Objection to Wollar Solar Modification 4 (BESS Expansion)

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Executive Summary

The proposed Modification 4 for the Wollar Solar Farm, increasing the BESS from 30MW/30MWh to 280MW/560MWh, represents a drastic escalation that fundamentally alters the project's environmental, community, and legal impacts.

This modification will increase vegetation clearing and fragment habitat for threatened species, risk contamination of water sources with PFAS, heavy metals, and firefighting runoff, intensify local heat island effects, and pose significant fire hazards beyond the capacity of local emergency services. Grid instability may increase, threatening energy security for local residents. Farmland viability and property values will decline as the landscape becomes further industrialised, while the proposal offers minimal benefits to the Wollar community.

Critically, this modification breaches statutory obligations under the *Environmental Planning and Assessment Act 1979*, *Biodiversity Conservation Act 2016*, *Water Management Act 2000*, and *SEPP Renewable Energy 2022*, and is likely to trigger referral obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. Legal precedents including *Gray v Minister for Planning [2006] NSWLEC 720*, *Residents Against Intermodal Development Moorebank Inc v Moorebank Recyclers Pty Ltd [2016] NSWLEC 152*, and *Lansen v Northern Territory [2013] HCA 41* confirm that modifications of this scale require a full Environmental Impact Statement and federal referral, and that proceeding without lawful assessment exposes the Department to judicial review and enforcement risks.

We therefore request that the NSW Department of Planning, Housing and Infrastructure refuse Modification 4 in its current form, require a full Environmental Impact Statement, conduct a regional cumulative impact assessment, and ensure meaningful consultation with the Wollar community before any determination. These actions are essential to uphold environmental law, protect biodiversity, safeguard water and farmland, and protect the health and future of the Wollar community and region.

1. Introduction

The proposed Modification 4 for the Wollar Solar Farm represents a radical departure from the original approval, escalating the battery energy storage system from 30MW/30MWh to a massive 280MW/560MWh. This is not a minor adjustment; it is a complete transformation that will industrialise the Wollar landscape, erode community safety, and damage the natural environment upon which the region depends.

This proposal risks destroying critical habitats for threatened species, contaminating vital water sources with PFAS, heavy metals, and toxic runoff, and will intensify heat island effects that harm local agriculture and ecosystems. It will expose the Wollar community to unacceptable fire risks that local emergency services are ill-equipped to manage, while also threatening grid stability in a region already burdened by energy infrastructure expansion.

The expansion offers no meaningful benefit to the Wollar community, while creating irreversible impacts on farmland viability, property values, and the environment. It is inconsistent with NSW and federal environmental law, failing to meet obligations under the Environmental Planning and Assessment Act 1979, Biodiversity Conservation Act 2016, Water Management Act 2000, and the EPBC Act 1999.

This submission sets out in detail why Modification 4 must be refused, and why the proponent must be held accountable for the full and transparent assessment of the true risks and impacts this industrial-scale expansion will inflict on the Wollar region.

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2. Background

The Wollar Solar Farm is located northeast of Mudgee, within the Mid-Western Regional Council area of New South Wales. This area features dry sclerophyll forests, native grasslands, and productive agricultural land that support a range of threatened and migratory species (NSW DPIE, 2020). The Wollar community is a small, resilient rural community with deep ties to the land, relying on grazing, low-scale farming, and small business activities that contribute to the local and regional economy (Mid-Western Regional Council, 2023).

The original Wollar Solar Farm approval included a 30MW/30MWh battery energy storage system (BESS) integrated with the solar generation system, designed to provide local grid support in proportion to generation, with a low-impact footprint consistent with the rural character of the area (NSW Planning, 2019). The infrastructure and construction were assessed on the basis of limited vehicle movements, restricted lighting, and minor visual disturbance, reflecting the scale of the project as approved (NSW Planning, 2019).

The proposed Modification 4 now seeks to expand the BESS to 280MW/560MWh, representing a tenfold increase in capacity and an eighteenfold increase in storage duration. This escalation would result in a significant increase in hardstand areas, heavy vehicle traffic for construction and maintenance, noise emissions, and increased lighting, fundamentally altering the operational profile of the facility (ARENA, 2021). It would transform what was initially a localised renewable energy project into a large-scale industrial energy facility within a sensitive landscape, without a new Environmental Impact Statement or meaningful updated biodiversity assessment.

The modification also has potential to increase cumulative impacts on local water resources, bushfire risk, biodiversity corridors, and the amenity of the Wollar community, which were not considered under the original approval (BirdLife Australia, 2022). Given these substantial changes, the project should be reassessed within the current environmental, community, and policy context rather than proceeding as a modification.

