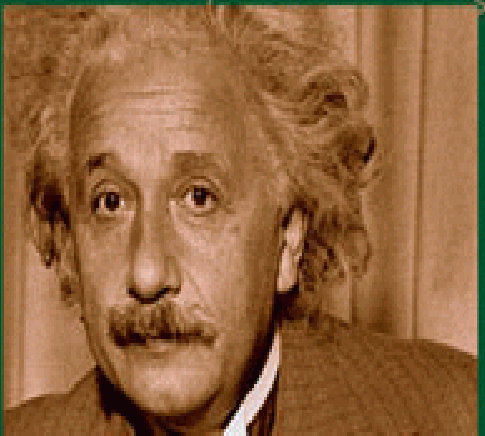


Instant Expert Guide



Global Warming

The Heartland Institute
19 South LaSalle Street #903
Chicago, Illinois 60603

Non-profit Organization
U.S. POSTAGE
PAID
CHICAGO, IL
Permit No. 4826

CONTENTS

3	What the Global Warming Treaty Would Do to You, Your Job, and Your Country
7	Seven Things You Should Know About Global Warming
7	1. Most scientists do not believe human activities threaten to disrupt the Earth's climate.
9	2. The most reliable temperature data show no global warming trend.
10	3. Global computer models are too crude to predict future climate changes.
12	4. The IPCC did not prove that human activities are causing global warming.
14	5. A modest amount of global warming, should it occur, would be beneficial to the natural world and to human civilization.
16	6. Quickly reducing our greenhouse gas emissions would be costly and would not stop global warming.
18	7. The best strategy to pursue is one of "no regrets."
21	What You Can Do to Stop the Treaty
22	About The Heartland Institute

WHAT THE GLOBAL WARMING TREATY WOULD DO TO YOU, YOUR JOB, AND YOUR COUNTRY

What is global warming?

Scientists have discovered that concentrations of minor greenhouse gases in the atmosphere, particularly carbon dioxide (CO₂), are rising.

Theoretically, these gases could trap more heat in the atmosphere, leading to a gradual warming of the Earth's atmosphere. And, again theoretically, global warming could be harmful to the environment and to human health.

Since the stakes are high, careful research and a deliberate response are called for.

In 1997, representatives of the United States and other nations met in Kyoto, Japan, to negotiate a treaty to address the possible threat of global climate change.

The Kyoto Protocol would require the U.S. to reduce certain gas emissions to 7 percent below 1990 levels by the year 2012.

That treaty, called the Kyoto Protocol, would require the U.S. to reduce its greenhouse gas emissions—primarily carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)—to 7 percent below 1990 levels by the year 2012.

The Kyoto Protocol does not become effective unless approved by the U.S. Senate. However, Vice President Al Gore and other spokespersons for the Clinton Administration have said they will attempt to implement the treaty even if the Senate does not approve it.

Why should you care?

Reducing greenhouse gas emissions by the amount demanded by the Kyoto Protocol would require new taxes on gasoline equal to 68 cents a gallon or more.*

Alternatively, the government might sell permits to businesses that produce greenhouse gases and allow them to shift the cost to consumers by raising prices.

Either way, all of us will pay higher prices for products requiring energy to be produced or transported—in other words, virtually everything we buy.

Higher energy prices would have a devastating effect on consumers and workers in the U.S. According to WEFA Inc., a respected economic consulting company, the proposed treaty would:

- Increase the price of electricity by at least 55 percent, and of home heating oil by 70 percent.
- Destroy 2,400,000 jobs.
- Cause average annual household income to fall nearly \$2,700.

A wide array of new regulations would be imposed on car owners, such as mandatory car pooling, new emissions tests, and financial penalties on the owners of trucks and sport utility vehicles.

Manufacturers would be required to install expensive new emission control equipment, change production practices, or move their factories to other countries.**

Even activities in and around your home, such as grilling in the backyard and mowing the lawn, could be regulated or even banned.

*Different tax rates would be imposed on coal, oil, and natural gas based on the amount of carbon each contains. The tax on gasoline would be the tax most visible to consumers.

