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Call their tax

Why not tie carbon taxes to actual levels of warming? Both skeptics and alarmists should expect their wishes to be answered

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After much effort, G8 leaders last week agreed to "stabilize greenhouse-gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system." This is the same wording as in Article Two of the UN Framework Convention on Climate Change, signed in 1992. In other words, after months of negotiations, world leaders agreed on a text they had already ratified 15 years earlier.

Global-warming policy is stuck in a permanent stalemate for very basic reasons. Important divisions of opinion still exist on the extent of humanity's influence on climate, whether or not the situation is a crisis, whether and how much greenhouse-gas emissions should be cut, if so how to do it, and what is the most we should be prepared to pay in the process.

With this stalemate in mind, I would like to propose a thought experiment about a climate policy that could, in principle, get equal support from all sides.

The approach is based on two points of expert consensus. First, most economists who have written on carbon-dioxide emissions have concluded that an emissions tax is preferable to a cap-and-trade system. The reason is that, while emission-abatement costs vary a lot, based on the target, the social damages from a tonne of carbon-dioxide emissions are roughly constant. The first ton of carbon dioxide imposes the same social cost as the last ton.

In this case, it is better for policy-makers to guess the right price for emissions rather than the right cap. Most studies that have looked at that the global cost per tonne of carbon dioxide have found it is likely to be rather low, less than US$10 per tonne. We don't know what the right emissions cap is, but, if we put a low charge on each unit of emissions, the market will find the (roughly) correct emissions cap.

Second, climate models predict that, if greenhouse gases are driving climate change, there will be a unique fingerprint in the form of a strong warming trend in the tropical troposphere, the region of the atmosphere up to 15 kilometres in altitude, over the tropics, from 20? North to 20? South. The Intergovernmental Panel on Climate Change (IPCC) states that this will be an early and strong signal of anthropogenic warming. Climate changes due to solar variability or other natural factors will not yield this pattern: only sustained greenhouse warming will do it.

Temperatures in the tropical troposphere are measured every day using weather satellites. The data are analyzed by several teams, including one at the University of Alabama-Huntsville (UAH) and one at Remote Sensing Systems (RSS) in California. According to the UAH team, the mean tropical tropospheric temperature anomaly (its departure from the 1979-98 average) over the past three years is 0.18C. The corresponding ing RSS estimate is 0.29C.

Now put those two ideas together. Suppose each country implements something called the T3 tax, whose U.S. dollar rate is set equal to 20 times the three-year

moving average of the RSS and UAH estimates of the mean tropical tropospheric temperature anomaly, assessed per tonne of carbon dioxide, updated annually. Based on current data, the tax would be US$4.70 per ton, which is about the median mainstream carbon-dioxide-damage estimate from a major survey published in 2005 by economist Richard Tol. The tax would be implemented on all domestic carbon-dioxide emissions, all the revenues would be recycled into domestic income tax cuts to maintain fiscal neutrality, and there would be no cap on total emissions.

This tax rate is low, and would yield very little emissions abatement. Global-warming skeptics and opponents of greenhouse-abatement policy will like that. But would global-warming activists? They should -- because according to them, the tax will climb rapidly in the years ahead.

The IPCC predicts a warming rate in the tropical troposphere of about double that at the surface, implying about 0.2C to 1.2C per decade in the tropical troposphere under greenhouse-forcing scenarios. That implies the tax will climb by $4 to $24 per tonne per decade, a much more aggressive schedule of emission fee increases than most current proposals. At the upper end of warming forecasts, the tax could reach $200 per tonne of CO2 by 2100, forcing major carbon-emission reductions and a global shift to non-carbon energy sources.

Global-warming activists would like this. But so would skeptics, because they believe the models are exaggerating the warming forecasts. After all, the averaged UAH/RSS tropical troposphere series went up only about 0.08C over the past decade, and has been going down since 2002. Some solar scientists even expect pronounced cooling to begin in a decade. If they are right, the T3 tax will fall below zero within two decades, turning into a subsidy for carbon emissions.

At this point the global-warming alarmists would leap up to slam the proposal. But not so fast, Mr. Gore: The tax would only become a carbon subsidy if all the climate models are wrong, if greenhouse gases are not warming the atmosphere, and if the sun actually controls the climate. Alarmists sneeringly denounce such claims as "denialism," so they can hardly reject the policy on the belief that they are true.

Under the T3 tax, the regulator gets to call everyone's bluff at once, without gambling in advance on who is right. If the tax goes up, it ought to have. If it doesn't go up, it shouldn't have. Either way we get a sensible outcome.

But the benefits don't stop there. The T3 tax will induce forward-looking behaviour. Alarmists worry that conventional policy operates with too long a lag to prevent damaging climate change. Under the T3 tax, investors planning major industrial projects will need to forecast the tax rate many years ahead, thereby taking into account the most likely path of global warming a decade or more in advance.

And best of all, the T3 tax will encourage private-sector climate forecasting. Firms will need good estimates of future tax rates, which will force them to look deeply, and objectively, into the question of whether existing climate forecasts have an alarmist bias. The financial incentives will lead to independent reassessments of global climate modelling, without regard to what politicians, the IPCC or climatology professors want to hear.

Policymaking in the real world is messy, and ideas that sound good in theory can come out hopelessly gummed up with extraneous provisions that dilute or contradict the original purpose. But as a thought experiment, I find the T3 tax clarifies a lot of issues.

In my view, the ideal global-warming policy is a carbon tax, and the optimal rate is zero. I like the T3 tax in part because I think it would result in this outcome over time. Yet those whose fears of rapid warming lead them to demand stronger policy measures, including an emissions cap, should, in principle, be able to support the same mechanism. Especially in light of the long stalemates over carbon-dioxide

emissions policy, I doubt any other policy could command equal support from such polarized camps.

--- - Ross McKitrick is an economist at University of Guelph.

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