

Global Climate Change

Stop, look and listen before we leap



International efforts to deal with climate change are lurching from speculation toward actions that could wreak havoc on nations even as the underlying science and economics continue to signal caution.

While governments have agreed that there may be reasons for concern over the buildup of greenhouse-gas emissions, primarily carbon dioxide (CO₂), there is no consensus on what constitutes "dangerous levels" of emissions nor is there agreement on when, where and how best to reduce their impact. Yet, an action plan with binding commitments on developed nations could take shape by year's end.

We are concerned that policy makers are not considering the implications of controlling CO₂ emissions. Studies have examined some of the emission-control plans tabled to date and concluded that they will impose painful burdens on developed economies, particularly if timetables are short and targets unrealistic. For Americans, such solutions mean jobs will disappear and lifestyles will be pinched as our industrial infrastructure shrinks.

A study just issued by Charles River Associates (CRA) provides additional weight to the impact of emission controls in an age of global markets. The report shows how ill-timed or ill-considered abatement measures could stunt world economic growth, unsettle global trading patterns and set the stage for a new era of trade protectionism.

CRA analyzed two abatement scenarios—one a more modest stabilization proposal, the other a more aggressive reduction plan. Both policies appear to fall within the boundaries of acceptability by the U.S. government. The authors utilized a carbon-rationing plan to achieve required reductions in CO₂ emissions. In

practice, rationing will increase energy prices for both industry and the consumer.

The cost of limiting emissions could range from \$200 to \$580 per ton of carbon, depending on the timing and severity of the plan selected. To put this in perspective, this equates to an additional cost to consumers of 50 cents to \$1.50 per gallon of gasoline in today's dollars.

The expected blow to U.S. prosperity would be considerable, according to CRA: an annual drop in gross domestic product ranging from \$105 billion in the year 2010 to \$460 billion in 2030, both in today's dollars. At the lower range, this works out to a loss in annual household income of roughly \$1,000.

One key finding of CRA's study is that the economic burden of emissions controls is borne not only by the industrialized countries, but also by developing societies, who under current proposals need do nothing. The developed world feels the pain as it is forced to switch fuels and revamp its industrial infrastructure. The developing world, which now exports 60 to 75 percent of its products to industrialized countries, will see those markets shrivel as economic growth stalls and demand for protectionist measures grows. Developing countries that import energy will benefit from lower fossil-fuel prices, but in most cases that gain won't offset the loss of trading markets. And energy exporters—be they developed or developing—will be particularly hard hit as energy markets shrink.

The CRA study injects a healthy dose of realism into the climate-change debate. In the coming months, we'll continue to look at what other experts are saying. Meanwhile, we urge international policy makers not to make 1997 a year of hasty decisions. The entire world's prosperity depends on a course of wise, sustainable action.

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Climate change: Let's get it right



As world leaders gather at the United Nations to review our planet's progress on sustainable development, we expect they also will caucus on the issue of climate change. The reason: In just six months in Kyoto, Japan, nations are poised to settle on a plan to reduce greenhouse gases.

It began five years ago in Rio de Janeiro, when nations agreed to formulate a plan to reduce greenhouse gases. The concern is that the build-up of these gases (carbon dioxide, methane and nitrous oxide) in the atmosphere could cause climate change.

The agreement that will likely emerge from the Kyoto meeting will commit only industrialized nations to binding targets and timetables to control their emissions of greenhouse gases; other nations may be asked to participate in this process, but they are not bound to action. Emission abatement plans have focused primarily on CO₂, which is produced when coal, oil and natural gas are burned. Much is at stake in these upcoming global climate discussions—not just a habitable planet for future generations, but also a world where all nations can provide for the economic well-being of their citizens.

We encourage governments to take the time to do it right—to examine the science, decide if emission levels are dangerous and then evaluate steps to effectively mitigate or reduce future emissions. If the wrong decision is made, it could be divisive—pitting industrialized countries against developing nations—and derail the serious effort that may be needed to stabilize emission levels.

A number of emission proposals have been tabled. They deserve the attention of all government actors—not only environmental ministers, but also the economic and finance ministers. Abatement measures need to be flexible so nations can benefit from new technology and improved understanding of the science and economics of climate change.

Instead of rigid targets and timetables, governments should consider alternatives, including:

- Adopt consensus objectives; encourage voluntary initiatives and government-industry partnerships that will help attain these goals.

- Target all greenhouse gases, not just CO₂; encourage development of sinks—activities that offset or reduce these gases—like reforestation and improved agricultural practices.

- Encourage development and dispersion of new technology to assure widespread adoption of cost-effective abatement approaches.

While the likely Kyoto agreement will directly affect only industrialized nations, the burden will ultimately be borne by others. Many studies point out that in a world where economies are increasingly integrated, energy exporters and developing nations will suffer as well. As industrial economies are driven to switch fuels and revamp their industrial bases, their growth will falter, altering trade patterns throughout the world.

A draft U.S. Department of Energy study on six energy-intensive industries indicates that high energy prices, which would follow from stiff commitments to reduce CO₂ emissions, would have a crushing effect on these sectors. And despite the blow to U.S. jobs and this industrial base, it is unlikely that overall emissions would be reduced because the manufacturing capacity would migrate to countries not bound by emission limits.

Congress is also concerned. Sixty-one U.S. senators are calling for further review of the climate change issue. Since a binding agreement signed by the U.S. will require Senate ratification, many legislators believe any emission reduction plan should include an estimate of its economic impact.