**Developing countries, such as China and India, are not required by the treaty to reduce or even slow down the rate of increase of their emissions.

A Closer Look: The Case of Farmers

If you work in the service sector and ride a train to work, you may think the Kyoto Protocol won't affect you. But the proposed treaty would have harmful effects on everyone, regardless of where they work or how they travel. To understand how, let's look at farmers.

The fuel and oil used by farm tractors and trucks account for less than a third of the total energy consumed on the farm. Manufactured inputs such as fertilizer and pesticides are extremely energy intensive. They account for the remaining two-thirds of farm energy consumption.

The higher energy costs required by the global warming treaty would increase farm production costs by between 7.5 percent (for milk) and nearly 32 percent (for corn). Farmers would see their profits fall between 20 percent (for soybean growers) and a huge 84 percent (for pork producers).

Effects of Kyoto Protocol on Farm Costs and Profits		
Commodity	Effect on Costs	Effect on Profits
Corn	+31.7%	-47.0%
Soybeans	+27.3%	-20.5%
Wheat	+26.7%	-57.2%
Cotton	+25.4%	-49.1%
Hogs	+10.3%	-84.5%
Milk	+7.5%	-53.1%
Source: The Heartland Institute		

The global warming treaty would cause farm income to fall by more than \$20 billion a year, leading hundreds of thousands of family-owned farms to fail or be sold to developers.

The loss of income and jobs caused by the Kyoto Protocol would be a crippling blow to the small towns and rural communities that depend on farms for jobs and on farmers for customers.

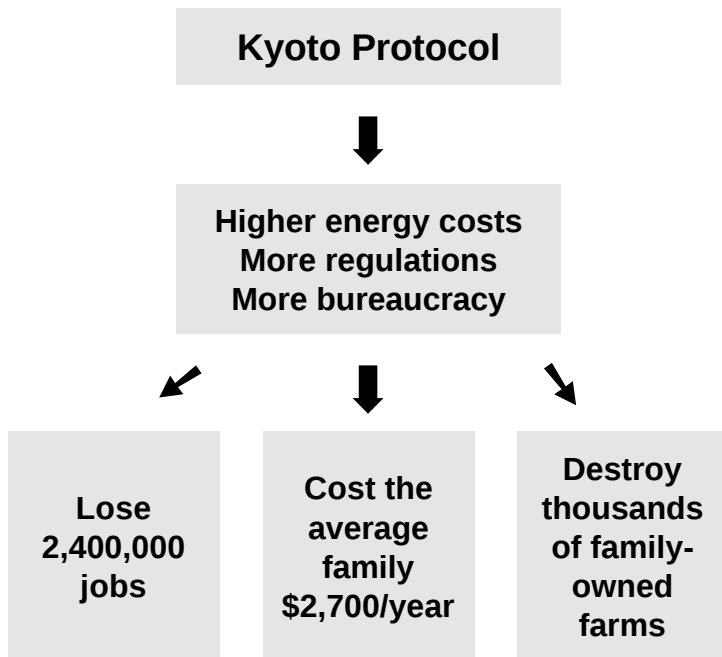
The loss of income and jobs would be a crippling blow to the small towns and rural communities that depend on farms for jobs and on farmers for customers.

The bad effects would ripple through the rest of the nation's economy in the form of higher food prices, bank failures, and more spending on food stamps and other welfare programs.

A similar story could be told about virtually any

industry or occupation. The simple truth is that no one is safe from the negative effects of the Kyoto Protocol.

Like America's farmers, *your* job, *your* taxes, and *your* standard of living are all at stake in the global warming debate.



Seven Things You Should Know About Global Warming

Much of what is reported about global warming in newspapers and on television is wrong. Unfortunately, few reporters have the training or background needed to distinguish real science and economic facts from political and ideological "spin."

Here are seven facts you should know about global warming.*

Most scientists do not believe human activities threaten to disrupt the Earth's climate.

1

Over 17,000 scientists have signed a petition saying, in part, "there is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate."

