



**PROGRAM ON INTERNATIONAL POLICY ATTITUDES**

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A joint program of the Center for the Study of Policy Attitudes and the Center for International and Security Studies at Maryland, School of Public Affairs, University of Maryland

**Americans on  
Global Warming**

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**A STUDY OF US PUBLIC ATTITUDES**

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Principal Investigator  
Steven Kull

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**The Program on International Policy Attitudes (PIPA)** is a joint program of the Center for International and Security Studies at Maryland and the Center for the Study of Policy Attitudes. PIPA undertakes research on American attitudes in both the public and in the policymaking community toward a variety of international and foreign policy issues. It seeks to disseminate its findings to members of government, the press, and the public, as well as academia.

**The Center for International and Security Studies at Maryland (CISSM)**, at the University of Maryland's School for Public Affairs, pursues policy-oriented scholarship on major issues facing the United States in the global arena. Using its research, forums, and publications, CISSM links the University and the policy community to improve communication between scholars and practitioners.

**The Center for the Study of Policy Attitudes (CSPA)** is an independent nonprofit organization of social science researchers devoted to increasing understanding of public and elite attitudes shaping contemporary public policy. Using innovative research methods, CSPA seeks not only to examine overt policy opinions or positions, but to reveal the underlying values, assumptions, and feelings that sustain opinions.

## **Acknowledgements**

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I.M. Destler, Fran Burwell and Fred Steeper contributed to the development of the questionnaire.

Karin Johnston managed the production of the report with the assistance of Elizabeth Detter and Timothy McDonald.

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## Executive Summary

In the last year, the US participated in conferences in Kyoto and Buenos Aires, together with representatives from over 160 other countries, to address the problem of global warming. The result of these efforts, the Kyoto Treaty, requires reductions on the greenhouse gas emissions of most developed countries. The treaty has sparked widespread debate within the US. However, the US public has been largely a silent partner, even though compliance with this treaty could have significant impacts on Americans' lifestyles.

To find out more about how the American public responds to these debates the Program on International Policy Attitudes (PIPA) undertook a study that addressed such questions as: Do Americans believe that global warming is a real problem requiring steps that could have significant costs? How much would they be willing to increase their household energy costs? Do they think the cuts proposed in the Kyoto Treaty are too deep?

Also addressed were the central controversies in the recent global warming conferences: Should the developing countries also be required to limit their emissions as part of the treaty (and what should the US do if they refuse)? Should the treaty include an international system for trading emissions rights?

To address these questions, PIPA conducted a nationwide poll of 648 randomly selected Americans February-April 1998 and a nationwide poll of 800 conducted October 22-27, 1998. The margin of error is 3.5-4%. In addition PIPA reviewed polls from other organizations. The key findings were:

**1** An overwhelming majority of the US public embraces the idea that global warming is a real problem that requires action. However, this majority divides on the question of whether efforts should be restricted to low-cost steps or should also include steps with significant costs.

**2** A strong majority of Americans favors Senate ratification of the Kyoto Treaty. A strong majority also supports the level of cuts proposed in the Kyoto Treaty, even when informed that the US had originally sought less deep cuts, and a plurality leans toward deeper cuts.

**3** A majority believes that the developing countries should limit their greenhouse gas emissions, but a majority feels that they should not have to reduce emissions. If the developing countries do not accept such limits, a majority nonetheless favors proceeding with the treaty. If the developing countries are willing to limit their emissions, an overwhelming majority would support providing technology and training to help make this possible.

**4** To comply with the Kyoto Treaty, a strong majority would accept increases in energy costs of \$25 per month per household, but a majority would not accept \$50 a month. Overall, Americans show an optimism that the economic impact of compliance with the Treaty will be moderate.

**5** Most Americans are willing to accept the level of additional energy costs sufficient to fulfill the requirements of the Kyoto Treaty (based on US government estimates), but only if the US can get credit for purchasing emission rights from other countries. When Americans are presented the idea of such an emission rights trading regime, initially the majority responds negatively. However, when Americans are presented arguments on both sides of the issue, as well as the actual cost tradeoffs, a strong majority favors such a regime.

**6** By a wide margin, most Americans believe they are more supportive of taking steps to reduce global warming than the average American. Thus, it appears the public underestimates the public's support for taking such steps.

## Introduction

In December 1997, the United States, together with over 160 other countries, adopted an agreement in Kyoto, Japan to address the problem of global warming. The agreement committed most developed countries to cut their greenhouse gas emissions (that cause global warming) to 5-8% below 1990 levels by the year 2012. In November 1998, the signatories of the agreement in Kyoto reconvened in Buenos Aires to make further efforts to hammer out key unresolved questions. At that time the US signed the agreement, known as the Kyoto Treaty, though a number of key issues remain unresolved and Senate ratification of the treaty in its present form appears highly unlikely.

The issues surrounding the problem of global warming and the Kyoto Treaty have sparked a widespread debate within the US. But the US public has been largely a silent partner in the debate. Yet, as international negotiations come closer to outlining policies that will have a direct effect on Americans' lifestyles, the attitudes of the public become ever more relevant.

Do Americans believe that global warming is real? If they do think it is real, how serious a problem do they think it is and what level of effort are they prepared to support to address the problem? How much would they be willing to see their household energy costs increased? Do they think that the cuts proposed in the Kyoto Treaty are too deep?

One of the key issues in the debate surrounding the Treaty is the question of whether the developing countries will be required to limit their emissions as part of the treaty. Some developed countries (especially in Europe), as well as many developing countries, say that the developing countries should be exempt. The US Senate has passed a non-binding resolution stating that the US should not sign any agreement that does not require limits or reductions for all signatories. Much attention has been given to widespread television advertising that criti-

cizes the Kyoto agreement and endorses the Senate's position. But does the American public have the same outlook as the Senate on this question? If the developing countries are not willing to accept limits does the public want to proceed with the treaty anyway?

Another major controversy is whether to establish an international system for trading emissions rights. If developed countries like the US are able to fulfill some of their requirements by purchasing such rights, this would dramatically lower the costs of cutting emissions for the developed countries. The US has been a strong advocate of such a system, while many voices inside and outside the US are dubious or critical. How do Americans feel about this issue and how do they respond to the considerations of the cost tradeoffs involved?

To find out more about how the American public feels about all these issues, the Program on International Policy Attitudes conducted a study that included:

- a nationwide poll of 648 randomly selected Americans conducted February-April 1998 (hereafter called the "April" poll)
- a nationwide poll of 800 randomly selected Americans conducted October 22-27, 1998. The margin of error is 3.5-4%.
- a comprehensive review of polling data from other organizations

In the PIPA polls, the margin of error was  $\pm 3.5-4\%$ . Findings were weighted for educational level. More details on how the cost estimates of compliance with the Kyoto treaty were made can be found in Appendix A, the questionnaires and findings for the PIPA polls can be found in Appendix B, and a demographic analysis can be found in Appendix C. Appendix D provides an explanation of how the poll was conducted.



## Findings

**1** An overwhelming majority of the US public embraces the idea that global warming is a real problem that requires action. However, this majority divides on the question of whether the problem is pressing and should include steps with significant costs or whether the problem can be dealt with more gradually through low-cost steps. Politicians who favor taking steps on global warming are viewed favorably. Awareness is high for global warming, but not for the Kyoto conference.

In April and October 1998, PIPA asked respondents to choose from among three statements about "what the countries of the world, including the US, should do about the problem of global warming." One statement expressed an argument frequently made by those who are skeptical about global warming: "Until we are sure that global warming is really a problem, we should not take any steps that would have economic costs." This position was massively rejected. Instead, an overwhelming majority chose one of two statements that described global warming as a real problem requiring attention. However, this majority was divided between those who believe that the effects of global warming will be gradual and only require low cost steps, and those

### 1 Most Favor Acting on Global Warming But Divide on Urgency

■ April 1998 ■ October 1998

Until we are sure that global warming is really a problem, we should not take any steps that would have economic costs.



The problem of global warming should be addressed, but its effects will be gradual, so we can deal with the problem gradually by taking steps that are low in cost.



