

Submission to the Productivity Commission Consultation on Pillar 5: Investing in Cheaper, Cleaner Energy and the Net Zero Transformation

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Executive Summary

This submission challenges the legitimacy of Australia's net zero policy framework as presented in the Productivity Commission's Pillar 5 consultation. Framed as a pathway to cheaper, cleaner energy, the current approach conceals a high-impact industrial expansion that is degrading ecosystems, undermining communities, and failing to deliver genuine emissions reductions. Under the banner of climate action, government policy has enabled a resource-intensive transformation that prioritises corporate profit over environmental and social responsibility.

Central to this submission is the exposure of systemic omissions in lifecycle emissions accounting. The environmental costs associated with mining, transport, manufacturing, land clearing, operation, and decommissioning of renewable energy infrastructure are largely excluded from national carbon inventories. These blind spots render the "net zero" narrative misleading and scientifically indefensible. Similarly, the LNG export-import model, wherein Australia exports gas only to re-import it at a premium — exemplifies the policy contradictions that are both economically irrational and carbon-intensive.

The environmental consequences of large-scale renewable developments are already visible: deforestation, species loss, soil and water contamination from PFAS and heavy metals, and local climate disruption via the heat island effect. These impacts are compounded by fast-tracked approvals, inadequate environmental assessments, and procedural exclusion of local communities. Critically, there is also a complete absence of cumulative impact assessment across project approvals. Without integrated mapping of overlapping environmental, social, and cultural pressures, decision-makers are flying blind, approving developments in isolation while ignoring their compounded effects on ecosystems and communities.

This submission calls for a radical reassessment of Australia's energy transformation agenda. It demands integrity in emissions reporting, a halt to policy distortions that favour industry over public interest, and urgent regulatory reform to protect biodiversity, community rights, and the long-term health of Australia's landscapes. Without these interventions, the current trajectory will not deliver sustainability — it will deepen ecological decline under the false promise of progress.

1. Introduction

Australia is being led down a path of environmental devastation and energy instability disguised as progress. Under the banner of “net zero,” the Productivity Commission’s Pillar 5 consultation proposes a transformation that is neither green, nor clean, nor economically rational. The truth is stark: what is being sold to the Australian public as a transition to cheaper and cleaner energy is, in reality, a high-impact industrial expansion built on misinformation, poor accounting, and disregard for ecological and community wellbeing.

This submission provides a detailed and evidence-based analysis of the contradictions and systemic failures embedded in the current net zero narrative. It challenges the deliberate omission of full life-cycle emissions, the hypocrisy of LNG export-import schemes, the environmental destruction caused by large-scale renewable infrastructure, the erosion of community rights, and the political capitulation to corporate interests.

What is unfolding across Australia is not a climate solution, it is a resource grab facilitated by regulatory loopholes, greenwashing, and fast-tracked legislation. From deforestation and habitat loss to PFAS contamination and heat island effects, the damage being done in the name of sustainability is both measurable and accelerating. And yet, our government agencies continue to promote these projects as evidence of progress.

The Productivity Commission has a moral and scientific obligation to confront this deceit. This submission does not oppose climate action, it demands genuine, scientifically defensible, ecologically sound, and community-led action. It demands honesty.

2. The Myth of Net Zero: A Dangerous Illusion

The premise of “net zero” is increasingly used to justify radical transformations of land use, energy systems, and industrial policy. But at its core, net zero is not true zero. It is a balancing act of emissions in which actual carbon output is allowed to continue as long as it is offset by questionable schemes such as carbon credits, afforestation promises, or emissions trading.

This framework enables governments and corporations to continue business as usual under a greenwashed label. It is not about eliminating emissions, it is about offsetting them with unverifiable schemes while ignoring the vast emissions embedded in the system itself.

Most emissions associated with renewable energy infrastructure are **never counted** in official government emissions inventories. These include:

1. **Mining and extraction of rare earth minerals** such as neodymium, dysprosium, cobalt, and lithium, often sourced from developing nations with lax environmental oversight and high emissions from diesel machinery.
2. **Transportation of mined materials** over long distances to processing plants and then to manufacturing facilities, often via shipping and trucking that emits CO₂ and other pollutants.
3. **Manufacturing of wind turbines, solar panels, and batteries**, which involves high-temperature smelting, chemical treatment, and resource-intensive factory processes.