The petition is being circulated by the Oregon Institute of Science and Medicine, an independent research organization that receives no funding from industry. Among the signers of the petition are over 2,100 physicists, geophysicists, climatologists, meteorologists, and environmental scientists who are especially well-qualified to evaluate the effects of carbon dioxide on the Earth's atmosphere. Another 4,400 signers are scientists qualified to

"There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate."
-signed by 17,000 scientists

*A longer version of this section, complete with endnotes, is available from The Heartland Institute. It can be viewed on the Internet at <http://www.heartland.org/studies/gwscience.htm>.

comment on carbon dioxide's effects on plant and animal life. Nearly all of the signers have some sort of advanced technical training.

The qualifications of the signers of the Oregon Institute Petition are dramatically better than the 2,600 "scientists" who have signed a competing petition calling for immediate action to counter global warming. More than 90 percent of that petition's signers lacked credentials to speak with authority on the issue. The entire list included just *one* climatologist.*

Over one hundred climate scientists signed the 1996 Leipzig Declaration, which stated in part, "there does not exist today a general scientific consensus about the importance of greenhouse warming from rising levels of carbon dioxide. On the contrary, most scientists now accept the fact that actual observations from earth satellites show no climate warming whatsoever."

"Current science is unable to isolate and measure variations in global temperatures caused only by manmade factors."
—89% of state climatologists

A survey of 36 state climatologists—scientists retained by state governments to monitor and research climate issues—conducted in 1997 found that 58 percent disagreed with the statement, "global warming is for real,"

while only 36 percent agreed. A remarkable 89 percent agreed that "current science is unable to isolate and measure variations in global temperatures caused only by man-made factors."***

*Citizens for a Sound Economy, "Analysis finds only 10% of Ozone Action 2600 are 'Experts' on Global Warming," News Release, October 29, 1997.

**American Viewpoint, "Survey of State and Regional Climatologists, September-October 1997, Annotated Questionnaire," October 1997.

The most reliable temperature data show no global warming trend.

2

Global warming alarmists point to surface-based temperature measurements showing 1997 was the warmest year on record. But U.S. government satellites and weather balloons rank 1997 as the seventh *coolest* year since satellite measurements began in 1978. Which record is more reliable?

Surface-based temperature records are too few in number and too unevenly spaced to generate accurate global temperature maps. Only 30 percent of the world's surface is land, so land-based temperature stations measure less than one-third of the Earth's climate. Urban stations, which are influenced by city heat anomalies,* are over-represented; deserts, mountains, and forests are under-represented.

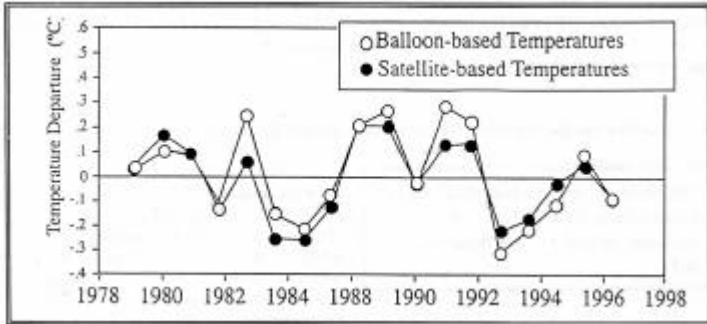
The global temperature record produced from satellite data has none of the problems faced by surface-based thermometers. Orbiting satellites cover 99 percent of the Earth's surface, not less than a third, and measure a layer of the troposphere that is above the effects of urban heat islands.

U.S. government satellites and weather balloons rank 1997 as the seventh *coolest* year since satellite measurements began in 1978.

Satellite measurements are accurate to within 0.001° C. Because new satellites are launched into orbit by the National Aeronautics and Space Administration (NASA) before old ones are retired, overlapping data sets are created, ensuring that the new satellites are calibrated correctly.

*Cities tend to record gradually rising temperatures over time due to heat trapped and gradually released by roads and building materials, the absence of shade, and heat produced by manufacturing processes, cars, and appliances.

