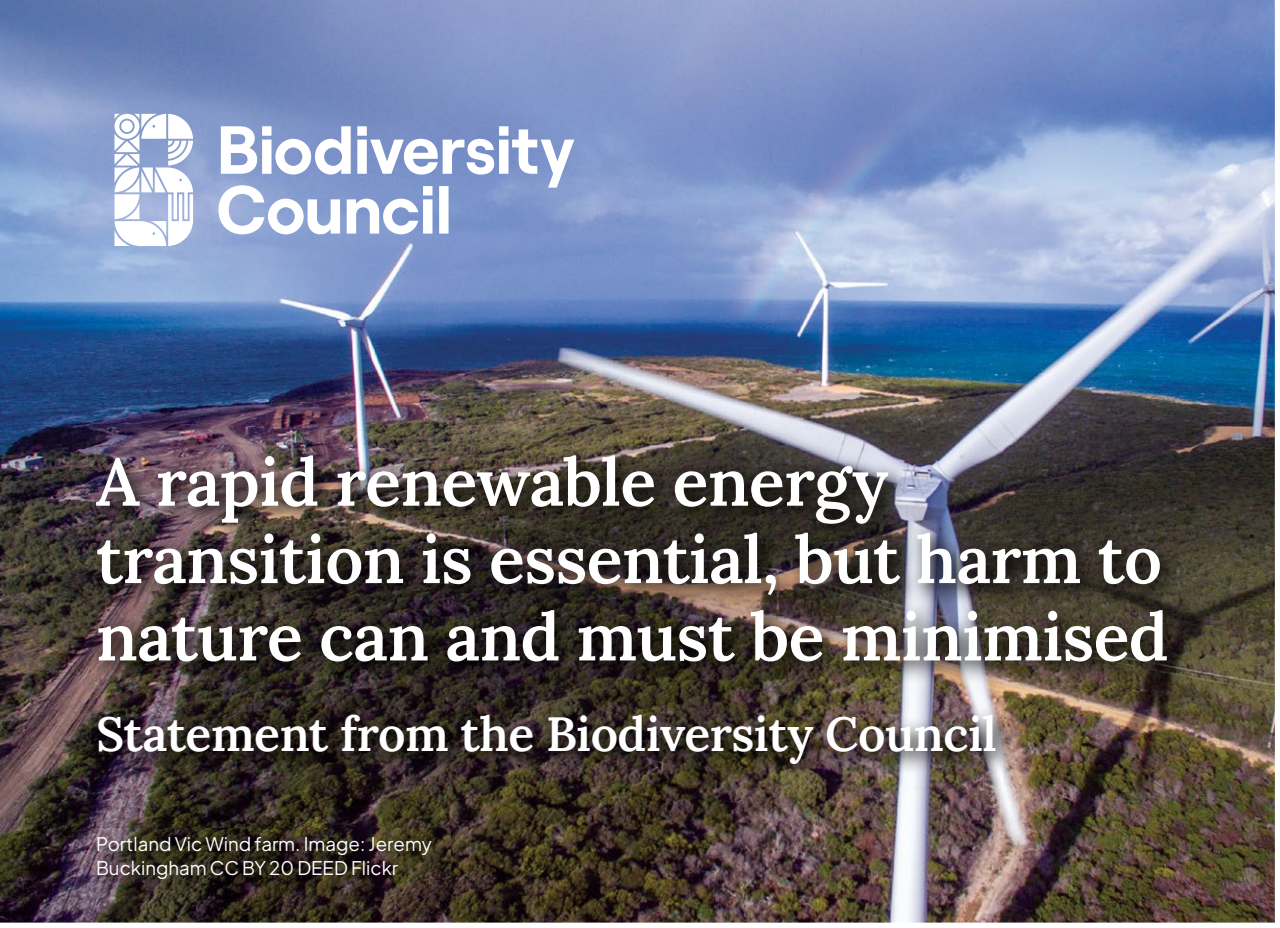
Biodiversity Council

A rapid renewable energy transition is essential, but harm to nature can and must be minimised

Statement from the Biodiversity Council



Portland Vic Wind farm. Image: Jeremy Buckingham CC BY 20 DEED Flickr

The Biodiversity Council is an independent expert group founded by 11 Australian universities to promote evidence-based solutions to Australia's biodiversity loss crisis.