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3. Environmental and Ecological and Health Impacts

The proposed expansion of the Wollar Solar Farm's battery energy storage system represents a profound shift in the environmental and operational footprint of the project, with consequences that extend beyond the project boundary into the broader landscape and community. The scale of the modification, increasing from a small, localised system to a major industrial-scale facility, will place additional pressures on fragile ecosystems, native wildlife populations, and already stressed water resources. It will also intensify land use conflicts within a region valued for its agricultural productivity and environmental significance.

The Wollar region forms part of important biodiversity corridors and catchments that sustain threatened species and underpin the ecological resilience of the area. The proposed modification risks undermining these values through cumulative impacts, pollution, and industrialisation of a sensitive rural landscape. It will also generate complex risks including chemical contamination, fire hazards, and misrepresented emissions accounting, which undermine the project's claimed environmental credentials. Each of these issues is examined in detail below to illustrate why this modification poses unacceptable environmental, ecological, and health impacts.

3.1 Vegetation Clearing and Habitat Loss

The proposed scale-up from a 30MW/30MWh to a 280MW/560MWh BESS at Wollar will require extensive clearing of native vegetation, significantly increasing direct and indirect impacts on biodiversity. This region contains Box-Gum Woodland, a Critically Endangered ecological community under the EPBC Act, providing essential habitat for the Regent Honeyeater (Anthochaera phrygia) and Swift Parrot (Lathamus discolor). Removal of canopy and understorey vegetation disrupts breeding and foraging patterns, while increasing exposure to predators and invasive species (Commonwealth of Australia, 2022). In the Hunter region, studies have shown that large-scale solar and battery infrastructure fragments habitats and creates edge effects, leading to reduced reproductive success in woodland birds (Kutt et al., 2021).

Internationally, research on solar farm developments in Spain demonstrated that habitat fragmentation from energy projects reduces local biodiversity and interrupts migration corridors critical for species resilience (Hernandez et al., 2014). For the Grey-headed Flying Fox (Pteropus poliocephalus), further clearing reduces roosting and foraging options in a landscape already experiencing cumulative habitat stress (DPIE, 2020). Such clearing contradicts obligations under the NSW Biodiversity Conservation Act 2016 and undermines the goals of Australia's Threatened Species Strategy.

3.2 Threatened Species

The proposed modification will impact a range of threatened species beyond the Regent Honeyeater and Grey-headed Flying Fox, including the Swift Parrot, Eastern Bentwing Bat (Miniopterus orianae oceanensis), and the Yellow-bellied Sheathtail Bat (Saccolaimus flaviventris), all of which rely on the remnant woodlands and riparian corridors of the Wollar area for survival (BirdLife Australia, 2023). Increased lighting and operational noise have been shown to alter foraging patterns, increase stress, and lead to higher mortality in microbat and woodland bird populations (Stone et al., 2015; Rowse et al., 2016).

A study from California found that lighting associated with renewable infrastructure increased collision risk for threatened bat species, a risk directly applicable to the increased infrastructure footprint at Wollar (Threlfall et al., 2021). The proposed modification will also increase vehicle movements and maintenance activities, raising the potential for wildlife-vehicle collisions and ongoing disturbance during critical breeding periods. These compounded pressures will further threaten species already at risk from climate change and regional land clearing pressures, contradicting recovery objectives under the EPBC Act and threatening the biodiversity integrity of the Wollar landscape.

3.3 Water Catchment Risks

The proposed BESS expansion at Wollar will increase impervious surface areas, leading to higher stormwater runoff, sedimentation, and erosion within the local catchment, threatening the Goulburn River catchment and dependent downstream ecosystems (Kingsford et al., 2016). Increased sediment loads will reduce aquatic habitat quality, impacting macroinvertebrates and native fish such as the Macquarie Perch (Macquaria australasica), listed as Endangered under the EPBC Act.

Case studies from the Gunnedah Basin and Hunter regions show that energy projects significantly increase suspended sediments and nutrient runoff, leading to algal blooms and oxygen depletion in local waterways (Brierley & Fryirs, 2005; Department of Planning NSW, 2019). Internationally, solar and BESS projects in Arizona have shown that poorly managed stormwater increases salinity and sedimentation in downstream agricultural areas (Turner et al., 2016). Additionally, BESS sites can introduce heavy metals (cobalt, nickel) and PFAS-laden firewater into groundwater and surface water during leakages or fires, as reported in Californian BESS fire case studies (Sahu et al., 2021), contradicting the NSW Water Management Act 2000 and threatening local water security.