Global warming is a serious and pressing problem. We should begin taking steps now even if this involves significant costs.

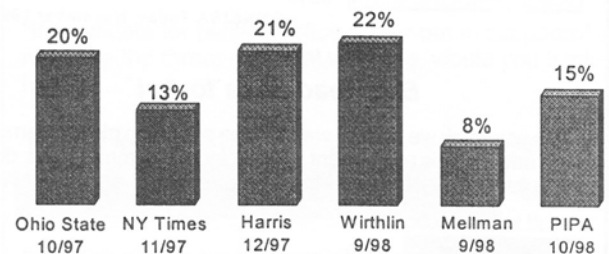


who regard the problem as pressing and thus requiring steps with significant costs (see box 1).

### Only Small Minority Dismisses Global Warming

Virtually all polls taken have found that only a very small minority—less than a quarter of the public—doubts the reality of global warming (see box 2). In a September 1998 Wirthlin poll, 74% embraced a belief that "global warming is real" even when the belief was defined in terms of global warming having "catastrophic consequences," while just 22% said they did not believe in it. In a Harris poll (December 1997), 67% said they "believe[d] the theory" of global warming, while 21% said they did not. An October 1997 Ohio State University survey asked about "the idea that the world's temperature may have been going up slowly over the last 100 years," and found that 77% thought "this has probably been happening," while 20% thought "it probably hasn't been happening." Likewise, 74% thought the world's average temperature would go up in the future, while 22% thought it would not. The September 1998 Mellman Group poll of voters found 70% thought global warming was a "very serious" (31%) or "somewhat serious" (39%) threat. Only 8% said that the threat of global warming is "not serious at all." When global warming was defined for respondents, the percentage saying that the problem is serious went up another 4-10%.

### 2 Small Minority Dismisses Global Warming



Interestingly, the public has arrived at this consensus about the existence of global warming even

though only a plurality have the impression that scientists have come to a consensus on the question. In a November 1997 poll (CNN/USA Today), respondents were asked what they believe is the most common scientific opinion on the subject of global warming. A 48% plurality thought that "most scientists believe that global warming is occurring," while 39% thought "most scientists are unsure about whether global warming is occurring or not." However, the perception of a consensus is dramatically up from 1994, when in a poll by Cambridge Reports just 28% thought that "there is a consensus among the great majority of scientists that global warming exists and could do significant damage," while 58% said that "scientists are divided on the existence of global warming and its impact." The number who believed that most scientists think global warming does not exist was virtually unchanged—8% in 1994, 7% in 1997.

This perceived lack of scientific consensus, however, does not mean that Americans want to wait for further research before taking steps. By more than a two-to-one margin, the majority favors taking steps now (see box 3).

3

### **Uncertainty About Scientific Consensus**

"Which one of the following statements do you think is most accurate? Most scientists ...

"believe that global warming is occurring



"are unsure about whether global warming is occurring or not."



CNN/USA Today, November 1997

### **But Readiness to Act**

"Do you think we should wait to take action on global warming until there is agreement in the scientific community, or do you think we should take action to stop global warming now?"

wait to take action



take action now



Mellman, September 1998

## **Majority Divided Between Moderate and Urgent Response**

Similar to the PIPA findings, other polls have found the majority divided between those who see the problem as requiring a moderate response and those who have a greater sense of urgency. A Mellman Group poll of voters (September 1998) found that only 8% thought "global warming will not happen," while 26% thought that global warming would happen in the future and 57% thought "global warming is an environmental problem that is happening now." A New York Times poll of November 1997 found that only 13% thought "global warming won't have a serious impact at all," while 43% thought "the impact of global warming won't happen until sometime in the future" and 23% thought that it is "causing a serious impact now." Apparently the New York Times poll found a lower number saying that the impact was occurring in the present because it described the impact in the present as "serious."

Those who take the middle position that global warming's impact will not be felt until some time in the future are not necessarily saying that they think action should be put off. In the above-mentioned New York Times poll of November 1997, the 43% who took the more moderate position that "the impact of global warming won't happen until sometime in the future" were then asked whether it was necessary or not to "take steps to counter the effects of global warming right away." Eighty-one percent of this group (35% of the full sample) thought immediate steps were necessary.

When respondents are not given a middle option and simply asked to choose between two options, a much more modest majority shows a readiness to embrace the need to take action on global warming. In a September 1998 Research/Strategy/Management poll, 55% chose the one in favor of the need to take action ("we know enough and should act now"), while 42% chose the one in favor of first doing more research ("we don't know enough

and should do nothing until we know more"). In the August 1997 Mellman Group poll, given two options, 56% of voters thought that "President Clinton should take action on global warming now, because the problem is only getting worse and we cannot afford to take a wait-and-see approach," while 30% thought that "President Clinton should not take action on global warming because there are too many real problems that need attention right now."

This inclination to a moderate position on the issue can also explain seemingly anomalous findings. An NBC/Wall Street Journal (October 1997) offered three options and found a strong majority of 59% favoring the middle option: "We don't know enough about global climate change, and more research is necessary before we take action." Taken literally, this may seem to suggest a majority favoring no action, but the only other options were the strong statement that "global climate change is a serious problem and immediate action is necessary," chosen by 28%, or the statement that "concern about global climate change is unwarranted," chosen by just 9%. In the context of the other available data, it appears more likely that the majority was looking for a middle position that expressed a need for some action, in this case research, while rejecting both a position of alarm and of nonconcern.

Even in a question with two response options, if the one favoring strong action is portrayed as extreme or possibly rash, a strong majority will reject it. In a November 1997 poll by Charlton Research, just 15% supported the one calling for "immediate steps" when they were described as being taken "even if environmental benefits are not assured and costs would be high." Instead, an overwhelming majority of 78% opted for a more moderate position that the US should "continue voluntary programs now underway" and "do more research."

This moderate response to global warming is also apparent in the mean response to questions that ask respondents to prioritize global warming within a set of other current environmental issues. In a Sep-

tember 1998 Wirthlin poll, when asked to rate a list of 14 environmental problems in terms of how high a priority they are, respondents ranked global warming 13th. However, the spread between the items was not very large. The highest-rated item—water pollution—was given a mean rating of 8.8, while global warming was rated 6.5 (with 1 being a low priority and 10 being a high priority). Asked to rate which problem was the "most serious" environmental problem "facing the country today," in a set of three comparable polls—NBC/Wall Street Journal in April 1990, NBC in August 1991, and NBC/Wall Street Journal in October 1997—"toxic waste" garnered the largest number of responses (26%, 21% and 20% respectively). Global warming consistently was in last or next to last place (7%, 9%, and 10% respectively).

### Support for Politicians Who Seek Action

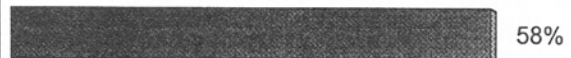
Americans tend to feel positively toward politicians who express concern and seek action on global warming. In the Mellman Group's September 1998 poll, 58% said they would view "a candidate for political office" who "spoke out in support of reducing the threat of global warming" as "forward-looking and speaking to a real problem," while only 23% said they would view such a candidate as "too interested in environmental issues and ignoring bigger problems" (see box 4).

4

#### **Positive Response to Politicians Who Support Action**

"If candidate for political office spoke out in support of reducing the threat of global warming, would you think he was ..."

forward-looking and speaking to the real problem



too interested in environmental issues and ignoring bigger problems



Mellman, September 1998



However, it does not appear that most voters regard this issue as decisive. When asked to assume that "you agreed with a particular candidate on most issues and were of the same political party, however, that candidate voted against efforts to reduce the threat of global warming," a plurality of 41% said they would still be likely to vote for that candidate, while 38% said they would not. Nonetheless, the fact that 38% said they would change their vote over this issue is still quite high.

This positive response to candidates who support taking steps on global warming has been in place for some time. In 1992, when Al Gore was a vice-presidential candidate, an overwhelming majority—72%—said that they felt more favorably about him because he "has spent much of his time in Congress working on environmental issues such as global warming." In contrast, only 5% said that this made them look on Gore less favorably (Time/CNN, July 1992).

