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Folder Title:
Climate Change Other Labor

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
001. email	[Personally Identifiable Information] [partial] (1 page)	07/06/1999	b(6)

COLLECTION:

Clinton Presidential Records
Office of Environmental Initiatives
Roger Ballentine
OA/Box Number: 19511

FOLDER TITLE:

Climate Change Other Labor

2017-1093-F

rs3165

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

- P1 National Security Classified Information [(a)(1) of the PRA]
- P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
- P3 Release would violate a Federal statute [(a)(3) of the PRA]
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- b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]



AFL-CIO

AMERICAN FEDERATION
OF LABOR
AND CONGRESS OF
INDUSTRIAL ORGANIZATIONS

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Labor Inty 7/6

Jane Perkins, David Smith, Joel

- energy production, cut, energy users, - jobs
- But laborers care about environment
- Kyoto shift:

disproportionate cost
born by U.S. workers

- no transition
- no assistance to communities hit
- doesn't discriminate in any that uses domestic energy prod
- can't get to stable limits w/o development authority, partly:
- payment is uncertain, re. what you get back
- support R&D stuff

- workers "in the way" of solution

[- disty b/w coal-dust impact sectors and general economic decline]

- Need more transition focus.

- Need to give policy process - NEC -

- include labor analysis in all proposals, require industry to work w/ labor (ex: the for-ex)
("Labor Impact Analysis")

- Coal
- methane

Don't forget to

—
sequestration
—

To: Roger Ballentine
From: Jeff Seabright
Re: Labor Dialogue on Climate
August 17, 1999

This memo outlines issues raised in two meetings David Gardiner and I had last month with Joel Yudken and Jane Perkins of AFL-CIO. There is a spectrum of outreach activities that we could undertake with labor ranging from being more aggressive about including them in meetings to fully engaging with them in discussions of a just economic transition. We need your guidance about where on that spectrum you want us to go.

BACKGROUND

AFL-CIO and the Economic Policy Institute (EPI) released a report in 1998 that argued Kyoto implementation would hurt working people by increasing income inequality, sending investment overseas, eliminating high paying jobs, depressing wages for non-educated workers, etc. Their report did note, however, that these impacts could be somewhat mitigated by border adjustment policies and transition programs. Both of which are somewhat problematic – free traders do not like border programs and transition programs do not have a great track record.

Since the report's release, AFL-CIO has engaged with environmental organizations in a "blue-green" dialogue. John Sweeney and Carl Pope agreed in a meeting on April 15 to jointly develop a package of measures to address labor impacts of climate mitigation. This "package of measures" is to be released in January 2001. Four subgroups are working under the direction of the steering committee: sectoral initiatives (e.g. buildings sector), technology initiatives, fiscal mechanisms and developing countries. Alden Meyer of Union of Concerned Scientists is the environmental point of contact. A full day workshop on developing country issues is scheduled to take place this autumn.

According to Perkins and Yudken, Sweeney wants to be constructive in acknowledging there will be winners and losers, and in identifying just transition measures to help those most hurt. They want to build solutions into climate response design, rather than tacking on some transition package ex post facto. They are seeking to link employment impacts to technology options and requested input from the Administration on assessment of impacts.

They also noted the good working relationship with Dan Reicher's shop in DOE, especially in the area of buildings. Bob Georgine's Building Trades are working on partnerships with the construction industry on new building efficiency design, and support a "Green School Union Project" with the Alliance to Save Energy. They are also working with industry sectors – steel, cement, aluminum, pulp &

paper. Less advanced is the transport (i.e. UAW and CAFÉ) and electric sector work.

POSSIBLE APPROACHES

We propose three possible approaches to the labor community that could be undertaken separately or in combination, and seek your guidance. Each sends a signal to the labor movement about our concern about their concerns.

Option 1

We could increase our involvement of labor in policy development on the budget, other domestic climate change policies, and international climate policies. We would aim to increase understanding of our positions and theirs, as well as to lower political tensions through increased engagement. This option sends a stronger signal than doing nothing, but sends the weakest signal of the three.