3.4 Heat Island and Microclimate Disruption

The Wollar BESS expansion will create a significant heat island effect due to the scale of its battery arrays, transformers, and associated hardstand surfaces, altering local microclimates and increasing regional thermal loading (Barron-Gafford et al., 2016). Research from the University of Arizona has shown that large-scale solar and battery farms can increase local temperatures by up to 3-4°C, impacting nearby vegetation, soil moisture, and increasing evaporation rates (Hassanpour Adeh et al., 2018).

In NSW, increased localised heating around large-scale renewables has been shown to reduce crop yields and pasture productivity, stress native vegetation, and alter insect pollinator behaviours critical to local farming systems (Armstrong et al., 2016; CCA, 2022). Case

studies in India have demonstrated that heat islands from battery and solar projects exacerbate drought impacts in semi-arid zones, increasing water demand while reducing water availability (Kumar et al., 2020). The scaled-up Wollar BESS will exacerbate existing heat-related pressures already intensified by regional climate change, undermining agricultural viability, native flora resilience, and community liveability in the Wollar region.

3.5 Water Contamination and PFAS Risks

The proposed expansion of the Wollar BESS will drastically increase the risk of water contamination from toxic chemicals, heavy metals, and PFAS (per- and polyfluoroalkyl substances) inherent in large-scale battery systems. Lithium-ion batteries contain electrolytes and thermal management chemicals that, in the event of leaks or thermal runaway fires, can leach nickel, cobalt, manganese, and PFAS into soil, groundwater, and surface water (Sahu et al., 2021; Vic EPA, 2023).

Case studies from the Moorabool BESS fire in Victoria and Arizona's McMicken BESS fire demonstrated that firefighting runoff containing PFAS and heavy metals persisted in soils and waterways for years, requiring extensive remediation and monitoring while impacting water used for livestock and agriculture (Ghisi et al., 2019; Vic EPA, 2023). In the Wollar context, such contamination could directly threaten the Goulburn River catchment, which underpins regional water security and supports aquatic species including the Macquarie Perch (Macquaria australasica) and native freshwater mussels sensitive to pollution (Kingsford et al., 2016).

Research shows PFAS bioaccumulation in livestock and wildlife can lead to reproductive, developmental, and immune system toxicity, which may impact local farming operations and wildlife health (ATSDR, 2021). The lack of regional emergency response capacity to manage large-scale BESS chemical fires and runoff further elevates this risk, with potential breaches of the NSW Water Management Act 2000 and environmental health guidelines. Internationally, PFAS contamination from firefighting foams has led to severe water crises in communities such as Oakey and Katherine in Australia, highlighting the real, long-term risks associated with PFAS releases into water systems (Environmental Justice Australia, 2018).

3.6 Cumulative Impacts

Approval of the Wollar BESS modification will significantly contribute to the cumulative environmental, ecological, and social impacts already experienced across the Central West Orana region due to multiple renewable energy, transmission, and associated industrial projects.

Fragmented approval processes for these projects have led to the loss and fragmentation of critically endangered Box-Gum Woodland and other native vegetation vital for threatened species such as the Regent Honeyeater and Swift Parrot (BirdLife Australia, 2023). Research indicates that cumulative habitat fragmentation from renewable infrastructure reduces landscape connectivity, increases invasive species pressures, and disrupts ecological processes essential for biodiversity (Kiesecker et al., 2019; Hernandez et al., 2014).

In addition, the concentration of large-scale renewable projects contributes to localised heat island effects, increasing thermal stress on crops and native flora (Barron-Gafford et al., 2016). International studies, such as those in Spain and the United States, demonstrate that

clustered renewables development can displace agricultural production, drive up land prices, and lead to social and economic conflicts in rural communities (Hernandez et al., 2014; Pasqualetti, 2011).

The additional heavy vehicle movements, noise pollution, water use, and landscape industrialisation associated with the Wollar BESS will compound these cumulative impacts, threatening the viability of local farming, reducing the resilience of biodiversity corridors, and undermining regional climate and biodiversity objectives under NSW and federal frameworks. Without comprehensive cumulative impact assessments across the region, approving the Wollar BESS risks irreversible damage to both the environment and the social fabric of the Wollar community.

3.7 Fire Risk and Emergency Response Limitations

The Wollar BESS expansion significantly increases fire and explosion risks associated with lithium-ion batteries, especially in a bushfire-prone region. International and Australian incidents, including fires in South Korea, the US, and Victoria, highlight the difficulty in containing BESS fires, which can burn for days while emitting toxic gases such as hydrogen fluoride and PFAS-laden runoff (Sahu et al., 2021; Vic EPA, 2023). These incidents also demonstrate the potential for explosions and long-term air and soil contamination, with plume spread impacting communities kilometres away (Johnston et al., 2020).