Clearly, curbing greenhouse gases is the responsibility of all nations. By early next century, fast-growing, developing nations will be the largest carbon emitters. That's why it is incumbent on all nations to participate in the solution even in the short term.

As officials head home, we urge them to reflect on the decisions that they will enter into later this year. The world is counting on wise and prudent action.



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The Senate speaks



Once a distant blip on the radar screen, the issue of climate change is getting a great deal of media and political attention. And that's fine as long as such attention doesn't stampede nations into adopting unwise and disruptive quick fixes.

Assessing the potential dangers from the buildup of greenhouse gases (mainly carbon dioxide and methane) and developing an action plan to combat emissions in an equitable manner has produced serious disagreement among scientists, economists and climate change negotiators for the past five years.

The issue seems headed for a showdown this December in Kyoto, Japan, as industrialized nations negotiate a reduction in greenhouse gas emissions. A number of plans have been tabled—each with varying economic costs.

While industrialized nations are divided on the sacrifices each is willing to assume, the drive for action is running strong. In June, President Clinton promised to bring to the Kyoto conference "...a strong American commitment to realistic and binding limits...[to] reduce emissions of greenhouse gases."

That commitment, though, must be balanced against the concerns expressed in a Senate resolution on the terms under which the U.S. should sign an agreement on greenhouse gas emissions.

The Senate, in discharging its constitutional authority, must ratify any binding agreement or treaty. Exercising its oversight responsibility, the Senate frequently expresses its views to the administration long before final negotiations begin. Which is why the recent vote on Senate Resolution 98 deserves more

than passing comment.

Introduced by Senator Byrd of West Virginia and cosponsored by 64 senators, both Democrat and Republican, Senate Resolution 98 passed by a 95 to 0 vote. It signals genuine concern about ratifying a treaty that doesn't involve participation by all nations or could jeopardize the U.S. economy. Mobil has expressed similar concerns in this space during the past year.

Here is what the resolution cautions about any agreement emerging from Kyoto:

"(1) the United States should not be a signatory to any protocol which... would—

"(A) mandate new commitments to limit or reduce greenhouse gas emissions [for the industrialized nations] unless the protocol ... also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country parties....

"(B) result in serious harm to the economy or the United States; and

"(2) any such protocol... should be accompanied by a detailed explanation of any legislation or regulatory actions that may be required to implement the protocol... and should also be accompanied by an analysis of the detailed financial costs and other impacts on the economy of the United States...."

When the Congress speaks this forcefully, the American public as well as the administration should take notice. The issue of climate change will loom large in the coming months. We urge each and every citizen to study the issue, engage in the debate and express your opinion. No one ever said making democracy work is easy.

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Whose Life Is It?

By George McGovern

WASHINGTON Freedom of choice in our everyday lives is a treasured right in America. That freedom should, of course, be balanced with a sense of responsibility for our personal well-being and that of others.

Two high-profile lawsuits that hinged on the issue of choice were decided in early May. In the first case, a Florida jury decided that the R. J. Reynolds Tobacco Company did not have to pay damages to the family of Jean Connor, who died of lung cancer at 49 after smoking for 34 years. A day later, a North Carolina man, Thomas Richard Jones, was given a life sentence for killing two people while driving under the influence of alcohol and drugs.

Mrs. Connor chose to smoke. Millions of Americans have quit smoking, and Mrs. Connor admitted in a videotape made during the last stages of her illness that she could have quit puffing had she cared enough.

I know too well the ravages of alcoholism, having lost my daughter to her addiction. But I also know that people are able to make choices. In the case of Mr. Jones, he was aware of the lethal effect of combining prescription drugs with alcohol. One can argue that as an alcoholic, Mr. Jones had a disease and therefore had no choice but to drink. But he had the choice to take public or other transportation. Instead he decided to drive while drunk, and now has to accept the consequences.

Despite the death of my daughter, I still appreciate the differences between use and abuse. I still enjoy a glass of wine with friends. I also would not have denied Mrs. Connor her cigarettes. Nor do I condemn the current trend in cigars. As the former owner of a Connecticut inn, I always allowed my adult guests wide latitude in their habits. Scotch was available at dinner, and there were convenient designated areas for smokers.

Today, however, there are those who would deny others the choice to eat meat, wear fur, drink coffee or simply eat extra-large portions of food, to give a few examples. Wearing

George McGovern, the Democratic nominee for President in 1972, is the author of "Terry: My Daughter's Life-and-Death Struggle with Alcoholism."

perfume in public raises the ire of certain organized interest groups.

While on any day each of us may identify with the restrictive nature of a given campaign, there is a much larger issue here. Where do we draw the line on dictating to each other? How many of these battles can we stand? Whose values should prevail?

Life in America has remained relatively peaceful compared with that in other societies. But we are becoming less tolerant and more mean-spirited in everyday social interactions. We have become less forgiving. Suing institutions as well as each other for perceived harms has become a ruinous sport.

It was reported in June that a 61-year-old man, Norman Mayo, is suing Safeway and the Washington State dairy industry for failing to warn about the dangers of drinking

The new paternalism threatens our freedom to make our own choices.