Option 2

We could initiate an effort to engage the labor community in a discussion of “what works” in key sectors for jobs and climate change. We would publicize the positive engagement in the Building and Construction trade unions in the energy efficient buildings area, and highlight success stories from climate-friendly companies in other key sectors. This could be done in the context of “blue-green” dialogue, with the Administration helping by providing some technical assistance. This option involves a greater commitment of effort, but sends a strong signal that we are concerned about creating jobs with our climate change policies. It also emphasizes positive relationships and positive policies.

Option 3

We would engage with the labor movement in a discussion of what policy approaches could be undertaken to avoid job loss and to ensure a just transition for workers who lose their jobs as a result of climate change policies. The goal would be to develop policies by January 2001 -- the same timetable as the “blue-green” dialogue. This sends the strongest signal to labor that we are concerned about their deepest concerns, and also would position the next Administration to submit the Kyoto Protocol to the Senate for ratification in early 2001 along with domestic legislation to accomplish a just transition. This would be a contentious effort, with substantial policy disagreement inside and outside the Administration, as economic agencies and economists would likely oppose most measures that could be taken. It also highlights that there will be jobs lost as a result of climate change policies.



Jefferson B. Seabright

04/03/2000 12:06:12 PM



Record Type: Record

To: Roger S. Ballentine/WHO/EOP@EOP

cc: David Gardiner/CEQ/EOP@EOP, Angela C. Mizeur/WHO/EOP@EOP

Subject: Labor

The anti Kyoto group is motivated primarily by UMW and IBEW and is really the "just say no" crowd within AFL-CIO. UAW is conspicuously absent, as are many other key unions with a stake in this debate.

On the other side:

- The "blue green" dialogue continues
- Sweeney has created a "Presidents' Commission" on environment and has asked Trumka to lead it with 8-10 AFL-CIO Presidents as members. First meeting soon. This group will be broader than climate and provide a venue for moderates like Steelworkers, PACE, AFSCME etc to weigh in on climate..
- AFL-CIO is organizing a conference soon on developing countries and climate change (not to learn more about this)
- Analytical work continues on econ impacts, just transition issues at Economic Policy Institute.

Given the internal politics within AFL-CIO, it might be useful for someone in the Adm to propose some joint work to Sweeney -- working with the Trumka group on just transition or some other forward-looking agenda. Let's talk.

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WAVES CONF@PMD.EOP.GOV

07/06/99 10:22:57 AM

Record Type: Record

To: Carolyn T. Wu/WHO/EOP

cc:

Subject: WAVES Confirmation

ADDRESSEES: CAROLYN T. WU

SUBJECT: WAVES APPT. U98733 CONFIRMATION FOR TRAMONTANO, KAREN

FROM: WAVES OPERATIONS CENTER - ACO: Samuel Hampton

Date: 07-06-1999

Time: 10:21:32

This message serves as confirmation of an appointment for the visitors listed below.

