

New study re-writes the rules of carbon analysis

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Credit: Heather Keith

A new study published today in *Nature Climate Change* has found

analyses of carbon emissions may be misleading as they failed to include the impacts of policies such as trading schemes, emission caps or quotas.

"The inclusion of policy mechanisms can radically alter the outcomes from life-cycle analyses and result in counter-intuitive outcomes," said Associate Professor Andrew Macintosh from The Australian National University (ANU) College of Law, lead author of the study.

"Traditional life-cycle analysis would find a person who regularly eats beef and builds their house with bricks and mortar has a greater impact on the [climate](#) than a vegan with a wooden house.

"But when the impacts of policy mechanisms are accounted for, the simple dichotomies that so often characterise climate debates like 'lentils good, beef bad' and 'wood good, cement bad' become impossible to maintain."

The paper develops a new framework for evaluating the impacts of policy mechanisms in life-cycle analysis and applies it to the issue of whether it is better for the climate to conserve native forests or to harvest them sustainably to produce [wood products](#).

Contrary to the findings of many previous life-cycle analyses, the study found that, when policy effects are accounted for, conserving the native forests of southeast New South Wales resulted in better climate outcomes than if they continued to be sustainably harvested.

"The results showed that conserving the native forests resulted in significant reductions in domestic [emissions](#) over the 100-year projection period; 79 to 85 million tonnes of carbon dioxide equivalent, or almost 15 per cent of Australia's current annual emissions," said co-author Professor David Lindenmayer, from ANU Fenner School of Environment and Society.

"The simplest explanations for why conserving native forests reduces emissions is that, when these forests are harvested, only a small proportion of the biomass finds its way into long-lived wood products and burning wood does not generate much energy.

"The applicable policy mechanisms magnify these factors by shielding Australia from the emissions embodied in substitute imported [wood](#) products and ensuring that, when [native forests](#) are burnt for electricity, it displaces other types of renewable energy generation like wind and solar rather than fossil fuels," he said.

More information: Rethinking forest carbon assessments to account for policy institutions, *Nature Climate Change* (2015) [DOI: 10.1038/nclimate2695](#)

Provided by Australian National University

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