Satellite data agree almost exactly with those recorded by weather balloons, even though the latter use an entirely different technology. While the satellite record extends back only to 1979, weather balloon data go back 38 years to 1960. As shown below, neither set of data shows a warming trend since 1979.



Source: National Aeronautics and Space Administration (NASA).

According to Dr. Roy Spencer, meteorologist and team leader of the NASA/Marshall Space Flight Center, “The temperatures we measure from space are actually on a very slight downward trend since 1979 . . . the trend is about 0.05° C per decade cooling.”

3

Global computer models are too crude to predict future climate changes.

Predictions of global climate change are based on general circulation models (GCMs), complex computer programs that attempt to simulate the Earth’s atmosphere. GCMs help scientists learn more about atmospheric physics, but they cannot predict future climates

- **GCMs can’t explain past climate trends.**
While global temperatures have risen between 0.3° and 0.6° C over the past one hundred years, computer models predict that global temperatures should have gone up between 0.7° and 1.4° C by 1990. The two ranges do not even overlap.

- **GCMs use “fudge factors” that are larger than the variables they are supposed to be measuring.**

In order to get their models to produce predictions that are close to their designers’ expectations, modelers resort to “flux adjustments”

that can be 25 times larger than the effect of doubling carbon dioxide concentrations. Richard A. Kerr, a writer for *Science*, says “climate modelers have been ‘cheating’ for so long it’s almost become respectable.”

“Climate modelers have been ‘cheating’ for so long it’s almost become respectable.”
—Richard A. Kerr

- **GCMs inaccurately model the effects of clouds.**
Most climate models assume that clouds absorb roughly 3 percent of the sun’s radiation, but more recent estimates, published in *Science* in 1995, indicate that the absorption rate may be closer to 19 percent. This means past predictions were based on data that were off by more than 600 percent.

- **GCMs are only as good as the data fed into them.**

The GCMs are programmed to assume an increase in greenhouse gas concentrations of 1 percent per year, even though the historical data show an annual increase of only 0.3 to 0.4 percent. Population growth and coal production figures were similarly exaggerated.

After correcting for these and other errors, Dr. Vincent Gray concludes “we can expect the *maximum* temperature rise between 1990 and 2100 to be 1°C.” Other scientists report

similar results when the GCMs are run with accurate data. Most scientists agree that a 1°C increase in global average temperatures over the span of 100 years would be too small to notice.

“We can expect the *maximum* temperature rise between 1990 and 2100 to be 1°C.”
—Dr. Vincent Gray

4

The IPCC did not prove that human activities are causing global warming.

The Intergovernmental Panel on Climate Change (IPCC) was created by the United Nations to act as a source of scientific advice on global warming. Its latest assessment, *Climate Change 1995*, contains this statement: “The balance of evidence suggests a discernible human influence on the global climate.”

Upon this slender reed is hung the claim of a “scientific consensus” on the need to “stop global warming.” Yet, how meaningful is this sentence?

“Balance of evidence” is a phrase used by scientists when evidence of a cause-and-effect relationship is unavailable. It is an admission that genuine proof has not been found. The word “suggests” means different people looking at the same data can disagree on its meaning. And “discernible” means detectable but by no means large or significant. It certainly does *not* mean “major,” “troubling,” or even “bad.”

Dr. Frederick Seitz, president emeritus of Rockefeller University and past president of the National Academy of Sciences, has publicly denounced the IPCC report, writing “I have never witnessed a more disturbing corruption of the peer-review process than the events that led to this IPCC report.”

Dr. Benjamin Santer, the lead author of the science chapter of the IPCC report, coauthored an article on the same subject at the same time saying until general circulation models are able to explain the past climate record, “it will be hard to say, with confidence, that an anthropogenic climate signal has or has not been detected.”

“The climate issue is not ‘settled’; it is both uncertain and incomplete.”