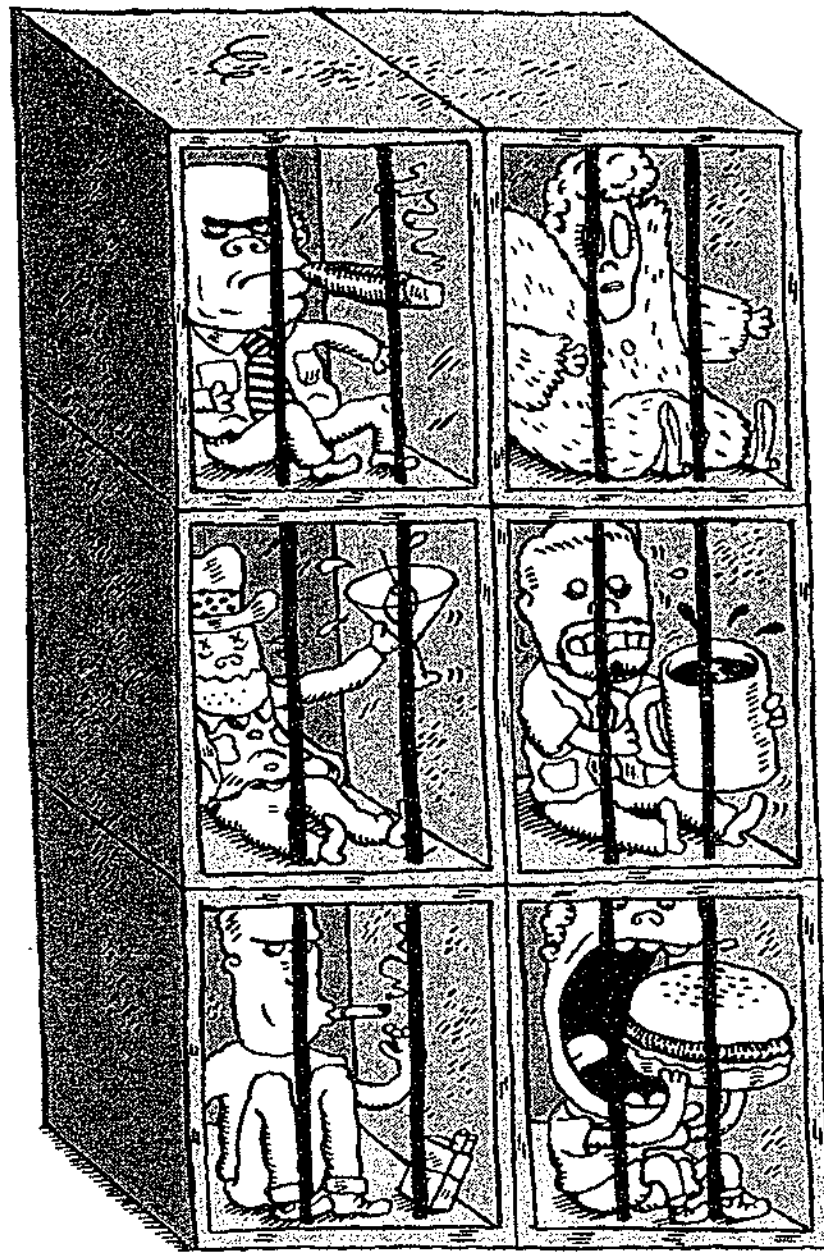
whole milk. A self-described "milk-aholic," Mr. Mayo wants warning labels on all milk cartons to protect others. Where does this end?

Some issues, like the proper treatment of animals, deserve public debate. But that doesn't mean activists should assault people who wear furs, destroy animal research laboratories or firebomb restaurants that serve meat. These actions transform differences of opinion into dangerous intolerance and intimidation.

On other issues, like gambling, the messages can be confusing. Is casino gambling a moralistic issue when state lotteries and horse racing are socially acceptable? Is the stock market different, or is it just a harder game to understand?

New attempts to regulate behavior are coming from both the right and the left, depending only on the cause. But there are those of us who don't want the tyranny of the majority (or the outspoken minority) to stop us from leading our lives in ways that have little impact on others.

While the choices we make may be foolish or self-destructive — bungee



jumping is my favorite example of insanity — there is still the overriding principle that we cannot allow the micromanaging of each other's lives. When is the thrill too risky? How many drinks are too many? When is secondhand smoke too thick? All of these questions need to be considered with some measure of tolerance for the choices of others.

We are witnessing a new age in this country: the fragmentation of society along lines that do not break on typical demographics like race,

age or income. These new divisions are based on paternalism — what we believe is best for each other.

The beauty of choice is that it allows some people to drive a high-powered car to dinner, allows others to have a drink with dinner and allows a cigarette to be smoked after dinner. In all cases, we require individuals to make certain their behavior does not have an impact on others. To the degree that it does, they will be held responsible for their choices.

But when we no longer allow those choices, both civility and common sense will have been diminished. □

In America
BOB HERBERT

One More Police Victim

At what point will Mayor Rudolph Giuliani and Police Commissioner Howard Safir decide that things have gone too far, that it is time to put a stop to the barbaric behavior of so many New York City police officers?

The latest outrage occurred early Saturday morning in the 70th Precinct station house in Brooklyn. At least two uniformed officers are said to have tortured and humiliated a man named Abner Louima by yanking down his trousers and driving the wooden handle of a toilet plunger so far into his rectum it punctured his small intestine and damaged his bladder. The filthy handle was then driven into Mr. Louima's mouth with enough force to break his teeth.

