

THE CASE FOR CHARGES ON GREENHOUSE GAS EMISSIONS

BY RICHARD N. COOPER



OVERVIEW

This paper proposes a world-wide tax on emissions of greenhouse gases from all sources. The charge would be internationally adjusted from time to time, and each country would collect and keep the revenue it generates.

DISCUSSION

Seriously addressing carbon dioxide emissions requires a worldwide approach, not one limited to today's rich countries. Levying a charge on CO₂ raises the price of CO₂-emitting activities, including fossil fuel use, and thus is the most direct method of influencing consumer and industrial behavior on a world-wide scale.

Compared to the alternative of a cap-and-trade (CAT) system, a carbon tax has two compelling advantages. First, under a CAT scheme, governments would need to allocate valuable emission permits to domestic firms or residents. This will foster rampant corruption in many countries. A universal CO₂ charge would avoid such problematic and politically indefensible transfers among countries. Second, it may be impossible to negotiate the meaningful global emission cap required for a CAT system. In contrast, a carbon charge would generate significant revenues that could be used to increase government spending or to reduce other taxes. A portion of the tax revenues might also be used to finance climate-relevant research and development. Additionally, a carbon tax may be less objectionable to developing nations than an emissions cap. For example, a carbon tax is in complete harmony with China's official energy strategy. Furthermore, an international agreement would strengthen the position of the central authorities in China vis-à-vis the provinces and municipalities, where most of the enforcement problems arise.

The European Union seems committed to a cap-and-trade system: Can CAT systems and charge systems co-exist? The answer: Yes, provided several conditions are met. First, the trading prices under the CAT system should average no less than the internationally agreed carbon charge. Second, if the permit trading price fell below the agreed charge by some percent for more than a certain period of time, trading partners would be allowed to levy countervailing duties on their imports from the CAT countries. Third, countries could not provide tax rebates on their exports. Finally, CAT countries could not give away emission permits.

One objection to an emissions charge is that a tax is not equitable. However, optimal decisions generally require bygones to be ignored. To focus on equity, and thus the alleged retrospective wrongs of the remote past, is to assure inaction. A second, valid objection is that we do not know how much a tax will reduce emissions. However, CAT systems are accompanied by cost (as contrasted with emissions) uncertainty. An emissions charge is preferable because it allows society to transparently weigh the costs of reducing emissions against the costs of achieving other social goals.

KEY FINDINGS & RECOMMENDATIONS

► *Since climate change is a global problem, geographic coverage of the carbon tax should be as broad as possible.* The initial scheme need not cover all countries. However, it should cover the three or four dozen countries that account for the vast majority of world emissions. The tax should cover all the significant greenhouse gases, insofar as is practical.

- ▶ *The level of the tax would be set by international agreement and would be subject to periodic review every five or ten years.* Initially, it should be high enough to affect behavior significantly, but not so high as to lead to unwarranted adjustments. A good starting price would be \$15 per ton of CO₂ equivalent.
- ▶ *To minimize administrative costs, the charge should be assessed at upstream locations.* For example, the carbon content of oil should be taxed at refineries, gas should be taxed at major pipeline collection points, and coal should be taxed at mineheads or rail and barge collection points. All but the poorest and least competent nations should have sufficient administrative capacity to administer such a plan, and those lacking institutional capacity are likely to be low emitters.
- ▶ *The treaty would include monitoring and enforcement measures.* The International Monetary Fund would monitor and support signatory nations' efforts at legislative and administrative compliance. Non-complaint or non-signatory countries could also be subject to countervailing duties. This possibility would provide a potent incentive for most countries to comply with an agreement.
- ▶ *Each country would retain the revenues it collected from the carbon charge and could use those revenues to reduce other taxes or increase government expenditures.* The macroeconomic impact of the carbon charge could be kept low by introducing the charge gradually, at a pace consonant with the increased expenditures or reductions in other taxes.
- ▶ *The revenues and economic impacts of a carbon charge would be substantial, but not overwhelming.* For example, in 2015, a charge of \$15 per ton of CO₂ would generate approximately \$515 billion in world-wide revenues, or about 0.7 percent of gross world product in that year. In the United States, this would add about 1.78 cents per kilowatt-hour to the cost of coal-generated electricity and 13 cents to a gallon of gasoline.

CONCLUSION

An international tax on greenhouse gas emissions would be an effective and feasible mechanism for dealing with global climate change.

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