

Renewable energy developments threaten biodiverse areas

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Guanacos in Chilean Patagonia. One of the last remaining wilderness areas left in the region. Credit: Francisca Hidalgo

More than 2000 renewable energy facilities are built in areas of environmental significance and threaten the natural habitats of plant and animal species across the globe.

A University of Queensland research team mapped the location of solar, wind and hydropower facilities in wilderness, protected areas and key [biodiversity](#) areas.

UQ School of Earth and Environmental Sciences lead author Mr José Rehbein said he was alarmed by the findings.

"Aside from the more than 2200 renewable [energy](#) facilities already operating inside important biodiversity areas, another 900 are currently being built," Mr Rehbein said.

"Energy facilities and the infrastructure around them, such as roads and increased [human activity](#), can be incredibly damaging to the natural environment.

"These developments are not compatible with biodiversity conservation efforts."

The majority of renewable energy facilities in western Europe and developed nations are located in biodiverse areas.

Mr Rehbein said there is still time for developers to reconsider facilities under construction in Asia and Africa.

University of Amsterdam senior author Dr. James Allan said effective conservation efforts and a rapid transition to renewable energy was essential to prevent species extinctions and avoid catastrophic climate change.



Nai 3, 180 MW hydropower plant, Vietnam. One of a series of 5 hydropower dams built along Nai river in the Cat Tien National Park and UNESCO biosphere reserve. The pictures are from 1996 and 2017 from left to right. Credit: Google Earth

"The entire team agree that this work should not be interpreted as anti-renewables because renewable energy is crucial for reducing carbon emissions," Dr. Allan said.

"The key is ensuring that renewable energy facilities are built in places where they do not

damage biodiversity.

"Renewable energy developments must consider biodiversity as well as carbon, and avoid any negative impacts on biodiversity to be truly sustainable."



Corredor de Senandes IV, 30 MW wind power plant, Brazil. Built on Banhado do Maçarico Key Biodiversity Area (Important Bird Area, IBA). The pictures are from 2006 and 2018 from left to right. Credit: Google Earth

The team urge governments, industry and development organisations to avoid expanding renewable energy facilities into conservation areas and plan for alternative locations.

The research paper has been published in *Global Change Biology*.

More information: Jose A. Rehbein et al, Renewable energy development threatens many globally important biodiversity areas, *Global Change Biology* (2020). DOI: [10.1111/gcb.15067](https://doi.org/10.1111/gcb.15067)

Provided by University of Queensland

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