

Carbon taxes are the answer to the stalled climate negotiations

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For global warming policy, the 2009 United Nations Climate Change Conference (Copenhagen Summit) was a major disappointment. Designed to negotiate a successor to the Kyoto Protocol, which expires in 2012, the Summit concluded without a binding agreement because of deep divisions on the distribution of emissions reductions and costs. In addition, the United States failed to take action on a carbon cap-and-trade bill in 2010. Confronting this policy vacuum, leading climate economist William Nordhaus argues in the *Bulletin of Atomic Scientists*, published today, that carbon taxes are the best approach to achieve significant emissions reductions.

William Nordhaus argues that the cap-and-trade approach used in the 1997 [Kyoto Protocol](#) will not accomplish the goals of slowing climate change. As currently designed, it is both economically inefficient and ineffective and should be supplemented or replaced. Additionally, a carbon tax could be a useful means to cut budget deficits while meeting environmental objectives.

Emissions of [carbon dioxide](#) are externalities - social consequences not accounted for in the market place. They are market failures because people do not pay for the current and future costs of their emissions.

"If economics provides a single bottom line for policy, it is that we need to correct this market failure by ensuring that all people, everywhere, and for the indefinite future, face a market price for the use of carbon that reflects the social costs of their activities," Nordhaus states.

He says that it is necessary to raise the price of carbon to implement carbon policies so that they will have an impact on everyday human decisions, and on decision makers at every level in every nation and sector. At present, incentives and levels of involvement vary, and where some countries have implemented strong emission control measures, they only cover a limited part of national emissions. For example, the European Trading Scheme – Europe's effort to initiate a cap-and-trade structure – covers only about half of EU emissions.

Economic evidence suggests the cost of this limited participation is high. Participation will have to involve everyone by the mid 21st century if the aim of keeping global temperature change within the 2 degrees Celsius target of the Copenhagen Accord is to be achieved.

Given a choice between a cap-and-trade system (such as is embodied in the Kyoto model), and a carbon tax system (such as is used for limiting gasoline or cigarette consumption), Nordhaus favours taxation:

"Countries have used taxes for centuries," he says. "By contrast, there is no experience - as in zero - with international cap-and-trade systems."

A carbon-tax model also provides a friendly way for countries to join a climate treaty. Countries considering joining under the current Kyoto model have to weigh up concerns about the long-term impacts of climate change with heavy pressures that big countries could apply. Under the carbon-tax model, by contrast, countries would need only to guarantee that their domestic carbon price would be at least at the level of the international norm – a relatively straightforward and transparent choice.

How do we modify the Kyoto Protocol to include tax-type models? Some have suggested a hybrid approach combining both quantity and price approaches. An example of a hybrid plan would be a traditional cap-and-trade system combined with a floor carbon tax and a safety-valve price. The Kyoto treaty might also be broadened, to allow

countries to fulfill their treaty obligations if they have a domestic regime with a minimum carbon price attached to all emissions.

One further impetus for climate-tax legislation comes from the need to curb the growing budget deficits in many high-income countries. A carbon tax would provide an important revenue source, and a [carbon tax](#) is the closest thing to an ideal tax that can be imagined, he argues.

"The international community should move quickly to replace the current cap-and-trade structure by one in which the central economic mechanism is a tax on greenhouse-gas emissions," Nordhaus concludes.

More information: The architecture of climate economics: Designing a global agreement on global warming by William D. Nordhaus is published today (6 January, 2011) in the Bulletin of the Atomic Scientists Volume 67, issue 1. The article will be free to access for a limited period from bos.sagepub.com. The Bulletin of the Atomic Scientists is published by SAGE.

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