4. **Construction of access roads, foundations, and transmission lines**, which involves the use of diesel-powered machinery and results in deforestation, soil disturbance, and loss of carbon-sequestering vegetation.
5. **Land clearing and ecological disturbance** caused by large-scale renewable developments, particularly in forested or high-biodiversity areas, which not only remove carbon sinks but also contribute to biodiversity loss.
6. **Maintenance operations** throughout the infrastructure lifespan, including transport of technicians and parts, which adds further operational emissions.
7. **Decommissioning and disposal at end of life**, especially for solar panels, turbine blades, and lithium-ion batteries, which are largely unrecyclable at scale and contain PFAS, heavy metals, and other hazardous substances.
8. **Replacement cycles every 20–25 years**, meaning the entire cycle of mining, manufacture, and disposal is repeated with each generation of infrastructure.

None of the above is genuinely accounted for in the carbon budget the public is told represents “net zero.” Instead, emissions are pushed offshore and off-the-books leaving Australians with the environmental costs and none of the truth.

According to research published in *Nature Communications*, lithium-ion battery components release toxic per- and polyfluoroalkyl substances (PFAS), contaminating water and soil globally (Guelfo et al., 2024). The environmental costs are neither minimal nor temporary they persist across decades and impact public health, agriculture, and biodiversity.

3. Australia's LNG Export–Import Contradiction

Australia is one of the world’s largest exporters of LNG. We ship gas to Asia, often under long-term export contracts, then find ourselves short of gas domestically, leading to the absurd scenario where import terminals are proposed in Victoria and New South Wales to re-import gas we extracted and exported. This madness comes with a carbon cost no one in power seems willing to address.

Emissions Breakdown (Export to Import Lifecycle):

1. **Extraction & Processing:** 19 gCO_{2e}/MJ
2. **Liquefaction:** 6 gCO_{2e}/MJ
3. **Shipping:** 1.6 gCO_{2e}/MJ
4. **Regasification:** 0.8 gCO_{2e}/MJ
5. **Combustion:** 51.5 gCO_{2e}/MJ
6. **Total:** ~72.9 gCO_{2e}/MJ or 72,900 tonnes CO_{2e} per PJ

These figures are sourced from The Australia Institute (2023), whose report makes clear the climate insanity of this practice (<https://australiainstitute.org.au/wp-content/uploads/2023/08/Report-Emissions-from-the-Tamboran-NT-LNG-facility-WEB.pdf>).

The implication of this emissions breakdown is staggering. At approximately 72.9 gCO_{2e} per megajoule (MJ), or 72,900 tonnes of CO₂ equivalent per petajoule (PJ), the export–import cycle of Australian LNG creates one of the most carbon-intensive fuel supply chains on the planet. To the general public, this means that by the time gas is extracted, liquefied, shipped

overseas, then bought back and regasified for domestic use, it has already released a massive volume of emissions before a single household or business burns it for heat or electricity. For context, this is equivalent to the annual emissions of over 15,000 cars for every petajoule. And yet, these emissions are mostly invisible in government reporting, excluded from Australia's domestic carbon accounting frameworks. Instead of reducing emissions, we are compounding them and doing so under the false narrative of “net zero.” The very idea that this process could be classified as part of a clean energy transition is a betrayal of public trust and environmental reality.

This strategy is a triple failure:

1. **Economic failure:** Australian consumers pay global prices for domestic resources, despite these being extracted on home soil.
2. **Energy security failure:** Local users compete with foreign buyers, leaving Australians vulnerable to artificial shortages and price shocks.
3. **Climate failure:** The emissions from exporting gas, then importing it back in, result in a carbon footprint that completely undermines any claimed progress toward net zero.

This is not simply bad economics, it is a case of deliberate policy distortion. While the public is told that LNG is a transitional fuel, the reality is that Australia's gas policy locks in long-term emissions and global market dependency. The circular logic of exporting gas, only to import it back at a premium, reflects a deeper structural failure in energy governance. This is not merely a policy oversight it is a systemic misalignment between national interest, emissions reduction, and energy sovereignty. True reform would prioritise domestic needs, transparent carbon accounting, and the use of local resources for local benefit.