One officer, Justin Volpe, was arrested last night and charged with assault and aggravated sexual abuse.

Lawyers for Mr. Louima, who is Haitian, said the cops called him a nigger and shouted other slurs while they abused him. And they said the officers threatened to kill him if he filed a complaint.

Mayor Giuliani professed to be shocked by the attack. Perhaps he was. But the only thing shocking to most close observers of the Police Department was the grotesque psychosexual nature of the assault. The fact that police officers would brutalize a civilian is not shocking at all. Many other attacks by police officers in recent years have been more violent, including several that have been fatal. These include:

- The killing of Nathaniel Gaines Jr., a 25-year-old Navy veteran, on a Bronx subway platform in July 1996. Mr. Gaines was shot in the back by Police Officer Paolo Colechia, who was convicted last month of manslaughter.

- The killing of Anthony Baez, who was locked in an illegal choke hold by Officer Francis X. Livoti after a dispute erupted over a touch football game. Mr. Livoti was dismissed from the police force but was acquitted of criminal charges.

- The killing of Charles C. Campbell, who was beaten and shot in a Dobbs Ferry parking lot by an off-duty New York City police officer who didn't like where Mr. Campbell had parked. The officer, Richard D. DiGiulio, has been charged with second-degree murder.

- The near-fatal attack on Lebert Folkes, a 29-year-old Queens man who was dragged from his sister's car by police officers and shot in the face at point-blank range. The cops

said they thought the car was stolen. It was not. The next day police officials apologized for the shooting.

There are many, many cases of savage abuse of civilians by police officers. Seldom are the officers charged with a crime and in most cases they are not even disciplined. Thousands upon thousands of lawsuits alleging police brutality are filed against the city and millions of dollars each year are paid to settle such

Will Giuliani ever rein in the cops?

suits. But little is done to prevent these hideous miscarriages from occurring. Only in the most extreme cases will the public hear critical comments from the Mayor or Police Commissioner about the behavior of the police. And the vast majority of the cases are ignored by the media.

The message that is picked up by the average police officer is clear: Brutal behavior will be tolerated, if not encouraged. That is an affront to the majority of officers who do their jobs legally, courageously and well. More important, it undermines the faith of New Yorkers in the Police Department as a whole. Most important, this tendency to give a wink and a nod to most instances of brutality results in the grievous harm and sometimes the death of human beings who have done nothing to warrant such vicious treatment.

A great deal is being made of the fact that Mayor Giuliani has not rushed to the defense of the officers accused of attacking Mr. Louima. His usual inclination is to support the police no matter what, and whenever possible to draw an impenetrable curtain between evidence of police misconduct and the curious eyes of the public.

Maybe this case is sensational enough to result in a sustained and honest look by the Mayor and the Commissioner at the extent of police brutality in the city. They could stop a great deal of it, thus saving lives.

Denunciations after the fact are not enough. Cops who cannot or will not control their violent impulses are a menace. And so are public officials who have the power to do something about those officers, but choose not to. □

Clinton's Great and Timid Step

By Dan Coats

WASHINGTON President Clinton's use of the line item veto this week was a timid act of great importance. The cuts themselves — two tax breaks and a special Medicaid provision for New York — were on the margin of a margin, about 0.002 percent of the total budget. But they were sufficient to clarify an important principle.

This principle concerns the often misunderstood constitutional balance of power between the legislative and executive branches on budgetary matters. The President has the line item veto because Congress was shamed last year into renouncing a power it had grabbed and clearly abused.

It used to be that a President could simply refuse to write checks for spending approved by Congress; the precedent for such action, known as impoundment, goes as far back as Thomas Jefferson. But in 1974 Congress made impoundment illegal and required the President to accept or reject appropriation bills in full. The

Dan Coats is a Republican Senator from Indiana.

The line item veto controls Congress.

result was an outbreak of bipartisan self-indulgence (mollusk research, pointless museums and the like), which made even those who benefited from it feel guilty.

The line item veto is a stripped-down version of impoundment. It allows the President to cut specific items from the budget, yet permits Congress to reinstate them by a two-thirds vote. It is not, as some critics contend, a violation of constitutional principle. It is the redress of an imbalance in power that had been created, enjoyed and misused by Congress. President Clinton's use of the line item veto will provide an important test case for the Supreme Court.

Could a petty President abuse this authority, holding the pet project of some member of Congress hostage to gain agreement on another issue? Well, yes. Could a bitter President use the veto over and over again to wage war against a Congressional agenda? I suppose. But these scenarios exaggerate the influence of the line item veto — an influence that is

substantial, but not revolutionary.

Even with the line item veto, Congress remains the lead player in the budget process. A President who wants particular legislation passed cannot risk angering Congress by repeatedly using this power as a weapon. Senator John McCain of Arizona and I designed the line item veto law so that there is every incentive for a President to use it judiciously, in only the most egregious cases of excess.

If a President, whatever his motives, eliminates some foolish budget item or tax policy that two-thirds of Congress cannot justify, good riddance. If the President is being arbitrary or punitive, Congress can manage quite well, thank you — as it did for 198 years under the stronger threat of impoundment.

I would prefer the line item veto in the hands of a Republican President, but it would be unprincipled to oppose it in the hands of a Democratic one. So it falls to conservatives who championed this measure for many years to defend President Clinton.

