommissioning stages.

This section examines the **contrasting water use and contamination pathways** of coal and renewable projects, highlighting both direct and indirect impacts, with **A** detailing coal's regulated framework and **B** exploring the largely unregulated risks of large-scale renewable developments.

A: Coal

Coal mining in New South Wales is tightly regulated to minimise impacts on surface and groundwater resources. Water use is licensed under the *Water Management Act 2000 (NSW)*, and where coal extraction has the potential to significantly impact water resources, it triggers the “water trigger” under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

Key controls include:

- **Water access licensing** — Mines must obtain specific licences for water extraction, with limits set to protect environmental flows and avoid over-allocation of catchments. Licence conditions often require ongoing metering and reporting to the NSW Water Regulator.
- **Comprehensive Environmental Impact Assessment (EIA)** — EIAs must model potential changes in groundwater levels, baseflow to rivers, and catchment hydrology, including cumulative impacts with other regional projects.
- **Treatment and discharge standards** — Discharge of mine-affected water must comply with strict pollutant concentration limits for salinity, turbidity, pH, heavy metals, and other contaminants, enforced by the *Protection of the Environment Operations Act 1997 (NSW)*.
- **Acid mine drainage (AMD) prevention** — Where coal seams contain sulfides, operators are required to implement AMD management plans to prevent acidification and metal mobilisation into waterways.
- **Independent monitoring and reporting** — Continuous or periodic monitoring stations are installed to measure surface water and groundwater quality, with results submitted to regulators and made publicly available.
- **Rehabilitation and closure obligations** — Security deposits are held to ensure that final voids are safe and that water bodies within rehabilitated mine sites meet ecological and public health standards before release.

These measures are reinforced by the fact that coal projects have been refused where hydrological impacts cannot be adequately mitigated, such as where drawdown would threaten endangered wetland ecosystems or where the risk to aquifers is deemed unacceptable.

B: Green

In contrast, large-scale renewable energy projects — including wind farms, solar farms, battery energy storage systems (BESS), and offshore wind developments — are not subject to the same comprehensive water licensing, monitoring, and rehabilitation requirements, despite having substantial direct and indirect impacts on water resources.

Key issues include:

- **Construction-phase water use** — Large-scale renewable projects require significant water for dust suppression, concrete batching, and compaction. Road networks for turbine transport alter natural runoff patterns and increase erosion and sedimentation risk in catchments.
- **Soil and hydrology alteration** — Permanent land clearance for solar arrays or turbine pads disrupts infiltration rates and alters drainage. In flood-prone or erosion-sensitive landscapes, these changes can increase downstream sediment loads.
- **PFAS and microplastic contamination** — Turbine blade erosion releases microplastic particles containing PFAS compounds into surrounding soils and waterways. Over time, these enter aquatic food chains, creating long-term ecological and human health risks (Guelfo et al., 2024).
- **Battery chemical leaching** — Lithium-ion batteries used in BESS facilities contain bis-FASIs and other fluorinated electrolytes that, if released through fire, damage, or improper disposal, contaminate soil, surface water, and groundwater.
- **Marine contamination from offshore wind** — Pile-driving for turbine foundations creates sediment plumes that smother benthic habitats and can release legacy pollutants such as heavy metals and hydrocarbons from the seabed. Cooling fluids and lubricants used in offshore turbines also pose chronic contamination risks.
- **Lack of cumulative impact assessment** — Renewable approvals often consider projects in isolation. The combined hydrological impacts of multiple wind, solar, and transmission projects in a single catchment are rarely modelled or managed.
- **Minimal rehabilitation requirements** — Renewable projects typically have no binding obligation to restore pre-existing hydrology or water quality at decommissioning. Unlike coal mines, there is no statutory requirement for financial security deposits to cover water remediation.

The absence of equivalent water regulation for green projects results in a **regulatory asymmetry**: coal's impacts are heavily scrutinised, while renewable projects can alter hydrological systems and introduce persistent contaminants without long-term accountability.

6. Land Category, Tenure, and Use

Large-scale renewable energy projects in New South Wales are frequently approved on land previously zoned for agriculture, conservation, or mixed rural purposes. Through reclassification to industrial or “strategic infrastructure” use, these projects bypass or dilute existing environmental guardrails embedded in local environmental plans and the *Biodiversity Conservation Act 2016 (NSW)*. This conversion represents a permanent change in land category, often with no mechanism for ecological restoration at project end-of-life. The NSW Government’s 2024 proposed amendments to the *Biodiversity Conservation Act*

would further erode these protections by weakening offset requirements and limiting refusal powers where high-value land is targeted for renewable infrastructure. Without explicit statutory safeguards, prime farming land, wildlife corridors, and conservation reserves remain vulnerable to industrialisation under the current renewable rollout.

A. Coal

Coal mining in New South Wales can only proceed on land granted a mining lease under the *Mining Act 1992 (NSW)*, after passing through multiple statutory planning gateways. These include:

- Zoning and land-use compatibility checks under local environmental plans (LEPs) and state strategic planning frameworks (*Environmental Planning and Assessment Act 1979 (NSW)*; NSW DPE, 2023c).
- Exclusion from national parks, declared wilderness areas, and other conservation tenures protected under the *National Parks and Wildlife Act 1974 (NSW)* (NSW Parliamentary Counsel's Office, 2025).
- Assessment of potential land-use conflict under the *State Environmental Planning Policy (SEPP) – Mining, Petroleum Production and Extractive Industries*, which specifically considers prime agricultural land and strategic cropping areas (NSW Government, 2023).
- Rehabilitation obligations requiring the return of mined land to an agreed post-mining use, often native vegetation or agricultural production, enforced by substantial security deposits lodged before mining begins (*Mining Act 1992 (NSW)*; NSW Resources Regulator, 2024b).

Coal tenure approvals can be refused outright if the land is classified as critical habitat, part of a mapped wildlife corridor, or identified as strategic agricultural land where mining would cause irreversible loss of productivity (*Biodiversity Conservation Act 2016 (NSW)*; NSW DPE, 2024a). Rehabilitation criteria must be met before bonds are released, ensuring the land is not permanently degraded (NSW DPE, 2024e).

B. Green

Large-scale renewable energy projects — wind farms, solar farms, and transmission infrastructure — are routinely sited on land zoned for agriculture, rural living, or even conservation purposes. Under the *Environmental Planning and Assessment Act 1979 (NSW)*, many of these projects are declared *State Significant Development (SSD)*, *State Significant Infrastructure (SSI)*, or *Critical State Significant Infrastructure (CSSI)*, allowing them to:

- Override local zoning controls and land-use restrictions in LEPs (NSW DPE, 2024f).
- Proceed on prime farming land without mandatory avoidance tests or productivity impact thresholds (NSW DPE, 2024g).
- Encroach into conservation reserves, state forests, and wilderness-adjacent areas via long easements and access roads (BirdLife Australia, 2023; NSW DPE, 2024a).
- Fragment landscapes in ways that compromise both agricultural operations and biodiversity corridors (NSW Auditor-General, 2022).

