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German Study Questions Eco-Friendliness of Plants

Großansicht des Bildes mit der Bildunterschrift: Do trees and plants give up more greenhouse gas then they absorb?

The protective qualities of plants against the effects of air pollution have been called into question by a German study that says that while they absorb pollutants, they also release methane gas.

Plants have long been seen as organisms that help to rid the globe of harmful carbon dioxide and, in turn, reduce the effects of cars, trucks and industrial plants. But all may not be quite like that.

Scientists at Germany's Max-Planck-Institute in Heidelberg, Germany, have found out that plants produce methane, considered one of the earth's major greenhouse gases, which lock the sun's energy inside the earth's atmosphere.

"We have made the discovery that plants under normal environmental conditions ... produce methane and emit it into the atmosphere," said Frank Keppler, who directed the research team's laboratory studies. "We have done rough calculations on a global scale and have estimated that it could be a really major source of atmospheric methane."

It has been widely held that methane gas is produced primarily in areas of low oxygen levels such as swamps and rice paddies where bacteria act upon vegetable matter. Farm animals like cows and sheep release gas as part of their digestive processes.

A threat to carbon trading?

Bildunterschrift: Großansicht des Bildes mit der Bildunterschrift: The Kyoto Protocol allows countries to balance air pollution with tree planting or reforestation

The discovery appears to threaten the principle of carbon trading, where greenhouse gas emissions can be balanced against tree planting or reforestation programs, a mainstay of the Kyoto Protocol

environmental treaty.

The Max-Planck-Institute report brings agreements like the Kyoto accord into question since the role of trees and other plants in pulling harmful carbon dioxide from the air may be countered by their methane production.

"If it turns out that methane emissions are important here, that would then need to be monitored," said Halldor Thorgeirsson, the deputy executive to the United Nations Climate Change Secretariat. "And only when that has happened do we know how this will change the balance of the benefit of the forests to the protection of the climate."

But Thorgeirsson advised caution when drawing conclusions from a study that raises questions about Kyoto and whether forests produce more greenhouse gas then they capture.

"The methods to actually quantify the emissions and remove also greenhouse gases are quite rigorous," Thorgeirsson said. "We do have a process to actually take into account new scientific findings."

More research needed

 *Bildunterschrift: Großansicht des Bildes mit der Bildunterschrift: Don't give up yet the idea of adding more green to the yard or neighborhood*

Thorgeirsson and Keppler agreed that more research on plant-produced methane is needed on a broader scale and in the field in real-life environments. Keppler's research team estimates that methane emissions from plants just slightly diminishes the effects of reforestation programs.

"The climate benefits through carbon sequestration by reforestation far exceed that relatively small, negative effect," Keppler said.

Thorgeirrson said he expects the Max-Planck-Institute study to trigger more research.

"So far, this study does not fundamentally alter the way we look at forests," he said. "Forests have a lot of other benefits in term of biodiversity, conservation, in terms of water recycling and a lot of other benefits, and one has to weigh all those benefits together."

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