Governments knowingly approved long-term LNG export contracts without reserving domestic supply, while regulators stood by as multinational gas companies dictated domestic pricing. Instead of renegotiating export volumes or mandating national interest provisions, governments have proposed **LNG import terminals** as a solution to the very shortages their policies created. This circular logic is not just inefficient — it is deceitful.

Worse still, this strategy is being sold as compatible with net zero objectives. Yet the import terminals themselves are high-emission infrastructure. They require significant dredging, marine disturbance, and fossil fuel combustion for regasification. At no point are these emissions factored into the carbon budget. The claim that this looped system of extraction-export-import-regasification “fits” within a net zero framework is scientifically false and publicly dishonest.

The Productivity Commission must not allow this deception to be greenlit under the guise of reform. A genuine net zero policy would prioritise domestic use of local energy, minimise transport and processing emissions, and eliminate the need to re-import what we already produce abundantly.

4. Industrial Renewable Expansion: Not Green, Not Sustainable

The industrial-scale rollout of renewable energy across Australia is being marketed as a climate solution, but in reality, it is driving widespread environmental destruction, economic loss, and social division. Beneath the rhetoric of “cheaper, cleaner energy” lies a trail of deforestation, biodiversity collapse, toxic waste, and climate-altering land-use changes that are neither accounted for in emissions models nor reflected in energy pricing.

4.1 Destruction of Native Forests and Habitats

Large wind and solar projects often require tens of thousands of hectares of land. This land is frequently acquired in regions with remnant vegetation, which serves as vital habitat for endangered species like the koala, greater glider, brolga, and numerous bird and bat populations. In Queensland, New South Wales, Victoria, and Tasmania, projects have led to significant clearing of native bushland, often in areas that have never been subject to agriculture or intensive development.

1. This clearing results in the direct loss of carbon sinks and ecosystem services.
2. Wildlife is displaced or killed, either through clearing itself or by the operation of infrastructure (e.g., blade strikes, habitat fragmentation).
3. Ecological corridors are severed, reducing species’ ability to migrate and adapt to climate pressures.

Numerous submissions to state planning authorities have pointed to breaches of the Environment Protection and Biodiversity Conservation (EPBC) Act, where approvals have proceeded without thorough fauna surveys or cumulative impact assessments.

4.2 The Photovoltaic Heat Island and Local Climate Impacts

Large solar arrays do not passively sit on the landscape. They absorb and radiate heat, altering local climate conditions. The Photovoltaic Heat Island Effect (PVHI) has been documented in peer-reviewed studies, including Barron-Gafford et al. (2016), which found that the temperature above solar arrays can exceed surrounding vegetation by 3–4°C.

These changes contribute to:

1. Increased local air and surface temperatures.
2. Disruption of rainfall patterns through altered convection and evapotranspiration cycles.
3. Increased fire risk in regions already suffering from prolonged drought.
4. Degradation of soil health and drying of wetlands and creeks downstream.

Yet these impacts are not assessed in environmental impact statements, nor are they reflected in regional climate models used to justify renewable project approvals.

4.3 Toxic Waste and PFAS Contamination

Renewables are not waste-free. Solar panels contain lead, cadmium, and in some models, PFAS — a class of “forever chemicals” now known to accumulate in ecosystems and pose

serious health risks. Lithium-ion batteries contain PFAS-based bis-FASI compounds (Guelfo et al., 2024), which are now being detected in water, soil, and even air.

1. There are no binding national recycling mandates for solar panels or batteries in Australia.
2. Wind turbine blades are composed of composite plastic and carbon fibre, shedding microfibres during use and accumulating in landfill at end of life.
3. These materials leach toxins into groundwater and can persist for centuries.

Despite this, the Clean Energy Regulator provides no public register of disposal plans or lifecycle waste management strategies for wind or solar projects.

(See Appendix A: “A Toxic Legacy in the Wind” for detailed analysis of blade erosion, microplastic release, and PFAS pollution associated with wind infrastructure.