Appointment With: TRAMONTANO, KAREN

Appointment Date: 7/6/99

Appointment Time: 5:00:00 PM

Appointment Room: WW

Appointment Building: WH

Appointment Requested by: WU CAROLYN

Phone Number of Requestor: 66278

WAVES APPOINTMENT NUMBER: U98733

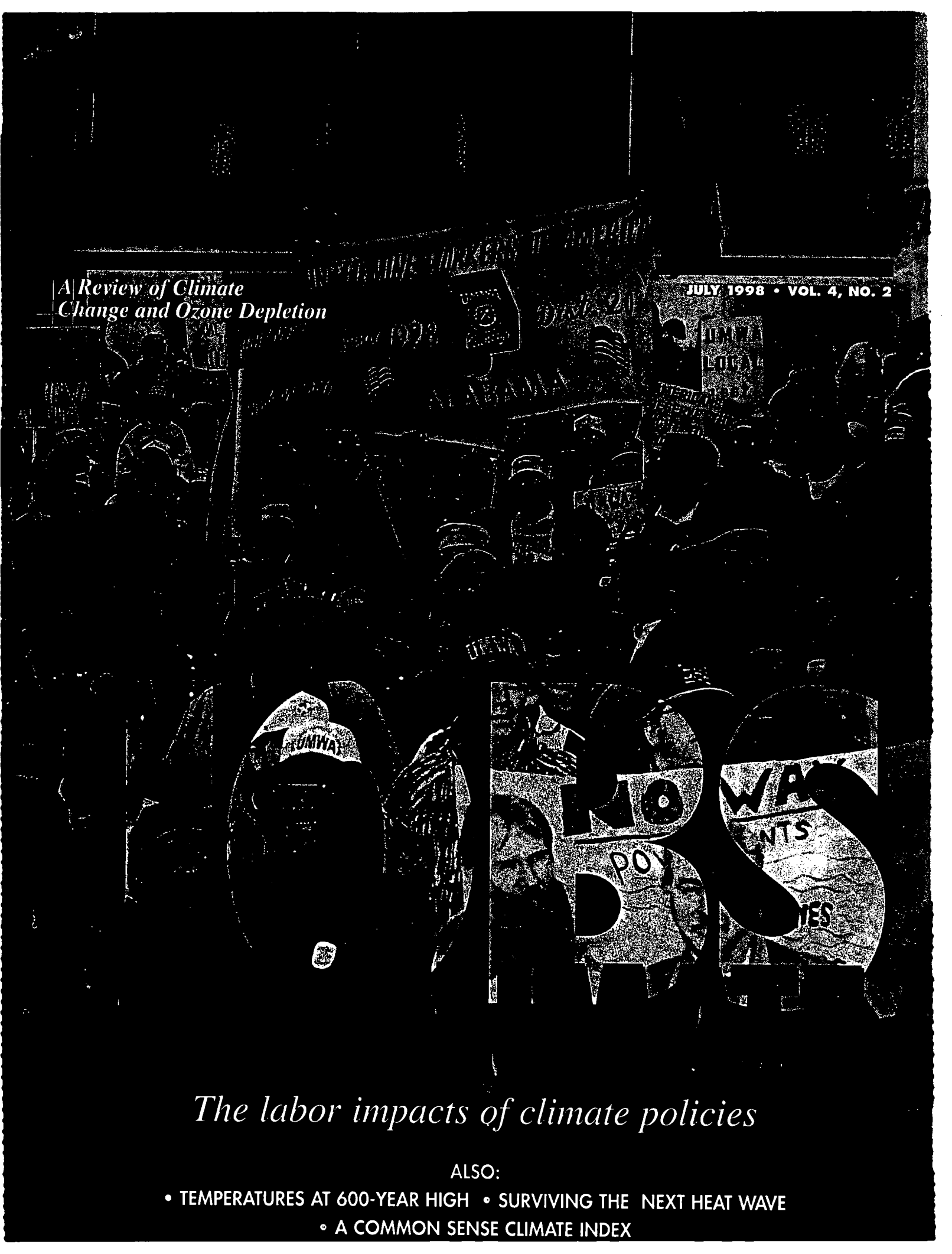
If you have any questions regarding this appointment, please call the WAVES Center at 456-6742 and have the appointment number listed above available to the Access Control Officer answering your call.

TOTAL NUMBER OF NAMES SUBMITTED FOR ENTRY : 3

TOTAL NUMBER OF NAMES OF CLEARED FOR ENTRY: 3

PERKINS, JANE
SMITH, DAVID
YUDKEN, JOEL

(b)(6)



*A Review of Climate
Change and Ozone Depletion*

JULY 1998 • VOL. 4, NO. 2

The labor impacts of climate policies

ALSO:

- TEMPERATURES AT 600-YEAR HIGH • SURVIVING THE NEXT HEAT WAVE
- A COMMON SENSE CLIMATE INDEX

Labor and Global Warming

A just transition to a sustainable future

Many assume the US labor movement is unalterably opposed to the Kyoto Protocol because of union disquiet about the employment impact of binding emissions reductions. The reality is more complex.

The concerns of the United Mineworkers of America are obvious: a world committed to CO₂ emissions limits will use less coal and employ fewer miners. US coal industry employment is already falling. Energy Information Administration (EIA) data indicate US coal production increased nearly 16% between 1987 and 1996, while the number of miners fell by over 40%. EIA projects this trend, reflecting increased mechanization and a shift from underground mining to less labor-intensive surface mining, will continue well into the future.

With or without the protocol, the federal government should develop a transition strategy for Kentucky, West Virginia and similarly affected states. Such a strategy would be more likely to succeed politically as part of a deal on protocol ratification. But would the Mineworkers union support this approach? Probably not now.

