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David Gardiner  
09/02/99 10:11:40 AM

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To: See the distribution list at the bottom of this message

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Subject: Re: Re[4]: BUSH

September 01, 1999, 10:16 p.m.

Bush blasts global environmental plan  
By TODD ACKERMAN  
Copyright 1999 Houston Chronicle

Republican presidential candidate George W. Bush sharply criticized the international proposal to obligate the United States and other developed nations to reduce pollutants blamed for global warming.

"It's going to cost the U.S. jobs," Bush said while campaigning in West Des Moines, Iowa, where he discussed farm policy. "I also don't appreciate the fact the United States bears the brunt of the goals of Kyoto while underdeveloped, developing nations are really excluded from cleaning up the environment.

"It's a bad deal for America and Americans."

The criticism was the governor's first comments on the so-called Kyoto Protocol on Climate Change, the treaty approved by 160 nations in December 1997. The treaty, which faces an uphill battle to be ratified by the U.S. Senate, requires the United States to reduce greenhouse gas emissions 7 percent below 1990 levels by 2008-2012 -- or roughly 33 percent of where growth rates project them to be.

The criticism comes five months after Bush surprised many conservatives when he said, "I believe there is global warming." Previously, he'd said that "the jury is still out."

Although the treaty was approved almost two years ago, negotiators are still hammering out details. The Clinton administration is seeking to postpone until 2001 the completion of the process, a move observers say is designed to give the White House time to build support for the pact.

The delay could give final presidential approval on any pact to the next president, which both Bush and Democratic front-runner Al Gore want to be. Gore is one of the treaty's most enthusiastic supporters.

"It's no surprise that the governor is parroting the right wing's line on

Kyoto," said Gore spokesman Chris Lehane in Washington. "After all, he's carried the dirty water for some of Texas' worst polluters for years."

Lehane added that "the last seven years have shown that choosing between the environment and jobs is a false -- you can do both, as 19 million new jobs and the cleanest environment in a generation attest."

Bush announced endorsements Wednesday from a majority of the Iowa Republican state legislators and announced a "farm team" made up of agricultural leaders in all 99 counties of this key, first-caucus state.

Bush also laid out a farm policy that includes a reform of the crop insurance program to cover livestock among other changes, further opening world markets to U.S. goods, and tax changes to strengthen small farms.

When it was reached, the Kyoto treaty represented an unprecedented level of international accord on an extremely complex and contentious issue.

But it bucked a presummit 95-0 vote by the Senate that "meaningful participation" by developing countries would be necessary for it to be ratified -- no developing nation is participating -- and, thus, most political observers give it no chance of being implemented.

If ratified, the treaty's impact on the United States' heavily energy-dependent economy and culture would be immense. They could include such things as voluntary conservation programs; taxes on coal and oil; manufacture of cars and trucks that get better gas mileage; wider use of natural gas and nuclear, solar and wind power to produce electricity; and more efficient appliances and light bulbs.

R.G. Ratcliffe reported from West Des Moines, Iowa; Todd Ackerman reported from Houston.

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## ECONOMY

# Flat CO2 Emissions Give Experts Hope

## Compliance With Pollution Curbs Seen More Likely

By JOHN J. FIALKA

Staff Reporter of THE WALL STREET JOURNAL

WASHINGTON—Despite a booming economy, emissions of man-made carbon dioxide remained almost flat in the U.S. last year, and global emissions appear to have dropped.

That has led some experts to believe the economic shock of complying with international pollution curbs aimed at stemming global warming may not be so jolting.

Until now, some government and private industry projections have assumed economic growth is linked to energy consumption, particularly the burning of oil, gas and other fossil fuels that release carbon dioxide. CO2 is the main "greenhouse gas" many scientists believe is overheating the planet by trapping more of the sun's rays in the atmosphere.

But in 1998, a year when the U.S. economy grew almost 4% and the price of gasoline dropped to records, CO2 emissions in the U.S. barely moved, rising only 0.04%, according to a Department of Energy report. "I think there's a decent chance that we're seeing a significant change," said Christopher Flavin, vice president of Worldwatch Institute, a Washington environmental think tank.

Mr. Flavin's group sees the same phenomenon happening globally. It believes the trend, if it continues, could make the political decisions required by the Kyoto Treaty to curb global warming less difficult.

### Thinning Carbon Dioxide

Even while the U.S. economy roared, 1998 carbon dioxide emissions were flat, almost compliance with international treaties.

|        | EMISSION<br>(millions of tons) | INTENSITY*<br>(tons/millions of GDP) | CHANGE<br>FROM 1997 |
|--------|--------------------------------|--------------------------------------|---------------------|
| U.S.   | 1,606                          | 199.1                                | +0.4%               |
| China  | 883                            | 213.4                                | -3.7                |
| EU     | 603                            | 116.6                                | -0.9                |
| Russia | 440                            | 717.2                                | -1.3                |
| Japan  | 327                            | 111.1                                | -2.5                |
| India  | 304                            | 178.2                                | +1.8                |
| World  | 6,950                          | 168.3                                | -0.5                |

\*Intensity is the amount of carbon dioxide a country emits in the form of its economy, as measured by gross domestic product or economic output.

Source: Worldwatch Institute

cult. The treaty, which the U.S. Congress has yet to ratify, requires the U.S. to cut CO2 emissions, measured against 1990 levels, by 7% starting in 2008.

"Kyoto is still going to be a stretch for some countries," Mr. Flavin said, "but the amount of emissions trading needed and the degree of domestic effort may turn out to be significantly less than everyone expected."

Because many experts assumed economic growth and CO2 emissions move in lockstep, they had predicted the U.S. might

have to impose an economy-wrenching emissions cut of 30% to 40% by 2008, when the treaty's schedule of emissions curbs begins. One safety valve planned by the Clinton administration is emissions trading, which would let U.S. companies buy permits—from other companies or countries that have exceeded the treaty's targets—to emit additional CO2. This has provoked a fight with European nations that want emissions trading to be limited.

But flat or slumping emissions could

Please Turn to Page A6, Column 1

WALL STREET JOURNAL

Monday Aug 2, 1999

# DOW JONES

VOL. CXXXIV NO. 2 DE W/O

# Gambling Man

# Stock Losses Roiled A Volatile Personality, And Slaughter Ensued

# Mark Barton, a Day Trader With a Dark Past, Loved Risk—Until It Beat Him

## 'A Great Feel for the Market'

Fellow day traders dubbed Mark O. Barton the "Rocket." The 44-year-old was always sure to let everyone know when he was riding a rocketing stock — most recently, some sizzling Internet issues.

At Al Al-Fach Investments Group, Inc.'s branch office in Atlanta, where investors trade stocks over sophisticated electronic networks, he would win market bets and howl, "I love this stock!" Says Francis Chadwick, a day trader who often sat near Mr. Barton, "He was the life of the party when his trades went well."

But when Mr. Barton punched in attendance over his usual cafeteria lunch fare of a turkey burger and fries or sat with his blue eyes staring at his computer screen, traders knew the "Rocket" was having a hard day.

Apparently, after all there were a lot of those lately. In 15 days of trading over the past two months, my position racked up \$105,000 in losses, and made

none of our first-time voters or families. At Mountain View Middle School, all new voters had to fill out a form and had to place their names in a ballot box. All new voters had to fill out a form and had to place their names in a ballot box. All new voters had to fill out a form and had to place their names in a ballot box.

Mr. Blum, a member of the House of Representatives, has been elected to the Senate by the voters of New York State. He is a member of the House of Representatives from New York State.

# What's Ne

## Business and Finance

**C**ORPORATE EARNINGS in the second quarter far exceeded analysts' estimates. Profit at the 654 companies that make up the U.S. part of the Dow Jones Global Indexes rose 37%, excluding a one-time gain last year at MediaOne. Analysts see signs that the robust results may continue.

(Article on Page C1)

Lockheed Martin's Brian Dalley is taking over as chief of its Washington lobbying operations amid questions about the division's effectiveness.

(API-501 Rev. A3)

**Sun Microsystems plans to unveil a microprocessor with a radical new architecture designed to handle complex graphics, voice and video. It's a challenge to Intel and other chip makers.**

[Article on Page 8]

DaimlerChrysler is scrambling to repair its image amid a decline in its stock after the disclosure last week of disappointing quarterly earnings.

(Article continues on p. 48)

the Kelly National Foundation will only be provided through the \$1.2 billion in cash and stock, creating the nation's biggest tide in disaster relief.

# Anti-Corruption Act

For most firms, however, savings in the nine months considered spend more rose only 0.7%. The savings rate among consumers was a disheartening

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The dollar dropped to its 30-year, 15-month low. The long-term futures price slipped 55¢ to 40¢ after the 30-year Treasury bond rose 10¢.

High Britain's oceans and a 22 per cent increase in the production of its principal fishery, cod. Since 1970, and the first time in 100 years,



MOBILE 21615

The F-22 funding cut, which caught Lockheed and the Pentagon by surprise, led to one session in which Mr. Coffman

## Flat CO2 Emissions Give Experts Hope On Pollution Curbs

*Continued From Page A2*

defuse some of this tension. "Most of this is due to market forces," said Howard Geller, executive director at American Council for an Energy-Efficient Economy, a nonprofit Washington research firm that represents business and academic groups. He and Mr. Flavin see the rise of the information sector, which features industries with light CO2 emission levels, and the increasing use of more energy-efficient machines and appliances as two major factors that appear to have caused emissions to remain nearly level in 1998.

Roger S. Ballentine, a White House lawyer who handles the climate change issue, says the full statistical picture of what happened in the energy sector in 1998 is incomplete. "What we've got so far is a snapshot, but it certainly is consistent with what we've been saying, which is you can grow the economy and reduce emissions at the same time."

Mr. Ballentine is about to depart for China, a key player in the Kyoto deliberations. China also has produced some recent statistical surprises. According to Mr. Flavin, China's economy grew 7% last year, while its use of coal fell 5%. Mr. Ballentine attributes the drop in coal use to efforts by Chinese officials to remove subsidies that have favored lavish use of coal, which has fouled the air of many Chinese cities.

The Clinton administration will need China and other developing nations to become involved in the Kyoto Treaty to get Congress to ratify it. Lawmakers here are reluctant to put the U.S. at an economic disadvantage with the emission cuts if other nations don't follow suit. But data of energy use from China and Eastern Europe also indicate emissions levels there are dropping because industries are leaping into the information economy, too.

So far, the slump in emissions has been documented by two studies. A preview of a report by the DOE's Energy Information Administration on use of fossil fuels in 1998 shows that despite the rapid growth of the economy, emissions from the U.S. industrial sector fell 1.2% last year. Separately, a Worldwatch analysis of 1998 energy data gathered by BP Amoco PLC shows global emissions declined 0.5% last year, while the world economy expanded 2.5%.

### Senate Committee Delays On Economic Nominations

*Dow Jones Newswires*

WASHINGTON—The Senate Banking Committee delayed action on several key economic nominations because of objections raised on the Senate floor.

The committee was forced to adjourn a confirmation hearing Friday on several

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## IT'S HOT, AND GETTING HOTTER

What will summers be like in 2040? No one can say for sure, of course, but using the crystal ball of modern computer modeling, climatologists have produced this map showing how mean temperatures will rise in much of the Northern Hemisphere. In such northern-tier states as Minnesota and Maine, it will be noticeably hotter; even Canadians will feel the heat.