Some Republican leaders may object that the fine print on their budget agreement with the President has been smudged. But the line item veto — Ronald Reagan's chief budgetary priority — is a more substantive development than the oversold budget deal they have been promoting. □

When facts don't square with the theory, throw out the facts



That seems to characterize the administration's attitude on two of its own studies which show that international efforts to curb global warming could spark a big run-up in energy prices.

For months, the administration—playing its cards close to the vest—has promised to provide details of the emission reduction plan it will put on the table at the climate change meeting in Kyoto, Japan, later this year. It also promised to evaluate the economics of that policy and measure its impact. Those results are important because the proposals submitted by other countries thus far would be disruptive and costly to the U.S. economy.

Yet, when the results from its own economic models were finally generated, the administration started distancing itself from the findings and models that produced them. The administration's top economic advisor said that economic models can't provide a "definitive answer" on the impact of controlling emissions. The effort, she said, was "futile." At best, the models can only provide a "range of potential impacts."

Frankly, we're puzzled. The White House has promised to lay the economic facts before the public. Yet, the administration's top advisor said such an analysis won't be based on models and it will "preclude...detailed numbers." If you don't provide numbers and don't rely on models, what kind of rigorous economic examination can Congress and the public expect?

We're also puzzled by ambivalence over models. The administration downplays the utility of economic models to forecast cost impacts 10-15 years from now, yet its negotiators accept as gospel the 50-100-year predictions of global warming that have been generated by climate models—many of which have been criticized as seriously flawed.

The second study, conducted by Argonne National Laboratory under a contract with the Energy Department, examined what would

happen if the U.S. had to commit to higher energy prices under the emission reduction plans that several nations had advanced last year. Such increases, the report concluded, would result in "significant reductions in output and employment" in six industries—aluminum, cement, chemical, paper and pulp, petroleum refining and steel.

Hit hardest, the study noted, would be the chemical industry, with estimates that up to 30 percent of U.S. chemical manufacturing capacity would move offshore to developing countries. Job losses could amount to some 200,000 in that industry, with another 100,000 in the steel sector. And despite the substantial loss of U.S. jobs and manufacturing capacity, the net emission reduction could be insignificant since developing countries will not be bound by the emission targets of a global warming treaty.

Downplaying Argonne's findings, the Energy Department noted that the study used outdated energy prices (mid-1996), didn't reflect the gains that would come from international emissions trading and failed to factor in the benefits of accelerated developments in energy efficiency and low-carbon technologies.

What it failed to mention is just what these new technologies are and when we can expect their benefits to kick in. As for emissions trading, many economists have theorized about the role they could play in reducing emissions, but few have grappled with the practicality of implementing and policing such a scheme.

We applaud the goals the U.S. wants to achieve in these upcoming negotiations—namely, that a final agreement must be "flexible, cost-effective, realistic, achievable and ultimately global in scope." But until we see the details of the administration's policy, we are concerned that plans are being developed in the absence of rigorous economic analysis. Too much is at stake to simply ignore facts that don't square with preconceived theories.

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Vindication, Not Vengeance

By Olivia Goldsmith

FOR a domestic dispute, the "alienation of affection" case of Dorothy Hutelmyer vs. Margie Cox Hutelmyer has attracted a lot of national attention. But this is not a story of greed or vengeance, as the press would have it. It's about the need for vindication.

As almost everyone now knows, a jury in North Carolina ordered the second Mrs. Hutelmyer — Margie — to pay the first Mrs. Hutelmyer — Dorothy — \$1 million for stealing away her husband.

"Do you think she's going to get \$1 million?" Margie Hutelmyer said after the jury's judgment. "I own no property. I have no savings."

She just doesn't get it. The lawsuit was not about money. Nor was it Dorothy Hutelmyer's aim to blame

Olivia Goldsmith is the author of "The First Wives Club" and "The Bestseller."

A lawsuit defends first wives everywhere.

"the other woman" for her ex-husband's behavior. The lawsuit was about honor and loyalty; it was about the marriage contract. The lawsuit was simply a way for the first Mrs. Hutelmyer to send a message: What happened to her was neither fair nor appropriate.

In our society, it is difficult to get anyone to admit to anything. Margie Hutelmyer appears to feel no responsibility. In fact, she blames the first Mrs. Hutelmyer for the whole mess. "Until she can acknowledge that she shares in the responsibility in the breakdown of that marriage," Margie Hutelmyer said, "she can never get on with her life." Thank you, Dr. Ruth. But we are not talking about a failed marriage where two people

agree they are growing apart and decide to separate. We're talking about betrayal and deception. Joseph Hutelmyer and Margie Hutelmyer have admitted they had an affair while he was married. He is responsible for his actions, certainly, but isn't she also culpable?

The disastrous changes in divorce laws over the last two decades have not only failed to protect many wives financially, but also given them no emotional succor. Since the antiquated "alienation of affection" law is still on the books in the state where she lives, why shouldn't Dorothy Hutelmyer press her case in the courts?

The decision is not a victory for conservative family values, as some politicians have said. It's not even a practical solution for most women in her situation. After all, only 12 states still have the "alienation of affection" law on the books.

The jury's decision is a vindication. What the resourceful Dorothy Hutelmyer did was ask a jury of her peers if her anger was justified. In less than three hours they came in with a decision supporting her. What's wrong with that? □

Global climate change



If this issue hasn't captured your attention yet, it will shortly. That's because government representatives will meet in Kyoto, Japan, in early December to see if they can agree on a plan to control carbon dioxide (CO₂) and other greenhouse gases that may be linked to global warming and climate change.