Wollar lacks the specialist emergency response capacity and equipment needed to manage large-scale BESS fires safely, placing local residents, firefighters, and wildlife at risk (Queensland Fire and Emergency Services, 2022). Firefighting runoff can contaminate waterways and agricultural lands, leading to environmental and economic harm. The scale of the proposed BESS intensifies these risks, making comprehensive emergency planning and mitigation essential, yet current plans are inadequate for the level of hazard posed by the project expansion.

3.8 Incorrect Carbon Accounting and Net Zero Misrepresentation

The proposed Wollar BESS expansion is presented as a net zero initiative but fails to account for full lifecycle emissions, including mining, manufacturing, transport, installation, decommissioning, and emissions from fire events. Mining of lithium, cobalt, and rare earth elements for BESS components involves significant carbon emissions and environmental destruction, often in countries with poor environmental oversight (Amnesty International, 2022; Sovacool et al., 2020). The removal of native vegetation for the project footprint releases stored carbon while reducing biodiversity and ecosystem resilience, directly contradicting climate objectives (Friedlingstein et al., 2020).

The embodied carbon in BESS systems can take decades to offset, and decommissioning often results in landfill waste, chemical leakage, and further emissions due to inadequate recycling systems (Harper et al., 2019). Fires at BESS sites release toxic gases and particulates, adding to carbon and pollution burdens (Vic EPA, 2023). Without transparent accounting of these emissions, the Wollar BESS expansion represents greenwashing rather than genuine climate action, misleading policymakers and communities while eroding trust in renewable transitions.

3.9 Decommissioning Risks and Legacy Waste

A critical concern with the proposed Wollar BESS expansion is the absence of clear, enforceable decommissioning responsibilities. Without mandated, transparent decommissioning plans and legally secured financial guarantees, the local community may be left with a legacy of toxic waste, abandoned infrastructure, contaminated soils, and unusable land. Large-scale battery systems contain hazardous materials, including lithium, cobalt, nickel, and PFAS, which can leach into soil and water if not properly managed during decommissioning, creating long-term environmental and health hazards (Harper et al., 2019; Vic EPA, 2023).

International and Australian case studies demonstrate that, when proponents fail or withdraw, communities are left with the costs and risks of dismantling, removal, and site remediation, often exceeding millions of dollars (IEA, 2021; Clean Energy Council, 2020). Without clear policy requiring substantial decommissioning bonds or trust-held deposits to cover full dismantling and site rehabilitation, there is a high risk of corporate collapse or sale to shell entities unable to meet these obligations, shifting the burden to councils and ratepayers.

Given the scale of the proposed Wollar BESS, it is essential that regulators require significant decommissioning deposits held in trust, indexed to inflation and reviewed regularly, to ensure funds are available for full removal of hazardous materials, safe recycling or disposal of components, soil and water testing, and site restoration to productive or natural condition. Failure to enforce these conditions will leave the Wollar community exposed to environmental and financial harm long after project proponents have moved on, contradicting the principles of environmental stewardship and intergenerational equity.

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4. Fire Risk, PFAS, and Toxic Contamination

The proposed expansion of the Wollar BESS from 30MW/30MWh to 280MW/560MWh significantly amplifies fire, contamination, and community safety risks that were not assessed under the original approval. These risks threaten local farmland, water security, biodiversity, and human health while exposing gaps in emergency preparedness and liability management for regional communities.

4.1 Thermal Runaway Risks

Large-scale lithium-ion BESS installations have a well-documented risk of thermal runaway, where heat generated within a cell can lead to fire or explosion. Fires can burn for days, releasing toxic gases, and are extremely difficult to extinguish (Sahu et al., 2021). Thermal runaway can destroy entire installations and ignite surrounding vegetation, increasing regional bushfire risk. Toxic smoke contains particulate matter, heavy metals, and corrosive gases that can cause respiratory distress, eye and skin irritation, and long-term lung damage in humans and wildlife exposed to smoke plumes. Heat from fires can kill or displace local fauna, damage soil biota, and reduce vegetation recovery post-fire, degrading habitat quality for threatened species.

4.2 PFAS and Heavy Metal Leakage

BESS fires and leaks can release PFAS, which are bioaccumulative and linked to cancer, liver damage, immune suppression, and reproductive toxicity in humans and wildlife (ATSDR, 2021). Heavy metals such as cobalt, nickel, and manganese can leach into soils and waterways, affecting water quality and poisoning aquatic ecosystems (Vic EPA, 2023). PFAS contamination can persist in the environment for decades, affecting livestock health through contaminated water and pasture and entering the food chain, impacting human health through meat and dairy consumption. Soil contamination reduces farm productivity and may require expensive remediation, while aquatic contamination can kill fish, amphibians, and macroinvertebrates, collapsing local food webs and biodiversity.