4.4 Emissions Not Counted in the “Clean” Narrative

As noted in Section 2, the lifecycle emissions of so-called green energy are mostly excluded from national inventories. In particular:

1. Mining and processing of rare earths (e.g., neodymium, lithium, cobalt) is carbon-intensive and often involves coal-fired refining overseas.
2. Global shipping of materials and components results in huge emissions from bunker fuel.
3. Heavy diesel use during construction and maintenance further increases real-world emissions.
4. Infrastructure such as roads, substations, and transmission corridors destroy carbon-sequestering vegetation and release soil carbon.
5. These projects are rarely subjected to full-scope cradle-to-grave carbon audits.

This deliberate underreporting has allowed government reports and energy companies to claim progress on emissions reduction that is, in truth, a gross distortion of the facts.

4.5 Scale, Grid Congestion, and System Instability

The Productivity Commission suggests that scaling up renewables will deliver cheaper power. In reality, industrial-scale renewable rollout has already led to grid instability, overgeneration at certain hours, and curtailment costs that are passed on to consumers.

1. Renewable Energy Zones (REZs) are overwhelming existing transmission infrastructure.
2. Additional poles and wires are costing billions none of which is included in levelised cost of energy (LCOE) comparisons.
3. Backup and storage, including gas peakers and large-scale batteries, are still required and emit during peak load balancing.
4. Offshore wind, now being pushed in coastal REZs, will involve 300–400m turbines in marine habitats, threatening whale and dolphin migration through underwater noise and vibration.

All these factors combined undermine the claim that renewables offer a sustainable and efficient solution to decarbonisation. They reveal a model that is centralised, resource-intensive, and deeply reliant on fossil infrastructure to function.

4.6 A Model Built on Public Subsidies and Corporate Control

Most large renewable projects are not community-owned. They are financed and operated by foreign-owned corporations, superannuation funds, and multinationals with little accountability to local communities. Profits are privatised while losses environmental, financial, and social are borne by the public.

1. Transmission infrastructure is funded by taxpayers.
2. Landholders receive modest compensation while losing amenity, land value, and water access.
3. Communities are left with noise pollution, visual scarring, and increased fire and insurance risks.

This model is unsustainable, unjust, and environmentally reckless. A more equitable model is possible — one where communities are not passive recipients of external infrastructure but active participants in planning and benefit-sharing. Distributed energy systems, local cooperatives, and Indigenous-led energy projects have demonstrated that it is possible to decarbonise while empowering communities and protecting ecosystems. These alternatives deserve serious policy attention, not exclusion from decision-making.

The transformation agenda also includes vast wind and solar farms, along with new grid infrastructure. These developments result in mass land clearing, wildlife deaths, heat island effects, and irreversible damage to regional ecosystems.

Critical Points of Hypocrisy:

- **Deforestation for Solar/Wind Projects:** Thousands of hectares of bushland are cleared, destroying carbon sinks and displacing koalas, gliders, and endangered birds. A study by Northover et al. (2022) in *Austral Ecology* found that renewable projects were a growing cause of habitat fragmentation.
- **Heat Island Effects:** Large solar arrays alter local microclimates, increasing surface and ambient heat levels, contributing to rainfall disruption and regional drying. Barron-Gafford et al. (2016) confirmed this effect in arid environments.
- **Toxic Waste:** Solar panels and lithium-ion batteries contain PFAS and other toxic compounds that enter soil and water systems. No credible national decommissioning strategy exists. The Clean Energy Regulator does not yet have binding recycling targets.
- **Carbon Accounting Gaps:** Lifecycle emissions of renewables are not fully accounted for in national emissions inventories. Embodied emissions in manufacturing, transport, and decommissioning are typically excluded.

This calls into question the Commission's claim that such developments represent "cheaper, cleaner energy", when the carbon cost of land clearing, materials extraction, and international shipping is ignored, the claim collapses under scrutiny.

5. Community Exploitation and Regulatory Evasion

The so-called community engagement promoted under Australia's renewable transformation is largely a facade — a shallow procedural formality that masks deep structural injustices. Across every state and territory, regional and rural communities are being sidelined in favour of fast-tracked approvals and legislative changes that favour corporate developers. Rather than strengthening democratic planning processes, Pillar 5's current framework contributes to their erosion.