Other unions fear the protocol will push US companies to move high-wage manufacturing jobs to developing countries. For most sectors, alarm is overblown. Though many anticipate that carbon emissions limitations will lead to a dramatic rise in the cost of fuels, energy prices are at historical lows and energy costs are a small fraction of total production costs for most industries. With the range of "flexibility mechanisms" in the protocol, energy prices are unlikely to rise significantly. Domestic policies can

address competitiveness issues for the handful of industries facing significant impacts. Finally, President Clinton has said he won't send the protocol to the Senate for ratification until key developing countries "meaningfully participate" in the process of emissions limitations.

But labor's anxiety over job loss is real. Over the past few decades, many workers have lost good jobs as multinational corporations moved production to low-wage countries like Mexico, China and the former "tigers" of Southeast Asia. For unions like the Steelworkers, the Autoworkers, and the Oil, Chemical and Atomic Workers, the priority in the climate debate is to stimulate the Clinton administration in addressing the issue of a fair and just transition.

Environmental groups share this goal. Over the last year, many of us have engaged in dialogue with labor on protecting the livelihood of workers and communities affected by the essential shift to sustainable energy, transportation and industrial production systems. Although such a shift would be good for the economy (and job growth) overall, there will be both winners and losers.

Environmentalists need to work with our brothers and sisters in labor to ensure that workers and communities affected by efforts to reduce emissions are covered by programs addressing their needs: job retraining, as well as income security, health care coverage and pension mobility.

At the same time, unions should position themselves to benefit from the millions of jobs created in "winner" industries. This requires identifying sectors likely to see job growth as a result of emissions mitigation, and developing strategies assuring these new jobs will be high-wage, union jobs. Again, the environmental community should collaborate in this endeavor.



Alden Meyer

Identifying a common policy agenda and building real trust between our two constituencies will take time. But the labor movement is already moving away from its pre-Kyoto "just-say-no" stance towards a strategy acknowledging the need for emissions reductions, while demanding real policies to address transition impacts. Increasingly, the environmental movement also endorses the need to address worker and community impacts associated with technological change. As these shifts continue and deepen—as I'm confident they will—they will help the US achieve the emissions reductions needed to leave our children a healthy planet, while at the same time move us toward meaningful work at a living wage for every American.

—Alden Meyer

*Director of Government Relations
Union of Concerned Scientists*

JOBS *and* CLIMATE

The labor impacts of climate policies

As President Bill Clinton toured a warehouse in San Jose, California in May, he told workers that efforts to curb greenhouse gas emissions "will not cost jobs" but "will generate jobs." A week later, Vice President Al Gore told the Economic Club of Detroit that "private sector innovation can help us stop global warming — without economic cooling." With US unemployment rates the lowest in nearly three decades, voters should have few immediate anxieties about widespread joblessness or

FEATURE

falling wages. But both Gore and Clinton have been compelled to counter longer-term concerns that they would trade away US jobs to curb emissions of greenhouse gases.

While the economic implications of climate change have long been debated, concerns have intensified as the United Nations Framework Convention on Climate Change (UNFCCC) has developed. The Kyoto Protocol to the UNFCCC (approved in December 1997 in Kyoto, Japan) raises the stakes by requiring developed countries to reduce emissions significantly below levels otherwise expected. Developing countries under the protocol are not bound by specific reduction requirements.

Some — including many labor representatives in developed countries — fear that the treaty and protocol will disadvantage workers. They anticipate job losses,

falling wages and higher living expenses as energy prices increase. Others, including US government officials, argue that the Kyoto Protocol can be implemented with minimal economic disruption. Protocol proponents warn that without curbing emissions, climate will change more rapidly, inflicting economic damage far greater than the costs of limiting emissions.

Critics Fear Massive Job Losses

Critics of the Kyoto Protocol point to studies suggesting major impacts to wages and jobs. For example, the consulting firm WEFA, Inc (Eddystone, Pennsylvania) claims that the protocol would cost the US more than 2.4 million jobs. Standard & Poor's DRI estimates job losses from 0.5 to 1.6 million. "Whichever study you choose, you must conclude that this is serious business," said David A. Smith, director of public policy of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) in testimony before Congress on 4 February 1998. For that reason, the AFL-CIO opposes signing and ratifying the protocol, though accepts the need for action.