4.3 Emergency Response Limitations

Rural firefighting services in the Wollar region lack the resources and specialised equipment to manage BESS fires, leading to uncontrolled burn durations and spread of toxic smoke. Inadequate response capacity increases risks to human life, with residents and emergency workers exposed to hazardous gases and particulates without effective mitigation. Firefighting runoff contaminated with PFAS and heavy metals can infiltrate creeks and groundwater, impacting drinking water sources and farmland irrigation systems. Without enforceable emergency management plans, communities will bear the health, economic, and environmental costs of BESS-related incidents, while the proponent avoids responsibility.

These details reinforce why the Wollar BESS Modification 4 must not proceed without a transparent, full risk assessment and enforceable mitigation measures to protect communities, environment, and biodiversity from unacceptable and irreversible harm.

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5. Grid Stability and Economic Impact

The proposed expansion of the Wollar BESS introduces significant concerns related to grid reliability, local economic impacts, and the absence of genuine community benefits. These risks are well-documented in energy system research and highlight why this modification should not proceed without a full reassessment.

5.1 Grid Instability

Oversized, single-node BESS installations can destabilise the grid, particularly in regional networks with limited capacity and infrastructure (AEMO, 2021). Rapid charging and discharging cycles can create voltage and frequency fluctuations, leading to system instability and increased curtailment of local distributed energy resources (Liu et al., 2020). Case studies from South Australia show that poorly integrated BESS operations have contributed to network disturbances requiring load-shedding to stabilise the grid (AEMC, 2019). If the Wollar BESS is expanded without system-wide balancing upgrades, it may lead to blackouts affecting homes, farms, and critical services, while also risking over-reliance on battery dispatch in fault conditions that the network cannot safely accommodate.

5.2 Impact on Farmland and Property Values

The expanded infrastructure footprint further industrialises the Wollar landscape, reducing land usability for grazing and cropping, and fragmenting paddocks with fencing, roads, and hardstand areas. Research from regional Victoria indicates that proximity to large-scale energy infrastructure can reduce land values by up to 30% due to perceived industrialisation, visual impacts, and operational noise (Gunn & Jotzo, 2021). Farm productivity can decline due to soil compaction, erosion, dust deposition, and drainage alterations during construction and operation (CSIRO, 2020). These impacts threaten the viability of local agriculture while diminishing the economic security of landholders.

5.3 Lack of Meaningful Local Benefit

Evidence from large-scale renewable and BESS projects in Australia shows that local employment benefits are typically limited to temporary construction jobs, with operational roles often sourced from outside the region and offering minimal local employment continuity (Clean Energy Council, 2020). The Wollar BESS proposal lacks a local benefit-sharing framework, community energy partnerships, or mechanisms for local ownership that could embed meaningful, enduring benefits within the community (Hicks & Ison, 2018). The local community is therefore left to bear long-term environmental, social, and economic risks, including fire hazards, pollution, and loss of rural character, without fair compensation or participatory opportunities in the renewable energy transition.

These points, grounded in Australian case studies and evidence, demonstrate why the Wollar BESS Modification 4 risks grid instability, economic harm, and loss of community agency, underscoring the need for refusal or full reassessment under NSW planning and energy policy frameworks.

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6. Legislative and Regulatory Breaches

The regulatory framework governing the assessment of the Wollar BESS Modification 4 is clear in its intent to protect the environment, biodiversity, water resources, and community interests through rigorous, transparent assessment processes. Precedent cases and statutory interpretation confirm that where a proposed modification constitutes a material change with significant environmental impacts, it cannot lawfully proceed under a modification pathway alone without full reassessment.

The proposed Wollar BESS Modification 4 raises multiple legislative and regulatory breaches that warrant refusal or a complete reassessment under NSW and federal laws:

6.1 Environmental Planning and Assessment Act 1979

The scale change from 30MW/30MWh to 280MW/560MWh fundamentally alters the environmental impact profile, triggering Sections 5.7 and 5.8 requirements for a new EIS and public consultation. Attempting to proceed as a modification bypasses due process and fails to assess cumulative impacts, fire risk, pollution, and biodiversity loss aligned with the Act.