5.1 Fast-Track Approvals and the Bypassing of Local Voices

In Renewable Energy Zones (REZs), state governments have introduced planning amendments and special development pathways that allow large-scale energy projects to proceed with minimal scrutiny. Projects that would otherwise require years of ecological, hydrological, and cultural assessments are instead fast-tracked under the guise of 'climate urgency.'

1. Local councils and planning panels are often excluded from final decisions.
2. Environmental assessments are limited in scope, failing to account for cumulative impacts or cross-regional effects.
3. Communities are often only informed of decisions after key milestones have passed.

These mechanisms silence the very people who must live with the outcomes — noise pollution, land devaluation, increased fire risk, and fractured ecosystems. This has led to growing resistance in regions like the Southern Tablelands, Gippsland, and the Northern Rivers.

5.2 Coercive Contracts and Gag Clauses

Landholders approached by energy developers are frequently presented with non-negotiable terms. These contracts often include:

1. Confidentiality agreements that prevent open discussion with neighbours.
2. Indemnity clauses absolving developers of responsibility for damages.
3. Restrictions on future land use that affect farming, forestry, or water access.

In some cases, landholders have reported being misled about the scale of developments or the long-term implications of infrastructure on their land. In others, neighbour exclusion zones mean those adjacent to projects suffer impacts but receive no compensation.

5.3 Indigenous Displacement and Cultural Dismissal

Traditional Owners are being systemically sidelined in REZ planning. Indigenous land councils are consulted post hoc, often under rushed timelines that do not respect proper cultural decision-making processes.

1. Cultural heritage assessments are frequently desk-based, relying on incomplete mapping.
2. Opportunities for on-country assessment are restricted due to commercial timetables.

3. When objections are raised, they are typically overridden via ministerial call-ins or special legislative instruments.

This not only breaches the spirit of free, prior and informed consent — it undermines the truth-telling and treaty-making efforts currently underway across several jurisdictions.

5.4 Health, Amenity, and Mental Wellbeing

Communities living near industrial wind and solar developments frequently report elevated stress, insomnia, and anxiety linked to 24/7 turbine noise, strobe effects, and the sense of being ignored by state authorities.

1. Some residents have been forced to relocate due to intolerable amenity impacts.
2. Rural fire brigades express concern about turbine-related fire risk, yet receive inadequate training or equipment upgrades.
3. Psychological stress is compounded by perceived betrayal from government agencies and environmental groups who claim to represent them.

There is currently no national body monitoring the long-term social impacts of renewable projects.

5.5 Policy Bias Toward Industry and Away from Public Interest

The Renewable Energy Transformation is not a grassroots-led environmental movement. It is increasingly dominated by multinational developers, asset management firms, and offshore investors. These actors:

1. Shape legislation through targeted lobbying and influence over departmental strategy.
2. Receive guaranteed revenue streams via long-term energy supply agreements.
3. Operate with limited public transparency and minimal accountability.

The Productivity Commission's current approach appears to reinforce this power dynamic, with community interests treated as secondary to economic "efficiency."

5.6 Lack of Regulatory Oversight and Breach of Public Trust

Australia's regulatory frameworks are not keeping pace with the scale or ambition of energy transformation. Key issues include:

1. No independent federal agency tasked with auditing REZ planning processes.
2. Discrepancies between state legislation and federal environmental protections.
3. Developers operating under outdated or poorly enforced biodiversity offset rules.

As a result, large sections of the public now view the net zero rollout not as a solution to climate breakdown — but as a driver of corporate colonialism and environmental degradation.

6. Policy Recommendations

Australia is at a critical juncture in shaping its energy future. The Productivity Commission has a unique opportunity — and responsibility — to break from the political theatre of “net zero” and introduce scientifically rigorous, community-driven, and environmentally sound reforms. The following recommendations are not only necessary but urgent.

6.1 Cease LNG Import Terminal Approvals

1. No credible nation should export its own energy while facing domestic shortages and then import it back at a premium. This is an energy and emissions absurdity.
2. The carbon footprint of LNG import terminals is significant and includes dredging, marine disturbance, regasification, and pipeline construction.
3. The importation of gas undermines domestic sovereignty and market stability, locking Australians into global pricing systems instead of securing local affordability.