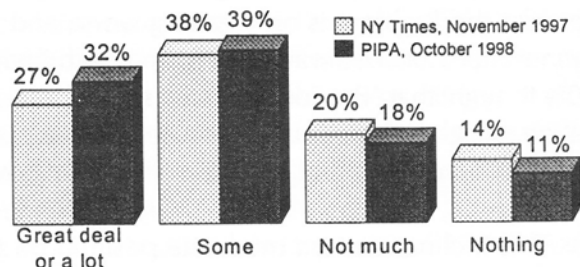
#### Awareness High for Global Warming, But Not For Kyoto Conference

Awareness of the global warming issue is relatively high. When PIPA asked in October 1998, 71% said they had heard "a great deal" (32%) or "some" (39%) about global warming, while only 29% said they had heard "not very much" (18%) or "nothing at all" (11%) about the issue. In a November 1997 poll by the New York Times, 65% said they had heard "a lot" (27%) or "some" (38%) about global warming, while only 34% said they had heard "not much" (20%) or "nothing" (14%) about the issue (see box 5). The Mellman Group's August 1997 survey of voters found that 71% had heard "a great deal" (25%) or "some" (46%) about global warming, while 29% said they had heard "not too much" (21%) or "nothing at all" (8%) about it. In a CNN/USA Today poll in November 1997, a 61% majority felt that it understood the issue of global warming very well (16%) or fairly well (45%), while 38% felt they understood it either "not very well" (28%) or "not at all" (10%).

5

#### High Awareness of Global Warming

How much have you heard about global warming?

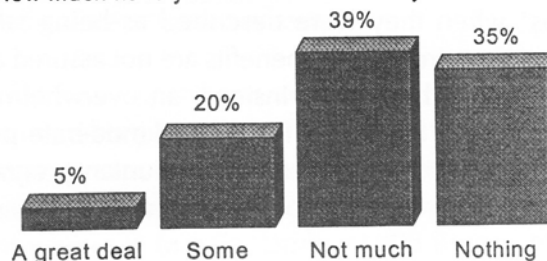


However, awareness of the Kyoto conference itself has not been widespread. In PIPA's April poll, just 25% had heard "a great deal" (5%) or "some" (20%) about the Kyoto conference, while 74% had heard "not very much" (39%) or "nothing at all" (35%) (see box 6). A December 1997 Harris poll simply asked whether respondents were aware or not of the Kyoto conference on global warming; 55% said they were aware of it while 45% said they were not. However, a September 1998 Wirthlin poll asked, "Have you heard of the Kyoto Protocol on global warming?" In response to this more technical sounding question, only 14% said they had while 86% said they had not. In a subsequent question that gave some of the details of the conference, the number saying they had heard about the treaty rose to 31%, with 69% saying they had not heard of it.

6

#### Low Awareness of the Kyoto Conference

How much have you heard about the Kyoto conference?

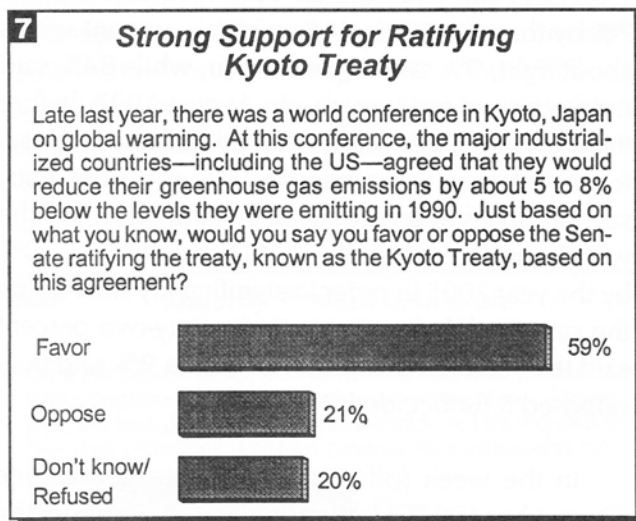


Curiously, awareness of the Rio de Janeiro "Earth Summit" conference in 1992 was more widespread

than was awareness of the Kyoto conference in 1997. In a July 1992 Wirthlin Group poll, 79% said they had heard something about the Rio conference while PIPA's corresponding figure for the Kyoto conference was 63%. This may be partly due to the fact that the Rio summit was attended by many heads of state, while the Kyoto conference was conducted by officials of lesser rank.

**2** A majority of Americans favors Senate ratification of the Kyoto Treaty. A strong majority also supports the level of emissions cuts proposed, even when informed that the US had originally sought less deep cuts, and a plurality leans toward deeper cuts.

In October, respondents were given a few details about the Kyoto Treaty and asked whether they favored the US Senate ratifying it. A majority of 59% said they would favor it, with just 21% opposed (see box 7).



A September 1998 poll by the Mellman Group found 79% support for the Kyoto Treaty, with just 7% opposed. Their percentage may be higher than the PIPA percentage for a number of reasons. The Mellman question said that "the US agreed to reduce its emissions by 7% by the year 2010," while the PIPA question clarified that this reduction was below 1990 levels, not current levels. The Mellman poll mentioned that such reductions would not need

to occur until 2010, while the PIPA question did not give a time frame. Also, the Mellman poll included only registered voters, which produced a sample with higher levels of education. Those with higher levels of education tend to be more supportive of ratification. (See Appendix C.)

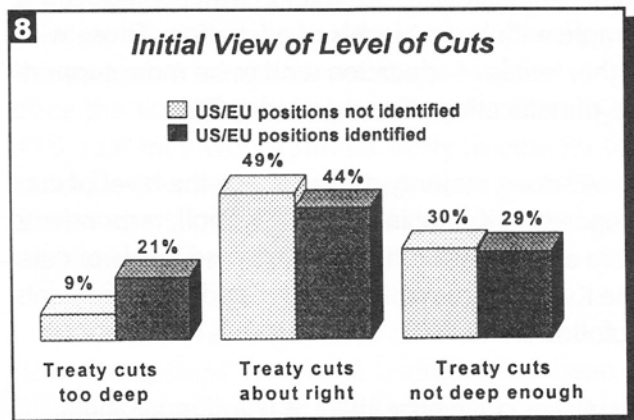
A strong majority also supports the level of cuts proposed in Kyoto. In PIPA's April poll, respondents were asked to evaluate the proposed levels of cuts. The Kyoto agreement was described to respondents as follows:

At the conference there was a dispute about how much to reduce the emission of gasses that produce global warming. The debate was about how much the industrialized countries should commit to reduce their emissions by about the year 2010. [Some] [The US] wanted to see reductions to the level these countries were emitting in 1990. [Others] [The European Union] wanted to see reductions of 15% below the levels these countries were emitting in 1990. At the conference in Kyoto, it was agreed that most industrialized countries would reduce their greenhouse gas emissions by 7-8% below 1990 levels.

As noted, for half the sample the differing positions were described as the positions of "some" and "others," while for the other half, they were described as positions of the US (1990 levels) and the EU (15% below 1990 levels).

Even when the US position was identified, few favored it. Among the half-sample who heard the US and EU positions identified, support for the US position that had wanted less deep reductions in emissions was 21%, support for the EU position that had sought deeper cuts was 29%, and 44% thought the agreement was "about right." Among the half-sample who did not hear the US and EU positions identified, only 9% thought that the treaty's reductions in emissions are too deep; 30% thought they

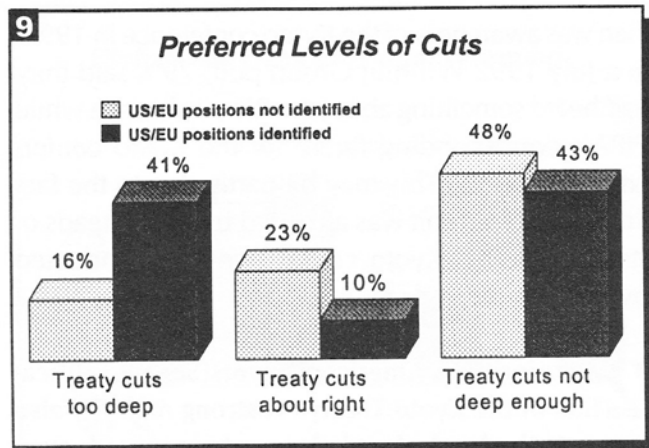
are not deep enough; and 49% thought the agreement is about right (see box 8).



