

# Nuclear should be in the energy mix for biodiversity

December 15 2014, by Robyn Mills

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Leading conservation scientists from around the world have called for a substantial role for nuclear power in future energy-generating scenarios in order to mitigate climate change and protect biodiversity.

In an open letter to environmentalists with more than 60 signatories, the scientists ask the environmental community to "weigh up the pros and cons of different [energy sources](#) using objective evidence and pragmatic trade-offs, rather than simply relying on idealistic perceptions of what is 'green' ".

Organised by ecologists Professor Barry Brook and Professor Corey Bradshaw and from the University of Adelaide's Environment Institute, the letter supports their recent article 'Key role for [nuclear energy](#) in global biodiversity conservation', published in the journal *Conservation Biology*.

"Full decarbonisation of the global electricity-generation sector is required soon to avoid the worst ravages of [climate change](#)," says Professor Bradshaw, Director, Ecological Modelling at the Environment Institute and recently appointed Sir Hubert Wilkins Chair of Climate Change.

"Biodiversity is not only threatened by climate disruption arising largely from fossil-fuel derived emissions, it is also threatened by land transformation resulting from [renewable energy sources](#), such as flooded areas for hydro-electricity, agricultural areas needed for biofuels and

large spaces needed for wind and solar farms."

In the article, the researchers evaluated land use, emissions, climate and cost implications of three different [energy](#) scenarios: 'business as usual' fossil-fuel dominated; a high renewable-energy mix excluding nuclear; and an energy mix with a large nuclear contribution plus some renewable and fossil-fuel sources.

They also used "multi-criteria decision-making analysis" to rank seven major energy types based on costs and benefits, testing the sensitivity of their rankings to bias stemming from philosophical ideals.

"When compared objectively with renewables, nuclear power performs as well or better in terms of safety, cost, scaleability, land transformation and emissions," says Professor Barry Brook, Chair of Climate Change at the Environment Institute for this study, and now Professor of Environmental Sustainability at the University of Tasmania.

"Not only does next-generation nuclear power provide emissions-free electricity, it is a highly concentrated energy source that consumes legacy waste and minimises impacts to biodiversity compared to all other energy sources."

They argue that there is strong evidence for supporting advanced [nuclear power](#) systems with complete fuel recycling as part of a portfolio of sustainable energy technologies that also includes appropriate use of renewables, energy storage and energy efficiency.

"Idealised mixes of nuclear and renewables are regionally dependent, and should be compared objectively without prejudice or preconceived notions of what is 'green'," says Professor Bradshaw.

The letter is published on [ConservationBytes.com](http://ConservationBytes.com) and

[BraveNewClimate.com](https://bravenewclimate.com).

**More information:** "Key role for nuclear energy in global biodiversity conservation." *Conservation Biology*. doi: 10.1111/cobi.12433

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