

# WHAT A CARBON TAX CAN AND CAN'T ACHIEVE AGAINST CLIMATE CHANGE

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

It's a global problem that tax policy can fight but only so long as its burden is distributed equitably among various nations

It has sometimes been described as the most important number that you have perhaps never heard of. The social cost of carbon captures the current monetary value of the costs of climate change that will pile up in the future. That number is important in a world that needs to adapt to erratic rain patterns, rising sea levels and heat waves.

Economists working on climate change have had to grapple with several technical issues to estimate the social cost of carbon. One of the trickiest—which people in financial markets will appreciate—is selecting the rate at which future costs are to be discounted to arrive at their monetary value today. Another is to think of climate change policy in terms of tail risks rather than averages, or extreme events that have relatively low probability but whose impact could be catastrophic. It is the same reason we buy insurance.

Profound uncertainty about the impact of climate change means that estimates of the social cost of carbon have been all over the place. Consider two of the most influential estimates that were released in recent years. Nicholas Stern of the London School of Economics estimated it at \$85 per tonne of carbon. William Nordhaus of Yale University came up with a much lower estimate of \$8 per tonne. It gives us some idea about the fragile nature of such estimates.

It is against this backdrop that economists at the International Monetary Fund (IMF) have argued in a recent report that the world needs a global carbon tax in the next 10 years. Their recommendation is \$75 per tonne of carbon. The IMF team argues that such a Pigouvian tax will help limit global warming to 2 degrees Celsius above pre-industrial levels, as embedded in the 2015 global climate change agreement in Paris.

Economists have often debated whether the best way to reduce carbon use is via higher prices or through quantity restrictions. The consensus now is that a carbon tax is the better policy response. The decision of the Narendra Modi government to increase fuel taxes as well as quadruple the coal cess is sometimes interpreted as a variant of a carbon tax. Only a third of the sharp decline in global oil prices after 2014 was passed on to consumers.

A carbon tax increases the price that consumers pay for energy. What will be the price impact of a carbon tax of \$75 per tonne of carbon consumed in India? The IMF estimates that a tax of this magnitude will increase the price of coal by 230%, natural gas by 25%, electricity by 83% and petrol by 13%. Such steep price hikes will necessarily make such a tax a political hot potato, especially in a developing country like India, where on the one hand politically influential groups such as the urban middle class or rich farmers are the biggest consumers of energy, and on the other, people emerging out of poverty need access to cheap electricity and fuels. The proceeds of the carbon tax could be used to protect the household budgets of poor families, but that is easier said than done, despite the availability of the JAM trinity of Jan Dhan accounts, Aadhaar numbers and mobile phones.

The idea of a global carbon tax will run into two problems. First, it will penalize incremental carbon emissions rather those that have already been spewed into the atmosphere since the

Industrial Revolution. A homogenous global carbon tax will, in effect, impose costs on developing countries rather than those that have been responsible for most of the existing stock of pollution. Second, taxes are part of national social contracts that emerge out of very specific conditions that cannot necessarily be replicated on a global scale.

The idea of a carbon tax in itself is a good one. It does its work through the price system, rather than rationing quantities through instruments such as carbon credits. It is superior to subsidies for specific alternate energy sources; such targeted subsidies assume that governments have the capability to pick winners among a big set of emerging technologies.

However, the underlying principle should be of Common but Differentiated Responsibilities and Respective Capabilities that has been recognized by the United Nations Framework Convention on Climate Change.

Climate change is undoubtedly one of the most serious challenges for the entire world, and the poor in countries such as India are especially at risk. A carbon tax can eventually be an important part of any mitigation strategy—from new technologies to rethinking cities to lifestyle changes. Global cooperation is also needed, since climate change is essentially a global challenge. India should be part of the global alliance to fight the problem, but it also needs to reiterate that it is not responsible for what has been pumped into the atmosphere over the past three centuries, that its average citizen consumes too little energy, and that the developed world needs to help finance its transition to cleaner energy.

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