Relevant Precedent: In *Gray v Minister for Planning [2006] NSWLEC 720*, the NSW Land and Environment Court held that the Minister erred by failing to require adequate assessment of greenhouse gas emissions under an EIS, establishing that a failure to properly consider the full environmental impacts of a development under the EP&A Act can render a decision invalid. Similarly, in *Residents Against Intermodal Development Moorebank Inc v Moorebank Recyclers Pty Ltd [2016] NSWLEC 152*, the Court confirmed that a modification application under s96 (now s4.55) cannot be used to authorise a development that amounts to a fundamentally different proposal requiring full environmental reassessment. These cases demonstrate that the proposed Wollar BESS expansion, which significantly increases the project's environmental footprint, requires a new EIS and cannot lawfully proceed under a modification pathway alone.

6.2 Biodiversity Conservation Act 2016

The project has not reassessed impacts on threatened species and ecological communities under the expanded scale, failing its legal obligations to avoid and minimise impacts and to update Biodiversity Development Assessment Reports to reflect the increased risks to species and ecosystems.

6.3 Water Management Act 2000

Increased impervious surfaces and altered runoff patterns will increase erosion and contaminate watercourses, necessitating updated water management plans. Proceeding without reassessment risks breaching provisions for the protection of water quality and the health of the Goulburn River catchment.

6.4 NSW State Environmental Planning Policies (SEPP) on Renewable Energy

The modification conflicts with SEPP Renewable Energy guidelines requiring avoidance of significant biodiversity impacts and the demonstration of social licence. Lack of updated biodiversity and community impact assessments contradicts SEPP objectives for large-scale renewable energy projects.

Precedent Application: The precautionary principle under s1.3 of the EP&A Act was considered in *Telstra Corporation Ltd v Hornsby Shire Council [2006] NSWLEC 133*, where the Court held that a precautionary approach requires a thorough evaluation where there is a threat of serious or irreversible environmental damage, even in the presence of scientific uncertainty. In the context of Wollar, the lack of a cumulative impact assessment for the significantly expanded BESS, within a region already burdened by renewable energy infrastructure, triggers the precautionary principle, requiring refusal or full reassessment before proceeding.

6.5 Potential EPBC Act 1999 Triggers

The expanded BESS scale may impact nationally listed threatened species, requiring a referral under the EPBC Act for a controlled action determination. Proceeding without federal assessment risks non-compliance with national biodiversity protections.

Precedent for Federal Referral: In *Lansen v Northern Territory [2013] HCA 41*, the High Court reaffirmed that compliance with federal environmental laws, including the requirement

to refer proposed actions likely to have a significant impact on matters of national environmental significance under the EPBC Act, is mandatory. Proceeding without referral and assessment under the EPBC Act where the action may have significant impacts on listed threatened species or water resources, as is the case with the Wollar BESS Modification 4, would expose the proponent to enforcement action and render the project unlawful under federal law.

In light of these legal precedents and statutory obligations, the Department must ensure full compliance with state and federal environmental laws and assessment frameworks, or risk legal challenge through judicial review or enforcement proceedings should the Wollar BESS Modification 4 proceed without a lawful, transparent, and comprehensive reassessment.

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7. Action Requested

Given the substantial environmental, community, and legislative concerns identified in this submission, we formally request that the NSW Department of Planning, Housing and Infrastructure:

- **Refuse Wollar BESS Modification 4 in its current form** due to unacceptable risks to biodiversity, water security, community safety, farmland viability, and regional grid stability, as required under the precautionary principle embedded in Section 1.3 of the *Environmental Planning and Assessment Act 1979 (NSW)*.
- **Require a full Environmental Impact Statement (EIS)** for any proposed expansion of this scale under Sections 5.7 and 5.8 of the *Environmental Planning and Assessment Act 1979*, ensuring that all environmental, fire, contamination, and community impacts are transparently assessed under current legislative frameworks, consistent with the decisions in *Gray v Minister for Planning [2006] NSWLEC 720* and *Residents Against Intermodal Development Moorebank Inc v Moorebank Recyclers Pty Ltd [2016] NSWLEC 152*.
- **Conduct a cumulative impact assessment** across all BESS and renewable energy expansions in the region in accordance with the objectives of the *NSW Biodiversity Conservation Act 2016* and the *State Environmental Planning Policy (Renewable Energy) 2022*, ensuring responsible planning that accounts for landscape-scale biodiversity, water, climate, and community impacts.
- **Require meaningful, accessible community consultation** with the Wollar community and surrounding residents, as required under the community participation principles of the *Environmental Planning and Assessment Act 1979*, ensuring that those directly impacted by this proposal have the opportunity to participate in the decision-making process and that genuine social licence is achieved.
- **Refer the proposal to the Commonwealth Minister for the Environment** under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* due to the likely significant impacts on matters of national environmental significance, consistent with the obligations clarified in *Lansen v Northern Territory [2013] HCA 41*.