Once reclassified for industrial energy use, the land effectively loses the environmental protections it previously held. There is no statutory requirement to reinstate the original land category or restore ecological function at the end of the project's operational life (Clean Energy Council, 2023a). The 2024 proposed amendments to the *Biodiversity Conservation*

Act 2016 (NSW) would exacerbate this by reducing offset requirements and removing refusal powers for “strategic infrastructure” — making agricultural and conservation land more vulnerable to permanent industrialisation (NSW DPE, 2024b).

Impact on Land Management Principles

Coal projects are constrained to specific, pre-defined tenures, with enforceable rehabilitation to ensure the land can be used productively or conserved after closure. Renewable energy projects face no equivalent tenure restrictions, can industrialise vast tracts of agricultural or conservation land indefinitely, and are not legally bound to rehabilitate or rezone back to pre-project conditions.

This creates a one-way land-use shift: once converted to a renewable energy footprint, the land is effectively removed from productive farming or conservation networks, leading to the permanent loss of prime agricultural capacity, ancient carbon sinks, and ecological connectivity (NSW DPE, 2024a; NSW Auditor-General, 2022; BirdLife Australia, 2023).

7. Legislative and Regulatory Oversight

Robust oversight rests on (i) clear statutory tests before approval, (ii) enforceable, project-specific conditions after approval, and (iii) transparent, routine compliance/audit with meaningful sanctions. In NSW, coal projects are subject to a tightly layered regime across Commonwealth and State law. By contrast, large-scale renewable projects are often moved through **streamlined pathways** (SSD/SSI/CSSI and REZ processes) that compress assessment timeframes, narrow survey effort, and reduce post-approval financial assurance obligations.

A. Coal

Statutory gateways and tests (pre-approval).

Coal proposals must pass multiple legal gates: referral under the Commonwealth **EPBC Act** for MNES triggers; a full **Environmental Impact Statement (EIS)** under the **Environmental Planning and Assessment Act 1979 (EP&A Act)**; application of the **NSW Biodiversity Conservation Act** via the Biodiversity Assessment Method (BAM) and Biodiversity Offset Scheme (BOS); and mining tenure under the **Mining Act 1992** (EPBC Act 1999; EP&A Act 1979; Biodiversity Conservation Act 2016; Mining Act 1992). Projects that intersect **listed threatened species or critical habitat** can be refused outright or heavily redesigned; offsets must be “like-for-like” and secured in perpetuity (DCCEEW, 2024; NSW DPE, 2024a).

Decision-making and transparency.

Most coal projects are **State Significant Development (SSD)** assessed by NSW DPE and determined by the **Independent Planning Commission (IPC)** where thresholds/controversy are met. Public exhibition, submissions, a DPE Assessment Report, and (where applicable) IPC public hearings provide strong procedural transparency (NSW DPE, 2023a; IPC NSW, 2023).

Post-approval controls (compliance & audit).

Coal operations require an **Environmental Protection Licence (EPL)** with pollutant limits,

monitoring points, incident reporting and Pollution Incident Response Management Plans (NSW EPA, 2022a). Post-approval conditions mandate **Annual Reviews, Independent Environmental Audits** against the DPE **Independent Audit Guideline**, adaptive management triggers, and routine publication of monitoring data (NSW DPE, 2023b). Greenhouse reporting is mandated under the **NGER scheme** (Clean Energy Regulator, 2025). Critically, financial risk is internalised via the **Mining Rehabilitation Security Deposit** (bond) that is only returned when closure criteria are met (NSW Resources Regulator, 2023).

Enforcement.

Breaches can attract **prevention notices, penalty notices, enforceable undertakings, suspension of operations** or consent modification/refusal for expansions (NSW EPA, 2022a; NSW DPE, 2023b). This enforcement toolkit is routinely used and publicly reported.

B. Green

Streamlined planning pathways.

Utility-scale wind/solar and major **transmission** are commonly designated **SSD/SSI/CSSI** under the EP&A Act, enabling **expedited assessment** by NSW DPE or determination by the Minister, often with **condensed survey windows** and reliance on desktop studies (EP&A Act 1979; NSW DPE, 2024b). Projects located in **Renewable Energy Zones (REZs)** proceed within the **Electricity Infrastructure Investment Act 2020** framework and EnergyCo delivery processes designed to accelerate roll-out (EII Act 2020; EnergyCo NSW, 2024). At Commonwealth level, offshore components are licensed under the **Offshore Electricity Infrastructure Act 2021**, with environment plans separate from EPBC (OEI Act 2021).

Environmental guardrails diluted in practice.

While EPBC still applies to MNES, REZ and SSI/CSSI processes frequently **consolidate assessments**, reduce exhibition time, and treat many **linear impacts** (access roads, overhead lines, substations) as ancillary, fragmenting the evaluation of **cumulative impacts** across multiple projects (NSW DPE, 2024b; EnergyCo NSW, 2024). Offset practice is **variable**; “like-for-like” is not consistently demonstrated for remnant woodland loss or migratory bird corridors, and **marine biodiversity** risks for offshore wind are often deferred to later management plans with limited hard triggers (DCCEEW, 2024; BirdLife Australia, 2023).

Post-approval controls and gaps.

Unlike coal, utility-scale renewables often **do not require an EPL** unless a scheduled activity applies; many water/soil contamination pathways (e.g., panel runoff, pad erosion, PFAS-related releases from blades/cabling/BESS incidents) are **diffuse** and fall outside point-source licensing (NSW EPA, 2022a). Post-approval conditions may require monitoring plans, but **financial assurance** for site restoration is typically **absent**; there is **no standardised decommissioning bond** equivalent to the Mining Rehabilitation Security Deposit (Clean Energy Council, 2023). Transmission delivered as SSI/CSSI can proceed under separate instruments that **decouple** impacts from the generation site, further obscuring cumulative disturbance (NSW DPE, 2024b).

Enforcement and accountability.

While the same statutory tools technically exist under the EP&A Act, the combination of **accelerated pathways, non-bonded decommissioning, and split approvals** across generation/transmission reduces practical leverage to compel comprehensive remediation,

particularly for **PFAS-containing components** and **underground assets** left in situ (NSW DPE, 2024b; OECD, 2022).

8. Pre-Approval Workload and Timelines

The pre-approval stage determines the level of environmental, social, and technical scrutiny applied to an energy project before construction begins. It sets the baseline for transparency, community input, and evidence-based decision-making. NSW coal projects are subject to lengthy, multi-stage pre-approval processes with prescriptive study requirements, whereas large-scale renewable projects often move from announcement to construction on markedly shorter timelines, supported by reduced study obligations.

A. Coal

Duration and sequencing.