Thus, a strong majority expressed support for the Kyoto Treaty, even when informed that it called for significantly deeper cuts than the original US position. Among those not informed of the US position, 79% said the Treaty was either "about right" or "not deep enough." Among those who were informed, 73% held these positions.

When pressed to be more precise about their preferred levels, a plurality favors deeper cuts. Respondents who said that the Kyoto Treaty was "about right" were asked in a follow-on question which way they leaned. Among those who did not have the US and EU positions identified, 8% (of the total sample) said they leaned toward feeling the reductions were too deep, raising the total to 16%; while 18% said they were not deep enough, raising the total to 48%. Twenty-three percent held to the view that the reductions are "about right." Among those who were informed of the US and EU positions, 20% migrated to the "too deep" position, raising the total to 41%; 14% migrated to the "not deep enough" position, raising the total to 43%; while 10% held to the "about right" position (see box 9).

Thus, even when the US position was identified, a plurality of 43% leaned in favor of the European position calling for deeper cuts, though not quite as high as the 48% leaning in that direction when the positions were not identified. However,



when the positions were identified, support for the position calling for less deep cuts was dramatically higher (41%) than when the US position was not identified (16%).

The Mellman Group has found similar results. In September 1998, after a description of the Kyoto Treaty as calling for the US to reduce its emissions 7% by the year 2010, 41% said this amount seems about right, 9% said it goes too far, while 34% said it does not go far enough. In August 1997, before the Kyoto conference, they asked about a proposal for an international agreement on emissions cuts, saying: "It has been proposed that the nations of the world agree to reduce their CO<sub>2</sub> emissions by 20% by the year 2005 in order to significantly slow down the rate of global warming." Seventy-two percent said they favored this proposal, while 9% said they opposed it (undecided: 19%).

In the week following the Kyoto conference (December 1997), Harris asked questions about the treaty to respondents who said they had been aware of the conference (55% of the total sample). Within this group, 74% said they approved "of the tentative treaty which would require industrialized countries to reduce their emissions of carbon dioxide and other gases to below the 1990 level of emissions" (disapprove: 21%); 72% of those who were aware of the conference found the agreement either "about right" (41%) or "not strict enough" (31%), while 18% said the agreement was "too strict."



**3** A majority believes that the developing countries should be expected to limit their greenhouse gas emissions, but a majority feels that they should not have to reduce emissions. If the developing countries do not accept such limits, a majority nonetheless favors proceeding with the treaty. If the developing countries are willing to limit their emissions, an overwhelming majority would support providing technology and training to help them.

In April, respondents were told: "Another controversy is whether the less economically developed countries should also be expected to cut their emissions of the greenhouse gasses that cause global warming." Respondents were then offered a choice between two statements. One statement presented the position taken by many developing countries: "On a per-person basis, less-developed countries produce far less greenhouse gases than developed countries. Therefore, the less-developed countries should not be required to limit their emissions until they develop their economies more." Only a minority—38%—chose this statement. A majority of 55% preferred the opposing argument: "The less-developed countries produce a substantial and growing amount of greenhouse gases. Therefore, they should be required to limit their emissions" (see box 10).

**10**

### **Majority Prefers Limits on Developing Countries**

On a per person basis, less developed countries produce far less greenhouse gasses than developed countries. Therefore, the less-developed countries should not be required to limit their emissions until they develop their economies more.

 38%

The less-developed countries produce a substantial and growing amount of greenhouse gasses. Therefore, they should be required to limit their emissions.

 55%

However, in the October poll it became clear that a large majority did not expect developing countries to reduce their emissions. Respondents were given a question with three response options.

A minority of 31% chose the option of requiring cuts. A majority of 64% either chose the option of requiring that the developing countries minimize the rate of the growth of their emissions (45%) or of not requiring any limits (19%). At the same time an overwhelming majority of 76% wanted to require some kind of limits either by cutting emissions (31%) or minimizing the growth of emissions (45%) (see box 11).


**11**

### **Most Do Not Expect Developing Countries to Cut**

The less-developed countries produce a substantial and growing amount of greenhouse gas emissions. Therefore they should be required to CUT their emissions.

 31% agree

The more-developed countries produce far more greenhouse gas emissions and have not yet begun to make meaningful reductions. So the less-developed countries should NOT be required to limit their reductions UNTIL the more-developed countries reduce theirs.

 19% agree

Because the less-developed countries are poor and produce far lower emissions per person, they should not be required to cut back. But they should be required to MINIMIZE the increase of their emissions through greater energy efficiency.

 45% agree

Other recent polls from other organizations strongly confirm that strong majorities think developing countries should be expected to limit their emissions. However, in all cases the question was presented with only two options, thus not allowing the respondent to distinguish between the requirement to reduce or to limit. In Pew's November 1997 poll, only 19% concurred with the view that "since poorer countries did not cause much pollution, they should not have to bear as much of the burden in dealing with global warming," while 70% concurred with the view that "every country, rich or poor, should make the same changes now in order to limit future global warming, no matter how much of the pollution they created originally." In an October 1997 poll by USA Today/Sankei Shimbun, 73% of

US respondents said that "The same energy regulations to reduce global warming should apply to all countries around the world," while just 21% thought that "There should be strict energy regulations for the United States and other advanced countries, and less strict regulations for Third World countries that have not yet achieved economic development." Finally, a Charlton Research poll (November 1997) asked respondents to agree or disagree with this statement: "Global warming concerns need to be addressed on a global scale by all countries including China, India, and Mexico and not just by a select few countries such as the US and Europe." An overwhelming 89% agreed (72% strongly), while only 8% disagreed.

### Readiness to Ratify Even Without Limits on Developing Countries

Even if the developing countries do not agree to limits, a majority of 53% feels that the US should nonetheless sign the Kyoto Treaty—contrary to the position of the US Senate. Given that 59% initially approved of ratification, it appears that support for the treaty is only diminished 6% if the developing countries refuse to accept limits (see box 12).

12

#### Support for Treaty Even Without Limits on Developing Countries

At present, some less-developed countries feel that they should not have to commit to limits on their emissions until their economies are more developed. If these countries refuse to make such a commitment do you think:

The more-developed countries and the US should proceed with the Kyoto Treaty with as many countries as will commit to limits



The US should refuse to sign the Kyoto Treaty until all the less-developed countries commit to limits.



Other polls have also found that the majority feels the US should take steps to reduce global

warming—a less specific action than ratifying the Kyoto Treaty—whether or not it succeeds in getting other countries to take steps. The November 1997 CBS/New York Times poll asked those who had heard something about global warming (85% of the sample): "Should the United States take steps now to cut its own emissions of greenhouse gases, regardless of what other countries do, or should the US wait for many countries to agree to take steps together to cut down on greenhouse gases?" An overwhelming 76% said the US should take steps regardless of what other countries do. In a September 1998 Mellman Group poll, 66% said that the US "should take action to reduce its carbon dioxide emissions regardless of what other countries do," while another 14% said it should agree to do so "as long as other industrialized countries also agree to reduce." Only 11% said the US should reduce "only if all the other industrialized and all the developing countries agree to reduce," while 5% said the US "should not take any action to reduce."

### Readiness to Give Assistance

In the April poll, respondents were asked, "If the less-developed countries are willing to limit their emissions, do you think the developed countries should provide the technology and training necessary to help them make their industries less polluting?" A nearly unanimous 90% said that the developed countries should provide this technology and training (should not: 7%) (see box 13).

13

#### Overwhelming Support for Providing Assistance to Developing Countries

If the less-developed countries are willing to limit their emissions, do you think the developed countries should provide the technology and training necessary to help them make their industries less polluting?