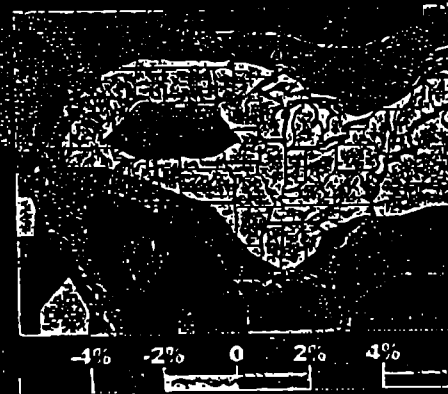


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8/5/99

Duncan Marsh, OES/EGC



As any good weather forecaster knows, even tomorrow's showers are hard to predict. But that hasn't kept climate modelers from making some admittedly rough estimates of rainfall patterns in the summer of 2040. Their map shows less rain in the upper plains, California and the Midwest, but wetter summers in the Southwest and the already moist Northwest.

Source: Fox Center's The Science of Climate Change by Tom M. L. Wigley

## ENVIRONMENT

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# CAPITOL HILL MELT

While the nation sizzles, Congress fiddles over measures to slow down

By DICK THOMPSON WASHINGTON

**J**AY GILBO, 21, MAY HAVE THE HOTTEST job on Capitol Hill. Each workday he puts on two suits, one over the other, both made of materials that seal out dust but trap heat. Then he wraps his wrists and ankles, pulls a rubber respirator over his head and climbs more than 200 ft. into the narrow space between the Capitol's inner and outer domes. Gilbo, who lives in Georgetown, Mass., is part of a 10-man crew removing poisonous lead paint from cast-iron walls in temperatures that regularly soar above 100°F. "It's a pretty hostile environment," says Gilbo, who says he

sweats off 4 lbs. during every 12-hour shift.

Millions of Americans last week knew the feeling; sauna-like conditions have gripped much of the country, from the East Coast to the Rockies. The sweltering heat has left at least 100 people dead since mid-July, mostly in the Midwest. Drought emergencies were declared in scores of counties, from Montana to Maryland. Roads buckled under a blazing sun. Crops shriveled after weeks without rain. And with air conditioners and fans at full tilt, utilities strained to meet electrical demand.

But for all the heat Gilbo and his fellow citizens were experiencing, the legislators working under those sizzling domes seemed remarkably cool—not just about

the weather outside but also about what it might portend. While a single heat wave doesn't make a worldwide meltdown (see following story), a great many scientists believe that by continuing to pump greenhouse gases into the atmosphere, humans are forcing drastic climate changes. Yet Congress seems determinedly indifferent. As the lawmakers prepare for their summer adjournment, legislative efforts to slow that warming, by reducing greenhouse emissions have all but ground to a halt. Withering too, like so many corn stalks, are other major pro-environmental bills: increased funding for research on energy sources other than fossil fuels; incentives to encourage industries to cut emis-



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# DOWN

## ature climate change

sions; efforts to clean up power plants; and measures to raise fuel-efficiency standards for gas-slurping suvs, vans and light trucks. Just about the only measure likely to pass is, of all things, an order requiring the Environmental Protection Agency to give equal time to dissenting views whenever it conducts educational programs on climate. Congress, says Environmental Defense Fund lobbyist Steve Cochran, has become "completely dysfunctional" on global warming.

It is a case of dysfunction that has drawn scant public attention. Instead of putting together a large single proposal, Congress has been nibbling at the global-warming issue piecemeal, with opponents throwing up obstacles at almost every turn

in the form of directives and riders tacked on to major spending bills so they slip through the legislative process virtually unnoticed. This tactic has environmentalists, no slouches at publicity themselves, crying foul. "A lot of these [proposals] could never be moved in the light of day," says Greg Wetstone, a congressional watchdog for the Natural Resources Defense Council.

One example of congressional road-blocking involves attempts to raise fuel-efficiency standards for popular sport-utility vehicles and vans, which have long had a free ride by being classified as light trucks. For the past four years, opponents have annually attached a rider to the Department of Transportation's budget prohibiting the DOT from raising the standards to equal those for ordinary cars—a move environmentalists say would save 1 million bbl. of oil a day. Backers of the rider argue that they are protecting auto-industry jobs and giving consumers the vehicles they want, but now they are running into stronger opposition. Next week the Senate may consider a complicated parliamentary move proposed by three Senators—one Re-

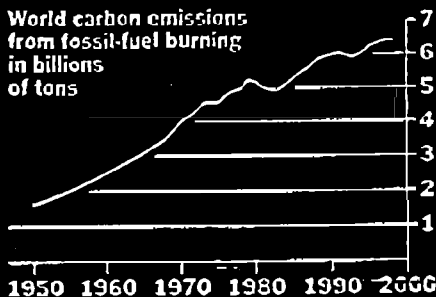
publican, Slade Gorton of Washington, and two Democrats, Dianne Feinstein of California and Richard Bryan of Nevada—that could finally overturn the rider, though at last count they were still three votes shy.

While Congress remains bitterly divided along party lines on other issues, opposition to climate-change initiatives has surprisingly broad support on both sides of the aisle. Some lawmakers dismiss worries about global warming as little more than "liberal claptrap," as California Republican Representative Dana Rohrabacher puts it. Others interpret the climate moves as a sly attempt by the Administration to enact by bits and pieces what the Senate declared it would not do when it voted 95-0 to oppose the Kyoto treaty, an international pact to reduce greenhouse-gas emissions that is strongly supported by Vice President Al Gore. Moreover, some politicians fall back on the uncertainty argument, asserting that the enactment of costly preventive measures now, before all the evidence is in, would invite economic disaster. Still others use the debate as an opportunity to portray Democratic presidential contender Gore,

# GLOBAL WARMING:

## MORE GREENHOUSE GAS ...

World carbon emissions from fossil-fuel burning in billions of tons



Sources: Worldwatch Institute, Goddard Institute for Space Studies

## ... TRAPS MORE HEAT ...

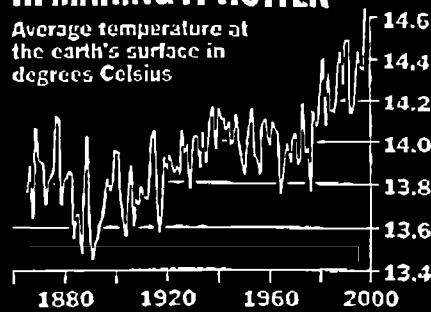
The sun's rays pass through the atmosphere, heating the earth's surface. The earth radiates the heat as infrared rays. Some escapes to space, but the rest is trapped by carbon dioxide and other gases in the atmosphere.



TIME Graphic by Joe Lonola

## ... MAKING IT HOTTER

Average temperature at the earth's surface in degrees Celsius



Source: Worldwatch Institute

author of the environmental tract *Earth in the Balance* and the U.S. representative at Kyoto, as an environmental extremist.

The White House admits it has no grand strategy for pushing its climate-change initiatives on Capitol Hill, other than to wait for the evolving science and climbing temperatures to overwhelm the critics. Instead the Administration is concentrating on energy efficiency, which President Clinton calls a "win-win" approach, arguing that it is a win for the environment as well as the economy. But it also

has political drawbacks—offending such traditional Democratic constituencies as the miners who could lose their jobs if the demand for coal drops, and rallying the opposition of powerful industries like oil and the utilities, which would face traumatic changes by a switch away from fossil fuels.

As for the presidential candidates, they range from naysayers to true believers on global warming. Is it really happening? Undoubtedly, said Gore, his party's top contender, when TIME questioned the major candidates. He added, "There is

overwhelming scientific consensus that human activity is contributing to global warming." Former New Jersey Senator Bill Bradley, another Democratic hopeful, acknowledged that it was a "serious threat." But the G.O.P. candidates sounded less certain. Texas Governor George W. Bush, his party's front runner, and Elizabeth Dole both agreed that the earth is getting warmer but professed to be agnostic about the cause, saying only that the question should be taken "seriously." Steve Forbes, for his part, had no doubts: "I

## THE CASE FOR A SHIFTING CLIMATE IS HEATING UP

**F**OR WELL IN EXCESS OF A thousand years, Peru's Quelccaya ice cap has sparkled like a trillion-carat diamond. But satellites reveal that a flaw has appeared on its frozen face. That, Ohio State University glaciologist Lonnie Thompson believes, signifies the incipient birth of an Andean lake, meaning that the ice may be melting faster than he had feared. During the past two decades, Thompson has watched Quelccaya's surface shrink nearly a fifth. Now that the pace appears to be accelerating, he says wor-

riedly, "it could be completely gone in another 20 years."

Is the earth warming? Few questions have provoked more noisy wrangling or more impassioned debate—or, during hot spells and droughts like those now affecting large swaths of the U.S., more overblown rhetoric. In the verbal heat, all too often the scientific case for warming gets lost. While one side overstates the certainty of cataclysmic change, reading doom into every rise of temperature, the other categorically dismisses any threat. In fact, the science

is more finely nuanced—and more firmly grounded—than either side will concede.

For starters, it seems indisputable that the earth's mean temperature has advanced about 0.6°C (1°F) over the past 120 years. The question scientists continue to debate is why. One possibility is that the worldwide warming so far is due entirely to natural long-term shifts, like changes in the sun's luminosity. The other possibility is that the warming bears the fingerprints of greenhouse gases.

The problem, observes

British climatologist Phil Jones of the University of East Anglia, is that it's not a simple case of either-or. That's because purely natural swings of climate can operate in both directions, enhancing or masking the greenhouse effect. To complicate matters further, scientists expect the buildup of heat-trapping gases to manifest itself in ways that mimic the natural variability of climate. Some places, in other words, may even grow colder.

Take, for example, the large-scale atmospheric feature known as the North Atlantic Oscillation, whose swings of pressure strongly affect the weather of northern

## ENVIRONMENT

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## FUEL EFFICIENCY

For four years, a C.O.P. budget rider has kept the Administration from raising fuel efficiency standards for light trucks, including popular vans and SUVs.

## WHERE IT STANDS

Three Senators are maneuvering to let the President veto the bill—thus opening the way to raise standards to save 1 million bbl. of oil a day—but they may be three votes short.

## FEDERAL FUEL BILL

The White House is sponsoring an initiative to cut \$750 million from the Federal Government's annual energy bills and reduce fossil fuel emissions 30%.

## WHERE IT STANDS

A Senate committee acted to scuttle the program, even though it would cost taxpayers nothing. But the full Senate is not likely to go along with that effort.

## TAX CREDIT

To promote use of more efficient air conditioners, fuel-saving vehicles and rooftop solar units, the Administration wants a tax credit for buyers.

## WHERE IT STANDS

Republicans didn't put such provisions in their tax-cut bills, even though they would have benefited several industries, but G.O.P. lawmakers did include tax breaks for oil producers.

## BOOSTING R. AND D.

To reduce dependence on such fossil fuels as coal and oil, the Administration wants a boost in R. and D. expenditures on renewable energy sources.

## WHERE IT STANDS

Instead of increasing funds for research into solar, wind and other alternative forms of energy, Congress cut allocations for such programs 8% from current budgetary levels.

don't believe it," he said of global warming.

But there is pressure on Congress to confront the issue, and it is coming from an unexpected quarter: the business community. While commercial interests joined forces to block the Kyoto treaty in the Senate two years ago, the opposition has since splintered. Even such big oil companies as BP Amoco concede that global warming demands a serious response. Just two weeks ago, a subgroup of FORTUNE 500 companies known as the Business Roundtable called on government to encourage

the development of advanced technologies to "address concerns about climate change." And when he visited Washington recently, Ford Motor chairman Bill Ford said, "We believe that for the public—which includes our customers and shareholders—environmental preservation is going to be one of the most important issues of the 21st century."

Still, since today's greenhouse gases will remain in the atmosphere for a century even if all further emissions are cut off immediately, environmentalists are grow-

ing increasingly concerned that their window of opportunity to slow down warming is slamming shut. Says Michael Oppenheimer, the Environmental Defense Fund's chief scientist: "The world is already committed to a significant level of warming, no matter what we do."