Coal mining projects typically require **7–10 years** from exploration licence application to first production (NSW Resources Regulator, 2023). This includes exploration approvals, resource definition, feasibility studies, Environmental Impact Statement (EIS) preparation, and statutory determination under the **Environmental Planning and Assessment Act 1979 (EP&A Act)** (NSW DPE, 2023a). The EIS alone can take **2–4 years** to prepare, factoring in multi-season biodiversity surveys, groundwater modelling, air quality and noise modelling, traffic and visual impact assessments, heritage investigations, and social impact assessments (NSW DPE, 2023b).

Baseline studies and data requirements.

Coal proponents must conduct extensive field-based baseline studies, often over **12–24 months**, to capture seasonal variations in flora, fauna, hydrology, and meteorology (DCCEE, 2024). These include targeted threatened species surveys, habitat mapping, wet and dry season water sampling, and long-term noise monitoring. All findings must be documented in the EIS, with raw data often subject to independent peer review before submission.

Public participation and iterative design.

The EIS is placed on **public exhibition** for 28–60 days, with all submissions requiring formal responses in a **Response to Submissions (RTS)** report. Where submissions reveal new impacts or data gaps, the proponent may be directed to undertake additional studies or redesign elements of the project (IPC NSW, 2023).

Regulatory checkpoints.

The proponent must address requirements set out in the Secretary's Environmental Assessment Requirements (SEARs), which are issued after a scoping phase involving regulators, councils, and community stakeholders (NSW DPE, 2023c). Failure to meet SEARs can delay assessment or lead to refusal.

B. Green

Duration and sequencing.

Large-scale renewable energy projects often move from initial proposal to construction

within **1–3 years**, particularly where they are located in **Renewable Energy Zones (REZs)** or designated as **State Significant Development (SSD)**, **State Significant Infrastructure (SSI)**, or **Critical State Significant Infrastructure (CSSI)** (EnergyCo NSW, 2024; NSW DPE, 2024a). In some cases, project scoping, assessment, and determination have been completed in under 18 months.

Baseline studies and data requirements.

While environmental assessments are still required under the EP&A Act, REZ and SSI pathways may **shorten survey windows** to a single season or rely on **desktop assessments** for biodiversity and heritage impacts (NSW DPE, 2024b). This can result in incomplete species detection, particularly for migratory birds, bats, and seasonal flora. Hydrological, soil stability, and microclimate assessments are often limited in scope compared to mining projects.

Public participation and iterative design.

Public exhibition periods for renewable projects can be as short as **14–28 days**, with fewer statutory triggers for extended consultation (NSW DPE, 2024a). Response to Submissions documents may be brief, and additional fieldwork is less commonly directed. Project redesign to address community or ecological concerns is rare unless there is clear legal risk under the EPBC Act.

Regulatory checkpoints.

REZ delivery frameworks and the **Electricity Infrastructure Investment Act 2020 (NSW)** are designed to streamline project sequencing. In practice, this can mean overlapping scoping and assessment stages, fewer mandatory pre-lodgement meetings with agencies, and concurrent — rather than sequential — completion of baseline studies and design finalisation (EnergyCo NSW, 2024). This reduces lead times but increases the risk that unrecognised impacts will emerge during construction or operation, when mitigation options are limited.

9. Heat Island Effects, Thermal Belts, and Fire Hazards

Large-scale energy projects can alter local and regional microclimates and influence fire risk profiles. The mechanisms vary between coal and renewable energy developments, but the intensity and spatial scale of the effects are increasingly important in environmental and safety assessments. Coal’s impacts are largely localised to operational sites and spoil areas, whereas large-scale renewable projects — especially solar farms and onshore wind arrays — can produce broad-scale surface temperature changes, create **thermal belts**, and increase ignition hazards that extend far beyond site boundaries.

A. Coal

Heat generation and microclimate effects.

Coal-fired power stations and active mine sites emit heat through combustion processes, equipment operation, and exposed dark surfaces such as coal stockpiles. However, the thermal footprint is generally localised to the immediate operational zone and dissipates rapidly with distance (Huang et al., 2022). Rehabilitation of mined land, including revegetation, typically restores surface albedo and evapotranspiration functions, reducing long-term heat retention (NSW EPA, 2022b).

Fire hazards.

Primary fire risks in coal operations include spontaneous combustion of coal seams or stockpiles, electrical faults in plant, and grass/bushfires ignited by mobile equipment (Kuenzer et al., 2020). These risks are managed through mandatory Bushfire Management Plans under NSW Rural Fire Service guidelines, hot-work permitting systems, vegetation management, and real-time monitoring of spontaneous combustion indicators (NSW Resources Regulator, 2023). Fire suppression systems are regulated under the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014* and subject to routine inspection and testing.

B. Green

Heat island effects and thermal belts.

Large solar farms alter the surface energy balance by replacing high-albedo vegetation or soil with low-albedo photovoltaic (PV) panels. This increases the absorption of solar radiation and reduces convective cooling beneath the arrays, producing measurable “solar heat island” effects — with surface temperature increases of **3–5°C** reported within and adjacent to utility-scale PV facilities (Barron-Gafford et al., 2016). In some Australian case studies, downwind surface warming has been detected up to **1.5 km** from the installation boundary, creating **thermal belts** — narrow zones of elevated temperature extending across the landscape (Armstrong et al., 2022).

Wind farms contribute to these thermal belts through turbulence-driven mixing of air layers, particularly at night. This can elevate nocturnal temperatures by **0.5–1.5°C** within several kilometres downwind, reducing frost incidence but also altering soil moisture regimes and pest cycles (Zhou et al., 2012; Harris et al., 2023). Over time, these changes can shift local climatic baselines, affecting vegetation growth patterns and potentially influencing precipitation distribution (Miller & Keith, 2018). The cumulative thermal footprint of multiple large-scale renewable projects across a region can compound surface warming effects, particularly where wind farms and solar arrays are co-located. This can create regional-scale thermal belts that alter prevailing wind patterns, suppress natural cooling processes, and exacerbate drought and bushfire conditions — impacts that are almost entirely absent from current environmental impact modelling (Miller & Keith, 2023).

Climatic impacts.

Thermal belts created by concentrated renewable energy infrastructure may disrupt established **thermal gradients** that drive local wind patterns and cloud formation. In agricultural regions, this can alter evapotranspiration rates and reduce morning dew, impacting both crops and remnant ecosystems. In coastal-adjacent zones, large REZ and offshore wind projects could alter sea–land breeze dynamics, affecting coastal humidity and rainfall patterns — changes that are rarely modelled in NSW project assessments (NSW DPE, 2024a).

Fire hazards.

Renewable energy infrastructure introduces ignition and propagation risks including:

- Electrical faults in turbine nacelles or solar inverters;
- Overheating and thermal runaway in lithium-ion battery energy storage systems (BESS);
- Arcing from high-voltage transmission lines in REZ corridors;

- Combustion of turbine blade resins and fibreglass producing toxic smoke plumes.

BESS fires can be particularly hazardous due to the potential use of PFAS-containing firefighting foams, with contaminated suppression water entering drainage systems (Guelfo et al., 2024). Turbine and PV site fires in rural areas can spread rapidly to surrounding bushland, particularly under “Extreme” fire danger conditions (NSW Rural Fire Service, 2023).