Even when placed in the context of foreign aid, assistance for environmental purposes does well. In PIPA's January 1995 poll, respondents were asked their views on ten different categories within the US foreign aid budget and told how much money went to each. For "environmental aid to poor countries to help them preserve their environment and to reduce pollution, especially pollution that may contribute to global warming," 79% wanted to either maintain (41%) or increase (38%) spending. Only 20% wanted to cut it. Environmental aid was the fourth most popular form of foreign aid—after child survival programs, the Peace Corps, and humanitarian relief. Only 20% wanted to cut environmental aid.

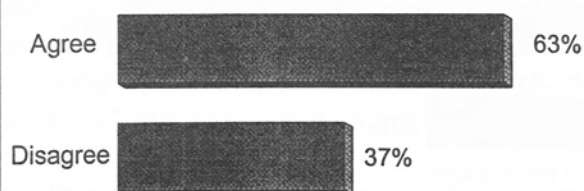
**4** Americans show a readiness to accept a moderate increase in their energy costs to deal with the problem of global warming and to comply with the Kyoto Treaty. A strong majority would accept increases in energy costs of \$25 per month per household, but a plurality would not accept \$50 a month. Overall, Americans show an optimism that reducing greenhouse gas emissions can be achieved without a harmful economic impact and that technological innovations will be effective.

Overall, Americans show a readiness to accept some increased costs to deal with environmental problems. In a September 1998 Wirthlin poll, 63% agreed with a strikingly unequivocal statement in favor of accepting costs (see box 14).

14

#### Acceptance of Costs for Environmental Protection

Protecting the environment is so important that requirements and standards cannot be too high and continuing environmental improvements must be made regardless of cost.



Wirthlin, September 1998

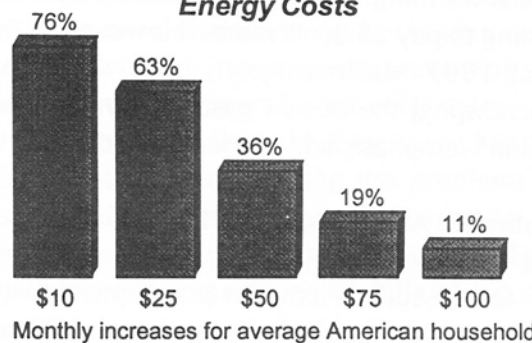
Shortly before the 1992 conference in Rio—at the time the Rio Treaty was under consideration—58% said then President Bush should "sign the treaty if it harms our economy now, but helps the environment in the long run" (26% opposed; USA Today). The same number expressed support even if it "would increase the cost of gasoline and electricity" (33% opposed).

Various organizations have attempted to estimate how compliance with the Kyoto Treaty would impact the costs of energy for the average American household. Estimates vary, primarily according to assumptions about how much the US would be able to fulfill some of the requirements through making reductions in other countries. (See Appendix A.)

To find out how Americans would respond to these costs, PIPA asked respondents how they would feel "if in fact it appears that it would cost an extra \$50 a month for an average American household." (This amount was chosen as representing a middle point among current estimates. See Appendix A.) A plurality of 52% said they would oppose signing the treaty at this presumed cost level, with 36% saying it would be acceptable. Those who said they were opposed or were unsure were asked how they would feel about \$25, and then \$10. Those who were ready to accept \$50 were asked about \$75, and then \$100. As shown below, strong majorities were ready to accept costs of \$10 or \$25 while only small minorities were ready to accept costs of \$75 or \$100 (box 15).

15

#### Willingness to Accept Increased Energy Costs





Other polls also have found a significant willingness to incur costs toward reducing global warming even when the cost is quantified in concrete terms. In a September 1998 poll by the Mellman Group, majorities were willing to pay an extra \$5 (73%), \$10 (75%), or \$20 (64%) monthly "to buy environmentally clean energy such as solar and wind power from your electric utility company in order to cut down on emissions of carbon dioxide and reduce the threat of global warming." Similarly, a September 1997 Ohio State University National Survey found that 68% said they were willing to pay more for energy to reduce pollution, with 51% volunteering an amount of \$10 or more per month.

A September 1998 Wirthlin poll even found that a strong majority did not back away from a possible increase in costs of \$1,000 a year per household. Presented a description of the attitudes of two hypothetical individuals, only 39% said they were more like the one described as "worried" that compliance with the Kyoto Treaty "would add up to more than \$1,000 a year for the average American household." Sixty percent said they were, instead, more like an individual who "believes that some increases in the cost of gas, energy and consumer products are expected and worth the price if it can reduce the threat of global warming."

Americans even show a willingness to pay more for the price of gasoline, provided that it is not presented as a tax increase. A November 1997 poll by Pew found 73% willing to "pay 5 cents more per gallon of gasoline if it would significantly reduce global warming." Sixty percent said they would be willing to pay 25 cents more. However, in the August 1997 Mellman poll, only 48% favored "increas[ing] the tax on gasoline by 10 cents per gallon" (emphasis added) (see box 16).

### Optimism About Economic Impact

On the surface it may seem inconsistent that the majority of the public believes that global warming is a serious problem and that only a minority are

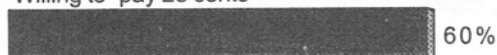
16

### Majority Accepts Increases in Cost of Gasoline

Willing to "pay 5 cents more per gallon of gasoline if it will significantly reduce global warming"



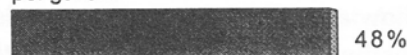
Willing to "pay 25 cents"



Pew, November 1997

### But Not Higher "Tax"

Favor "increas[ing] the tax on gasoline by 10 cents per gallon"



Mellman Group, August 1997

willing to take steps that are costly. However, this is not really a contradiction if the majority assumes that the problem can be dealt with at a moderate cost and without real harm to the economy. And indeed this does appear to be the case.

In the October PIPA poll, before respondents were asked if they would accept a certain level of costs, they were asked: "Do you tend to feel that this estimate [\$50 a month] is on the high side, on the low side, or approximately correct?" A strong majority of 59% said they thought it was on the high side, while only 9% said it was on the low side, and 20% said that it was approximately correct (see box 17).

17

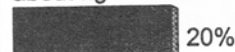
### Optimism that Cost Will Be Low

Percentage who feel that estimated increased energy cost of \$50 per month is ...

on the high side



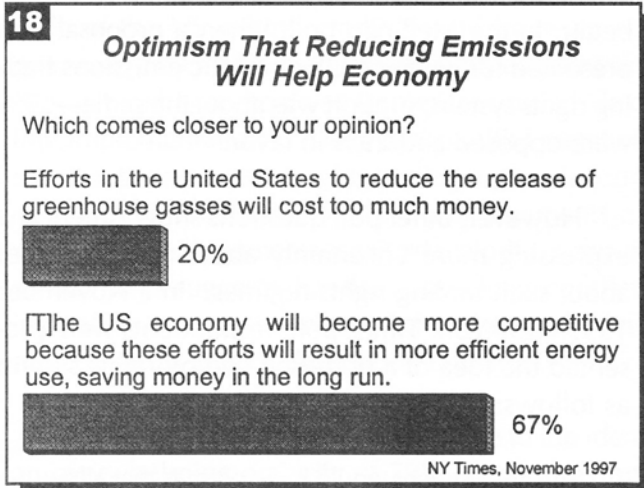
about right



on the low side



This optimism has been demonstrated in other polls. In fact, in a number of polls the majority has supported the view that making the necessary changes to reduce greenhouse gas emissions will even *help* the economy. In the New York Times November 1997 poll, when those who had heard something about global warming (85% of the sample) were asked to choose between two arguments, just 20% thought that "reduc[ing] greenhouse gasses will cost too much money and hurt the US economy," while 67% thought that "the US economy will become more competitive" (see box 18).