As for the current heat wave, the National Weather Service says there won't be much relief until late August. And from Joe Gilbo's perch high in the Capitol, the hot air may be felt for much longer than that. —With reporting by Brian Allen/Washington



SHRINKING If temperatures continue to rise, Peru's Quelccaya ice cap, in 1978, left, and today, could vanish completely in 20 years.

latitudes. Over the past several decades, the phenomenon has reliably sent warm air shooting across Northern Europe and Siberia during wintertime and



simultaneously enveloped Labrador in frigid cold. And although this shift could be the result of natural fluctuations, some scientists are beginning

to suspect that it occurs because the same greenhouse gases that warm the lower reaches of the atmosphere cool the stratosphere, and the latter somehow affects the direction and speed of Arctic winds.

If it's difficult to disentangle what is natural from what is not, that's because the earth's climate machine is almost unimaginably intricate, filled with myriad interlocking gears and shock absorbers. But the lack of clarity about where we're headed will not last forever. By the end of the next century, calculates climatologist Tom Wigley of the National Center for Atmospheric Research, the

earth's mean temperature is likely to have risen somewhere between 1.3°C and 4.0°C (2.3°F and 7.2°F), with consequences, such as rising sea levels, that will be hard to mistake.

Will future generations regard the vanishing Quelccaya ice cap as a false prophet or as a climatological Cassandra whose warnings were not heeded? Ohio State's Thompson, for one, believes nature has already answered this question. An ice cap has no political opinions, he observes. "Quelccaya is melting because the earth's temperature is going up," he says, "and it's foolish to argue that it's not." —By I. Madeleine Nash

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Subject: Some Climate clips

Detroit Free Press

**Cars & climate change: Scientists, engineers to discuss auto industry impacts**

March 20, 1999

BY EMILIA ASKARI

Free Press Environment Writer

For years, most Detroit engineers scoffed at the notion that automobile exhaust could cause climate change. They made jokes about global warming every time there was a big snowfall. They hired experts to scout for every shred of uncertainty in climate-change theories, then they chorused, "Bad science!"

That attitude is changing.

On Monday, the venerable Engineering Society of Detroit will team up with the Detroit Economic Club and the University of Michigan to cosponsor a day-long symposium on climate change and its implications for industry.

James Meenahan, the ESD member who oversaw development of the symposium, says it will acknowledge the recent, grudging acceptance of the climate-change theory by many in the auto business.

Detroit's best engineers might not think much of government's attempts to regulate releases of carbon dioxide, the gas believed to cause climate change.

But those engineers can no longer deny the probability that carbon dioxide wafting from tail pipes into the atmosphere is altering our

weather.

In the past, Meenahan recalled, auto companies "hired technical people and the intent was: 'You find every single reason there is to doubt here so we don't have to pay attention to it.' Well, the technical people have come back and said, 'Sorry, this really is a problem and the auto industry really is a major contributor.' "

University of Michigan biology professor Jim Teeri, who will speak at the symposium, explains the state of scientific thinking on the matter this way:

"All the numbers are up. Atmospheric temperature, ocean temperature, temperature of the solid Earth core, measurements of carbon dioxide in the air now compared to carbon dioxide in air bubbles from Arctic ice. I believe all evidence suggests an unusual amount of warming. Now, the question is what's causing it. The answer is carbon dioxide."

An international panel of climatologists convened by the United Nations agrees.

In this country, scientists estimate that a little less than a third of all the carbon dioxide released into the atmosphere comes from cars and trucks.

Globally, the percentage is smaller but growing as more people get and drive cars.

Carbon dioxide is released whenever fossil fuels, including oil, gas and coal, are burned.

Since the Industrial Revolution geared up in the late 19th Century, the amount of carbon dioxide in the air has risen dramatically, from 280 parts per million in 1860 to 360 parts per million today.

This jump in atmospheric carbon dioxide has been accompanied by an increase in average global temperatures of 1 degree Celsius or 1.8 degrees Fahrenheit.

Last year was the warmest on record in Detroit and around the globe.

Although temperatures generally are trending up, that doesn't mean every place on Earth is getting warmer. Experts predict that climate change will affect different parts of the globe differently.

Many places, including Michigan, are expected to experience more swings in temperature and more severe storms. Some places may even see colder average temperatures.

That's why scientists no longer refer to the trend as "global

warming," preferring instead the term "climate change." And, instead of focusing on temperature, many climatologists are becoming more concerned about the increasing levels of carbon dioxide.

Research at the University of Michigan's Biological Station in Pellston, which Teeri directs, shows that plants grown in chambers with elevated carbon dioxide levels grow more quickly but contain less nitrogen and therefore are less nutritious.

Fred Sciance, manager of global climate issues at General Motors and another symposium speaker, said these kinds of concerns have prompted the world's largest manufacturing company to cut the amount of carbon dioxide released by its buildings and factories by 2 percent since 1990.

He knows government regulators would like GM and other corporations to cut their emissions much further to comply with an international climate agreement called the Kyoto Protocol, after the Japanese city where it was negotiated.

Producing cars that release less carbon dioxide would be nice, too, but more than half of the car buyers in this country would rather purchase gas-guzzling, carbon dioxide-spewing light trucks or sport-utility vehicles.

"People are driving more and with low gas prices they're not buying the most fuel-efficient products," Sciance said.

"Our markets are going one way and policy makers are talking about going another way. We have to make sure we don't get torn in between."

For more information about the symposium, including a peak at the agenda, check out the Engineering Society of Detroit's Web site at [www.esd.org](http://www.esd.org). University of Michigan scientists intend to post outlines of their presentations at [www.research.umich.edu/research/events/greenhouse\\_conf.html](http://www.research.umich.edu/research/events/greenhouse_conf.html). Another source for information on the topic is the U.S. Global Change Research Information Office at [www.gcric.org](http://www.gcric.org).

## **Forbes Magazine**

### **Insights**

#### **America, the beautiful carbon sink**

By Peter Huber

YOU'VE GOT YOUR EYE ON a monstrous new Ford Excursion? Shame on you. We Americans already emit more greenhouse

gas than any other country. As the Kyoto summiteers of 1997 made clear, we've got to change. Take responsibility. Foot the global bill. Retire fossil fuels. Get the carbon out of our air.

Hold the shame, it looks like it's already out. We release 1.6 billion metric tons of carbon per year into North American air by burning fossil fuels. Prevailing winds blow west to east. This means carbon dioxide concentrations should be 300 parts per billion higher in the North Atlantic than in the North Pacific. But in fact, they're about 300 parts per billion lower.

How can that be? America's terrestrial uptake of carbon runs an estimated 1.7 billion metric tons per year, just ahead of our fossil fuel emissions. Put it another way: If the estimate is right, we don't owe the rest of the world a dime on this one. They owe us.

How do we do it? The numbers are set out in a little-publicized article published in the Oct. 16, 1998 issue of Science. The article attributes America's great numbers to three main factors.

First, there's regrowth on abandoned farmland and previously logged forests. Growing new trees sucks up a lot of carbon. Modern agriculture is so efficient, produces so much food on so little land, that we are returning lots of old farmland to forest.

#### Carbon budget

The amount of carbon reabsorbed in North America matches fossil emissions; not so elsewhere.

Source: Science, Oct. 16, 1998.

Second, there is the good work done by our fertilizer companies. They take nitrogen from the air and natural gas from the ground to make ammonia. The process releases some carbon dioxide into the air, but it's more than offset by the faster plant growth that nitrogen fertilizers promote. Fertilizers are worth 0.2 to 2 billion tons a year on the credit side of our carbon ledger. We should

probably thank phosphate companies, too; they supply another key agricultural fertilizer. Mining phosphates for fertilizer, in other words, looks like a pretty direct antidote to mining coal for fuel. If we ever need to nudge our carbon accounts even further into positive territory, we could scatter a few million tons of phosphate into the Gulf of Mexico. Green algae should take care of the rest.

Third, we owe some of our carbon uptake to the coal miners themselves, the culprits-in-chief. Carbon dioxide in the air promotes green growth, just as phosphates do. Up to a point greenhouse gas is its own antidote—nature sees to that. This is worth another 0.5 to 2 billion tons per year of credit in North America, Science suggests.

The Science paper might have acknowledged one last Good Samaritan of the American carbon cycle. All that well-fertilized corn and wheat doesn't remove carbon from the air for long if it's just allowed to decompose again some weeks later. Modern landfills play a key role in making sure that doesn't happen: They mummify the millions of tons of carbon-rich food, paper and diapers that we dump into them. Recycling newspapers just interrupts the carbon-sinking. Composting is even worse. The carbon police should take note.

America has reached a unique stage in its development. Alone in the world, we're reforesting and farming enough to suck more carbon than we blow, current data suggest. We recycle our carbon. If greenhouse gas is a problem at all, the rest of the world is the problem. America's the solution. Perhaps we could do even more. But the fact is, we're doing more than our share already.

Scientists are a polite and diffident bunch. The Science paper is titled "A Large Terrestrial Carbon Sink in North America Implied by Atmospheric and Oceanic Carbon Dioxide Data and Models." It could have been: "America to Kyoto: 'Pound Sand.'"

Peter Huber, a senior fellow at the Manhattan Institute, is the author of *Law and Disorder in Cyberspace* (Oxford Press,

1997)

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Subject: Climate Clips

**Denver Post**  
**Scenarios outlined on global warming**

By Mark Eddy  
Denver Post Environment Writer

April 13 - Imagine if the abnormal winter Colorado just experienced was the norm - that snow came later, melted earlier and that thousands of skiers stayed away. Now imagine it's summer and mountainsides that historically had been covered with stands of trees are dirt and rock. On the plains, farmers who depend on irrigation for their crops are left wanting because of reduced runoff and lower streamflows.

These are a few of the scenarios laid out in a state health department report on global climate change.

"It's not a foregone conclusion that we would have global warming effects as stated in the report," said Margie Perkins, director of the air pollution control division of the Colorado Department of Public Health and Environment. "However, what we've done is tried to take the best possible science and anticipate what might be expected if we would have a global warming scenario that would continue." Possible effects of global warming are only part of the report, which assumes a 1 degree Celsius increase in average temperature. It also details Colorado's share of greenhouse gas emissions, steps that have been taken to reduce those and possible strategies for the future. The report, the first of its kind for Colorado, will be discussed at a meeting of the Colorado Air Quality Control Commission on Thursday, and it's likely to spark fierce debate, just as talks have on the international and national levels.

Last year, world leaders met in Kyoto, Japan, and agreed on a controversial plan, called the Kyoto Protocol, to reduce greenhouse gas emissions. The main culprit, according to some scientists, is carbon dioxide, which is collecting in the upper atmosphere and reflecting heat back toward the Earth's surface.

Congress is in the midst of deciding if it will ratify the Kyoto agreement, and there is fiery rhetoric on the issue in Washington as well as Colorado. On one side of the debate are groups of scientists, environmentalists, business leaders and industrialists who claim that warming of the planet is already under way and immediate steps should be taken to reduce emissions of gases that contribute to the phenomenon.

"On the impact side, Colorado's report seems to indicate that virtually every important aspect of our environment could be adversely affected by climate change - including decreased agricultural yields, shortened snow season, forest decline, diminished water supply and losses in wildlife diversity," said Vicki Patton, a lawyer with the Boulder office of the Environmental Defense Fund.

"So the question presented: Is this the kind of legacy we want to leave for our children and future generations?" On the other side are other scientists, environmentalists, business leaders and industrialists who claim that while it does appear the average temperature of the atmosphere is rising, there is no evidence that mankind is causing it and no proof that it's not just a natural cycle.