Unlike coal mines, large-scale renewable projects in NSW are **not uniformly required** to prepare Bushfire Management Plans aligned with Rural Fire Service industrial site guidelines. Fire safety conditions may be imposed on a project-by-project basis, but the lack of a sector-wide standard leaves hazard management inconsistent and reactive (NSW DPE, 2024a).

10. Decommissioning and Financial Assurances

The end-of-life phase of energy projects is a critical determinant of their overall environmental and economic footprint. It is also a key area where regulatory frameworks differ markedly between coal and large-scale renewable developments in New South Wales (NSW). Coal projects operate under strict rehabilitation and closure obligations backed by financial security mechanisms, whereas renewable energy projects currently face minimal enforceable requirements for decommissioning or site restoration.

A. Coal

Legislated closure and rehabilitation obligations.

Under the *Mining Act 1992 (NSW)*, coal mine operators must submit a detailed **Rehabilitation Management Plan** and maintain progressive rehabilitation during operations. Final closure cannot be approved without meeting stringent completion criteria set by the NSW Resources Regulator, which include soil stability, revegetation with native species, and restoration of ecological function (NSW Resources Regulator, 2024a).

Rehabilitation security deposits.

Coal mining companies are legally required to lodge substantial security deposits — often in the tens to hundreds of millions of dollars — to cover the full estimated cost of site rehabilitation in the event of operator default (NSW Resources Regulator, 2024b). These bonds are reviewed annually and can be increased if environmental liabilities grow. The funds are held by the NSW Government and cannot be accessed by the operator until rehabilitation is independently verified as complete.

Transparency and public oversight.

The security deposit system and rehabilitation progress for coal mines are publicly reportable through the NSW Major Projects portal, enabling scrutiny from stakeholders, local communities, and environmental groups (NSW DPE, 2024b).

B. Green

Lack of equivalent decommissioning regulation.

Despite the significant land footprint of large-scale renewable energy projects, there is **no equivalent statutory requirement** under NSW planning law for renewable developers to lodge rehabilitation security deposits or to meet binding post-closure ecological restoration standards (Clean Energy Council, 2023). While development consents may include nominal decommissioning clauses, **these are often vague and leave restoration methods, costs, and timelines to the discretion of the proponent.**

End-of-life waste management gaps.

Utility-scale solar and wind farms generate substantial end-of-life waste streams, including:

- **Wind turbine blades** made of epoxy resins and fibreglass, which are not economically recyclable and are currently landfilled or stockpiled (Liu & Barlow, 2017);
- **Solar PV panels** containing lead, cadmium, and per- and polyfluoroalkyl substances (PFAS) in coatings and junction boxes (Wambach et al., 2023);
- **Lithium-ion BESS units** containing PFAS-bearing binders and electrolytes (Guelfo et al., 2024).

In the absence of legislated recycling or disposal pathways, these materials present a long-term contamination risk.

Financial liability risks.

Without rehabilitation bonds, the cost burden for dismantling and remediating renewable sites may fall on landholders or taxpayers if developers become insolvent or abandon assets. This risk is compounded by the fact that many projects are financed by short-term special purpose vehicles (SPVs) with limited post-operation liability capacity (IEEFA, 2023).

Policy inconsistency.

The absence of mandatory decommissioning bonds for renewables represents a regulatory disparity, particularly given that coal projects — which already face more restrictive approvals if endangered species are present — must guarantee full site restoration before a single tonne is mined. The NSW Government's recent consultation papers on Renewable Energy Zone (REZ) planning have acknowledged this gap but have yet to legislate a remedy (NSW DPE, 2024c).

11. Breaches and Legislative Rollback

The regulatory framework for fossil fuel projects in New South Wales and under Commonwealth jurisdiction is **layered, precautionary, and refusal-capable**, with coal mining in particular facing **stringent, non-negotiable environmental safeguards**. Large-scale renewable energy developments, by contrast, are progressing under **accelerated approval pathways**, diminished offset standards, and a legislative reform agenda that risks permanently lowering environmental guardrails.

A. Coal — Historically Tight Controls

Coal’s environmental regulation has evolved through decades of environmental law reform and political scrutiny. The *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act) created the first formal EIS requirement, expanded in the 1990s and 2000s to include climate, biodiversity, and water impacts. Subsequent amendments to the *Mining Act 1992 (NSW)* and *Biodiversity Conservation Act 2016 (NSW)* embedded rehabilitation bonds, biodiversity offset obligations, and mandatory independent assessments.

If endangered species or critical habitats are identified — for example, the Regent Honeyeater or Swift Parrot — coal projects face either **complete refusal** or **mandatory redesign**. The *EPBC Act 1999 (Cth)* compounds this by requiring MNES referral and prohibiting approval where significant residual impacts remain without offsets that meet strict “like-for-like” and “in-perpetuity” criteria.

Coal proponents must:

- Secure multiple **development consents** (state planning approval, mining lease, EPL).
- Lodge **rehabilitation security deposits** — in some cases exceeding \$500 million.
- Maintain **progressive rehabilitation** with annual public reporting.
- Address **cumulative impact** in the EIS — including thermal effects and hydrological change.

B. Green — Regulatory Shortcuts and Loopholes

Accelerated Approval Pathways

Most large-scale renewable projects are classed as **State Significant Development (SSD)** or **State Significant Infrastructure (SSI)** under the EP&A Act, which centralises approval in the hands of the Minister for Planning. Transmission lines associated with Renewable Energy Zones (REZs) are often **Critical State Significant Infrastructure (CSSI)**, which bypasses certain local environmental plan protections altogether. Offshore wind projects fall under the *Offshore Electricity Infrastructure Act 2021* and are assessed by NOPSEMA under environment plans that **can run in parallel to EPBC** without full integration.

Reduced Survey Rigor

Compressed ecological survey windows are common — sometimes limited to single-season or desktop-only assessments — which **under-detect threatened species**, particularly migratory birds and microbats whose movements are seasonal. These projects are still approved, often with impacts to habitats that would stop a coal project outright.

Offset Integrity Failures

The NSW Auditor-General has found the **Biodiversity Offsets Scheme** unable to ensure “no net loss” and prone to approving non-equivalent offsets — for example, allowing clearance of old-growth woodland for turbines with offsets in younger, less diverse regrowth. This contravenes the intent of both the *Biodiversity Conservation Act 2016* and the EPBC Act’s offset policy, yet continues to occur in REZs and transmission corridors.

Known Breaches

- Turbine arrays in the East Asian–Australasian Flyway have been approved despite BirdLife Australia documenting collision risk for endangered migratory shorebirds such as the Eastern Curlew.
- Transmission corridors through remnant forest in northern NSW have been approved despite koala habitat mapping triggering MNES thresholds.
- Offshore wind survey licences have been granted in whale migration corridors where acoustic impacts exceed the EPBC Act’s marine mammal disturbance guidelines.

