



## KEY FINDINGS:

- 92% of Swedes and 71% of Americans are willing to pay for climate change mitigation efforts.
- Average amount: \$306/year in Sweden and \$204/year in the United States, amounting to 2–3% of the respondents' per-capita income.
- Americans and Swedes prefer a *current emissions* principle for dividing global mitigation costs among countries. Under this principle, countries with high emission levels today would pay a larger share than countries with low emissions today.



## A MULTI-COUNTRY SURVEY OF THE WILLINGNESS TO PAY FOR SLOWING CLIMATE CHANGE

As representatives from governments around the world gather in Copenhagen to address a global response to the threat of climate change, their negotiations will ultimately depend on how politically acceptable various options are to respective domestic constituencies. One key issue is how strongly people feel about bearing the costs required to avoid climate change; another is the perceived fairness of how the economic burden of reducing greenhouse gases should be divided among countries.

Despite national-level opinion polls, little is known about how the willingness to pay (WTP) to avoid the consequences of climate change differs among countries. This willingness of people to pay can be used to gauge the strength of political support for costly mitigation actions.

Perceptions of a fair distribution of costs (often referred to as effort- or burden-sharing rules) are expected to differ strongly across countries. On self-interested grounds, historically large emitters such as the United States and Europe may prefer a system whereby obligations are expressed in terms of current rather than historical emissions. Rapidly industrializing countries, such as China, may prefer a system based on historical emissions. Countries such as India or most African countries may find both of these unfair and have a material interest in supporting equal allocations in terms of emissions per capita. However, despite these conjectures, it is unknown how important the rule is to the average citizen in various countries.

In a joint multinational effort, a team of researchers<sup>1</sup> from China, Europe, and the United States is



## CLIMATE CHANGE MITIGATION: SHARING THE LOAD

addressing these questions. An identical survey was developed and administered in Sweden, the United States, and China just prior to the Copenhagen meetings. The survey follows best practices in asking citizens for their willingness to pay to avoid the consequences of global temperature changes as forecasted by the IPCC. The survey also uses techniques adapted from product marketing approaches, by which citizens choose among various burden-sharing rules, given alternative costs to their household of implementing such rules.

The first round of the survey yielded 2000 responses in Sweden and 744 responses in the United States.<sup>2</sup> To avoid the consequences of climate change that would arise from a 4°F temperature increase, 91.5 percent of Swedish respondents and 71 percent of U.S. respondents were willing to pay some amount of money. Additionally, Swedes were willing to pay more, averaging \$306 per year compared to \$204 per year for the U.S. sample. Respondents in both countries were willing to pay even more if temperature increases could be held to 3°F (\$330 per year in the United States; \$552 per year in Sweden) and more still to hold the increase at 2°F (\$430 per year in the United States.; \$756 per year in Sweden).

As hypothesized, having a higher income and more education increased WTP, while WTP was lower for those who believe that the temperature has not increased over the past 100 years, that humans did not cause climate change, and that climate change cannot be stopped. Religiosity had the opposite effect in the two countries: religious people had a lower WTP in the United States and a higher WTP in Sweden.

Preferences for these four burden-sharing principles were examined by the researchers: distributing the costs among countries by levels of *current emissions*, *historical emissions*, *income*, and *emissions per capita*. Interestingly, the results indicate that Swedes and Americans have similar preferences for principles and, in fact, the rank

ordering of principles is the same in both countries. The *current emissions* principle—the least costly principle for the United States and second least costly principle for Sweden, as well as the one in which the United States and China share costs about equally—clearly emerges as the most preferred. Respondents were willing to pay \$16 per year (Sweden) and \$17 per year (United States) more for this principle than for the next preferred principle, *income*. The third preferred principle is *historical emissions*, with *emissions per capita* least preferred.

The results show that significant majorities of the public in the United States and, particularly, Sweden are willing to shoulder the cost burdens of climate mitigation—about 2 to 3 percent of their per-capita income (or analogously, GDP)—to prevent a warming of more than 2°F. Furthermore, while the burden-sharing principles favorable to one's own country are preferred, the WTP for such a principle over others is small.

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1. The Swedish study team is from the University of Gothenburg: Fredrik Carlsson, Elina Lampi, Åsa Löfgren, and Thomas Sterner, plus Mitesh Kataria from the Max Planck Institute of Economics, Jena. The U.S. team features Alan Krupnick and Susie Chung from Resources for the Future in Washington, DC. The China study (in progress) is led by Qin Ping, Visiting Scholar at Resources for the Future and a recent PhD from University of Gothenburg.

2. The Chinese survey is currently being administered, and those results are forthcoming.