These actions are mandatory under NSW and federal legislation to uphold environmental protection, community rights, and transparent governance, ensuring that large-scale renewable energy and storage developments do not proceed at the expense of local

communities and the environment. Failure to comply with these statutory obligations may expose the Department and the Minister to judicial review, merits appeal proceedings, and federal enforcement action under the *EPBC Act* should the Wollar BESS Modification 4 proceed without lawful and transparent reassessment.

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8. Conclusion

The Wollar BESS Modification 4 represents an industrial escalation that will cause significant environmental harm, undermine the health and safety of the Wollar community, and erode the viability of farmland and regional biodiversity. The proposal risks irreversible damage to threatened species habitat, water resources, and community wellbeing while offering no meaningful benefits to the local community.

Critically, Modification 4 fails to comply with the *Environmental Planning and Assessment Act 1979*, *Biodiversity Conservation Act 2016*, *Water Management Act 2000*, and *SEPP Renewable Energy 2022*, and is likely to trigger federal referral obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. Legal precedents, including *Gray v Minister for Planning [2006] NSWLEC 720*, *Residents Against Intermodal Development Moorebank Inc v Moorebank Recyclers Pty Ltd [2016] NSWLEC 152*, and *Lansen v Northern Territory [2013] HCA 41*, confirm that modifications of this scale require full environmental assessment and federal referral, and that proceeding without lawful assessment exposes the Department to judicial review and enforcement risks.

We therefore call upon the NSW Department of Planning, Housing and Infrastructure to:

- Refuse Modification 4 in its current form;
- Require a full Environmental Impact Statement (EIS);
- Conduct a regional cumulative impact assessment; and
- Ensure meaningful community consultation before any determination.

These actions are not only consistent with sound environmental planning but are required under state and federal law to protect biodiversity, water security, farmland viability, and community safety. We urge the Department to act lawfully and transparently to protect the Wollar community and environment from unacceptable and irreversible harm.

References

1. AEMC (2019) *System Strength and Inertia Market Review*. Australian Energy Market Commission, Sydney.
2. AEMO (2021) *Renewable Integration Study: Stage 1 Report*. Australian Energy Market Operator, Melbourne.
3. Amnesty International (2022) *Powering Change: Principles for Businesses and Governments in the Battery Value Chain*. Amnesty International, London.
4. ATSDR (2021) *Toxicological Profile for Perfluoroalkyls*. Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services.
5. Australian Government (1992) *Intergovernmental Agreement on the Environment*. Commonwealth of Australia, Canberra.
6. Australian Government (1999) *Environment Protection and Biodiversity Conservation Act 1999*. Commonwealth of Australia, Canberra.
7. Australian Renewable Energy Agency (2021) *Battery Storage in Australia: Market Analysis and Lessons Learned*. ARENA, Canberra.
8. Barron-Gafford, G., Minor, R., Allen, N., Cronin, A., Brooks, A., Pavao-Zuckerman, M. and Macknick, J. (2016) 'The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures', *Nature Scientific Reports*, 6, 35070.
9. BirdLife Australia (2022) *Impacts of Renewable Energy Developments on Birds and Biodiversity: Guidance for Site Selection*. BirdLife Australia, Melbourne.
10. Brierley, G. and Fryirs, K. (2005) *Geomorphology and River Management: Applications of the River Styles Framework*. Blackwell Publishing, Oxford.
11. Clean Energy Council (2020) *End-of-Life Management of Solar PV Panels and Battery Storage*. Clean Energy Council, Melbourne.
12. Clean Energy Council (2020) *Clean Energy at Work*. Clean Energy Council,Melbourne.
13. Council of Australian Governments (COAG) (1992) *Intergovernmental Agreement on the Environment*, Commonwealth of Australia, Canberra.
14. CSIRO (2020) *Impacts of Renewable Energy Infrastructure on Agricultural Land*. CSIRO, Canberra.
15. Department of Climate Change, Energy, the Environment and Water (2023) *EPBC Act Referral Guidelines for Threatened Species*. Australian Government, Canberra.
16. Environmental Justice Australia (2018) *PFAS Contamination in Australia: The Need for Law Reform*. Environmental Justice Australia, Melbourne.
17. Friedlingstein, P., O'Sullivan, M., Jones, M., Andrew, R., Gregor, L., Hauck, J., Olsen, A. and Peters, G. (2020) 'Global Carbon Budget 2020', *Earth System Science Data*, 12(4), 3269–3340.
18. Ghisi, R., Sighinolfi, M., Rauseo, J., Ferrari, F., Baldi, G. and Bianchi, N. (2019) 'Ecotoxicological Effects of Perfluorinated Compounds on Aquatic Organisms', *Environmental Science and Pollution Research*, 26, 23436–23450.
19. Gray v Minister for Planning [2006] NSWLEC 720, New South Wales Land and Environment Court.
20. Gunn, P. and Jotzo, F. (2021) 'Property Values and Renewable Energy Infrastructure: Evidence from Regional Victoria', *Energy Policy*, 156, 112403.
21. Harper, G., Sommerville, R., Kendrick, E., Driscoll, L., Slater, P. and Stolkin, R. (2019) 'Recycling Lithium-Ion Batteries from Electric Vehicles', *Nature*, 575, 75–86.
22. Hernandez, R.R., Easter, S.B., Murphy-Mariscal, M.L., Maestre, F.T., Tavassoli, M., Allen, E.B., Barrows, C.W., Belnap, J., Ochoa-Hueso, R., Ravi, S. and Allen, M.F.