—IPCC Chairman Dr. Bert Bolin

Dr. Santer has also said, “It’s unfortunate that many people read the media hype before they read the chapter. . . . I think the caveats are there. We say quite clearly that few scientists would say the attribution issue was a done deal.” In a June 2, 1997 debate, IPCC chairman Dr. Bert Bolin said, “the climate issue is not ‘settled’; it is both uncertain and incomplete.”

The IPCC report, in short, has not ended scientific debate over global warming. According to its authors, more research is needed before we will know with confidence that human activities are affecting global temperatures.

A modest amount of global warming, should it occur, would be beneficial to the natural world and to human civilization.

Would some degree of warming be bad for most societies and natural environments? Probably not.

“During the 20th century,” writes Dr. Patrick Michaels, “we have already proceeded more than half way to doubling the natural carbon dioxide greenhouse effect. Here is what resulted: Life expectancy doubled in the free and developed world. The developing world is catching up as their emissions rise. Corn production per acre increased five-fold. The growing season in the coldest latitudes increased slightly, but enough to increase greenness by 10 percent.”

Warmer winters would mean longer growing seasons and less stress on most plants and wildlife, producing a substantial benefit for the global ecosystem.

The small amount of warming that occurred during the past century consisted primarily of increased minimum temperatures at night and during winters. This means higher *average* temperatures, should they occur, would not result in

more daytime evaporation, which some claim would lead to droughts and desertification.

Warmer winters would mean longer growing seasons and less stress on most plants and wildlife, producing a substantial benefit for the global ecosystem. Finally, past warming has been accompanied by increased cloudiness, a phenomenon also predicted by most global climate models. This means a warmer world would probably be a wetter world, which once again would be beneficial to most plant and animal life.

Vice President Al Gore claims that “hundreds of millions of people may well become even more susceptible to the spread of diseases when populations of pests, germs, and viruses migrate with the changing climate patterns.” Gore has also claimed that global warming will cause floods, droughts, heavy rainfall, forest fires, retreating glaciers, and heavier snowfall.

In addition to often being at odds with each other, Gore’s claims are at odds with most scientific research. The two historical epidemics described by Gore to validate his prediction were unrelated to climate change. The Black Death, for example, was transmitted by rats, which flourish in cool as well as warm climates. Cholera has been a threat in warm as well as cold climates, and is readily brought under control by treating water supplies with chlorine.

The latest research suggests that sea levels would decline, not rise, if temperatures rise, due to increased evaporation from the oceans and subsequent precipitation over land. Increasing polar temperatures by a few degrees would not cause ice or snow to melt because the original temperatures are so low that an increase of a few degrees would leave them well below freezing.

The “torrential” rainfalls Gore fears turn out to be any rainfall of 2 inches or more in a 24-hour period, something every farmer knows would likely be a blessing rather than a curse. The number and intensity of hurricanes occurring over the Atlantic Ocean (the ocean basin with the highest quality data) has steadily fallen since aircraft reconnaissance began in 1944.

A slightly warmer world would probably be greener and a little cloudier than our world today, but otherwise not much different.

The IPCC itself found “inadequate data to determine whether consistent global changes in climate variability or weather extremes have occurred over the 20th century,” with some regions exhibiting greater variability and others less.

In short, a slightly warmer world would probably be greener and a little cloudier than our world today, but otherwise not much different.

6

Quickly reducing our greenhouse gas emissions would be costly and would not stop global warming.

Attempting to reduce emissions quickly requires retiring existing capital stock (tools, equipment, machinery) before the end of its useful life. Forcing more rapid technological change is possible, but it is costly.

The treaty is a license for governments to monitor, tax, regulate, or ban virtually any activity, since all of them consume energy or produce greenhouse gas emissions.

The cost to only one country—the United States—of reducing and stabilizing only one greenhouse gas—CO₂—to 93 percent of 1990’s levels would range from 2.4 million to 3.1 million jobs lost and an annual reduction in gross domestic product of

between \$177 billion and \$318 billion.

Alone, this would be a staggering cost. But it is only a fraction of the amount the entire world would have to spend *each year* to implement the Kyoto Protocol.