"We think any action on climate change is premature, because the scientists say it is," said Terry Ross, of the Center for Energy and Economic Development in Denver. "I think Colorado's position on climate change is very responsible - and that's that we don't do anything until ... the science indicates that in fact reducing carbon dioxide will prevent catastrophic consequences from climate change." Burning fossil fuels is the primary source of greenhouse gas emissions, and the United States leads the world in this area. In Colorado, burning fossil fuels accounts for 78 percent of the state's emissions of greenhouse gases, while production processes emit 11 percent, agricultural operations 5.4 percent, energy production 3.2 percent and other sources 2.5 percent. The report was compiled as part of a nationwide effort to document the U.S. sources of greenhouse gases. At the Kyoto conference, the United States agreed to a binding resolution that would reduce U.S. emissions to 7 percent below 1990 levels by the year 2012. The agreement is controversial because developing nations didn't agree to emission reduction targets. Critics of the agreement claim it doesn't matter what the United States and other developed nations agree to if developing countries don't also reduce. While the United States committed to the agreement, Congress must approve it, and what lawmakers decide will play a part in how Colorado proceeds, Perkins said. "Clearly, if our Congress decides to adopt the Kyoto resolution, then that would probably be a direction that we would be looking to follow," she said. "We're waiting for that to unfold itself as well." In the meantime, Perkins said, the health department is working with companies that want to voluntarily reduce emissions. And no matter if mankind is causing global warming or not, it makes good business sense to cut emissions and run energy-efficient operations, said Paul Aldretti, director of climate programs for Business for Social

Responsibility.

"I tend to ignore the science and policy. My question to companies I work with is, "Why aren't you doing these things anyway, because it's money in your pocket?" - " he said.

"Steps that are taken to reduce greenhouse gas emissions for the main part are very cost effective and actually lead to productivity improvement," he said, pointing out that cutting energy use lowers operating costs, drops the amount of energy utilities needed to produce, and cuts greenhouse gas emissions. Thursday's meeting of the air quality control commission begins at 9 a.m. in the Sabin Room at the Health Department, 4300 Cherry Creek Drive South.

April 14, 1999

**New York Times**  
**Rules on Vehicles and Gas Are Likely to Be**  
**Toughened**

By KEITH BRADSHER

DETROIT -- Environmentalists are pleased but oil and auto industry lobbyists are worried by signals that the Clinton administration is likely to require much cleaner gasoline and autos, including cuts of up to 93 percent in allowable air pollution from large sport utility vehicles and pickup trucks.

The Environmental Protection Agency drafted a proposal two months ago for stricter rules on vehicles and gasoline, and submitted it for an interagency review. That review is now in its final stages, with an announcement expected as soon as next week.

Administration officials said Tuesday that some decisions on the new rules had not yet been made. Last-minute lobbying could still lead to further changes. But extensive contacts between the administration and various interest groups active on the issue have persuaded environmentalists and industry lobbyists alike that the final plan probably will closely resemble the agency's proposal, which calls for a crackdown that the oil industry in particular has criticized as excessive.

Strict rules could provoke a fight between the administration and Congress. Some Republican senators have already warned the administration against what they perceive as regulatory excess.

Sen. James Inhofe, R-Okla., who heads the clean air subcommittee of the

Environment and Public Works Committee, has already begun drafting legislation to cancel the gasoline cleanliness rules. But any such legislation is likely to face a presidential veto.

The administration is still working on whether to allow a longer timetable for industries to meet the new rules, but it seems likely to set the eventual levels of allowable pollution at roughly what the EPA proposed, said lobbyists on both sides of the issue who have been discussing the details with the administration.

"It would be my expectation that they would keep it as they originally talked about it," said Josephine Cooper, president of the Alliance of Automobile Manufacturers, which is based in Washington.

William O'Keefe, executive vice president and chief operating officer of the American Petroleum Institute, the oil industry's lobbying arm, said the administration was considering whether to add to the EPA proposal a complex system of credits for oil companies that make early changes in gasoline. But he dismissed this idea as inadequate, and said that, "So far, we don't know that we've gotten anything."

Daniel Becker, senior energy policy analyst at the Sierra Club, said that based on his understanding of the planned rules, he was satisfied and wanted the administration to move as quickly as possible. Once the interagency process is completed, the rules must be issued for public comment and then issued in legal form. If that process lasts past the end of the year, the auto industry could seek an extension for some deadlines in the new rules.

"The administration can't let that happen and let us lose a year," Becker said.

Current federal regulations allow cars to emit four-tenths of a gram of smog-causing nitrogen oxides for each mile traveled. Minivans and the smaller sport utility vehicles and pickup trucks are allowed to emit seven-tenths of a gram per mile, while the larger sport utility vehicles and pickup trucks are allowed 1.1 grams per mile.

The limits on all but the larger sport utility vehicles and pickup trucks are already scheduled to be tightened somewhat next year. The Clean Air Act of 1990 explicitly allows the issuance of new rules now for vehicle pollution and the cleanliness of fuel, and the EPA's proposal would require much deeper cuts for all family vehicles. Under a rule that would gradually take effect for vehicles built from 2004 to 2007, the limit would be seven-hundredths of a gram of nitrogen oxides per mile for cars, minivans

and the smaller sport utility vehicles and pickup trucks.

Large sport utility vehicles and pickup trucks would also be required to meet this tough standard starting with the 2009 model year. This would mark the first time that these vehicles would be regulated like cars, something several administrations had been reluctant to do until recently because these large vehicles are mainly sold by domestic automakers, for which they produce huge profits and tens of thousands of jobs. But with big sport utility vehicles in particular being used now as oversized cars rather than work vehicles, and with sales soaring and environmentalists starting to complain, the EPA changed its position.

The new rules would not affect large commercial trucks or vehicles already on the road. Officials of the environmental agency said that without new rules, air pollution would start worsening again about 2010, as Americans drive ever more miles in ever bigger vehicles.

The EPA plan would also require a 91 percent cut, phased in from 2004 to 2006, in the level of sulfur in gasoline. Sulfur, a naturally occurring contaminant of crude oil, clogs catalytic converters and dramatically increases pollution.

The auto industry's criticism of the administration plan has been muted by Detroit's delight at the prospect of deep cuts in the sulfur in gasoline. This will make it much easier for Detroit to meet future emissions standards, at least for a while.

But Ms. Cooper of the automakers alliance said further cuts in sulfur would be needed after 2006 to make sure that all of the administration's pollution targets could be met. Automakers maintain that even with the cleaner gasoline, designing ever cleaner engines and better catalytic converters could add several hundred dollars to the cost of a car and more to the cost of a sport utility vehicle. It is unclear how much of this extra cost could be passed on to the public if competition remains fierce in the auto market.

Seeking a greener image, Ford Motor Co. has begun voluntarily building all of its sport utility vehicles to be as clean as current cars. But even Ford executives have expressed worries about the new standards in 2009 for large sport utility vehicles and pickup trucks. Ford and other automakers want a mandatory review in 2004 of the new rules; no decision has been made.

Unlike the auto industry, the oil industry gains nothing from the new regulations, and so is very unhappy. O'Keefe of the petroleum institute said

the rules could add 5 or 6 cents to the price of a gallon of gasoline. This, he contended, is an unnecessary expense for people living in states with few air quality problems.

The automakers have suggested that the extra cost might be only 2 or 3 cents a gallon, but O'Keefe said this assumed that new refining techniques, so far only demonstrated in the laboratory, could be introduced on a commercial scale.

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Turn a few heads.



December 10, 1998

## Harmful Heat Is More Frequent, Especially at Night, Study Finds

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### Forum

- [Join a Discussion on Environmental Hot Spots](#)
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By WILLIAM K. STEVENS

**E**xtreme summer heat and humidity of the kind most threatening to health have become more frequent in the United States over the last half century, two Federal researchers say.

According to their study, in Thursday's issue of the journal *Nature*, the frequency of extremely hot, humid days and of heat waves lasting several days increased substantially from 1949 to 1995. In terms of the threat to health, however, another finding was especially significant: The increase in heat stress was greater at night than in the daytime.

Many experts say that extremely high temperature and humidity over successive nights is a crucial factor in heat-related deaths. When nearly 600 people died in a heat wave in Chicago in 1995, for example, many of the deaths were attributed to an unremitting combination of record high nighttime heat and humidity that allowed no respite from daytime heat stress.

Some studies have shown that extreme summer heat has more impact on people's health than any other kind of severe weather and that the elderly are most vulnerable.

"If these climate trends continue, they may pose a public health problem, particularly as there are increasing numbers of elderly people," wrote the authors of the study, Dr. Dian J. Gaffen and Rebecca J. Ross, research meteorologists at the National Oceanic and Atmospheric Administration's Air Resources Laboratory in Silver Spring, Md.

The apparent trend toward more extreme heat generally coincides with a warming of the earth's surface in recent decades, globally and in the United States. The dominant view among scientists is that at least some of this warming has been caused by emissions of heat-trapping gases like carbon dioxide, which is emitted by the burning of coal, oil, natural gas and wood. The earth's average surface temperature, which has risen one degree in the last century, is projected to rise two to six degrees over the next century, further increasing humidity and making heat waves more frequent and intense. By comparison, surface temperature has risen five to nine degrees since the depth

of the ice age 18,000 to 20,000 years ago.

While the increasing frequency of extreme heat and humidity cannot be directly linked to the warming trend, Dr. Gaffen said it was "consistent with what is predicted in the global warming scenario."

Thomas R. Karl, director of the National Climatic Data Center, agreed. "I think these are the types of conditions that will become more frequent and more intense when they do occur" if the climate warms as projected, Karl said. "We've already seen examples of that this past year," he added, referring to last summer's heat wave in Texas.

By and large, Karl said, the Gaffen-Ross findings "seem to be consistent with what we know from other analyses." He said that if data through 1998 were included in the study, "I'm sure they would find even stronger trends."

Worldwide, the last two years have been the two warmest on record.

Dr. Gaffen and Ms. Ross had for some time been studying global distributions of temperature and water vapor, and they found an increasing trend of rising humidity accompanying rising temperatures. So, Dr. Gaffen said, they decided to see whether this meant that extremes of heat and humidity were also increasing.

They defined "extreme" as the highest 15 percent of temperature and humidity measurements, as recorded every three hours around the clock in July and August from 1961 through 1990. This threshold, they report, is "closely correlated" with levels above which, other researchers say, mortality increases sharply.

Dr. Gaffen and Ms. Ross analyzed records at 113 Government weather stations around the country, mainly at airports, in search of information on two variables: the combination of temperature and humidity that meteorologists call "apparent temperature," and temperature alone.

Apparent temperature is a measure of the combined impact of heat and humidity on people and the sensation that results. It is increasing faster than temperature alone, the researchers said, because humidity is increasing faster. This would be expected in a warmer climate, because more water evaporates and the atmosphere can hold more.

The researchers computed their thresholds of extremity for the average daily temperature, the daily maximum temperature and the daily minimum temperature for July and August at each weather station. They found that from 1949 to 1995, the annual frequency of days on which the thresholds were surpassed increased at all but 16 of the 113 stations. The increases were largest for the minimum "apparent temperature," which basically translates to a measure of combined nighttime heat and humidity.

At some stations, Dr. Gaffen and Ms. Ross found that over the half century, the number of nights with extremely high apparent temperatures doubled, to about 18 days a year from about 9 days a year in some places. The largest and statistically most significant trends were in some of the nation's most populated areas, especially from the Middle Atlantic States south to Florida, as well as along the West Coast and in big cities in the Southwest. Eight of the 15 cities in which the trend was most pronounced were in the Southeast -- including Miami, which headed the list nationally.

The New York metropolitan area did not figure in the study.

Daytime increases were found to be not nearly as dramatic. In fact, the upward trend was statistically significant only west of the Rocky Mountains.

East of the Rockies, the apparent temperature increased more than temperature alone. West of the Rockies, where summer humidity increases are less marked, the trends of the two variables were similar.

The investigators defined heat waves as periods of three or four days in which the average daily apparent temperature exceeded the top 15 percent threshold. On average, they found, each weather station experiences 1.7 three-day heat waves and one four-day heat wave a year. In the contiguous United States, the number of heat waves increased by 88 percent from 1949 to 1995.