Case Example: In northern NSW, transmission corridors for a renewable project were approved through mapped koala habitat despite triggering Matters of National Environmental Significance (MNES) thresholds. In contrast, a nearby coal mining proposal faced redesign requirements and offset conditions to avoid similar habitat.

Thermal Belt and Climate Modification

Clearing wide linear corridors for transmission and compacting large tracts under solar arrays disrupts natural wind flow and evapotranspiration, altering **thermal belts** and contributing to **localised warming**. Peer-reviewed studies show that these **heat islands** can shift local climate patterns, increasing fire weather risk and changing rainfall distribution — yet these impacts are rarely considered in renewable approvals, while coal mine EIS documents must model microclimate effects and demonstrate mitigation.

Legislative Rollback

The Commonwealth’s **Nature Positive Plan** — positioned as an environmental strengthening measure — in practice prioritises “streamlining” and “certainty for development” alongside new environmental standards. The draft *Nature Positive (Environment Protection Australia) Bill 2024* and related framework bills establish a new regulator but leave **key refusal thresholds and offset equivalency standards undefined**. Without embedding **binding, enforceable standards**, these reforms risk allowing renewables and transmission to proceed in places that would be automatic refusals for coal.

At the NSW level, the Department of Planning and Environment’s REZ and transmission planning frameworks explicitly **remove or dilute** local plan protections and fast-track state infrastructure approvals. In some cases, draft reforms have proposed **amendments to the Biodiversity Conservation Act** that would weaken offset requirements for strategic infrastructure — a category that includes REZ projects.

International Obligations and Breach Potential

Australia’s obligations under **JAMBA, CAMBA, ROKAMBA** and the Convention on Migratory Species (CMS) bind it to avoid significant adverse effects on listed migratory species and their habitats. In the case of microbats, such as the Southern Bent-wing Bat (EPBC-listed), turbine placement within known foraging corridors constitutes a **foreseeable mortality risk**.

Under these treaties and the EPBC Act, avoidance should take precedence over offsetting. Yet in the renewables sector, avoidance is frequently replaced with post-approval

“management plans” — an approach inconsistent with Australia’s treaty obligations and domestic legislation for coal.

12. Final Comparison Matrix

This section compares the regulatory, environmental, and compliance treatment of coal mining projects and large-scale renewable energy projects under NSW and Commonwealth law.

The analysis is presented in two parts:

- **Table 12A** – A thematic, high-level comparison across project approval pathways, environmental safeguards, water regulation, biodiversity protections, rehabilitation requirements, and enforcement practices.
- **Table 12B** – A detailed mapping of these differences to the relevant statutory instruments and associated enforcement mechanisms.

Together, these tables illustrate both the breadth and the depth of regulatory asymmetries between coal and renewable energy projects.

12A. Thematic Comparison – Coal vs Renewables

Table 12A: Thematic Comparison of Coal and Renewable Energy Project Regulation

Category	Coal: Regulated / Controlled	Green: Unregulated / High Risk
Lifecycle Carbon Accounting	Full emissions profile from extraction to combustion counted in national inventories.	Upstream mining, manufacturing, shipping, land clearing, and decommissioning excluded.
Environmental Impact Assessment	Multi-season biodiversity surveys; projects refused if endangered species present.	Fast-tracked approvals; projects proceed even when remnant forests or threatened habitats are destroyed.
Legislative Compliance	Strict compliance under EPBC Act, Biodiversity Conservation Act, Mining Act, and planning laws.	Exemptions and legislative changes remove environmental guardrails for renewable rollout.
Decommissioning Obligations	Security deposits held; rehabilitation plans enforced.	Minimal or no bonds; inadequate decommissioning planning and funding.
Habitat and Wildlife Protection	Projects refused or altered to protect Matters of National Environmental Significance.	Breaches of migratory bird agreements (JAMBA, CAMBA, ROKAMBA); marine impacts on whales/dolphins.
Water Contamination	Comprehensive water management plans required; strict monitoring.	PFAS contamination from blades; battery chemical leaks; limited oversight.

Fire and Climate Risk	Managed within operational controls; limited microclimate alteration.	Heat island creation, thermal belt disruption, and increased fire weather risk.
Community Consultation	Statutory consultation periods; community objections can halt projects.	Compressed or inadequate consultation; objections rarely stop approvals.
Land Use	Located only on land granted a mining lease under the Mining Act 1992 (NSW). Subject to zoning and land-use compatibility checks, exclusion from conservation tenures, and refusal powers where the land is classified as critical habitat or prime agricultural land under the Strategic Agricultural Land Policy. Rehabilitation is a legal requirement, supported by a rehabilitation security deposit that ensures post-mining restoration to agreed end-use (native vegetation or agriculture) under the Environmental Planning and Assessment Act 1979 (NSW) and the Mining Act 1992 (NSW).	Frequently sited on agricultural, rural, or conservation land through SSD/SSI/CSSI reclassification under the Environmental Planning and Assessment Act 1979 (NSW). This reclassification overrides local zoning controls, enabling the conversion of prime farming land, wildlife corridors, and even conservation reserves to industrial energy precincts. No statutory requirement to avoid critical habitat or high-value agricultural land. No legislative obligation to reinstate original land category or ecological function after decommissioning, and no equivalent to the rehabilitation security deposit system applied to coal projects.

12B. Legislative Obligations and Enforcement Framework – Coal vs Renewables

The following table provides a consolidated mapping of key NSW and Commonwealth statutory instruments, the core obligations they impose, and the available enforcement mechanisms. This comparison illustrates the regulatory asymmetry between coal mining and large-scale renewable energy.

(The table below maps key NSW and Commonwealth legislation against coal mining and large-scale renewable projects, identifying core obligations, exemptions, and enforcement mechanisms. It demonstrates the asymmetry in regulatory requirements between the two sectors.)

Section 12B – Legislative Obligations and Enforcement Framework – Coal vs Renewables

Legislation	Coal Mining – Key Obligations	Renewables – Key Obligations / Exemptions	Enforcement Mechanisms
Environment Protection and Biodiversity Conservation Act 1999 (Cth)	Mandatory referral if MNES potentially affected (threatened species, migratory	Applies in theory, but REZ, SSI/CSSI and OEI Act pathways can compress assessment or	Civil penalties, injunctions (s.475), criminal offences for unauthorised MNES

