

# Researchers to curb CO<sub>2</sub> emissions

April 2 2008

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Carnegie Mellon University's Chris T. Hendrickson and H. Scott Matthews along with Alex Carpenter and Heather MacLean of the University of Toronto challenge Canadian officials to take the lead in eliminating dangerous carbon dioxide emissions that fuel global warming.

The researchers found that farming and power generation are the largest sources of Canadian carbon dioxide emissions per dollar output, according to research by Carnegie Mellon's Green Design Institute and the University of Toronto's Department of Civil Engineering.

"This new modeling tool shows the dominance of electricity generation and it means that Canadians need to put a higher priority on our strategy for supplying our electricity needs," said MacLean, an associate professor at the University of Toronto. "Burning more coal without carbon capture and storage will just increase our greenhouse gas emissions, taking us in the wrong direction."

To help keep the world on the right path for energy conservation and reduced emissions, the international Kyoto protocols of 1997 asked the industrialized nations of the world to reduce greenhouse gas emissions by 2012. Because burning coal creates power and releases gases that help drive global warming, scientists are trying to develop alternative fuels and solutions to stem the tide of global warming that threatens to disrupt lives everywhere.

"We developed an environmental impact model that will enable

Canadians to see what can be done to meet the Kyoto protocol as well as examining the environmental implications consumers choose to make,” said Hendrickson, a professor in Carnegie Mellon’s Civil and Environmental Engineering Department and co-director of the Green Design Institute, a major interdisciplinary education and research effort to impact environmental quality through green design.

The environmental impact model is based on a comprehensive economic input-output table that represents the 2002 Canadian economy. The model, which includes the 10 leading Canadian sectors contributing to the nation’s largest carbon dioxide emissions, is available on the Web at [www.eiolca.net](http://www.eiolca.net). The model shows the emissions for all sectors in the supply chain.

“We have been using a similar input-output model for the U.S. economy for nearly a decade, and have conducted environmental studies of alternative fuels and green buildings with more than one million different uses of the model,” said Hendrickson, who plans to develop other country models to compare and track the perils of dangerous CO<sub>2</sub> emissions globally.

Source: Carnegie Mellon University

Citation: Researchers to curb CO<sub>2</sub> emissions (2008, April 2) retrieved 3 May 2024 from <https://phys.org/news/2008-04-curb-co2-emissions.html>

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