Two caveats have been attached to the study. To some extent, said Dr. Gaffen and Ms. Ross, the rising heat probably reflects increased urbanization; the concrete and asphalt in urban areas absorb and retain more heat than rural areas. But Ms. Gaffen said that most of the trend cannot be explained this way. For one thing, she said, not all the weather stations in the study were in urban areas. For another, the researchers looked for but did not find a correlation between population growth -- a measure of urbanization -- and trends in extreme weather.

The other caveat was offered by Dr. Laurence S. Kalkstein of the University of Delaware, who has long studied heat and health. The threshold of extreme heat adopted by the researchers was not selected on the basis of the relationship between health and extreme heat, he said. Earlier studies by Dr. Kalkstein found that the threshold at which heat begins to kill people varies from one city to another. "That's my only disagreement" with the study, he said.



## The Pew Center on Global Climate Change

*In the News*

# Associated Press

## Cos. to Try to Reduce CO2 Emissions

WASHINGTON (AP) -- Several major corporations, including General Motors, pledged Tuesday to take voluntary actions to "reduce the risk" of global warming, although stopping short of endorsing the controversial Kyoto climate treaty.

Executives of General Motors, Monsanto and British Petroleum agreed to take steps to reduce emissions of carbon dioxide, the leading so-called "greenhouse" gas that many scientists say may lead to a serious warming of the earth.

British Petroleum previously has accepted global warming as a potentially serious environmental problem. But automakers, including General Motors, long have scoffed at concerns about climate change.

A growing number of leading corporations in recent months have publicly called for actions -- though usually voluntary -- to reduce carbon dioxide emissions in the coming decade:

--Last week Shell Oil, following British Petroleum's lead, announced plans to cut carbon emissions by 10 percent.

--United Technologies, a major builder of aircraft engines, air conditioners and heating systems, said recently it planned to cut energy use by 25 percent over the next decade in part because of climate concerns.

--Eighteen major corporations, including Boeing Co., Weyerhaeuser and American Electric Power Co., have joined with the Pew Center to develop programs addressing climate change.

In a meeting Tuesday at the White House of business and environmental leaders, Vice President Al Gore said these companies "recognize the challenge that we face. ... They are forging common-sense plans to reduce their (greenhouse) emissions. ... These developments send a strong message."

At a separate news conference, General Motors, British Petroleum and Monsanto joined with the World Resources Institute, an environmental think tank, in endorsing "market-oriented" efforts to reduce greenhouse emissions.

The group agreed that while climate science continues to evolve, "there is growing consensus that action is merited" and that businesses can benefit from addressing the challenge of potential climate change.

"These are companies that are willing to get on with it and demonstrate that we don't need to be immobilized by the political process," said Jonathan Lash, president of the World Resources Institute.

Meanwhile, Sen. Joseph Lieberman, D-Conn., said companies must be given assurance that whatever actions they take to reduce greenhouse gases will be recognized once a formal emission-reduction scheme is put in place under international treaty.

Lieberman said he planned to push for legislation assuring credit for early industry action on the climate issue when Congress reconvenes next year. "This is a very gentle way of creating some incentive for companies," he said in a meeting with reporters Tuesday. "It says you will be rewarded for taking early action."

Dennis Minano, vice president and chief environmental officer at General Motors, said his company wants to "constructively address the global climate issue" through development of new technologies that will reduce carbon emissions.

But Minano said GM remains opposed to government requiring more fuel-efficient cars. Environmentalists have said higher fuel economy requirements for automobiles are essential to dealing with the climate issue.

"We don't support higher (fuel economy) standards. It doesn't represent where the market is," said Minano, alluding to growing demand in showrooms for sport utility vehicles and other larger and less fuel-efficient cars.

Minano also said GM remains opposed to Senate ratification of the climate treaty reached in negotiations last December in Kyoto, Japan. It calls for the United States to reduce greenhouse emissions to below 1990 levels by 2008-2012, a cut of more than a third from where emissions are expected to be by then.

The Global Climate Coalition, a group that includes General Motors as well as other automakers and oil companies, has led opposition to the Kyoto accord, arguing it would lead to soaring energy prices and economic losses.

While the White House has no plans to submit the Kyoto accord to the Senate anytime soon, the administration has been urging industry to take voluntary actions to reduce carbon emissions.



# The Washington Post

## Firms Warm Up to Climate Treaty

*Efforts to Reduce Global Emissions Is Met With Less Resistance*

By MARTHA M. HAMILTON  
Washington Post Staff Writer

Auto makers, utilities, oil companies and other businesses howled nearly a year ago when the United States and other industrialized nations agreed in Kyoto, Japan, to reduce emissions from fossil fuels that have been blamed for global warming. Since then, what once seemed like rock-solid business opposition to the Kyoto accord has fragmented.

Twenty major U.S. companies, including three electric power companies and two oil companies, have come together at the Pew Center for Global Climate Change in Washington to promote taking actions to address the problem of climate change. Two major international oil companies, British Petroleum PLC and Royal Dutch/Shell Group of Cos., recently announced they would reduce their own emissions greenhouse gases voluntarily.

United Technologies Corp., which builds Pratt & Whitney aircraft engines and Carrier air conditioners, has said it will reduce its energy use by 25 percent over the next 10 years to reduce emissions of greenhouse gases. And last week General Motors Corp. and Monsanto Co. joined British Petroleum and the World Resources Institute in calling now for action to address global warming.

"It's no longer a united front," said Robert N. Stavins, an environmental economist with the John F. Kennedy School of Government.

Paul Tebo, vice president in charge of environmental issues at DuPont Co., which joined the Pew Center on Global Climate Change last week, said he believes big business will be faster to match public sentiment on global warming than two decades ago, when many businesses were slow to respond to growing public concerns about the environment.

"They're a lot like us," Tebo said of other major corporations. "They say they don't think the science is conclusive, but it's cause for concern. The Kyoto Protocol is not perfect, but it is a signal that people around the world are concerned about this."

Tebo added, "The Kyoto Protocol needs work, but they're willing to get out front and work on it. They're

willing to cooperate rather than to agitate."

Today, government officials, environmentalists and business leaders will begin gathering in Buenos Aires for a follow-up meeting on Kyoto. In contrast to the Kyoto meeting, which dealt with the big picture, the Buenos Aires meeting will begin the complicated, painstaking process of figuring out how to achieve the goals agreed to with much fanfare in Japan.

In fact, many participants are playing down expectations for the Buenos Aires meeting. "I think the best that comes out of Buenos Aires is a work plan and a schedule," said Eileen Claussen, executive director of the Pew Center group.

"I believe that there is a greater understanding of the difficulties of meeting the targets set last year," said William F. O'Keefe, executive vice president of the American Petroleum Institute and former chairman of the Global Climate Coalition, an organization of businesses that oppose ratification of the Kyoto treaty. "My understanding is that Buenos Aires will be to lay out an action plan to try to define the rules and process for going forward."

Although the Global Climate Coalition, from which British Petroleum and Royal Dutch/Shell resigned, continues to oppose the Kyoto Protocol, O'Keefe said the American Petroleum Institute is trying to create a uniform reporting system for emissions. U.S. oil companies generally have resisted calls for reducing emissions from fossil fuels, unlike companies based in Western Europe, such as BP and Royal Dutch/Shell.

"Our challenge is whether we can have a reporting system that is uniform, so we get consistent data," O'Keefe said. "A lot of that has changed in the past year," he said of the APT's decision to get involved in monitoring. "What hasn't changed is our continued opposition to the Kyoto Protocol and our continuing belief that it isn't workable."

The issues that will be critical for businesses as developed nations move forward to implement the goals set at Kyoto that include how to form a system that allows companies to trade credits for emissions. Such a trading regime would allow a company that could only reduce its emissions at great cost to pay another

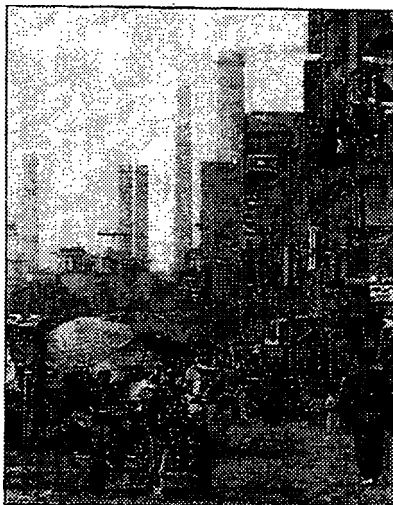
company that could achieve the same reduction more cheaply, ultimately helping reduce total emissions into the atmosphere.

Many companies also are lobbying to be granted credit for steps they have taken or take before the rules are written to reduce emissions. A bill was introduced in the Senate during the last days of the 105th Congress that would guarantee it, though it did not pass.

If businesses in developed nations begin taking steps to reduce emissions it will help encourage developing nations, which weren't required to set emissions reduction quotas under the Kyoto Protocol, to move forward, said Fred Krupp, president of the Environmental Defense Fund, which is working with BP on emissions reductions. "More businesses are figuring out that there are ways consistent with their business objectives that they can be constructive on the problem," he said.



# The Economist



Inefficiency for sale

## Environmental policy Hot market

THE days when, in the famous observation, "everybody talks about the weather but nobody does anything about it" are long gone. On November 2nd, policymakers and environmentalists descended on Buenos Aires for a two-week UN conference on global warming. A similar gathering in Kyoto last year resulted in a dramatic, but sketchy, agreement by rich countries to cut emissions of greenhouse gases to below their 1990 levels; this summit is meant to fill in the many blanks.

Do not hold your breath. Despite the progress at Kyoto, many countries still do not agree even on the premises of the argument. Yet the debate over reducing greenhouse emissions can really be distilled to three simple, sequential questions: why, who and how.

The answer to the first—why bother at all?—remains hotly debated. But the UN process has started a bandwagon rolling. In recent months, influential American firms, including such heavyweights as DuPont, United Technologies and Enron, have formed a coalition committed to a power-

ful premise: the scientific evidence, though incomplete, is alarming enough to warrant action now. They say that they will press the next Congress to guarantee financial benefits for firms that take "early action," treaty or no treaty.

Even with this help, the gathering in Buenos Aires is unlikely to achieve much. That is because negotiators in Kyoto, in their eagerness to frame an accord, failed to answer the second question—who should make the cuts?—to everyone's satisfaction. Only developed countries agreed to binding targets for emissions reductions; the others agreed to nothing. Poor countries insisted, with some justice, that today's problem is largely due to the excesses of the rich world: the United States alone spews out about a quarter of the world's carbon dioxide emissions (see chart). Besides, they say, cutting emissions would come at the price of economic growth, making the life of the poor even worse.

Yet it is the developing world that will be producing the lion's share of global greenhouse emissions within a few decades. The Americans therefore insist on "meaningful participation" by big developing countries. Argentina tried to break the impasse by offering to make "voluntary" cuts, and encouraging others to do the same. But the host's bold initiative, made on the opening day, was quickly quashed by countries such as China and India, which refused even to debate the matter.

So, without any agreement over the question of who, the summit is skipping to the third question: how to make the cuts? The three dozen or so rich countries that signed the Kyoto accord agreed to lower their emissions of greenhouse gases by at least 5% below 1990 levels by 2012—but did

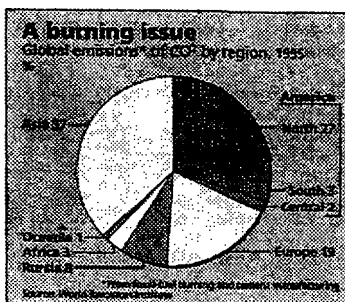
not specify how. Answering this is the thankless, and maybe impossible, task facing the delegates in Argentina.