Because our products—oil and gas—are at the center of the climate change debate, some say we are indifferent to growing concerns over the buildup of man-made greenhouse gas emissions. Not so. We share many of these concerns. But some key questions remain unanswered.

Others say we're not doing anything to reduce emissions; we only care about finding more oil, making more money. Not true. We have already taken steps to cut emissions and we're ready to do more. Yes, we're looking for more hydrocarbons because energy demand is increasing and, for now, there's no real alternative. And yes, the financial stakes are important. Just ask shareholders, employees and others who benefit.

We want to play a constructive role in the policy debate on climate change. It's an issue that defies simplification and doesn't lend itself to easy solutions.

In the coming weeks, we'll wade into the debate, beginning with what we do and don't know about greenhouse gases and climate change. Then we'll look at emission control strategies and examine their economic impact. We'll also describe what Mobil is doing and give you our point of view.

Because we believe there is potential reason for concern, there are measures we can take that will give us time to get better data so governments don't have to commit to policies that will damage economies. Many companies are taking such steps. Here is what Mobil is doing:

Inside Mobil. Programs to reduce our own emissions include use of energy-saving technology at refineries, energy management audits, initiatives to reduce gas flaring offshore, elimination of methane leaks and participation in government-sponsored programs in the U.S. and elsewhere. In the last three years, we've cut our carbon emissions by more than one million tons; this pace will accelerate.

Our products. Mobil synthetic lubricants increase engine efficiency, cutting carbon dioxide emissions. Since 1990, use of these products has reduced vehicular carbon emissions by one million tons.

Research. Mobil is continuing to fund research to improve the science and economics of climate change.

Technology. Through business/university consortia, we're supporting development of refining and hydrocarbon fuel technologies that promise higher efficiency and lower emissions.

Reforestation. Working with leading environmental groups, Mobil will underwrite international projects to plant and protect trees which absorb significant amounts of CO₂. Initiatives like these, which are good for the environment, can be taken while the debate continues.

As the deadline in Kyoto approaches, there's considerable pressure to reach an agreement. Frankly, the pressure seems misplaced. Let's not rush to a solution before we fully understand the dimensions of the problem. A measured approach—one that relies on actions by businesses, consumers and governments—gives us time to clear up the uncertainties surrounding climate change.

Sustained actions, better science and improved technologies will point the way to realistic policies. We all share the same goal: protecting Earth's environment while raising living standards for all.

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Reset the alarm



The alarm is about to go off as the Kyoto deadline approaches. Government negotiators meet in a month to decide on a mandatory plan for industrialized nations to cut their emissions of carbon dioxide and other heat-trapping gases. But imposing a solution before the problem has been defined could prove a rude awakening for the developed and developing countries.

Basically, three proposals are under consideration. The European Union plan wants industrialized nations to cut greenhouse gas emissions 15 percent below 1990 levels by 2010. Japan's plan calls for reducing emissions five percent below 1990 levels between 2008 and 2012. The U.S. plan targets a return to 1990 emissions levels over the 2008-2012 period, with additional cuts coming later.

The U.S. plan also encourages joint implementation projects—where one country invests in an emission-reduction project in another country and earns credit for the reductions at home—and emissions trading. More importantly, the U.S. plan recognizes that developing countries, which will become tomorrow's largest carbon emitters, must participate in the solution. The president said the U.S. will not "assume binding obligations unless key developing nations meaningfully participate in this effort." The problem is that if they aren't signatories and participants to a treaty that binds them to action, then there's no global solution.

Energy conservation and development of energy-efficient technologies in the U.S. via tax cuts and other incentives are also under consideration.

At first reading, the U.S. proposal seems moderate. We're encouraged by the call for voluntary, market-based steps. But we're wary of incentives, which are usually subsidies in disguise.

What is not moderate is the call to lower emissions to 1990 levels. A cutback of that size would inflict considerable economic pain.

The Energy Information Agency projects that energy demand in industrialized nations over the 1990-2010 period will grow about 30 percent. Committing to binding targets and timetables now will alter today's lifestyles and tomorrow's living standards. Flexibility will be constrained. Carpooling in; sport utility vehicles out. High fuel and electric bills. Factory closures. Job displacement. And could businesses and consumers cut their energy consumption by 30 percent without some form of tax or carbon rationing? Probably not.

Let's face it: The science of climate change is too uncertain to mandate a plan of action that could plunge economies into turmoil. Yet, that's what nations seem prepared to do.

Scientists cannot predict with certainty if temperatures will increase, by how much and where changes will occur. We still don't know what role man-made greenhouse gases might play in warming the planet.

We're not impugning the existing science or suggesting that "our science is better than your science." Current science isn't bad; it just doesn't go far enough. Better science is emerging on what factors affect global warming. No need to wait 20 or 50 years; big breakthroughs that will dramatically inform our decision-making are expected in the next five to 10 years. Scientists are getting more precise in calculating temperature variations; they're probing the role of clouds and oceans on climate. Such information can take much of the guesswork out of what and where actions will be needed.

In the meantime, businesses, individuals and governments can take precautionary, voluntary steps to reduce their emissions. And we can begin to work more closely with developing nations to help them grow their economies in energy efficient ways.

Let's not rush to a decision at Kyoto. Climate change is complex; the science is not conclusive; the economics could be devastating. And the world's not ready for it. Reset the alarm and take the time to get it right.

