

## Dirty hydros

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Philip Fearnside believes emissions from reservoirs should be included in calculations of a country's carbon budget. But the claim that hydropower projects are net producers of greenhouse gases is not correct (26 February, p 8). Carbon released from reservoirs is part of the "contemporary" carbon cycle, as it was recently drawn from the atmosphere by photosynthesis. In principle it is no different to the release of carbon dioxide by humans when we oxidise our food to produce energy.

Increases in the contemporary carbon cycle are important but short-lived. They should not divert attention from the main problem, which is the addition of fossil carbon to the atmosphere.

*Philip Fearnside writes:*

While CO<sub>2</sub> that has been derived from photosynthesis in the reservoir - by plankton, for example - is indeed part of the "contemporary carbon cycle", these releases are not counted in my analysis.

What do count as net contributions to global warming are two other sources. One is carbon released from the above-water decay of trees left standing in reservoirs when they are initially flooded. These trees are not replaced by new ones when they die. The other source is methane released from the water, mainly at the turbines and spillways. The continual conversion of CO<sub>2</sub> from the atmosphere into methane, which occurs through anaerobic decay of submerged vegetation, represents a boost to global warming that is not part of the contemporary carbon cycle. See <http://philip.inpa.gov.br> for detailed calculations.

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<http://www.newscientist.com/article/mg18624940.200.html>