	species, Ramsar wetlands, water trigger for coal). Full EIS and mitigation hierarchy; refusal possible if significant residual impacts remain.	split projects into components; impacts managed via post-approval plans rather than avoidance.	impact. Judicial review under ADJR Act.
Environmental Planning and Assessment Act 1979 (NSW)	State Significant Development (SSD) process; SEARs issued; multi-season surveys; public exhibition (28–60 days); IPC hearings for contentious projects.	SSD/SSI/CSSI often shortened exhibition (14–28 days), reduced or single-season surveys; Ministerial determination without IPC in many REZ cases.	Development consent conditions enforceable via stop-work orders, penalty notices, modification refusal. Judicial review in NSWLEC.
Biodiversity Conservation Act 2016 (NSW)	Biodiversity Assessment Method (BAM) applied; “like-for-like” offsets required in perpetuity; refusal if critical habitat/serious and irreversible impacts cannot be mitigated.	BAM applied inconsistently; offsets may be non-equivalent; critical habitat impacts permitted in REZ/transmission corridors.	Biodiversity conservation orders, remediation directions, penalties for habitat destruction.
Mining Act 1992 (NSW)	Mining lease required; Rehabilitation Management Plan approved; progressive rehabilitation enforced; substantial security deposits lodged before mining commences.	Not applicable — no equivalent statutory security deposit or Rehabilitation Management Plan requirement for renewables.	Lease conditions enforceable via suspension/cancellation; forfeiture of security deposits.
Protection of the Environment Operations Act 1997 (NSW)	Environmental Protection Licence (EPL) mandatory; pollutant limits, monitoring, incident reporting.	EPL often not required unless a scheduled activity occurs; diffuse pollution frequently unregulated.	Licence suspension, civil penalties, remediation orders.
Water Management Act 2000 (NSW)	Water access licences; hydrological modelling; EPBC “water trigger” applies; strict discharge quality standards.	No equivalent “water trigger”; water use in construction often unlicensed; limited hydrological impact modelling.	Licence suspension, civil penalties, remediation orders.
Electricity Infrastructure Investment Act 2020 (NSW)	Not applicable.	Enables Renewable Energy Zone delivery, allows streamlining of approvals and override of local planning controls for REZ projects.	Relies on EP&A Act enforcement.
Offshore Electricity Infrastructure Act 2021 (Cth)	Not applicable.	Offshore wind licensing; environment plans via NOPSEMA; EPBC interaction can be partial or parallel.	Relies on NOPSEMA enforcement; limited judicial review opportunities.

Observations:

1. Coal mining operates under a **layered approvals regime** with multiple statutory triggers, refusal powers, and substantial financial security for rehabilitation.
 2. Large-scale renewable energy projects frequently access **streamlined or split approval pathways** that reduce survey rigour, compress public participation, and omit financial assurance obligations.
 3. Enforcement powers exist in theory for both sectors, but the absence of up-front bonds and the prevalence of diffuse, unlicensed impacts in renewables create **practical enforcement gaps**.
-

13. Recommendations

In light of the evidence provided in this submission, the following recommendations are made to the NSW Joint Houses Inquiry into Emissions from Fossil Fuels. These recommendations aim to ensure that all energy developments — whether fossil fuel or renewable — are subject to equally rigorous environmental, social, and economic assessment, with protections for biodiversity, climate stability, and community health.

13.1 Establish Regulatory Parity Between Coal and Renewables

The environmental assessment and approval processes for renewable energy projects should be brought into alignment with those governing coal mining. This includes:

- Full application of the *EPBC Act 1999 (Cth)* to all renewable projects, without exemptions or parallel fast-track pathways.
- Mandatory multi-season biodiversity surveys prior to approval.
- Application of the precautionary principle where threatened species, migratory species, or critical habitat is present, with the capacity for outright refusal.

13.2 Protect Endangered Species and Critical Habitats Without Exception

Renewable energy projects must be subject to the same MNES thresholds as coal. Projects proposing to clear remnant forests, koala habitat, or migratory bird corridors should be refused unless they can demonstrate no significant residual impact.

13.3 Strengthen and Enforce Offset Integrity

The NSW Biodiversity Offsets Scheme must be independently audited for compliance with “like-for-like” and “in-perpetuity” standards. Offset credits must be ecologically equivalent and secured prior to project commencement. Offsets that are not equivalent in vegetation type, age, or ecological function should be prohibited.

13.4 Incorporate Thermal Belt and Microclimate Impact Modelling

All energy projects — including solar, wind, and transmission — should be required to model and disclose impacts on local temperature regimes, thermal belts, evapotranspiration, and fire

weather risk. Projects demonstrating unacceptable climatic modification should be refused or redesigned.

13.5 Reinstate and Strengthen Legislative Guardrails

Any legislative amendments that weaken the *Biodiversity Conservation Act 2016 (NSW)*, *EPBC Act 1999 (Cth)*, or related protective statutes for the purpose of fast-tracking renewables should be abandoned. Instead, reforms should reinforce refusal powers where environmental harm is unavoidable.

13.6 Strengthen International Compliance

Ensure all approvals comply with obligations under JAMBA, CAMBA, ROKAMBA, and the Convention on Migratory Species (CMS). This includes avoiding — not merely mitigating — impacts to listed species.

13.7 Require Decommissioning Bonds for All Energy Projects

All large-scale renewable projects should be required to lodge decommissioning security deposits equivalent to those imposed on coal mining. Bonds should cover full site rehabilitation, removal of infrastructure, and restoration of ecological function.

13.8 Apply Cumulative Impact Assessment Across Energy Sectors

Cumulative impact modelling must be conducted across the energy mix, considering:

- Combined habitat loss from multiple projects.
- Net change in land category and use.
- Combined microclimatic and hydrological alterations.
- Net emissions from all lifecycle stages, including construction, maintenance, and decommissioning.

13.9 Mandate Transparent Public Reporting

Annual compliance reports for renewable projects should be made public, detailing environmental performance, incident reports, and rehabilitation progress — mirroring coal's reporting obligations under NSW Mining and the *EPBC Act*.

In addition, all green energy components — including turbine blades, solar panels, cabling, and battery systems — must be accompanied by a full chemical composition register prior to import or installation. This measure will prevent undeclared PFAS and other persistent pollutants from entering the Australian market via imported infrastructure, particularly from

14. Proposed Legislative Rollback of Environmental Protections – A Direct Threat to Biodiversity, Communities, and Australia’s Future Legacy

The 2024 proposed amendments to the *Biodiversity Conservation Act 2016 (NSW)*, the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, and associated protective statutes represent the most significant dismantling of environmental protection frameworks in Australia’s history. The stated justification is to “streamline” approvals and “facilitate” the rapid deployment of renewable energy infrastructure to meet Net Zero targets. The practical outcome, however, will be the removal of the last statutory guardrails capable of stopping projects that cause irreversible harm to biodiversity, cultural heritage, water resources, agricultural viability, and community health.

If enacted, these changes will not modernise environmental protection — they will hollow it out. Instead of reinforcing safeguards to manage the cumulative impact of unprecedented industrial expansion, the reforms are designed to override refusal powers, bypass independent scientific scrutiny, and embed legislative exemptions that favour industrial-scale renewable projects at the expense of environmental integrity.