"These are not un-addressable problems," Smith said, "but they are problems that must be planned for carefully. The disruptions they will cause in many important sectors of the American economy must be anticipated, and carefully planned for. Most important from our point of view, the men and women who will find their working lives and their communities disrupted by these adjustments need to be at the center of our attention early in the planning, and they must be part of that planning."

"You are talking about a massive cultural change," said Richard Trumka, secretary-treasurer of the AFL-CIO (see *Profile* on p 16). "And any kind of change of that magnitude should follow a national debate," he told *Global Change*. In addition to calling upon the president to launch such a debate, the AFL-CIO urges the administration to convince developing countries to make stronger commitments to limit their emissions. "Go out and talk in the hinterlands," Trumka says. "You find people saying this ain't an environmental treaty . . . They view it as a trade treaty." Trumka claims many Americans believe that under the Kyoto Protocol, higher energy prices will drive industry out of the US and into developing countries. They, therefore, see the protocol as an attempt by developing countries "to get stuff from us."



Raul Estrada, Chairman of the Climate Convention's Committee of the Whole, brings down the gavel on 11 December 1997 as the delegates at the Third Conference of the Parties approved the Kyoto Protocol. Critics claim the protocol would cost too many US jobs.



Coal mining jobs are among those likely to be hard hit by policies to curb greenhouse gas emissions.

losses in energy-intensive sectors, but that President Clinton "is firmly committed to assisting any workers who are adversely affected during the transition to a climate-friendly economy." In contrast to the job losses in some sectors, Yellen asserted that "a large number of jobs will be created in other sectors — many of them high-tech jobs paying high wages."

Yellen emphasized the limitations of the economic analyses upon which her testimony was based. Among noted shortcomings was the fact that the models do not account for the full economic consequences of slowing climate change — even though, according to Yellen, "there will clearly be economic benefits of emission reductions."

Continued Prominence for Labor Issue

While labor concerns have not figured highly in the climate debate, the jobs connection is emerging as a central part of the contro-

Administration Sees "Modest" Costs

The Clinton administration believes the Kyoto Protocol can be implemented without widespread economic hardship. In testimony before a skeptical House subcommittee on 4 March 1998, Janet Yellen, Chair of the Council of Economic Advisers, said that "the economic cost to the United States in aggregate and to typical households of attaining the targets and timetables specified in the Kyoto Protocol, will be modest" (see article, page 9). She explained that these findings, based on modeling exercises sponsored by the administration and others, depend on "meaningful developing country participation" and the establishment of a set of institutional mechanisms that would allow the US to exploit low-cost emission-reduction opportunities in other countries.

Addressing employment impacts, Yellen said "we do not anticipate any significant aggregate employment effect if we achieve the conditions we have discussed." She acknowledged that there might be "minimal" job

versy. Two factors ensure that the labor-climate connection will remain prominent. First, the Kyoto Protocol is unsigned and unratified. Spirited debate will accompany its consideration. Second, Vice President Gore is the Democrat's leading candidate for the party's nomination for the November 2000 presidential election. Opponents will highlight his climate change stance and its implications for jobs.

Despite disagreements, protocol protagonists would certainly agree on this: As measures required to implement the Kyoto Protocol are delayed, their potential adverse employment impacts grow. With only about a dozen years to cut emissions, delays of just a few years will force the US into sharper — and more expensive — emissions cuts. With major delays virtually certain, Gore and other proponents of the protocol will find it increasingly difficult to convince the Senate — or themselves — that the US could comply with the treaty without hurting jobs over the next decade. ■

Climate & O

In 1997 and 1998, unusually strong El Niño-driven rains soaked California, ice storms crippled the north-eastern US and Canada, and severe drought revisited Pacific Island states. Many deaths were reported. Economic losses are counted in billions. Worldwide, anecdotes of dangerous weather abound. Is this run of volatile weather indicative of the climate in a warmer world? To complicate matters, new thinking suggests that global warming could also trigger catastrophic cooling events similar to episodes occurring periodically during the last 250,000 years.

The traditional view of climate change calls for smooth, gradual alteration over time. But recent research suggests notable exceptions. Wallace Broecker of NASA's Lamont Doherty Geophysical Laboratory studies past episodes of climate surprises. He observes temperature shifts of 5 or more degrees C over decades and argues that global climate can shift quite rapidly between a "high (warm) state" and a "low (cold) state."