6.2 Mandate Full Lifecycle Emissions Accounting

1. Every renewable project must be assessed from cradle to grave — mining, refining, manufacture, transport, installation, operation, and decommissioning.
2. Lifecycle emissions must be publicly reported and subject to independent audit.
3. This requirement must apply equally to onshore wind, offshore wind, solar PV, batteries, and hydrogen infrastructure.

6.3 Enforce Land Clearing Transparency and Biodiversity Protection

1. No further clearing of remnant forests or endangered species habitat should occur in the name of renewable energy.
2. All proposed clearing must be published online in an accessible register with supporting GIS maps and biodiversity loss estimates.
3. No offset schemes should replace physical habitats unless equivalency is proven by independent ecological review.

6.4 Institute Domestic Energy Prioritisation

1. Reserve a fixed percentage of Australian gas and electricity for domestic use, as Western Australia has done successfully.
2. Require energy developers to prove surplus capacity exists before exporting.
3. Apply national interest tests to all future energy export proposals.

6.5 Pause Industrial Renewable Energy Zone (REZ) Expansion

1. Suspend new REZ approvals until cumulative impact studies, full fauna surveys, Indigenous consultation, and community wellbeing assessments are completed.
2. Establish independent review panels for all existing REZs to reassess environmental and social impacts.
3. Require REZ developments to meet biodiversity, cultural heritage, and carbon footprint criteria, or face cancellation.

6.6 Establish National Recycling, Waste, and Toxins Regulations

1. Mandate industry-funded recycling of solar panels, batteries, and wind turbine blades.
2. Ban the use of PFAS and other persistent toxins in renewable infrastructure.
3. Require all companies to submit decommissioning and waste management plans prior to project approval.

6.7 Justify the Urgency of Reform

1. Australia's land, water, and ecosystems are reaching tipping points due to cumulative stress from industrial energy development.
2. If current policy trajectories continue unchecked, irreversible damage will occur — to biodiversity, food security, and social cohesion.
3. The Productivity Commission must act decisively, not as an economic advisor to markets, but as a protector of Australia's environmental legacy and democratic integrity.

6.8 Require Proponent-Funded Decommissioning Trusts

1. One of the most alarming policy oversights in Australia's energy transformation is the complete absence of enforceable provisions for the decommissioning of renewable energy infrastructure. There is no mandated requirement for proponents to restore land, remove hazardous materials, or remediate ecosystems post-closure. The result is an unfunded liability of unprecedented scale.

This failure to plan for end-of-life management will inevitably leave communities, local councils, and taxpayers to foot the bill. The financial burden on farmers, ratepayers, and state budgets could be devastating especially when compounded by widespread rural land degradation and infrastructure abandonment.

The solution is simple and non-negotiable: all project proponents must be required to pay a substantial decommissioning levy held in a government-managed trust prior to construction. This levy must be based on full lifecycle environmental costings, not speculative future market returns. It must be legally protected, indexed, and independent of corporate solvency.

If Australia continues down this current path without such safeguards, it is not only enabling environmental vandalism, it is actively engineering a future financial crisis.

Only by implementing these recommendations can the Commission hope to restore public trust, uphold environmental law, and deliver a genuinely sustainable energy transition.

7. Conclusion

Australia's current energy transformation policies are not evidence-based responses to the climate crisis, they are the product of political expedience, corporate influence, and systemic deceit. The public has been misled into believing that wind, solar, and transmission expansion constitute a clean and virtuous path to decarbonisation. But as this submission has

documented, these developments are responsible for widespread deforestation, biodiversity loss, pollution from toxic materials, energy instability, and unchecked emissions.

The Productivity Commission's framing of Pillar 5 reflects a troubling lack of scientific integrity. It fails to acknowledge:

1. That emissions from mining, transport, manufacture, and waste of renewable energy infrastructure are largely uncounted.
2. That forest and wildlife destruction is occurring at scale to make way for so-called green projects.
3. That public money is being siphoned into transmission corridors and offshore wind schemes that are unproven, destructive, and economically unsound.
4. That the communities most affected — rural Australians, Traditional Owners, farmers, and wildlife — are excluded from meaningful consultation.

This is not a transition. It is a takeover, one that replaces fossil fuel dominance with a new kind of industrial colonisation, where centralised corporate energy infrastructure is imposed on landscapes and lives without consent or credible environmental oversight.