Unsurprisingly, rival factions are promoting a bewildering array of solutions. The future of the accord hinges on one specific idea, however: an international market to trade the right to emit greenhouse gases. Such a market would allow countries that are above their quota to "buy" emissions reductions in other parts of the world where they are easier to achieve. The United States strongly favours such an approach, arguing that it is the most flexible, and least expensive, way of complying with Kyoto's targets. EU countries remain sceptical—some want to set limits on trading—and prefer policy changes such as carbon taxes.

Buenos Aires may fail. Yet the broader initiative will still have an effect. As Joseph Stanislaw of Cambridge Energy Research Associates, a consultancy, explains, "The point is no longer whether burning hydrocarbons leads to global warming... consumer perception and technological reality have created a requirement that companies embrace a proactive attitude on the environment."

Ironically, the best reason for expecting change now comes not from policymakers, but from oil companies. Royal Dutch Shell announced on October 16th a plan to reduce its greenhouse emissions by at least a tenth from its 1990 levels by 2002. BP has made a commitment to reach a similar target within a decade. With help from the Environmental Defence Fund, an American lobbying group, it has also launched an experiment in emissions trading within the firm to help it reach that target.

If oil companies forge ahead, the momentum for change created by the UN process may survive even as bureaucrats bicker. But sooner or later, good publicity alone will cease to be sufficient motivation for firms. This green revolution needs some deeds by governments if it is to continue.



# The Washington Post

## Greening of the Board Rooms

A lot of Republicans in Congress have staked out a pretty clear position on global warming: It doesn't exist. Never mind the evidence. They don't want it to exist, and so it doesn't.

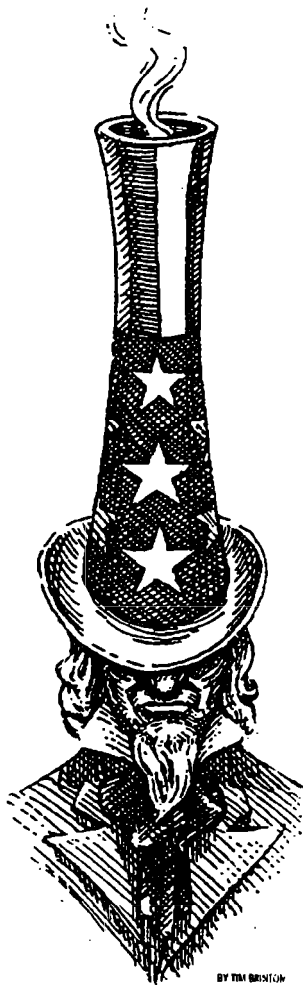
But a curious thing has happened during the past year. While Republicans rode off in spirited defense of this indefensible position, their ostensible allies in the business world—the supposed beneficiaries of the Republican hard line—have been riding the opposite way. Major multinationals such as Monsanto, United Technologies and General Motors have acknowledged that the danger of climate change is real and that some kind of early response is called for.

The corporate world has "made the turn," says Kevin Fay, who directs one business alliance on the subject. "That doesn't mean they're jumping up and down for joy," he says. "But it's: 'We took our shot at it, now let's get on with this.'"

This turn toward realism is worth keeping in mind as you scan headlines this week from Buenos Aires. Diplomats from around the world will be trying to flesh out a treaty they negotiated last year in Kyoto, and it won't be easy.

Europe will be trying to stick it to the United States, on the theory—shared by some U.S. environmentalists—that no solution to global warming is worthwhile if it doesn't make Americans suffer. The United States will be pressuring developing countries to assume some responsibility for the problem, while developing countries will insist that rich countries go first. The Clinton administration will claim it has gone first, which will be a hard sell since U.S. greenhouse gas emissions, already number one in the world, are still rising.

So 5,000 officials, lobbyists and hangers-on will argue and spin and point fingers. At best they'll come up with a work plan and schedule for further debate. But as long as they don't veer totally off track, that won't be so terrible. Controlling climate change is as complex an international problem as has ever been faced, combining the challenges of arms control verification, trade regulation, de-



velopment aid and more. It won't be accomplished in a year, or two, or five.

All the more significant, then, that U.S. companies are beginning to agitate for action domestically, while the international rules are still taking shape. At the Pew Center on Global Climate Change, corporations ranging from Boeing to Dupont to Lockheed Martin have agreed that "the cost of delay is significant.... U.S. leadership is imperative.... leadership must start with Congress."

Kevin Fay's International Climate Change Partnership, which includes British Petroleum, United Technologies and General Electric, a few days ago issued a proposal to encourage "immedi-

ate action to reduce greenhouse gas emissions by rewarding companies that act early."

And BP, Monsanto and General Motors hooked up with the World Resources Institute to study what can be done right away. "Leadership and commitment to action now are necessary to address the climate challenge," they said, and endorsed the elimination of fossil fuel subsidies—no minor step for companies, such as BP and GM, for which fossil fuels (such as gasoline) are a lifeblood.

None of this means there's consensus on what to do. GM, while endorsing immediate action, maintains its membership in the most retrograde industry group, too. The Kyoto treaty, which President Clinton is likely to sign soon, will remain unratifiable, possibly for years.

But much of big business has come to accept, since Kyoto, that climate change is a real danger, with all that implies for rising sea levels, unpredictable changes in weather, new patterns of disease and the rest. Corporations see money to be made in new, energy-efficient technologies. These companies operate in Europe, where governments already are more serious about promoting energy efficiency, and they'd like to see some consistency. And they want an early role in shaping new policies that they understand are bound to come.

This gradual shift in the corporate world has big political implications. It means that Al Gore's close association with the Kyoto treaty, which looked perilous in the immediate weeks after Kyoto, may not prove to be a negative. And it means that the band of Just Say No-resisters in Congress is likely to shrink.

Last month three senators—Democrat Joseph Lieberman and Republicans Connie Mack and John Chafee—took a first step, introducing legislation to reward companies that take early voluntary action to reduce their greenhouse gas emissions. By spring, no matter what happens in Argentina this week, those three pioneers will have plenty of company in Congress.

*The writer is a member of the editorial page staff.*



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# BusinessWeek

## LOOK WHO'S THAWING ON GLOBAL WARMING

A group of U.S. businesses—some seeing a chance for profits—is advocating action



**F**or years, U.S. energy and utility execs had a simple and direct response to the threat of global warming: Rubbish! There's no evidence, they said, that emissions from the burning of fossil fuels are raising the earth's temperature. And trying to cut those emissions—the goal of an international treaty hammered out last December in Kyoto—would cripple the American economy.

Not every exec came to the same conclusion, however. American Electric Power Co. CEO E. Linn Draper and his environment chief, Dale E. Heydlauff, pored over the evidence—including record temperatures in recent months—and decided that human-caused global warming was the most likely explanation. "It's no longer possible to say there is not a problem," says Heydlauff.

Earlier this year, Draper broke ranks with the hard-line industry position. In May, AEP joined Boeing, Enron, Lockheed Martin, 3M, United Technologies, and seven other companies as founding members of the Pew Center on Global

Climate Change, formed to search for ways to prevent global warming. When AEP signed on, the reaction of fellow utility execs ranged "from shocked and confused to pretty vitriolic," recalls Heydlauff. But now they are "saying maybe we're on to something."

The willingness of AEP and other such companies to take a fresh look at the issues is an important change that offers hope for resolving the current impasse over the Kyoto climate treaty. Delegates from some 165 nations will gather in Buenos Aires on Nov. 2 to begin tackling the vast unresolved issues in the Kyoto Protocol (table, page 104).

**"We potentially have a very serious problem," says FMC CEO Robert Burt**

**SCORCHED EARTH:** This summer's heat took a toll on crops in Texas

Final decisions are not expected in Buenos Aires, but pressure to take action is growing. "Science has told us we potentially have a very serious problem," says Robert N. Burt, CEO of chemical and equipment giant FMC Corp. The evidence includes record-high global temperatures in recent years and computer models that forecast a warming of 2 to 5 degrees Fahrenheit by 2100.

**LOGJAM.** The central issue in the Buenos Aires talks will be whether developing countries should commit to emissions reductions—and when. The Kyoto treaty requires developed countries to cut their greenhouse gas emissions below 1990 levels by 2008-12. The U.S.'s target is a 7% cut. But the protocol puts no limits on the amounts of gases such nations as China, Korea, and Mexico can spew into the atmosphere. For that reason, Republicans in Congress say the Kyoto Protocol is grossly unfair. Last year, the Senate passed a resolution saying that

*cont.*



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# BusinessWeek

## THE HURDLES IN BUENOS AIRES

As delegates from around the world try to find common ground on climate change, here are some of the major issues that must be resolved.

**MEASURING PARTICIPATION BY DEVELOPING COUNTRIES** The U.S. won't agree to cut its emissions unless developing nations like China and India also agree to limit. But fair, developing countries reject. Industrial nations are mainly responsible for the problem, so they must act first.

**"HOT AIR" TRADING** The Clinton Administration hopes the U.S. could meet most of the negotiated emissions limits by buying emissions "credits" from Russia and Ukraine whose economies and emissions have tanked since 1990, rather than actually cutting emissions at home. That's cheating, says the rest of the world. The European Union wants to require that at least 50% of reductions occur at home.

**CREDITING CO<sub>2</sub> REMOVAL** In addition to reducing emissions of greenhouse gases, concentrations of CO<sub>2</sub> can be cut by removing the gas from the atmosphere by, for instance, growing more trees or crops. But figuring out how much credit countries will get from such measures is a delicate issue.

**"CLEAN" DEVELOPMENT** The developing nations want the industrialized world to help them adopt energy-efficient, clean technologies. But they fear the U.S. will hold back until developing countries agree to measures such as emissions caps.

without developing country commitment, the treaty is dead.

Developing countries aren't ready to sign on. The current climate threat is the legacy of decades of emissions from the industrialized world, they argue. "Commitment is a dirty word in the developing world, and noncommitment is a dirty word in the developed world," says Atiq Rahman, director of the Bangladesh Center for Advanced Studies. "We have to break this logjam."

One way to do that would be to recognize steps countries are already taking. Cuts in subsidies for fossil-fuel energy in China, India, Mexico, and other nations have slowed the rise in emissions, says a new study from Washington's World Resources Institute. Meanwhile, Brazil has made a major push to use renewable fuels, Uruguay is reforesting 700,000 acres, and India is becoming a leader in wind power.

**"CHANGE IS NOT FREE."** Negotiators in Buenos Aires also are encouraged by recent developments in Europe. The European Union has reached an agreement with auto makers to reduce average fuel use per car by 25%. And in late October, the new coalition government of the Social Democrats and the Greens in Germany unveiled a plan to raise taxes on fossil fuels and boost support for renewable energy.

The U.S. has far less progress to report. The Clinton Administration's plan to



**AEP COAL PLANT IN WEST VIRGINIA**  
We can't "say there is not a problem"

foster new, more energy-efficient technologies, viewed as inadequate at best, was watered down even more by Congress. But some hope is coming from a surprising source—the U.S. business community. "Since Kyoto, the business community has taken a major step forward," says David Sandalow, the White House's point person for international climate policy. Eighteen major companies have joined the business council of the Pew Center on Global Climate Change, agreeing to take concrete steps to explore ways to cut emissions. United Technologies Corp., for instance, plans to reduce its energy use 25% by 2007. Given today's rock-bottom energy costs, "the pressure [to boost efficiency] has been off for some time," says Leslie Carothers, U.S. environment chief. "But most of us, including our CEO, feel it is not unreasonable for the developed countries to take the first step."