(2014) ‘Environmental Impacts of Utility-Scale Solar Energy’, *Renewable and Sustainable Energy Reviews*, 29, 766–779.
23. Hicks, J. and Ison, N. (2018) ‘Community Renewable Energy in Australia: Exploring its Character, Potential and Barriers’, *Energy Policy*, 113, 713–722.
24. Johnston, F.H., Borchers-Arriagada, N., Morgan, G.G., Bowman, D.M.J.S., Palmer, A.J. and Jalaludin, B.B. (2020) ‘Air Pollution Events from Fire Smoke and Their Impact on Human Health in Australia’, *Medical Journal of Australia*, 212(7), 281–287.
25. Kiesecker, J.M., Evans, J.S., Fargione, J., Doherty, K., Foresman, K.R., Kunz, T.H., Naugle, D.E., Nibbelink, N.P. and Niemuth, N.D. (2019) ‘Renewable Energy and Land Use in the United States’, *Nature Sustainability*, 2, 348–356.
26. Kingsford, R.T., Bino, G. and Porter, J.L. (2016) ‘Conservation of FloodplainWetlands under Climate Change’, *Conservation Biology*, 30(2), 391–399.
27. Lansen v Northern Territory [2013] HCA 41; (2013) 251 CLR 506, High Court of Australia.
28. Liu, X., Li, Q., Wu, J. and Singh, C. (2020) ‘Impacts of Battery Storage Systems on Grid Stability: Review and Case Analysis’, *Journal of Energy Storage*, 32, 101830.
29. Mid-Western Regional Council (2023) *Community Strategic Plan 2023–2033: Mid-Western Region*. Mid-Western Regional Council, Mudgee.
30. NSW Department of Planning, Industry and Environment (2020) *Biodiversity and Threatened Species Data for Wollar Region*. NSW DPIE, Sydney.
31. NSW Department of Planning and Environment (2019) *Development Consent SSD-9254: Wollar Solar Farm*. NSW DPE, Sydney.
32. NSW Department of Planning and Environment (2022) *State Environmental Planning Policy (Renewable Energy) 2022*. NSW Government, Sydney.
33. NSW Department of Planning and Environment (2023) *Guidelines for Preparing Environmental Impact Statements*. NSW Government, Sydney.
34. NSW Government (1979) *Environmental Planning and Assessment Act 1979*. NSW Legislation, Sydney.
35. NSW Government (2000) *Water Management Act 2000*. NSW Legislation, Sydney.
36. NSW Government (2016) *Biodiversity Conservation Act 2016*. NSW Legislation, Sydney.
37. Pasqualetti, M.J. (2011) ‘Opposing Wind Energy Landscapes: A Search for Common Cause’, *Annals of the Association of American Geographers*, 101(4), 907–917.
38. Queensland Fire and Emergency Services (2022) *Battery Energy Storage Systems:Safety and Fire Management Guidelines*. QFES, Brisbane.
39. Residents Against Intermodal Development Moorebank Inc v Moorebank Recyclers Pty Ltd [2016] NSWLEC 152, New South Wales Land and Environment Court.
40. Sahu, A.K., Bandyopadhyay, S. and Fowler, M. (2021) ‘Fire Safety Challenges of Lithium-Ion Battery Energy Storage Systems’, *Fire Technology*, 57, 2547–2570.
41. Sovacool, B.K., Hook, A., Martiskainen, M., Brock, A. and Turnheim, B. (2020) ‘Sustainable Minerals and Metals for a Low-Carbon Future’, *Science*, 367(6473), 30-33.
42. Telstra Corporation Ltd v Hornsby Shire Council [2006] NSWLEC 133, New South Wales Land and Environment Court.
43. Vic EPA (2023) *Battery Energy Storage Systems: Environmental and Fire Risk Assessments*. Environment Protection Authority Victoria, Melbourne.