The deceit is compounded by greenwashing campaigns and manipulated carbon accounting. If the same carbon footprint used to discredit fossil fuels were honestly applied to renewables, these developments would not pass basic environmental muster. Research from Guelfo et al. (2024) and others has revealed that lithium-ion battery components alone release hazardous PFAS chemicals into air, soil, and water. Barron-Gafford's work on heat islands shows real-world climatic harm. The Australia Institute has calculated the staggering carbon inefficiencies in LNG policy. Yet all of this is absent from official government narratives.

What is needed now is not more announcements or consultations — it is honest reckoning. A national moratorium on new REZ approvals, a halt to LNG import infrastructure, and the immediate implementation of lifecycle emissions accounting are the bare minimum starting points.

Australia has the scientific knowledge, legal frameworks, and public will to correct course. What we lack is courage at the institutional level. It is not anti-renewables to demand scientific honesty and environmental accountability it is pro-planet. A transition based on incomplete data and corporate convenience cannot deliver a sustainable future. We must reclaim the meaning of sustainability as something more than megawatt targets and investor confidence it must mean ecological stability, social justice, and intergenerational responsibility.

The Productivity Commission must reclaim its integrity and stop lending legitimacy to policies that violate both science and public trust.

There is no environmental justice in land theft, no climate solution in lies, and no sustainability in destruction. It is time to stop pretending otherwise.

This submission is made with urgency and unwavering conviction and is supported by Appendix A, "*A Toxic Legacy in the Wind*," which provides comprehensive scientific and observational evidence of the long-term environmental consequences of current green energy practices.

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APPENDIX A

‘Appendix A’ provides a detailed breakdown of the microplastic, PFAS, and toxic pollution associated with wind turbine operations and decommissioning, supported by over a dozen peer-reviewed sources and global datasets.

Title: A Toxic Legacy in the Wind: The Hidden Fallout of ‘Green’ Energy

Green is no longer a colour of hope—it’s a smokescreen. Wind and solar energy projects are accelerating environmental collapse while selling us the lie of sustainability.

By Dr Anne S Smith

The Rising Number of Wind Turbines

As of 2025, Australia has approximately **3,068 wind turbines** in operation, with numerous additional projects under construction or approved across key agricultural and biodiversity-rich regions. Globally, there are over **380,000 wind turbines** in operation, including more than **6,000 offshore units**, with the number steadily increasing due to aggressive international efforts to meet "net zero" carbon emissions targets.. Offshore wind installations are also growing rapidly, with thousands of additional turbines planned or under construction in marine zones, including within Australian waters.

The scale of this rollout is not slowing. Under the guise of climate responsibility, vast tracts of land and ocean are being industrialised with minimal scrutiny of full lifecycle environmental impacts.

What Are These Turbines Shedding? Microplastics and PFAS

Wind turbine blades, often over 80 metres long, are constructed from materials such as fibreglass, epoxy resins, nano-silica, and PFAS-laden polymers. As blades rotate thousands of times each day, they suffer leading-edge erosion from wind, rain, dust, and UV exposure. This constant friction causes the blades to shed fine microplastic particles and toxic chemical fragments into the environment.

Each turbine is estimated to shed between 82 and 250 kilograms of microplastic-laden debris per year, depending on environmental exposure and turbine location. Onshore turbines typically release around **82 kg annually**, while offshore turbines—exposed to harsher salt, wind, and UV conditions—can shed up to **250 kg per year**. With over **383,000 turbines operating globally** in 2025, including more than **6,000 offshore units**, the **total annual microplastic pollution from blade erosion now exceeds 383,000 tonnes**. These synthetic fragments are microscopic, easily airborne or waterborne, and virtually impossible to recover once released—creating a permanent, invisible layer of contamination across ecosystems worldwide.

Toxic Impact: What These Particles Do

The microplastic particles released from turbine blades are synthetic materials that do not break down. They accumulate in soil, water, and air, and have now been found in human lungs, bloodstreams, placentas, and even breast milk. These substances are linked to inflammation, respiratory distress, endocrine disruption, and long-term health issues.

