

3 Questions: Sergey Paltsev on the costs of climate-change legislation

November 5 2009, by David L. Chandler



Sergey Paltsev, a principal research scientist in MIT's Joint Program on the Science and Policy of Global Change, was the lead author of a recent report that analyzed the costs of climate legislation currently being debated in Congress. The analysis looked at the costs associated with the Waxman-Markey bill that was passed in June, and found the bill's cap-and-trade provisions would have an average annual cost per U.S. household of \$400.

The study did not provide a comparison of what costs would be for a “no policy” case — in other words, the costs that would result from unmitigated climate change, or from other causes such as air or [water pollution](#) that might be associated with unregulated burning of [fossil fuels](#).

Q: Have there been any changes proposed since the original bill was passed, or that are currently under discussion, that would make much of a difference in this cost estimate, one way or the other?

A: Currently, the already-passed Waxman-Markey bill and the Senate version, the Kerry-Boxer bill, are similar in emissions-reduction targets and total [offsets](#). There are some minor differences, but unless major changes are proposed during the discussions in the Senate, the overall costs are similar. It should be noted that now the heat of the discussions are on the emission allowance allocation, which would determine who gets the emissions rights for free, who has to pay for them, and how the permit revenue will be spent. The outcome of this process would benefit or hurt certain industries or households of different income classes. The decisions about revenue allocation would affect who gains and who loses more, and as the stakes are high, there are many parties trying to influence the outcome. But the average economic burden, which is what we calculated, is not much affected by the allowance allocation.

Q: Apart from measures that are specifically being considered now, did your analysis suggest any different approaches, or modifications of the present proposal, that would bring about any significant reduction in these costs?

A: We have done other studies where we have considered issues related to the design of cap-and-trade or carbon tax systems. Ultimately, the cost of the policy is determined by the reduction targets, the possibility of banking or borrowing of permits over time, the amounts of offsets, and any additional measures directed at greenhouse gas reduction, such as renewable electricity standards, subsidies to carbon-free technologies, building standards, energy efficiency measures, etc. For the same reduction targets, overall costs are lower if there are fewer additional measures. However, these additional measures are popular because they allow hiding the true cost of the policy. For example, renewable

electricity standards would reduce carbon price but increase the overall cost to the economy. As carbon price is a more visible indicator and overall cost is harder to measure, legislators might prefer to introduce such standards despite their economic inefficiency, simply because they create an illusion of achieving a target at a lower cost. At the same time, as I have already mentioned, distribution of allowance revenue could reduce the impact on, for example, low-income families or coal-producing regions, and we have a forthcoming study addressing this issue.

Q: Can you address how the costs that could result from a “no policy” case might compare with the costs of the proposed regulations?

A: In the case of “no climate policy,” I think it is more appropriate to talk about “damages” instead of “costs,” because there are some things that can be easily associated with dollar amounts and there are other things that are harder to quantify and to put a price tag on. At the MIT Joint Program we have done studies where we are trying to quantify the costs associated with the impacts of climate change on agriculture and coastal infrastructure, and of air pollution on human health. These are easier to quantify. However, there are many other important effects that cannot be convincingly put into a dollar measure, and for this reason we have not tried to estimate the economic and environmental effects of a no-policy path. Consider, for example, the main icon of a climate change — polar bears. How can one put an appropriate cost in dollar terms for a potential disappearance of polar bears due to melting Arctic ice? Or, as another example, on a coral bleaching due to increasing ocean temperature and acidification? Some people even argue that climate change is a strategic problem that should not be considered in terms of a traditional “benefit-cost” approach.

In our analysis of the Waxman-Markey bill we focus on estimating costs of the stated targets. We always stress that there are many uncertainties

in our cost estimates and we try to quantify these uncertainties, but the uncertainties in the damages estimates are much larger.

Some people argue about yet another aspect of the problem. Societies have many important issues where resources are needed — to name just a few, a fight against hunger and poverty, improved access to medical facilities and education, fighting AIDS and malaria, and providing a better water supply. Climate change is an important problem, but is it diverting resources from other no-less-important problems? There are plenty of links between climate change, poverty, water supply, and diseases — but with scarce resources, is it better to focus on solving [climate change](#) or, for example, directly on fighting poverty? Obviously, we should try to do both. But where should the emphasis be? These are tough questions: How do we equate a potential loss of life of a polar bear with that of a hungry child in Africa now?

More information:

An analysis of the Waxman-Markey bill and other related studies are available at the MIT Joint Program on the Science and Policy of Global Change web site (globalchange.mit.edu/).

This study, “The [Costs](#) of Climate Policy in the United States,” ([globalchange.mit.edu/pubs/abst ... ?publication_id=1965](http://globalchange.mit.edu/pubs/abst...?publication_id=1965)) was done by principal research scientist Sergey Paltsev, associate director for research John Reilly, program co-director Henry Jacoby, and research assistant Jennifer Morris, all of the MIT Joint Program on the Science and Policy of Global Change.

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