Similarly, in the Mellman Group's August 1997 poll, only 18% agreed that "stricter regulations on the emissions of carbon dioxide from the use of oil, coal and gasoline would go too far, and hurt the economy and cost jobs," while 60% preferred the statement that "stricter regulations ... will help stop global warming, protect our health and safety, create new jobs through new technologies, and are worth the cost" (not sure: 22%). In the September 1998 Mellman poll, only 21% thought that compliance with the Kyoto Treaty will "hurt the economy and cost jobs," while 38% said that it will "help the economy by creating new jobs through new technologies," and 24% said it would have no effect.

This optimism is part of a broader confidence that addressing environmental problems need not

be taxing on the economy. In a September 1998 Wirthlin poll, an overwhelming 75% took the position that economic growth does not have to be sacrificed for environmental quality.

This optimism appears to be rooted in the belief that technological innovations will be highly effective and that the best approach is for the government to promote them through mandates or incentives. In the August 1997 Mellman poll respondents were asked to evaluate 14 different approaches for seeking the reduction of greenhouse gases. The four that were seen as being most likely to be effective all involved technological solutions. These approaches and the percentages that believed they would be effective included to "require higher fuel efficiency and cleaner-burning engines in all new cars" (88%); "require" or "provide tax incentives to ... utility companies to offer alternative energy services that are more efficient and environmentally clean, such as solar and wind power" (85% in both cases); give cash incentives ... to individual households that upgrade to more energy-efficient appliances like refrigerators and air conditioners" (84%).

Consistent with this optimism, there is evidence that a substantial number of Americans believe that many of the needed innovations to deal with global warming economically already exist, but that their development and distribution is being held back by business interests. Asked to choose between two statements in the Mellman Group's August 1997 poll, 52% chose the following: "The technology already exists to solve many of the problems that cause global warming, but big businesses like the oil and auto industries are preventing them from reaching consumers because it is more profitable to keep things the way they are." Just 29% chose the statement, "Solving the problems that cause global warming will mean developing new technologies to reduce our use of oil, coal and gasoline, which will cost billions of dollars" (no opinion: 19%).

**5** The level of additional energy costs most Americans find acceptable is sufficient to fulfill the requirements of the Kyoto Treaty (according to US government estimates), but only if the US can get credit for purchasing emission rights from other countries. When Americans are presented the idea of such an emissions trading regime, initially the majority responds negatively. However, when Americans are presented arguments on both sides of the issue as well as the actual cost tradeoffs, a strong majority favors such a regime.

According to US government estimates, by increasing energy costs the amount most respondents said was acceptable—\$25 per month per household—the US would be able to fulfill its Treaty requirements. However, this would only be true if the treaty allows the US to fulfill its requirements by also buying emissions rights from other countries where it is cheaper to control emissions, rather than making all the cuts in the US. (See Appendix A for details of cost estimates.)

However, in the April PIPA poll, most respondents reacted negatively when presented with the idea of such an emission rights trading regime (see box 19).

19

### *Initial Opposition to Trading Emission Rights*

At the global warming conference, countries discussed whether there should be an international system of trading emission permits. In such a system, a country which reduces its emissions even more than promised gets credits it can sell. Other countries could buy these credits instead of reducing their own emissions. Some say this system is a good idea because it would encourage reductions to happen where they can be done most cheaply and effectively. Others say it is a bad idea because it would allow rich countries to pay for reducing emissions abroad while doing less to reduce them at home. Do you think it would be better to have this system or not have this system?

Good idea 30%

Bad idea 61%

Other polls have also found a decided lack of enthusiasm for the idea. In the Mellman Group's August 1997 poll, respondents were presented with a list of possible means to deal with global warming. One proposal was for the UN to "establish a worldwide limit on carbon dioxide emissions that is lower than current levels," with each member country "allocated the right to discharge a certain amount .... Countries could buy and sell these pollution rights to one another. This would allow them to choose between reducing their carbon dioxide emissions or paying to continue to pollute." Fifty-six percent opposed this idea, with 32% in favor. Domestic emissions trading systems do not do much better. In the Mellman poll, when a proposal was presented for having a US domestic emissions trading rights system, support was about the same—57% were opposed and 29% in favor.

However, other poll questions show Americans expressing more uncertainty about how they feel about such trading rights regimes. In a November 1997 New York Times poll, respondents were presented the idea of a domestic trading rights system as follows:

The government would issue permits that allow companies to give off a certain amount of greenhouse gases. Companies that do better than required would be allowed to sell at a profit their leftover permits to companies that do worse than required. These permits would give companies a financial reason to reduce their emissions of greenhouse gasses. Do you think that is a good idea, a bad idea, or don't you know enough about it to say?

Forty-nine percent said they didn't know enough, 15% thought it a good idea, and 17% a bad idea.

Also, when asked to choose between a market-based approach and the more standard government regulatory approach, the public does not take a clear position. The August 1997 Mellman Group poll asked, "In trying to reduce the threat of global warm-



ing, do you think we should rely mainly on strict regulations to limit emissions of carbon dioxide, or do you think we should rely mainly on incentives that will cause the free market to discourage carbon dioxide pollution?" Neither way won majority support. Thirty-seven percent chose "strict regulations," while 32% chose market incentives (9% undecided, 21% don't know).

### Evaluating Pro and Con Arguments

To delve deeper into the public's attitudes, in October PIPA first presented respondents with a series of pro and con arguments for the general principle of the US getting credit toward its treaty requirements by making reductions in other countries where it is cheaper to do so (sometimes called 'flexible implementation'). Despite the initial negative reaction to an emission rights trading regime (a form of flexible implementation), the pro arguments as well as the con arguments received majority endorsements. This suggests that the issue elicits conflicting values in respondents and that the public has not come to a clear judgment on the issue.

Consistent with the initial resistance to the idea, an overwhelming majority of 79% found convincing the argument that, "The US is emitting more greenhouse gases than any other country. To try to buy our way out of the responsibility to clean up our share of the problem just isn't right." Seventy-four percent also found convincing the argument that, "Instead of spending our money to clean up air in other countries, we should clean up our own air and get these benefits here at home."

However, the arguments in favor of a trading regime were nearly as strong. An overwhelming 75% found convincing the argument in support of making reductions in developing countries because "If we help [the developing countries] start out with cleaner, more efficient technology now, it will be better for the world environment in the future." Interestingly, a weaker majority (56%) found convincing the more self-interested argument that "Fulfilling

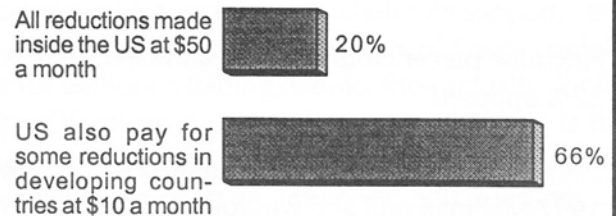
the requirements of the Kyoto Treaty will increase the costs of energy and this will create hardships for some Americans. If we get credit for reducing emissions where it can be done most efficiently, this will save Americans money on their energy bills."

### Including Cost Tradeoffs

Naturally, it is not possible for respondents to fully evaluate the idea of making reductions in developing countries over the US without attaching some economic assumptions. If nothing else, the ancillary benefits of making the reductions at home (e.g., cleaner air) make it more attractive unless the increased costs are significant. Using costs derived from a number of current estimates (see Appendix A), we presented respondents with the following question that asked them to consider the question in the context of the economic tradeoffs entailed. By a three-to-one margin, the cheaper option with reductions made in the developing countries was preferred (see box 20).

#### 20 Support for Making Cuts Elsewhere When Tradeoffs Considered

Some people have estimated that if the US is required to make all of the reductions inside the US, energy costs will have to go up about \$50 a month per household. While if the US gets credit for paying to help less-developed countries reduce their emissions, the US can fulfill its treaty obligations while only increasing energy costs about \$10 a month per household. Assuming that these estimates are reasonably accurate [what] would you prefer to see ...



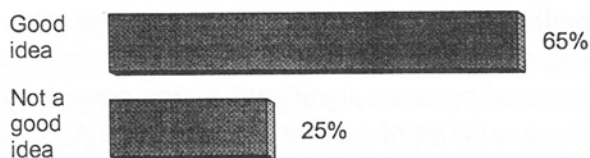
Respondents were subsequently presented different ideas for how to structure a flexible implementation regime for crediting developed countries for making reductions elsewhere. Once the major-

ity of respondents had embraced the principle of flexibility, most also embraced the idea of an emissions trading regime (see box 21).