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Science: what we know and don't know



As the debate over climate change heats up, science is being upstaged by the call for solutions. At stake is a complex issue with many questions. Some things we know for certain. Others are far from certain.

First, we know greenhouse gases account for less than one percent of Earth's atmosphere. The ability of these gases to trap heat and warm Earth is an important part of the climate system because it makes our planet habitable. Greenhouse gases consist largely of water vapor, with smaller amounts of carbon dioxide (CO₂), methane and nitrous oxide and traces of chlorofluorocarbons (CFCs).

The focus of concern is CO₂. While most of the CO₂ emitted by far is the result of natural phenomena—namely respiration and decomposition, most attention has centered on the three to four percent related to human activities—burning of fossil fuels, deforestation. The amount of carbon dioxide in the atmosphere has risen in the last 100 years, leading scientists to conclude that the increase is a result of man-made activities.

Although the linkage between the greenhouse gases and global warming is one factor, other variables could be much more important in the climate system than emissions produced by man.

The UN-sponsored Intergovernmental Panel on Climate Change (IPCC) thought it had found the magic bullet when it concluded that the one-degree Fahrenheit rise in global temperatures over

the past century may bear a "fingerprint" of human activity. The fingerprint soon blurred when an IPCC lead author conceded to the "uncertainty inherent in computer climate modeling."

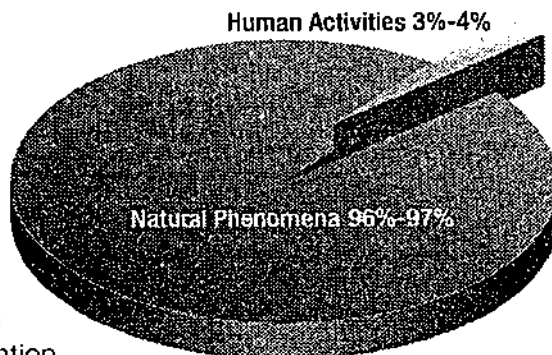
Nonetheless, nations at Kyoto are being asked to embrace proposals that could have potentially huge impacts on economies and lifestyles. Nations are being urged to cut emissions without knowing either the severity of the problem—that is, will Earth's temperature increase over the next 50–100 years?—or the efficacy of the solution—will cutting CO₂ emissions reduce the problem?

Within a decade, science is likely to provide more answers on what factors affect global warming, thereby improving our decision-making. We just don't have this information today.

Answers to questions on climate change will require more reliable measurements of temperature at many places on Earth, better understanding of clouds and ocean currents along with greater computer power.

This process shouldn't be short-circuited to satisfy an artificial deadline, like the conference in Kyoto. Whatever effect increased concentrations of man-made gases may have, it will develop slowly over decades. Thus, there is time for scientists to refine their understanding of the climate system, while governments, industry and the public work to find practical means to control greenhouse gases, if such measures are called for. Adopting quick-fix measures at this point could pose grave economic risks for the world.

Carbon Dioxide Emissions



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Climate change: a prudent approach



Ask the wrong questions and you may be stuck with the wrong answers. This could occur next month in Kyoto, Japan, as government negotiators weigh ques-

tions on how to reduce greenhouse gas emissions now and who should bear the burden of these cuts.

These questions, we believe, are premature. We don't know enough about the factors that affect global warming and the degree to which—if any—that man-made emissions (namely, carbon dioxide) contribute to increases in Earth's temperature.

Instead, we should be asking: What precautionary, voluntary steps can be taken now to reduce greenhouse gases while science is developing answers that will improve our decision-making?

Governments, industry and individuals can all contribute. Mobil is stepping up efforts on two fronts—reducing emissions at the source and removing carbon dioxide from the atmosphere. We're supporting research and technology efforts, curtailing our own greenhouse gas emissions and helping customers scale back their emissions of carbon dioxide.

Technology/R&D. We continue to sponsor research at universities and other institutions. At Battelle Pacific Northwest Laboratory and the Massachusetts Institute of Technology, for example, we're supporting research to identify technology strategies that promise the greatest potential for reducing greenhouse gas emissions.

At Columbia's Lamont-Doherty Geophysical Observatory, we supported work on the role that oceans play in the climate system. Though more than 90 percent of the energy in the climate system is stored in the top layer of the oceans, scientists currently have a poor understanding of how to predict sea surface temperatures. Improved understanding of this system could lead to better predictions of future climate change.

More is on tap for the future. More to understand the greenhouse gas implications of our investment decisions as we develop new hydrocarbon resources. More to investigate technologies that can reduce energy consumption and greenhouse gases. And more to support changes in transportation power sources and fuel technologies, including fuels for hybrid and fuel-cell vehicles.

Internal efforts. Inside Mobil, we've cut emissions by more than one million tons of carbon over the past three years. To put this in context, the average U.S. automobile emits about two tons of carbon annually. We've used manufacturing process improvements to cut the energy needed to refine a barrel of oil. Without compromising safety, we've eliminated gas-flaring from many offshore operations. And participating in a U.S. government program, we've eliminated leaks of methane, which is six times more potent than carbon dioxide, from our natural gas production and distribution systems. Upgraded lighting systems and more energy-efficient offices have helped, too.

Products. Mobil's synthetic lubricants help customers use energy more efficiently. Use of these products helped cut carbon emissions by one million tons since 1990. For tomorrow, we're designing more stable lubricants that promise longer life and greater energy efficiency.