Our civil and economic liberties would also suffer from the Kyoto Protocol. The treaty is a license for

governments to monitor, tax, regulate, or ban virtually any activity, since all of them consume energy or produce greenhouse gas emissions.

The Kyoto Protocol gives vague enforcement powers to a new United Nations bureaucracy to enforce its emission limits: “It would be the first time in history,” said Sen. Larry Craig (R-ID), “that an American President has allowed foreign interests to control and limit the growth of the U.S. economy.”

For all this pain, there would be little gain. “Actions by the industrial countries alone,” says Eugene

Trisko, a spokesperson for the United Mine Workers of America, “cannot achieve any of the target [greenhouse gas] concentrations that are now frequently discussed within the scientific community . . . [I]n order to approach those targets, emissions from the industrial countries have to go below zero. We have to more than disappear from the map to achieve any of them.”

Are we prepared to “disappear from the map” to stop 1°C of warming over the next 100 years?

Bert Bolin, Chairman of the IPCC, has said “Preliminary estimates . . . suggest that stabilization of greenhouse gas emissions at 1990 levels through 2100 by all Annex I [i.e., developed] countries would reduce annual emissions in 2100 by less than 15 percent and cumulative emissions by less than 10 percent.”

Similarly, the Energy Information Administration (part of the U.S. Department of Energy) has found that global emissions of CO₂ would still rise by 32 percent between 1990 and 2010 even if the U.S. and other industrial nations reduce their emissions to 1990 levels. China, Mexico, India, and other developing countries are not required to reduce or even show the growth of their emissions.

“In order to approach those targets, emissions from industrial countries have to go below zero.”
—Eugene Trisko

The best strategy to pursue is one of “no regrets.”

Some environmentalists call for a “save-the-day” strategy to “stop global warming,” saying it is better to be safe than sorry. Such a position seems logical until we stop to think: Immediate action wouldn’t make us any safer, but it would surely make us poorer. And being poorer would make us *less* safe.

Researchers have found a close relationship between a nation’s standard of living (its wealth) and many measures of public health and safety. Wealthier societies are able to invest more in things that ensure safety, such as guardrails on highways, vaccines against diseases, and safe drinking water. Simply put, wealthier is healthier.

Immediate action wouldn’t make us any safer, but it would surely make us poorer. And being poorer would make us *less* safe.

The “save-the-day” strategy will definitely make us poorer, to the tune of hundreds of billions of dollars each year. If that money is no longer available to purchase safety-enhancing devices, plainly we will be less safe as a result of our efforts to “stop global warming.”

CO₂ stays in the atmosphere for decades, meaning each year’s emissions are only a small percentage of the total amount of CO₂ in the atmosphere. Consequently, immediate large reductions in emissions have relatively small effects on concentrations of greenhouse gases.

**Less
Wealth**

=

**Less
Safety**

Whether emission reductions occur now or thirty years from now, they will have the same overall impact. If it proves necessary to make reductions, the *cost* of making reductions later, after new technologies now under development become available commercially and after current capital stock has come up for replacement, is likely to be much less than the cost of making reductions today.

The best strategy is to invest in atmospheric research to determine whether a genuine threat exists, and to invest in reducing emissions only when such investments make economic sense in their own right. Reduced emissions would be an added benefit.

The “no regrets” strategy positions us to respond quickly to bad news while avoiding the mistake of spending too much, too soon, preparing for a threat that never materializes.

This strategy is called “no regrets.” It positions us to respond quickly to bad news while avoiding the mistake of spending too much, too soon, preparing for a threat that never materializes. A no-regrets strategy would include the following activities:

- Fund research on the effects of higher CO₂ concentrations on plants and agriculture.
- Break the federal monopoly over global warming research, which currently has the effect of funding only those researchers who support the doomsday view of global warming.
- Lower capital gains taxes and make other changes to tax policies and regulations to encourage new investments in capital and technology, thereby speeding up the process of phasing out inefficient machinery.