14.1 Government Intent and Mechanisms of Bypass

Analysis of draft legislative frameworks and consultation papers reveals five core mechanisms through which these amendments will weaken protection:

1. **Removal of Refusal Powers** — current provisions that mandate refusal of developments impacting Matters of National Environmental Significance (MNES) or critical habitat will be replaced with discretionary powers, enabling approval even where irreversible harm is identified.
2. **Reclassification of Land Categories** — agricultural, conservation, and critical habitat lands can be rezoned or reclassified as renewable energy or transmission infrastructure zones under the *Environmental Planning and Assessment Act 1979 (NSW)*, bypassing local planning controls and conservation tenure protections.
3. **Substitution of Binding Obligations with Non-Enforceable “Frameworks”** — proposed “environmental protection frameworks” have no statutory force, measurable benchmarks, or penalties for non-compliance, rendering them symbolic rather than protective.
4. **Ministerial Override of Independent Assessment** — final decision-making concentrated in ministerial portfolios increases political, rather than scientific, determination of approvals.
5. **Industry-Specific Exemptions** — renewable energy projects will receive legislated exemptions from assessment requirements, a precedent that could be expanded to other industries.

14.2 Double Standards: Coal vs. Renewables

Under current law, coal projects are subject to:

- Comprehensive, multi-season biodiversity surveys.
- Mandatory EPBC referrals and Commonwealth oversight.
- Statutory refusal triggers for MNES and critical habitat.
- Security deposits for full rehabilitation post-mining.

- Independent community consultation processes with the power to halt projects.

By contrast, industrial renewable energy projects — including wind, solar, offshore wind, and large-scale battery installations are increasingly exempted from these requirements. Projects are approved despite:

- Clearing remnant native vegetation and wildlife corridors.
- Fragmenting habitat critical for threatened species.
- Introducing PFAS and microplastic contaminants into land and water.
- Permanently converting high-value agricultural land into industrial precincts.
- Lacking any binding rehabilitation or decommissioning bonds.

14.3 Consequences of Legislative Rollback

If the amendments proceed:

- **All prior environmental conditions imposed on other industries will be rendered irrelevant** for renewables, creating a two-tier legal system.
- **No cumulative impact assessment is being undertaken in practice** — aside from independent regional mapping led by **Steven Nowakowski** at Rainforest Reserves Australia, covering Queensland and New South Wales (2024–2025) — meaning large-scale industrial projects are assessed in isolation despite overlapping regional and ecosystem impacts.
- **Industrial renewable projects are already cutting regulatory corners**, with fast-tracked approvals, shortened or bypassed biodiversity surveys, incomplete cultural heritage assessments, and inadequate community consultation becoming the norm. These practices demonstrate the risks of further legislative weakening.
- **Local communities will lose legal standing** to challenge projects on environmental grounds, eroding public participation rights and their ability to protect agricultural viability, health, and amenity.
- **Extinction risk for vulnerable and endangered species will escalate**, as refusal triggers are removed, biodiversity offset requirements diluted, and remnant habitat destruction permitted without enforceable mitigation.
- **Climate resilience will be permanently degraded**, with the loss of mature forests, disruption of hydrological systems, fragmentation of wildlife corridors, and the creation of heat islands from large-scale cleared developments.

14.4 Position on Amendments

No amendment to the *Biodiversity Conservation Act 2016 (NSW)* or the *EPBC Act 1999 (Cth)* that weakens environmental protections, refusal powers, or statutory triggers is acceptable. Any attempt to reframe or replace binding obligations with discretionary “frameworks” must be abandoned in full. These protections exist to defend biodiversity and communities from irreversible harm and must not be altered to favour any single industry.

These projected consequences are not speculative. They mirror the regulatory asymmetries, biodiversity impacts, and environmental risks documented in Sections 12 and 13, particularly the coal-versus-renewables comparisons in Tables 12A and 12B. If enacted, the amendments would permanently embed those disparities in law.

14.5 Conclusion

In conclusion Australia's environmental legislation has been shaped over decades to ensure that economic development does not come at the cost of irreversible environmental loss. The proposed amendments represent a structural dismantling of these protections, driven not by necessity but by political expediency in the race to Net Zero. This is not a matter for negotiation. Weakening our conservation laws in the name of industrial expansion will abandon our biodiversity, our communities, and the environmental legacy we owe to future generations.

14A. Legal Warning to Government – Consequences of Dismantling Environmental Law in the Name of Net Zero

(This section identifies the statutory, constitutional, and international legal precedents engaged by the proposed legislative amendments. It highlights the foreseeable legal, political, and environmental consequences of removing refusal triggers, weakening assessment standards, or granting industry-specific exemptions to industrial renewable energy projects.)

If the NSW or Commonwealth Government proceeds with amendments to the *Biodiversity Conservation Act 2016* (NSW Parliamentary Counsel's Office, current to 25 July 2025) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (Federal Register of Legislation 2024), or related protective statutes that remove refusal triggers, weaken assessment standards, or grant industry-specific exemptions to industrial renewable energy projects, it will be setting in motion a chain of legal, political, and environmental consequences that cannot be walked back.

This is not conjecture. The risks are foreseeable, quantifiable, and, in several cases, inevitable. They will not simply be borne by the government of the day — they will be inherited by future governments, communities, and ecosystems long after the current Parliament has passed.

Breach of statutory purpose and rule of law

The *Biodiversity Conservation Act 2016* (NSW) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) were enacted to protect biodiversity, conserve habitat, and safeguard Matters of National Environmental Significance (MNES). Amending them to favour one industry undermines their core purpose, invites judicial interpretation that the changes are inconsistent with the Acts' objectives, and will be viewed as an improper use of legislative power.

By creating a two-tier system — one for coal, gas, and other industries under full compliance, and another for renewables exempted from key safeguards — the government risks judicial findings of arbitrary, politically motivated lawmaking.

Constitutional exposure

These amendments would open the government to High Court challenge on multiple grounds:

- **Acquisition of property without just terms** under s 51(xxxi) of the *Australian Constitution* (Commonwealth of Australia Constitution Act 1900 (Cth)) if landholder rights are stripped for renewable infrastructure without compensation.
- **Separation of powers breaches** if review rights or standing are curtailed, contrary to the principles in *Plaintiff S157/2002 v Commonwealth of Australia* [2003] HCA 2; (2003) 211 CLR 476.
- **Implied freedom of political communication** infringements if community objection rights are removed or reduced in a way that burdens lawful environmental advocacy.

Breach of international obligations

Australia is bound by several key international agreements that impose binding obligations to protect biodiversity and critical habitats, including:

- **Convention on Biological Diversity** – opened for signature 5 June 1992, 1760 UNTS 79, entered into force 29 December 1993.
- **Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)** – opened for signature 2 February 1971, 996 UNTS 245, entered into force 21 December 1975.
- **Three bilateral migratory bird agreements:**
 - **JAMBA** – Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment, signed 6 February 1974, [1981] ATS 6, entered into force 30 April 1981.
 - **CAMBA** – Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment, signed 20 October 1986, [1988] ATS 22, entered into force 1 September 1988.
 - **ROKAMBA** – Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds, signed 13 July 2006, [2007] ATS 24, entered into force 13 July 2007.

Weakening domestic laws that give effect to these treaties, in order to clear the path for industrial renewable projects, will constitute a **direct breach of international law**.