The question is whether such efforts

will save money. "Most of the economic studies on both sides are not believable," says Eileen Claussen, executive director of the Pew Center. "But serious change is not free." On the other hand, such change does offer enormous business opportunities. That was the message delivered at a news conference on Oct. 27 by execs from Monsanto, BP America, and General Motors. They called for a series of measures—from eliminating fossil-fuel subsidies to fostering new, more efficient technologies—that could reduce global warming and bolster their bottom lines. BP is making major investments in solar energy, for instance, while GM wants incentives for people to buy its advanced electric car. **MOMENTUM** Even companies that don't see potential new markets have a strong self-interest. Case in point: American Electric Power. CEO Draper is dead set

against the Kyoto Protocol. "It's much too prescriptive in terms of timetables," he says. But he believes that, politically, the momentum for a global accord is too strong to stop. "The science doesn't matter anymore," says AEP's Heydlauff. "The world has become convinced that this is a matter of considerable urgency, and they want to take action. But if we don't arrive at the right policies, it could be a stake through

the heart of AEP." And AEP execs think they have a better chance of avoiding disaster "if we acknowledge there is legitimacy to the issue and have a hand in writing the policies," says Heydlauff.

Add it up, and "there's an undercurrent of honest exploration," says one GOP Hill staffer. "Industry knows it can't say 'Hell, no' forever." Indeed, the shift has yielded results. On Oct. 10, Senators John Chafee (R-R.I.), Connie Mack (R-Fla.), and Joseph Lieberman (D-Conn.) introduced legislation to encourage and reward companies for taking early, voluntary action to cut greenhouse gases.

These are early days yet in complex and intricate global negotiations. Most countries believe that the 11 days of negotiations in Buenos Aires will, at best, produce a timetable for making decisions on the many thorny issues. But with businesses around the world starting to take seriously the scientific and political threats of global warming, the chances of finding a sensible and effective policy have begun to improve.

By John Carey in Washington



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# The New York Times

## Remember Global Warming?

Diplomats from more than 150 nations gathered in Buenos Aires this week to assess what they had done since the Kyoto agreement on global warming last December. The answer is, not much. They can be happy about one thing. Nobody has successfully challenged the urgency of their mission. Despite well-financed efforts by some industry groups to minimize the warming threat, the scientific consensus — that the unchecked burning of fossil fuels could someday cause great damage to the environment — remains intact. What is not intact is the spirit of common purpose that produced the Kyoto agreement.

The Kyoto Protocol committed the industrialized world to an average 5 percent reduction in greenhouse emissions below 1990 levels between 2008 and 2012 — a remarkably ambitious target, given the world's rising dependence on fossil fuels. The American target is 7 percent. But many important details were left unsettled. Even worse, the giant developing countries like India and China have yet to be brought on board. Until that happens, Senate ratification is out of the question. Meanwhile, greenhouse gases in the atmosphere continue to rise. Buenos Aires is a good place to re-energize the process. Two issues are of central importance.

**Early Action.** Although Kyoto's targets would not become legally binding until 2008, a quick start on the problem is essential — especially in the United States, which emits one-fourth of the world's greenhouse gases. Because America's emissions are projected to rise by 30 percent between now and 2008 under "business as usual" scenarios, it would be foolish to dawdle. Last-minute efforts to reverse the energy trajectory would be ruinously expensive.

A surprising number of American companies like the idea of early action. For the last year, two public-interest groups — the Pew Center on Global Climate Change and the Environmental Defense Fund — have been signing up companies like Boeing, United Technologies and British Petroleum that are prepared to reduce their own emissions

even before a treaty is ratified. But the list would surely be longer if some way could be found to reward companies for taking action now, perhaps by giving them credits they could use to meet whatever obligations they incur when the agreement finally kicks in.

In the Senate, Joseph Lieberman, a Democrat, and John Chafee and Connie Mack, both Republicans, have introduced legislation establishing a mechanism to do just that. But they will have to persuade their colleagues in Congress, which grudgingly provided more money for clean-energy research in the new budget year but has otherwise been indifferent to the global warming issue.

**Emissions Trading.** The United States would have rejected the Kyoto Protocol if it had not included a provision that allows the sale or trade of emissions allowances among nations. In theory, industrialized nations that cannot quickly meet their targets without crippling energy taxes or costly investments would be able to "buy" pollution permits from poorer countries whose economies are so inefficient that even small adjustments can achieve big reductions in emissions. That transfer of capital, in turn, could help developing countries invest in cleaner technologies.

The British, among others, fear that the United States will exploit the trading plan to avoid making any real cuts in emissions, buying reductions from others instead. These fears are exaggerated. But the best way to put them to rest is to invite American companies to start cutting their emissions now. That would not only pacify the British but send a positive signal to the less-developed countries, which are unlikely to cut their energy use and prejudice their chances for further growth unless they are sure that America is serious.

The United States obviously cannot go it alone. Global warming demands a global response. But the rest of the world is not going to move without the leadership and example of the world's biggest producer of greenhouse gases.



# FINANCIAL TIMES

## CLIMATE: BUSINESS GRAPPLES WITH POTENTIAL CHANGES

By Vanessa Houlder in Buenos Aires

A year ago, many US businesses rejected the idea that there was a need for any action on climate change. Now, as diplomats gather in Buenos Aires for climate change negotiations, the emphasis of some prominent companies - including car, oil and chemical businesses - is on how to deal with it.

"The momentum has shifted to companies that accept the science. There is no question about it," says Eileen Claussen, executive director of the Pew Centre on Global Climate Change. This organisation, which is calling for US leadership on the issue of climate change, was established in May with members that include Air Products and Chemicals, Baxter International, Boeing, Enron and 3M.

The Buenos Aires meeting is an attempt at fleshing out the treaty agreed last December in Kyoto, Japan, at which developed countries made a legally binding agreement to cut back their emissions of greenhouse gases from 1990 levels by 2010.

"There is clearly a move. Companies are really thinking hard about what all this means," says Paul Faeth, programme director of the World Resources Institute, an environmental think-tank that has teamed up with General Motors, Monsanto and British Petroleum in a collaboration called Safe Climate, Sound Business (SCSB).

The SCSB argues that there is no inherent conflict between economic development and a healthy environment. "For proactive leaders there are major business opportunities in meeting the climate change, if the policy environment is right," it says.

The SCSB initiative states that "climate change is a cause for concern and precautionary action is justified now". But, among its members there are a wide range of views.

BP, for example, has set itself an internal target of cutting greenhouse gas emissions by 10 per cent by 2010, exceeding the Kyoto average. GM, however, is opposed to the Kyoto protocol and remains a member of the Global Climate Coalition (GCC), a vociferous opponent of taking action on stabilising greenhouse gas emissions on present scientific evidence.

GM argues: "We engage in dialogue with groups that have differing points of view in order to learn and to contribute to the discussions." Unless it participates in the debate on climate change, GM fears that "command-and-control" regulations would be imposed on it.

One of the main goals of groups such as Pew and SCSB is to influence policy. The Pew Group, for example, is pressing for congressional legislation on a domestic "early action" programme that will ensure that companies get credit for greenhouse gas reductions before an international framework is in place.

But companies are also mindful of the impact that membership of these organisations has on their public image. For multinational companies, this can present a difficult dilemma, since attitudes of customers differ across the world.

The GCC has dismissed the launch of groups such as Pew and SBSC as an exercise in public relations. "Pew and SCSB are viewed as progressive and constructive. But, with some exceptions, there is no difference between what we say and what they say," says William O'Keefe, former chairman of the GCC.

"A lot of people are trying to create a false momentum by saying that American business is now taking climate change seriously," he says.

For once, many environments would agree with Mr O'Keefe. The greening of American boardrooms will be demonstrated by deeds and not words. But as Mr Faeth of WRI argues, sooner or later there will be action on the climate because "companies have a responsibility to shareholders" to be ready for it.



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# The Washington Post

## Climate Talks Extended In Pursuit of an Accord

By JOBY WARRICK  
*Washington Post Staff Writer*

BUENOS AIRES, Nov. 13—With a deal reportedly within reach, delegates to a United Nations climate conference hunkered down for a second all-night bargaining session tonight to try to decide how to implement last year's international accord to fight global warming.

The two-week conference slipped into overtime as rich and poor nations continued to clash over how to share the responsibility for cutting emissions of "greenhouse gases." U.N. officials had hoped to reach agreement today on a set of deadlines and rules that would lock nations onto a course for solving what many scientists see as the planet's most serious environmental problem.

Diplomats appeared to have achieved significant breakthroughs on several fronts, but officials acknowledged that the talks could collapse if the 160 nations gathered here fail to reach consensus on a wide range of contentious issues.

"We're going to go out of here with a signed-and-sealed deal or we go out with nothing," Peter Jorgensen, spokesman for the European Union's environmental mission, told reporters. "You're not going to get out of here while it's light—unless it's the morning light."

Last year's climate pact approved in Kyoto, Japan, would bind industrialized countries to sharp reductions in greenhouse gases over the next 13 years. But Kyoto left many issues unresolved, including when and how developing countries will take on obligations for curbing their emissions. The pact was formally signed on Thursday by the Clinton administration, but U.S. officials insist they will not submit the pact for the Senate ratification needed for it to become law until improvements are made.

Throughout the day, the mood at the cavernous municipal exposition center in Buenos Aires rose and fell with reports of deals that were on and then off again. U.S. and European governments at one point appeared to have scored a victory with an agreement on an early deadline—the year 2000—for setting rules to enforce the Kyoto accord and setting up market-based programs that would allow countries to work jointly on reducing emissions.

But late today a group of develop-

ing countries led by China and Saudi Arabia objected to the deadlines, a startling turn of events that appeared to put the entire conference in limbo. Other diplomats shrugged off the setback and insisted that talks would continue until a deal was reached.

"I don't think anyone wants to go home and say we can't take this process any further," said Jorgensen, the EU spokesman. "I don't think we could sell that result."

Still, the slow going in Buenos Aires was seen as a poor omen, since many of the most difficult decisions are not even scheduled to be addressed until next year at the earliest. Some observers at the conference were already labeling it a failure.

"A great deal of energy expended for not much of a result," said James Sheehan of Competitive Enterprise Institute, a free-market think tank that opposes the Kyoto treaty.

But others said Buenos Aires had already achieved significant breakthroughs, most notably the decisions by two developing countries—Argentina and Kazakhstan—to set voluntary limits on their emissions.

"The show of leadership to the rest of the world was critical," said Eileen Claussen of the Pew Center on Global Climate Change, a partnership of large corporations that broadly support action on climate change. "This

meeting turned a critical corner, showing the first signs of a global response to this problem."

The diplomatic wrangling coincided with new scientific reports of unusual warming in the atmosphere and oceans. According to U.S. government scientists, surface temperatures last month just missed tying the record for the hottest October since reliable measurements began more than a century ago.

Last month's global average temperature reached 58.14 degrees Fahrenheit, just shy of the 58.15-degree record set in October 1997. The month was 1.04 degrees warmer than the 117-year average, the National Oceanic and Atmospheric Administration said, continuing a trend of unusually warm temperatures in a year in which each of the first nine months set new records.

While many scientists agree that pollution is causing a slow rise in global temperatures that could eventually become disastrous, it remains uncertain whether this year's unusual warming is part of such a trend.

# The Washington Post

## A Warming Trend

THE DOGMATIC divisions of the climate change debate are giving way to practical progress. The business community, united not so long ago against any measures to combat global warming, increasingly is playing a constructive role. Now developing countries, which also had maintained a defiant and unhelpful cohesion, are beginning to look for ways to cooperate and move forward, too. All of this makes it both more urgent, and more possible, for the United States to improve its record.

Human activity -- driving cars, burning coal, manufacturing -- produces carbon dioxide and other gases that increasingly are accumulating in the atmosphere. Most scientists now agree that this accumulation over time will alter the earth's climate, very likely with destructive if still unpredictable consequences. Rapid warming, coastal flooding and more severe droughts and storms are some of the unpleasant possibilities. The case for reducing greenhouse gas emissions, without taking radical or impoverishing steps, is strong. Fortunately, many of the technologies that will prove useful to combat climate change have other benefits as well, in energy efficiency and pollution prevention.