According to the independent expert group:

The continued rollout of renewable energy projects is the only viable solution available to cut climate-harming carbon emissions from electricity production in the rapid time frames required.

Renewable energy projects can harm the environment and heritage values, but their impacts can be reduced to acceptable levels through appropriate site selection and operation.

Currently, conflicts are arising between renewable energy project proposals and other stakeholders due to insufficient strategic planning and regulatory leadership from state, territory, and federal governments.

Strategic regional planning and new investment in transmission infrastructure into low-nature impact areas should be used to guide developers to locations that minimise unnecessary harm, such as already cleared or degraded land.

Planning for transmission infrastructure and new renewable energy projects must consider natural, agricultural, cultural, and social values, and involve community consultation.

Over the life of projects, there are many opportunities to avoid, minimise or mitigate impacts to wildlife.

For example, in windfarm operations, curtailment (reducing turbine speed) during particular times or wind speeds has been found to be highly effective at reducing the mortality of birds and bats.

Operational standards for curtailment should be developed and required for all new projects.

The on-going operation of renewable energy projects should be regulated through licences, as per other industries that have the potential to harm the environment and require state based epa licences.

Licence conditions should set clear requirements around acceptable impact levels of wildlife mortality and displacement. On-going monitoring is needed to demonstrate compliance and inform improvements in operation.

Further investment is needed in data collection and mapping of biodiversity and other values with which to undertake community (local) consultation to underpin participatory planning.

Research is needed to refine operational standards for wind power projects to efficiently reduce bird and bat mortalities, taking into account energy production and commercial objectives.

Solar panels mixed through agricultural land in Spain. Image: Mark Stebnicki/Pexels

Supplementary evidence

Research shows that the natural world will suffer catastrophic impacts and extinctions will accelerate rapidly if global temperatures exceed 1.5°C above pre-industrial levels. Under the highest-emission scenario, approximately one-third of species globally are at risk of extinction, and Australia is among the countries that will be impacted the hardest.[1]

Bats are important long-distance pollinators, seed-dispersers and controllers of invertebrate pests. They are long-lived, and slow to reproduce, so recovery from population declines is difficult. Wind turbines pose a serious threat to bats, which can die from hitting the blades. Research has found that restricting blade rotation during low winds (e.g., less than 7 m/second) can reduce bat mortality by 44–93% with only minimal loss of energy generation (typically less than 4%). This is because low winds are when bats move most, and energy generation potential is lowest. [2] [3]

ABOUT THE BIODIVERSITY COUNCIL

The Biodiversity Council's mission is to be a trusted expert voice communicating accurate information on all aspects of biodiversity to the Australian people, to ensure biodiversity and Country prosper.

Our Biodiversity Councillors are leading experts, in science, Indigneous knowledge, law, policy, economics, behaviour change and communications.

We drive action on biodiversity by increasing public, political and industry understanding of problems and support for evidence-based solutions.

REFERENCES

1 Urban, M. C. (2024). Climate change extinctions. Science. https://doi.org/adp4461

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3 Whitby, M. D., Hein, C. D., Huso, M., & Frick, W. F. (2024). A decade of curtailment studies demonstrates a consistent and effective strategy to reduce bat fatalities at wind turbines in North America. Ecological Solutions and Evidence, 5(3), e12371. https://doi.org/10.1002/2688-8319.12371

The Biodiversity Council brings together leading experts including Indigenous Knowledge holders to promote evidence-based solutions to Australia's biodiversity crisis. It was founded by 11 universities including its host the University of Melbourne, with support from The Ian Potter Foundation, The Ross Trust, Trawalla Foundation, The Rendere Trust, Isaacson Davis Foundation, Coniston Charitable Trust and Angela Whitbread.