Certainty of litigation

If these amendments pass, the government will be met with:

- Immediate judicial review in the Federal Court, High Court, and NSW Land and Environment Court.
- Injunctions halting approvals and construction on the basis of MNES destruction.
- Constitutional writs compelling Ministers and agencies to comply with statutory duties as they existed before the amendments.

These challenges will come from environmental organisations, Traditional Owners, farmers, and community alliances — groups with proven litigation capacity and track records of success.

Political and financial fallout

This course of action will:

- Trigger multi-million dollar litigation and compensation claims.

- Delay projects by years, undermining the stated urgency of renewable deployment.
- Erode public trust by favouring one industrial sector while silencing affected communities.
- Fuel accusations of environmental hypocrisy, destroying biodiversity in the name of saving the climate.

Irreversible environmental damage

The ecological costs will be permanent:

- Destruction of remnant forests and wildlife corridors.
- Escalated extinction risk for threatened species.
- Loss of Ramsar-listed wetlands and migratory flyways.
- Fragmentation of agricultural landscapes.
- Long-term PFAS contamination and hazardous waste, with no bonded funds for remediation.

Formal warning

If the government dismantles these statutory guardrails under the banner of Net Zero, it will:

- Breach domestic environmental law and international treaty obligations.
- Trigger sustained High Court, Federal Court, and Land and Environment Court litigation.
- Incur significant financial, political, and reputational costs.
- Preside over irreversible biodiversity collapse.

History will not remember such amendments as environmental reform — it will remember them as the moment Australia’s environmental law was gutted to serve one industrial agenda, with consequences felt for generations.

Comparative Legislative Analysis – Current Law vs Proposed Amendments vs Legal Consequences

Comparative Legislative Analysis – Current Law vs Proposed Amendments vs Legal Consequences

Provision / Requirement	Current Law	Proposed Amendment	Likely Legal Consequences
Refusal powers	Ministers may refuse a project if it has unacceptable environmental impacts under Biodiversity Conservation Act 2016 (NSW) and EPBC Act 1999 (Cth).	Removal of refusal triggers for certain industrial renewable projects.	Breach of statutory purpose; potential constitutional challenge (improper legislative purpose).
Assessment standards	Full environmental impact assessment required, including MNES (Matters of National Environmental Significance).	Reduced or streamlined assessment; possible exemption for specified renewable energy zones.	Increased risk of Ramsar and migratory species treaty breaches; judicial review challenges.

Ministerial discretion	Must be exercised within statutory objects and purposes.	Expanded discretion to approve despite identified unacceptable impacts.	Vulnerable to High Court challenge for acting beyond power; invites litigation under Plaintiff S157 precedent.
Community objection rights	Public submission and merits review rights available for most large-scale developments.	Removal or restriction of community objection rights for designated renewable projects.	Potential infringement of implied freedom of political communication; reputational damage.
Offsets and remediation	Developers required to fund offsets and rehabilitation bonds.	Relaxed offset requirements and no up-front remediation bonds for certain renewable projects.	Increased risk of permanent biodiversity loss and unfunded contamination (PFAS, hazardous waste).
International treaty compliance	Domestic law implements Convention on Biological Diversity, Ramsar Convention, JAMBA, CAMBA, ROKAMBA.	Loosened domestic implementation in conflict with treaty obligations.	Direct breach of international law; grounds for diplomatic and trade repercussions.

Taken together, these amendments would not modernise Australia’s environmental law — they would dismantle it, leaving a regulatory framework incapable of preventing irreversible harm. This is the legislative endpoint toward which all preceding changes are driving.

15. Conclusion

This Inquiry is being conducted at a critical moment, when imminent legislative rollbacks to environmental law threaten to entrench the very regulatory asymmetries between fossil fuel and renewable energy projects that this submission has documented in detail.

The evidence presented to this Inquiry demonstrates that the current Net Zero policy pathway is neither environmentally nor economically sound. Far from delivering the promised emissions reductions and ecological protection, the large-scale deployment of wind, solar, and associated transmission projects is driving unprecedented habitat destruction, disrupting microclimates, contaminating water resources, and placing threatened species at risk.

Net Zero as currently implemented is **carbon accounting theatre**. It is a policy construct that counts the full emissions profile of coal mining — from extraction to combustion — yet excludes substantial lifecycle emissions from renewable energy infrastructure, including:

- Mining, processing, and transporting rare earth and critical minerals.
- Globalised manufacturing and shipping of turbines, blades, panels, and batteries.
- Land clearing for industrial-scale energy zones, roads, and transmission corridors.

- Heat island effects, microclimate shifts, and increased fire weather risk.
- Decommissioning, waste, and hazardous residue management.

In reality, many “green” energy projects cause equal or greater environmental harm than regulated coal mining, but without the same stringent legislative guardrails, decommissioning bonds, or refusal powers when significant biodiversity values are present. This asymmetry is not accidental — it has been facilitated by legislative changes designed to remove environmental barriers for renewables, even where these projects breach obligations under the *Biodiversity Conservation Act 2016 (NSW)*, the *EPBC Act 1999 (Cth)*, and international migratory bird agreements.

A genuine transition must abandon the false binary of “coal versus wind and solar” and instead adopt a **balanced, diversified energy portfolio**. This portfolio should include:

- **Advanced coal technologies** with carbon capture and storage (CCS) where viable.
- **Nuclear energy**, providing stable baseload generation with a minimal land footprint and strong safety record in modern deployments.
- **Gas** as a transitional fuel, particularly for grid stability and peak demand.
- **Geothermal energy** in regions with suitable geology.
- **Small-scale, distributed renewables** located on already-cleared land and rooftops to avoid further biodiversity loss.
- **Hydropower** only where impacts are minimal and ecosystems are preserved.

By relying exclusively on large-scale wind and solar to meet Net Zero targets, we are **outsourcing our environmental harm overseas** through critical mineral extraction in fragile ecosystems, while inflicting large-scale destruction at home in the name of “clean” energy. This is not environmental stewardship — it is environmental displacement and degradation.

If the true goal is to reduce emissions without accelerating biodiversity collapse, then Net Zero must be replaced with a **Responsible Energy Strategy** that:

- Assesses all energy projects under equal environmental law.
- Counts all emissions over a full lifecycle, regardless of energy source.
- Protects critical habitats and migratory species without exception.
- Mandates robust decommissioning bonds for every project.
- Ensures community safety, climate stability, and national energy security.

The current trajectory will not save the climate — it will dismantle the very ecosystems that sustain it. A diversified, science-led, and environmentally honest approach is the only way forward.

The stakes extend beyond present-day project approvals. Legislative rollbacks now under consideration would lock in the double standards identified in Sections 12 to 14, dismantling refusal triggers, reducing environmental assessment requirements, and exempting large-scale renewable projects from the protections that apply to all other industries. If these reforms proceed, they will not “modernise” environmental law — they will erode it, removing the last statutory guardrails against biodiversity loss, water degradation, climate destabilisation, and community exclusion.

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