**21**

### **Support for Trading Goes Up After Information**

One idea is to give credits to the less-developed countries for the amount they keep their emissions below certain established levels. The developed countries could then buy these credits from the less-developed countries if it would be a less expensive way to meet their treaty obligations. This would also create financial incentives in the less-developed world to be more energy efficient.



Respondents were also presented another possibility for a flexible implementation regime that did not involve trading emissions rights but rather worked through a UN agency. Support was slightly lower, but still constituted a majority:

First a UN agency would determine how much it would cost to reduce emissions in less developed countries. Assuming this would be a less expensive way to make reductions, more developed countries could meet some of their treaty obligations by contributing to the UN agency. The UN agency would use the money to make reductions in the less developed countries.

Fifty-nine percent found this an attractive idea, with 32% opposed.

A related idea was also presented in the August 1997 Mellman poll and was found appealing, even when the cost benefits were not previously spelled out. Sixty-seven percent favored "requir[ing] companies to pay for the right to pollute at lower levels than they do now and use the money raised to develop new technologies that will reduce carbon dioxide emissions even further," while only 27% were

opposed. While this is not precisely an emissions trading regime, it is a form of flexible implementation. Presumably, this idea was particularly attractive because it emphasized developing new technologies. Clearly the way that such an idea is framed is critical to its acceptance or rejection.

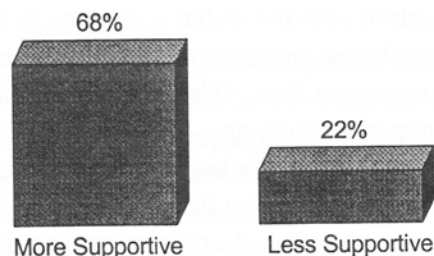
**6** By a wide margin, most Americans believe they are more supportive of taking steps to reduce global warming than the average American. Thus it appears the public underestimates the public's support for taking such steps.

Respondents were asked whether they were more or less supportive of taking steps to reduce global warming than the average American. By a three-to-one margin, they said they were more supportive (see box 22).

**22**

### **Public Underestimates Public Support**

"Overall, compared to the average American, would you say you are more or less supportive of taking steps to reduce global warming?"



This suggests that the public underestimates public support for taking such steps. If the public perceived itself correctly, the percentage saying they are more supportive than average would be equal to those who say they are less supportive. But in fact, the ratio is about three-to-one in favor of the perception that the self is more supportive. This dynamic may help explain why many policymakers and media analysts seem to assume that the public is less supportive of taking steps to address the problem of global warming than appears to actually be the case.

## Conclusion

US government decisions about the global warming treaty are not simply obscure diplomatic actions remote from the daily lives of average Americans. Decisions made will likely have significant impact on Americans' lifestyles. Thus the level of public support for such a treaty may well be more significant than for other diplomatic initiatives.

The findings of this study reveal that to mitigate the effects of global warming the American public is ready to take steps with real consequence—more than is generally realized in much of the debate on the issue. The question of whether global warming is a real phenomenon is all but resolved; the only real debate is whether the problem requires steps with moderate or substantial costs. Given Americans' optimism about the possibilities of technological solutions, a plurality favors the idea that the costs can be moderate.

The public is also ready to weigh in on some of the central debates surrounding the global warming treaty recently signed in Buenos Aires and still subject to Senate ratification. One of these is the question of whether the US should ratify the treaty if the developing countries do not accept limits or reductions. The non-binding "sense of the Senate" resolution passed in 1997 stated:

[T]he United States should not be a signatory to any ... agreement ... which would mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties [the developed countries], unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period.

While an overwhelming majority does prefer an agreement in which the developing countries commit to limits (though it does not necessarily expect cuts), if developing countries do not commit to lim-

its, a modest majority favors proceeding with the Kyoto Treaty with as many countries as will commit to limits. Thus it appears that the US Senate is out of step with the American public on this issue. If all the industrialized countries and probably a few developing countries would be prepared to commit to the agreement and the US Senate were to confront the decision of ratification, the question of public support may well become highly relevant.

Another controversy is the question of how much the US will be able to fulfill the requirements of the Kyoto Treaty by making reductions in developing countries rather than the US, such as through an emission rights trading regime. Here the public's message is somewhat complicated. On one hand Americans' support for the Kyoto agreement is 'underwritten' by majority willingness to personally accept a certain level of higher energy costs. However, this majority willingness has an upper limit: apparently somewhere above \$25 per month, but below \$50 per month per household. According to various estimates it appears that this amount will be adequate to fulfill the requirements of the Kyoto Treaty, but only if the Treaty allows for a substantial amount of emissions trading. This is an issue that is still being debated among the signatories of the Kyoto Treaty, with the US strongly pushing to make high levels of trading acceptable.

In regard to the public, the complicating factor is that the public is initially resistant to the idea of an emission rights trading regime. Arguments critical of the idea receive overwhelming support. But when faced with the higher costs of Treaty compliance without a trading regime, they actually opt for it. Of course the complication is that this is the outcome of a process of deliberation that occurs within the process of answering poll questions. It does not yet exist fully formed in the public mind.

To resolve this complication two things could happen. It may be that strong voices opposed to a trading regime will effectively strengthen the already existing resistance to a trading regime to the point



that the public will come to accept the higher costs of complying with the Treaty without a substantial amount of trading. The attraction to the local benefits of clean air and the moral discomfort with buying our way out of the problem are both significant. On the other hand strong voices in favor of an extensive trading regime—such as those from the administration—may effectively emphasize the attraction of the costs benefits plus the altruistic value of participating in a worldwide effort to aid developing countries to improve the energy efficiency and cleanliness of their industries. Both self-interested and altruistic arguments would have to be made to the public, because both are present in Americans' initial rejection of a trading regime.

At this point it appears that the public has not yet—to use a phrase from Daniel Yankelovich—come to public judgment on this issue. The results of this poll suggest it is more likely that ultimately the public will opt for a trading regime.

In either case, though, it does not appear that these disputes are strong enough to derail support for proceeding with the Treaty. The belief that global warming is indeed a problem is quite robust and the public is likely to persist in its support for finding some kind of solution to the problem, even if significant costs are involved.

## APPENDIX A: COST ESTIMATES OF TREATY COMPLIANCE

Cost estimates for complying with the Kyoto Treaty used in this survey were generated from the analyses of three government agencies, one research institution and three private firms. Since the objective was to assess respondent's sensitivity to increased energy costs, models were chosen that generated a price per ton cost of carbon permits that could be converted to household energy costs. This conversion was done on the basis of the household cost for energy presented in the Council of Economic Advisors report. A linear relationship was assumed between the increasing carbon permit prices and increasing energy costs to the consumer. The seven organizations named above, taken together, used nine econometric models generating 18 different cost scenarios based on varying assumptions.

Much of the variation in cost estimates was due to the following factors:

- the level of international trading of emissions permits assumed;
- how efficiently high carbon energy sources are replaced by less carbon intensive alternatives;
- how much innovation in alternative energy sources and conservation could be expected and when substantial efforts might begin.

None of these models assumes that there will be any technological breakthrough in alternative energy sources. Only direct costs were considered here, both secondary costs and secondary benefits of an improved environment were excluded.

The final range of estimates of cost increases to the consumer were from \$10 per month to over \$100 per month. The average monthly cost estimated by the models was approximately \$50.

Consistent with these estimates in the poll we began by asking respondents to evaluate the amount

of \$50 a month per household as the cost of Treaty compliance. This was also done to avoid possible bias introduced by starting either at a high cost or low cost. Based on their response respondents were subsequently asked about amounts as low as \$10—just above the most prominent estimate of the administration—and as high as \$100.