PFAS, or per- and polyfluoroalkyl substances, are industrial chemicals used to make materials resistant to heat, oil, stains, and water. They are virtually indestructible, earning the name "forever chemicals." Once in the environment or human body, PFAS persist and accumulate over time. They have been connected to cancer, thyroid disorders, reduced immunity, hormonal imbalance, infertility, and developmental abnormalities in children.

Nano-silica and fibreglass dust pose yet another hazard. These fine particles are easily inhaled, damaging respiratory systems in both humans and wildlife. They can lead to chronic inflammation, exacerbate asthma and other conditions, and affect birds, mammals, and marine life that come into contact with them through air or water.

Together, these substances form a cocktail of irreversible contamination. They infiltrate food chains, damage organs, compromise reproduction and development, and silently degrade the health of entire ecosystems.

How Far Do These Toxins Spread?

The dispersal of microplastics and PFAS is global and unavoidable.

Fine particles released from turbine blades are easily lifted by the atmosphere and carried by trade winds and jet streams. These particles can travel across oceans and continents, eventually falling with rain or snow in remote mountaintops, agricultural regions, and even the polar ice caps. Urban air quality studies now regularly detect microplastics in major cities.

Marine ecosystems are similarly under threat. Offshore wind turbines directly shed into ocean environments. Ocean currents such as the East Australian Current spread these microplastics and toxins far and wide, infiltrating coral reef systems, marine nurseries, and whale migration corridors. This leads to ingestion by fish and larger predators, threatening biodiversity and food safety.

The spread does not stop at water and air. Rain carries these contaminants into soil and groundwater, affecting agriculture, livestock, and food security. Once in the environment, these substances cannot be removed. They accumulate year after year, compounding the damage and further stressing ecological balance.

Decommissioning: A Second Environmental Crisis

Wind turbines have a typical operational life of 20 to 25 years. As the global turbine fleet ages, a new crisis looms: disposal.

Most turbine blades are landfilled, a process that involves burying massive toxic structures in pits where their chemicals leach into surrounding earth and groundwater. Others are incinerated, releasing additional microplastics and chemical residues into the air.

Some blades are stockpiled in open-air dumps, left to degrade slowly over decades. So-called recycling is minimal and often amounts to downcycling, where blades are shredded and used as filler in construction materials, simply transferring the contamination from one place to another.

There is no clean or green solution currently available for disposing of turbine blades at scale. This looming waste problem is being ignored in the rush to expand so-called renewable energy infrastructure.

The Bigger Picture: Cumulative Ecological Collapse

Wind energy's destructive legacy is not isolated. Across the globe, green-labelled energy projects are wreaking environmental havoc.

Remnant forests are being levelled to make room for vast wind and solar farms. Habitat fragmentation is pushing countless species toward extinction. Wildlife corridors are cut off, migratory paths disrupted, and ecosystem connectivity severed.

Mining rare earth minerals for batteries, solar panels, and turbine components is contaminating water sources and draining aquifers. Large-scale battery storage systems are introducing additional fire, chemical, and groundwater pollution risks. Solar panels, like turbine blades, also contain PFAS and other toxic compounds that leach into the environment when damaged or disposed of.

To compound the problem, Australia—and many other countries—are failing to count carbon emissions correctly. Lifecycle emissions from production, construction, land clearing, and disposal are often ignored or deliberately excluded from official reporting. The result is a deceptive illusion: a net-zero narrative that does not stand up to environmental reality.

What governments and corporations call net-zero is, in practice, a net environmental loss. The emissions saved by removing fossil fuels are being offset by irreversible environmental degradation. There is nothing green about mass deforestation, wildlife collapse, chemical contamination, PFAS proliferation, and oceanic plastic fallout.

These impacts are not theoretical. They are happening now. And they are cumulative—intensifying with every new project approved under the banner of sustainability.

Conclusion: The Wake-Up Call

We are not saving the planet. We are reshaping it into an industrial wasteland, where the damage cannot be undone. The contamination from turbine blade erosion and green energy infrastructure is not reversible. It is now a permanent layer in the Earth's air, oceans, and soil.

True environmental leadership demands truth. We must confront the full lifecycle costs of all energy sources and stop hiding behind green branding while the planet is poisoned in plain sight.

There is nothing clean about the pollution blanketing our skies. There is nothing sustainable about sacrificing biodiversity for corporate agendas. The wind may be clean, but what it carries is anything but.

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