UNIVERSITY of TASMANIA

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Leading academic: Nuclear must be in the energy mix

Leading scientists have urged environmentalists to recognise and support the role nuclear power can play in battling climate change and protecting biodiversity.

More than 65 conservation scientists from 14 countries have signed an open letter to environmentalists urging them 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'".

The letter was organised by University of Tasmania Professor of Environmental Sustainability Barry Brook and Professor Corey Bradshaw, of the University of Adelaide. It supports their article, '*Key role for nuclear energy in global biodiversity conservation',* published in *Conservation Biology*.

"If human kind is to avoid a potential biodiversity disaster due to climate change, we will need to use all of the tools at our disposal, including nuclear power," Professor Brook said.

"Full decarbonisation of the global electricity-generation sector is required within the next few decades to avoid the worst ravages of climate change."

Professor Brook said biodiversity was threatened not just by emissions but also by land transformation resulting from energy sources such as flooded areas for hydro-electricity, agricultural areas needed for biofuels and large spaces needed for wind and solar farms.

"We evaluated land use, emissions, climate and cost implications of three different scenarios: business as usual, high-renewable energy mix excluding nuclear, and an energy mix with a large nuclear contribution plus renewables and some fossil-fuel sources," he said.

"And we used 'multi-criteria decision-making analysis' to rank seven major energy types based on economic and safety costs and environmental benefits, testing the sensitivity of their rankings to philosophical bias."

Although the environmental movement had historically rejected it, the reality was that nuclear power performed as well or better than other options in terms of safety, cost, scaleability, reliability, land transformation and emissions.

“There is strong evidence for supporting advanced nuclear power systems with complete fuel recycling as part of a portfolio of sustainable energy technologies,” Professor Brook said.

“We must accept that trade-offs and compromises are inevitable and require advocating energy mixes that minimize net environmental damage.”

“The environmentalist mantra on energy needs to shift from ‘100% renewables’ to ‘0% fossil fuels’.”

The *Conservation Biology* article, *‘Key role for nuclear energy in global biodiversity conservation’* can be viewed here:
http://onlinelibrary.wiley.com/doi/10.1111/cobi.12433/full

The open letter to environmentalists can be viewed here:
http://bravenewclimate.com/2014/12/15/an-open-letter-to-environmentalists-on-nuclear-energy/

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