We also asked respondents to evaluate the tradeoff between paying \$10 a month with flexible implementation (i.e. with credit being given for reductions being made in other countries) and \$50 without. These numbers were derived as follows. Since the estimate of \$70-\$110 a month has been used widely by the administration as the estimate of the costs of compliance with a full regime of trading of emissions rights we used this as a baseline. This was rounded up to \$10 a month. Conservative estimates of the ratio between the costs of full trading and no trading are approximately 5 to 1.

Thus, \$50 was chosen as the monthly amount with flexible implementation. There are higher estimates of the absolute costs without trading, but we opted for the lower end of the spectrum so as to not make trading seem overly advantageous relative to the costs without trading. If we had used a higher baseline with trading or a higher multiple without trading, the effect in favor of trading in the poll responses would probably have been stronger than it was.

## APPENDIX C: DEMOGRAPHIC VARIATIONS

Considering the contentiousness of the debate, what is striking about these analyses is the level of agreement among demographic groups in the American public regarding the issue of global warming. For almost all issues, only the strength of support varied between groups. The only issue on which there was actual disagreement among demographic subgroups was on whether the US should proceed with the Treaty even if less-developed countries do not commit to limits. What follows is a review of the significant variations that were found between groups. The reader should bear in mind that when results are not presented it is because there were no reliable differences in the way groups responded. Most particularly it should be noted that there were no regional differences.

### Age

The youngest age group more strongly supported Senate ratification of the Kyoto treaty (65%) than older Americans, with only a plurality of those over 65 (49%) supporting ratification. This trend was echoed in their response to the question of whether they supported going ahead with the Treaty even if the less-developed countries would not agree to limits. In this case, a strong majority, (61%) of those 18 to 29 still supported proceeding with the treaty, but support declined with increasing age with an equally strong majority of those over 65 (63%) saying the US should refuse to sign the treaty in that case.

There is a tendency for younger Americans to be more willing to accept a \$25-a-month increase in energy costs. Seventy percent of those 18 to 29 found this level acceptable, but the percent saying this level was acceptable dropped with increasing age. Only a plurality (47%) of those over 65 thought this increase was acceptable. Similarly, there was also a small but significant trend for more of the youngest respondents to endorse taking steps with costs to reduce global warming (89%) than in older groups, particularly compared to those over 65. The

percentage of respondents endorsing taking steps with costs was lower among each successive age group, reaching 72% among the oldest group.

### Party Identification

While a bare majority of Republicans (52%) felt the Senate should ratify the treaty, a strong majority of both Democrats (64%) and independents (62%) wanted the treaty ratified. When asked whether the US should proceed with the treaty even if the less-developed countries do not agree to limits, Republicans were split (48% favored /47% opposed) while a majority of both Democrats (58%) and independents (53%) still supported proceeding with the treaty. Similarly, a majority of Republicans (54%) were willing to accept a \$25-a-month increase in energy costs, while strong majorities of both Democrats (65%) and Independents (69%) were willing to accept such an increase. This is consistent with the lower level of support among Republicans (75%) for taking steps with some cost to deal with global warming (24% did not want to take any those steps that would have costs), this compares with overwhelming majorities of Democrats (87%) and independents (85%) that wanted to take steps (10% of Democrats and 14% of independents did not want to take steps that would incur costs).

### Education

While a strong majority (67%) of those with advanced degrees support ratifying the treaty even if the less-developed countries do not agree to limits, support drops with decreasing education, with only 50% of those with a high school education supporting proceeding and a strong majority (62%) of those without a high school diploma feeling that the US should refuse to sign in this case. Also, while strong majorities (64% and 66%) of those with a high school diploma or higher level of education supported international emission permit trading



when informed of the cost trade-off, support for trading in light of the savings was strongest among the lowest level of education, with 74% of those who did not graduate from high school choosing trading with the concomitant savings.

Although there were no differences among groups with differing levels of education on the concept of emissions trading after no trade-offs were presented (61% opposed, 30% favored), when presented with information about costs, support for the general idea of emissions trading was higher among those without a high school diploma (77%) versus those with a diploma (64%) and those with a college degree or higher (61%).

### Household Income

Not surprisingly, the percentage willing to accept a \$25-a-month increase in energy costs to reduce greenhouse gas emissions rises with income. While only a plurality (48%) of those with household incomes of \$15,000 or less would accept this amount, support rises with income, reaching 74% of those with incomes of \$100,000 or more. Surprisingly, however, the amount of increase a majority finds acceptable stays within the \$25 to \$50 range throughout the \$25,000 to over \$100,000 income range. Hence, it is unlikely that people are judging the affordability of this amount; rather they are probably assessing whether a cost level seems reasonable to abate greenhouse gases. Consistent with this, when people are asked whether \$50 a month per household as an estimate seems "on the high side" low or correct, there are no differences between different income groups.

### Gender

Although a majority of both found a \$25-a-month increase in energy costs acceptable, more women (67%) than men (60%) found this amount acceptable. Similarly, while 79% of men felt that the US should take steps with costs to deal with global warming (19% endorsed only steps without costs),

87% of women wanted to take such steps (11% endorsed only steps without costs).

### Level of Awareness

A strong majority (64%) of those who had heard some or a great deal about global warming favored the Senate ratifying the treaty, while only a plurality (45%) of those who said they had heard nothing or not very much about global warming supported ratification. When asked if the US should proceed with the treaty if the less-developed countries will not commit to limits, a majority (59%) of those who had heard some or a great deal wanted the US to proceed with the treaty, while a majority (56%) of those who had heard little or nothing about global warming felt the US should refuse to sign the treaty. Unsurprisingly, while a strong majority (68%) of those who had heard some or a great deal about global warming thought \$25-a-month was an acceptable increase in energy costs, only a plurality (50%) of those who said that they had heard nothing or not very much about global warming found such an increase acceptable to reduce greenhouse gases. Thus it appears that with greater awareness, Americans become more supportive of the Kyoto Treaty, more willing to move forward without the less-developed countries and more willing to accept increased costs.

## APPENDIX D: HOW THE STUDY WAS CONDUCTED

To prepare this study, PIPA conducted nationwide polls and a review of previous polls done by other organizations.

### The Polls

The first poll was conducted in three waves—on February 13-17, 1998, March 15-17, 1998, and April 16-20, 1998—with a sample of 648 American adults. This was part of a larger study on European-American issues. The second poll was conducted October 22-27 with a sample of 800 respondents. Communications Center, Inc. interviewed respondents by phone on a CATI system, using a survey designed by PIPA. Respondents were chosen from all households in the continental United States by a random digit dialing sample generated by Scientific Telephone Samples. Interviewers observed gender quotas. The margin of error was  $\pm 3.5\text{--}4\%$ .

The order and placement of some questions were varied to reduce any biases that might derive from question order.

Data for this survey were collected using telephone interviews with Americans 18 years or older living in the continental United States. The sample frame was generated, using random digit dial methods, by Scientific Telephone Samples. The telephone exchanges for this sample were drawn from residential working block exchanges excluding blocks assigned exclusively for business use, mobile phones, military or governmental purposes, and known business numbers. Selection from these working blocks was weighted according to the estimated number of working residential telephones within each. The exact number of RDD numbers generated per working block was calculated proportional to the estimated working residential telephones for the particular working block against the total estimated working telephones for the entire sampling frame. Estimates of household telephone coverage were derived from census data on residential telephone incidence and updated with in-

formation from local telephone companies and other sources and cross-checked with Bellcore files. For the purpose of this study, a working bank was defined as those with more than three known working residential telephones out of the 100 possible numbers within that block.

The sample was released for interviewing in replicates. Using replicates to order the sequence of calls eliminates potential calling order bias.

### Review of Other Polls

PIPA performed a comprehensive review of publicly released polls on global warming issues. The primary sources were the Public Opinion Location Library database of the Roper Center for Public Opinion Research at the University of Connecticut, and the Inter-university Consortium for Political and Social Research.

## PIPA's Publications

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- ❖ Americans on Global Warming (Nov. 5, 1998)  
    Summary of Findings and full study
- ❖ American and European Attitudes Toward Global Warming (June 26, 1998)
- ❖ European-American Relations (June 26, 1998)
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