- Repeal regulations that stand in the way of energy efficiency, such as restrictions on operating small businesses at home and zoning ordinances that lead to urban sprawl.
- Carefully target investments where they are needed to accommodate climate change. For example, higher sea levels, should they occur, could be addressed by modest improvements to dikes and seawalls in some areas, and by relocating homes and businesses in other areas.

Much can be done that would produce real social and economic benefits.

The alternative to demands for immediate action to “stop global warming” is not to do nothing. Much can be done that would produce real social and economic

benefits without sacrificing jobs, freedoms, or family-owned farms. The “no regrets” strategy is clearly superior to calls for immediate emission controls and reductions.

“No regrets”



**More research
Lower taxes on capital
Less regulation
Targeted investments**



**Insurance
against
global
warming**

**Greater
wealth and
freedom**

More safety

WHAT YOU CAN DO TO STOP THE GLOBAL WARMING TREATY

- **Call or write your elected representatives** in Washington and your state capitol. Tell them you oppose a climate treaty based on “junk science” that would cost American consumers billions of dollars of wealth, destroy tens of thousands of family farms each year, and cause millions of jobs to disappear.
- **Write to the editor of your local newspaper.** Challenge reporters to discuss the enormous costs to real people of the proposals being put forward to “stop global warming.” Point out the shortcomings of the science of global climate change. Demand to know why your point of view is not being given equal coverage in the debate.
- **Talk with your friends, coworkers, and family members** about the shaky science and huge costs of the global climate treaty. Urge them to join you in contacting elected officials and journalists, and help them spread the word to *their* friends, coworkers, and families.
- **Use the order form on the inside back cover** to order additional copies of this booklet to share with people you know. Hand them out at the next Rotary Club meeting, family party, or other social occasions to spark a lively and well-informed debate!

***Remember: Your job, your taxes, and
your standard of living are all
at stake in the global warming debate.***

ABOUT THE HEARTLAND INSTITUTE

The Heartland Institute is a nonprofit public policy research organization based in Chicago. It serves the nation's federal and state elected officials, journalists, Heartland Members, and other opinion leaders.

In addition to producing educational booklets such as this one, Heartland publishes two monthly newspapers, *Environment News* and *School Reform News*, and a bimonthly magazine, *Intellectual Ammunition*. Heartland Members receive a monthly newsletter, *The Heartlander*.

Heartland is funded by contributions from approximately 1,000 individuals, foundations, and corporations. No one donor gives more than 5 percent of Heartland's annual budget. Research is produced by a national network of nearly 100 academics and professional economists.

Heartland is a genuinely independent source of research and commentary. It is not affiliated with any political party, business, or foundation. It does not accept government funds or conduct contract research for special interest groups. Its activities are tax-exempt under Section 501(c)3 of the Internal Revenue Code.

A one-year membership in The Heartland Institute is \$29 (without *Intellectual Ammunition*) or \$49 (with *Intellectual Ammunition*).

For more information, please visit our site on the World Wide Web (<http://www.heartland.org>), call 312/377-4000, or write to us at 19 South LaSalle Street, Suite 903, Chicago, Illinois 60603.



INSTANT EXPERT GUIDE TO GLOBAL WARMING

If you would like additional copies of this booklet to distribute to your friends or colleagues, please fill out and return this form.

QUANTITY	PRICE
1-100	\$0.80 each
101-250	\$0.70 each
251-500	\$0.60 each
501 or more	\$0.55 each

For a more complete discussion of global warming with references, order "The Questionable Science Behind the Global Warming Scare," by Joseph Bast, an 18 page *Heartland Policy Study* published in October 1998. Price: \$5.00

Instant Expert Guides: # _____ \$ _____

Policy Studies: # _____ \$ _____

Total Enclosed: \$ _____

Name _____

Title _____

Organization _____

Street _____

City, State, Zip _____

Phone _____ Fax _____

E-mail _____

Please return this form with payment to The Heartland Institute, 19 South LaSalle, Suite 903, Chicago, Illinois 60603. Questions? Call us at 312/377-4000 or visit our Web site at www.heartland.org