Reforestation. We intend to sponsor several projects to plant and protect trees in the U.S. and internationally. Such activities absorb significant amounts of carbon dioxide and sustain the environment.

And that's just what one company—Mobil—is doing. Working together, government, industry and individuals can achieve major progress in reducing greenhouse gas emissions while scientists work to provide more definitive answers on the impact that these gases and other factors may have on our climate system. Let's wait for more answers before taking on obligations that could jeopardize better living standards for all.

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Climate change: where we come out



The government representatives who will meet in Kyoto, Japan, have a weighty task. They must consider several proposals for cutting emissions of carbon dioxide and other greenhouse gases, knowing that each carries a large price tag for the global economy.

We share the widespread concern over the possibility that human activity may contribute to global warming, and we have used this platform to participate in the climate change debate. On the eve of the Kyoto conference, we take this opportunity to sum up our position.

Each of the proposals being weighed in Kyoto would require dramatic emissions cuts over the next 10 to 15 years. The most moderate plan calls for nations to stabilize emissions at 1990 levels by the year 2010. Why is that a problem? There is simply no easy way to get back to that level given the current and projected rates of growth in energy demand. Agreeing to mandatory targets will stunt economic growth.

Two questions, we believe, must be asked: Is it necessary? And is there a better way to do it?

As to its necessity, the best answer to date is a resounding "maybe." Even after two decades of progress, climatologists are still uncertain how—or even if—the buildup of man-made greenhouse gases is linked to global warming. It could be at least a decade before climate models will be able to link greenhouse warming unambiguously to human actions. Important answers on the science lie ahead.

Credible economic studies, including those by Charles River Associates and Wharton

Economic Forecasting Associates, point out the enormous, cumulative costs that these proposals could have. Just stabilizing greenhouse gas emissions at 1990 levels and assuming the benefits of ongoing technology will compel industrialized nations to cut their consumption of fossil fuels by nearly 30 percent.

Energy producers and energy-intensive industries will suffer most, but everyone will feel the pinch. Even if developing nations are exempted from emissions cuts (as many nations have proposed), they would also feel the impact, for they would face reduced markets for their goods.

There is a better way—one that doesn't commit nations to targets that may be scientifically overblown and financially crippling. The first steps are already being taken. There is much that governments and industry can do, to reduce emissions and to foster research that will help us understand the global climate and devise technologies to protect it.

Mobil has already begun. We are promoting energy savings throughout our operations. We are funding research into the scientific and economic consequences of climate change. And we're supporting research focused on technology solutions. We intend to do more. Our efforts multiplied a thousandfold by governments and industry around the world can do much to alleviate the potential problem—without the pain that must ensue if emissions are cut without a clearer sense of the consequences.

We urge the delegates at Kyoto to resist a "quick fix"—but instead to ponder what will truly benefit our planet. Any solution must be long term and truly global, requiring commitments from all nations. We are counting on their wisdom and their prudence.

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Climate change: a degree of uncertainty



The debate on climate change has been long, complex and intense. Governments, corporations, scientists, economists and private citizens have all helped to frame this debate. Today, we respectfully submit our message to the officials who are gathered in Kyoto to consider actions to reduce emissions of carbon dioxide and other greenhouse gases.

Mobil shares the widespread concern about the potential impact of these emissions on the global climate. At the same time, we are concerned that mandated emission cutbacks now will produce grave economic consequences for all nations.

Fossil fuels dominate the world's energy picture today. For at least several decades, they will continue to be the major source of the world's energy needs. Government and the private sector should begin now to expand the array of technology options that can help reduce our emission of greenhouse gases in the future.

The mission of the delegates at the Kyoto conference should not be driven by the politics of an artificial deadline, nor should it be constrained by only the several proposals under consideration.

Two factors argue for nations to move prudently. First, there is a high degree of uncertainty over the timing and magnitude of the potential impacts that man-made emissions of greenhouse gases have on climate. Second, the emission-reduction policies being considered carry with them very large economic risks. Objectives and actions to deal with climate change can only be determined as additional knowledge is gained and uncertainties minimized. Nations should commit themselves to meaningful actions, including:

- Governments should encourage and accelerate cooperative research on climate change while harnessing free markets and voluntary measures to deliver optimum emission reductions while preserving sustained economic growth.

- To address the scientific uncertainty, governments, universities and industry should form global research partnerships to fill in the knowledge gap, with the goal of achieving a consensus view on critical issues within a defined time frame.

- During the fact-finding period, governments should encourage and promote voluntary actions by industry and citizens that reduce emissions and use energy wisely. Governments can do much to raise public awareness of the importance of energy conservation.

Mobil is already participating in such efforts. Through cooperative endeavors, we are funding research on technologies that promise greater energy savings or lower greenhouse gas emissions. We are continuing to create energy-saving products, reducing our own emissions and undertaking reforestation projects to remove carbon dioxide from the atmosphere.

In proposing these recommendations, we ask the Kyoto delegates to avoid mandates based on uncertain science and to resist agreements that could inflict great economic pain. Take steps to curtail emissions, develop more energy-efficient technologies and improve scientific understanding. These are the challenges nations should lay before their citizens. Collectively, we can accomplish a lot.

The Kyoto delegates should know that there is time to make it right. Advances in climate science can remove a degree of uncertainty from decisions on how best to protect our planet and its inhabitants.

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