Last week the United States and other nations sent representatives to a conference in Buenos Aires where they debated how to implement the Kyoto treaty, which commits industrialized nations to reduce their emissions over the coming decade. The task of dividing up the atmosphere, or responsibility for it, is understandably complex, not to be concluded in one or two or five meetings. But the deliberations were gratifyingly businesslike and free of ideological posturing. Two courageous developing nations, Argentina and Kazakhstan, broke ranks to say that they, like the rich countries, will accept binding limits on gas emissions, though not in a way that will restrict their opportunities to prosper. Others, including Chile, Mexico and South Korea, are said to be considering comparable steps. Truculent oppositionists such as China, India and Saudi Arabia find themselves more isolated.

The Clinton administration last week signed the Kyoto treaty, a symbolic step intended to strengthen its international bargaining position. The Senate won't ratify the treaty, and the administration won't submit it until more developing countries sign on. Rightly, the United States also continues to lobby for rules that give each country maximum flexibility in deciding how to reach its target and that allow room for free-market mechanisms to work.

But American pleadings abroad will fail unless matched by progress at home; the United States after all remains the world's biggest source of greenhouse gases. One major advance would be legislation, such as that sponsored by Sens. Mack, Chafee and Lieberman, to encourage early, voluntary action by U.S. companies. Congress so far has been mostly an impediment to progress. But the Just Say No caucus can no longer rely on a like-minded industry alliance as a crutch, nor on a recalcitrant developing world bloc as an excuse.



# San Jose Mercury News

## Other nations will not sacrifice if the world's richest doesn't

**U.S. must lead the global warming battle**

NEGOTIATORS from around the world have just spent two weeks in Buenos Aires demonstrating how difficult it will be to implement a worldwide treaty on global warming. The conference served principally to re-emphasize the obvious: Without a commitment by the United States, the treaty written last year in Kyoto means nothing. The United States is the world's No. 1 producer of man-made carbon dioxide, the most significant of the greenhouse gases warming the atmosphere. In both the physical and political worlds, progress depends on America.

U.S. efforts remain half-hearted because too many representatives of heavy industry and coal-producing states (carbon dioxide comes from burning fossil fuels) are pretending that global warming is not a problem or that the United States is being asked to assume an unfair burden in slowing it down.

They've turned a blind eye to the scientific evidence that global warming is happening and that it will produce rising sea levels, more unpredictable weather and the spread of tropical diseases.

They have raised hysterical fears that the treaty is a first step toward the "deindustrialization" of the United States. And, they've noted, the treaty doesn't even cover developing countries, where most of the growth in energy use will occur. The Kyoto treaty set a goal for the year 2012. The world's industrialized countries are to reduce the emission of greenhouse gases to 5 percent below 1990 levels. The purpose of the Buenos Aires meeting was to work out the mechanisms for measuring and accomplishing that.

As evidence of how difficult reaching the goal will be, annual emissions in the United States are now 10 percent above 1990 levels.

Although the United States signed the Kyoto treaty last week, it says it cannot ratify it until certain key provisions are met: a worldwide system for trading emission credits is established, and developing nations agree to some limits on their own greenhouse emissions.

Although the United States signed the Kyoto treaty last week, it says it cannot ratify it until certain key provisions are met: a worldwide system for trading emission credits is established, and developing nations agree to some limits on their own greenhouse emissions.

The U.S. demands are not unreasonable in principle, if they are carried out wisely in practice. But they will have no credibility unless the United States starts reducing its own emissions.

The Pew Center, a foundation, has an illuminating way of thinking about who should exert what sort of effort in combating global warming. It asks three questions: Who is causing the problem? Who has the standard of living that enables it to afford corrective action? Who can best profit from energy efficiency measures?

The United States contributes a quarter of the annual world emissions of carbon dioxide. Not only is it the largest emitter in total, it also leads all countries in emissions per person (except for a handful of the oil-producing nations in the Persian Gulf).

The United States is also the richest country, that is, the country that can most easily afford alternative sources of energy and more sophisticated energy-saving technology. The United States is not the least energy-efficient nation; nations in the former Soviet bloc dominate that category. But with the exception of Canada, the United States uses more energy per dollar of gross domestic product than any of the rich industrial democracies.

Put it all together, and it's no surprise that countries around the world are not willing to sign up for sacrifices before the United States does.

Fortunately, there is evidence of division in the ranks of the opponents of the Kyoto treaty. Dupont, Monsanto and General Electric are among major corporations that have broken ranks and pushed for recognizing the threat of global warming and reducing emissions in the United States. They're doing it in part because they see a business opportunity in developing new climate-friendly products, but there's nothing wrong with that. It's more evidence against the "deindustrialization" canard.

The Buenos Aires conference ended with only incremental accomplishments. The next gathering is two years away. The United States has a lot of work to do in the meantime.

# Chicago Tribune

## It's our move on global warming

After much haggling over whether the problem was real, the debate about global warming now has evolved into a frustrating ping-pong game between industrialized and developing nations over who should make the first move.

At the conclusion of the international conference on global warming in Buenos Aires this weekend, the United States signed on to the Kyoto Accords to reduce greenhouse gas emissions. But there's stiff opposition to ratification in the U.S. Senate, absent a comparable commitment by developing countries, which are themselves rapidly becoming world-class polluters.

Developing countries in turn argue that the U.S., which belches out an estimated 25 percent of all world's manmade carbon dioxide emissions and can best **afford** do something about the problem, ought to be the one take the first step.

Despite the apparent polarization, the contours of a compromise are beginning to take shape. And it is up to the U.S. to play the role of leader, not obstructionist, in moving the world closer to an agreement on this crucial issue.

In U.S. business circles, near-monolithic opposition to doing anything about global warming is quietly giving way to the realization that some action is unavoidable, and that it makes financial sense to get in front of the parade rather than be shoved along later. For example, corporate heavy-hitters like Boeing, United Technologies, Baxter, 3M and International Paper have joined the Pew Center on Global

Climate Change to search for solutions.

In opinion polls, Americans say they believe global warming is real and needs to be dealt with.

The U.S. needs to shelve the notion that emissions reductions and economic growth are mutually exclusive. Each year, American productivity per worker—already the envy of the world—keeps rising, thanks to greater efficiencies and more advanced technologies. A similar push for more efficient and less polluting use of energy, particularly fossil fuels, is not only possible but in the national interest.

The U.S. cannot dodge a leadership role in this area. At the Buenos Aires conference, Argentina and Kazakhstan volunteered on their own to curb emissions. That's great, but it's not likely to break the current logjam, which only the U.S. Senate can do by ratifying the 1997 Kyoto Agreements and officially giving notice to the world that we're ready to move.

A lot of additional negotiating must precede ratification. The idea of "emissions trading" between nations is key, but needs to be spelled out to ensure that U.S. firms already moving to reduce emissions get credit for work done or in progress.

Another promising concept, floated by the Pew Center, is to assign responsibility for emissions reductions to developing countries according to their resources and emissions levels.

No effective action on global warming will materialize however, until the U.S. accepts its responsibility as a polluter—and a world leader.



# Chicago Tribune

## ALLIES AGAINST GLOBAL WARMING

### Firms pledge emissions cuts

By Laurie Goering

TRIBUNE CORRESPONDENT

BUENOS AIRES—Dale Heydlauff hates the idea of tough new pollution regulations as much as anybody in the coal-burning electricity business, one of the largest sources of suspected heat-trapping greenhouse gases.

The difference is he's now convinced global warming is a reality, industry changes are coming and his company, American Electric Power Inc., might just stand to benefit if it gets involved early.

Since the world's industrialized nations agreed last year in Kyoto, Japan, to cut their emissions of carbon dioxide and other gases, his company has invested in variable speed motors at its power plants and more efficient turbines at

its hydroelectric plants.

It's also bought land in Bolivia to help preserve forests, banking on the creation of a worldwide system of trading in emissions allowances and pollution "sinks" such as carbon dioxide-absorbing forests.

"After Kyoto, it has become clear legally binding controls are inevitable," said Heydlauff, vice president for environmental affairs for the Columbus, Ohio-based electric company. "We think it'll be better if we're at the table and helping write the rules."

Not long ago, U.S. businesses uniformly scoffed at the notion of global warming. Science didn't support the theory, they insisted, and any effort to force emissions cuts was certain to derail the U.S. economy.

*cont.*



PEW CENTER  
Global CLIMATE CHANGE

For more information, contact the Pew Center at  
(703)516-4146 or visit [www.pewclimate.org](http://www.pewclimate.org)

# Chicago Tribune

## Allies

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ideological decision (but) an act of good business sense," said Sen. Joseph Lieberman (D-Conn.), who has proposed a bill to give the companies credit in any eventual trading scheme for their early cutbacks.

The Kyoto agreement calls for 38 major countries, including the United States, to cut their emissions an average of 5 percent below 1990 levels by 2008-2012. For its part, the United States, as the world's largest polluter, would be obliged to cut greenhouse gas emissions 7 percent below 1990 levels by 2010.

The treaty is in trouble in the

U.S. Senate, which must approve the pact for it to become binding. That's largely because the protocol exempts polluters in emerging nations. Nevertheless, several prominent American and European companies are already taking action.

Royal Dutch/Shell Group, the world's biggest oil producer, has announced that it is investing in new types of cars and renewable fuels, and will voluntarily cut emissions 10 percent below 1990 levels by 2002, a rate faster than that agreed to by industrialized countries at Kyoto and reaffirmed at a follow-up summit in Buenos Aires last week.

DuPont Co. says that it has already increased energy efficiency by 15 percent and hopes to reduce greenhouse gas emissions by half by 2000.

Semiconductor giant Intel Corp. is working on a deep-sleep mode for computers that will dramatically cut power usage.

United Technologies Corp., which produces jet engines, elevators and air conditioning equipment, has promised to cut energy use 25 percent by 2007, at a cost of about \$200 million.

And British Petroleum PLC, which is in the process of acquiring Chicago-based Amoco Corp., is investing heavily in solar research and has promised to cut its emissions 10 percent below 1990 levels by 2010.

"We can beat this problem," said John Palmisano, director of environmental policy for Enron Corp., another energy firm that has switched sides in the debate. "We're trying to promote action today, not tomorrow."

Many of the firms promising voluntary emissions cuts signed on in May with the Pew Center on Global Climate Change, a new Virginia-based organization aimed at finding cooperative efforts to halt global warming.

The voluntary actions clearly have less to do with lofty ideals than with calculated business risks.

Pew Center-allied businesses, which include Boeing Co., International Paper Co., Maytag Corp. and Toyota Motor Corp., want to have a hand in writing any eventual regulations, and insist cutbacks should be made by market-based "flexible" mechanisms that allow them to earn reduction credits not just for cuts at home but for sharing clean technology with developing nations or protecting forests.

Many see huge new markets opening overseas if they can come up first with clean technology to create power or produce more efficient cars, appliances, and other products.

*cont.*



# Chicago Tribune

"If you're not part of the solution, your competition will fill the vacuum," predicted Judith Ann Bayer, director of environmental-government affairs at United Technologies, which is spending \$1 billion a year on research and development.

Just how much effect the voluntary industry cuts now under way will have remains uncertain.

About 40 percent of U.S. emissions come from automobiles, and that industry sector has shown little interest in quick boosts in fuel economy, perhaps because car buyers have little concern about mileage these days. And only a handful of power companies, the largest U.S. emitters of greenhouse gases, have signed on to the early cutback effort.

Still, "there's been a sea change in the attitudes of industries," contended Fred Krupp, executive director of the Environmental Defense Fund, a so-called non-government organization that has worked closely with the government on developing U.S. climate change policy.

"If we wait until 2008 we'll have to stand the economy on its end to achieve reductions," agreed Leslie Carothers, vice president of environment, health and safety for United Technologies. "We should get going on this now."