Ocean circulation changes may have triggered past rapid shifts between these states. One explanation involves shifts in the Gulf Stream and a failure of the "Nordic heat pump," a saline conveyor belt carrying warm water to the depths of the North Atlantic. The Gulf Stream and other ocean circulation patterns move water across temperature and salinity gradients. The interaction of the Gulf Stream and the Nordic heat pump warms continental Europe. Broecker theorizes

SUDDEN CLIMATE SHIFTS

Expressions of a semi-stable system?

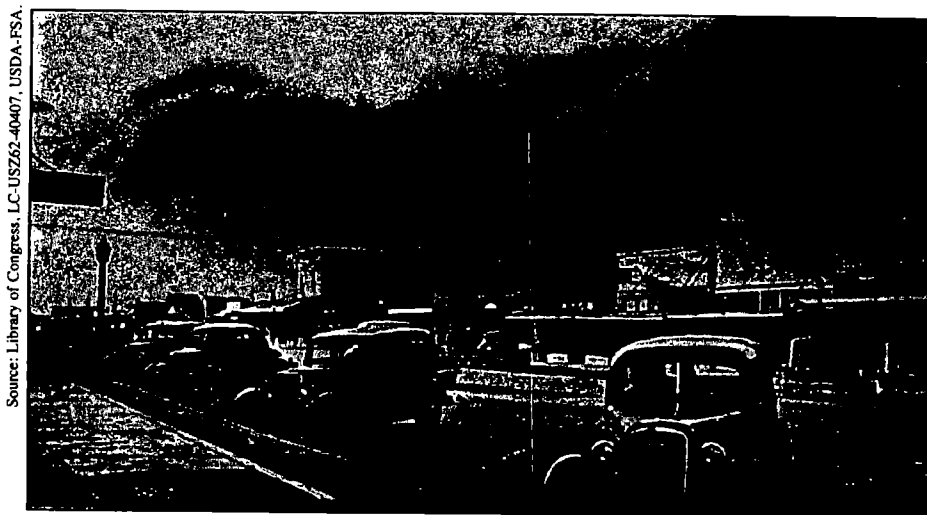
that the North Atlantic thermohaline circulation could fail if increased fresh water inflow (from rainstorms or glacial melt-back induced by global warming) decreases local salinity. William Calvin recently characterized the resulting cooling as "the great climate flip-flop" (*Atlantic*

Monthly, vol. 281 no.1, pp.47-64, January 1998).

The geologic record contains evidence of dramatic past climatic cooling. By analyzing dust and pollen buried in lake sediments and ice frozen beneath glaciers in Greenland and Antarctica, scientists conclude that such coolings have occurred in periods as short as 20-70 years. During these intervals, polar regions chilled by up to 15°C (27°F), while the tropics and mid-latitudes experienced concurrent cooling of 5°C (9°F).

Calvin speculates that if the Nordic heat pump failed to propel warm water to the Atlantic floor, European temperatures could drop by 10°C (18°F) in a matter of 20 years. A cooling of this magnitude could decimate regional agriculture and exacerbate local conflicts.

Clues about the painful regional consequences of abrupt climate change may be found in the extreme events of this century. In spring 1988, a high-pressure zone formed over the midwestern US, remaining throughout the summer. This change in the jet stream blocked seasonal rains and caused major crop failures. If drought persisted for several years, the devastation of US agriculture would be felt worldwide. ■



DUST STORM LOOMING OVER ELKHART, KANSAS, MAY 1937.

Abrupt regional climate changes can produce the kind of devastation experienced in the southern Great Plains region of the US during the 1930s.

Additional information on rapid climate change can be found in the following references:

- D.A. Peel, "Profiles of the Past." *Nature* 378 (6554), November 16, 1995, pp. 234-235.
- J.T. Overpeck, "Warm Climate Surprises." *Science* 271 (5257), March 29, 1996, pp. 1820-1821.
- W.S. Broecker "Thermohaline Circulation, the Achilles Heel of Our Climate System: Will Man-Made CO₂ Upset the Current Balance?" *Science* 278(5343) 28 November 1997, pp. 1582 - 1588.

zone Science

Northern Hemisphere Temperatures at 600-year High

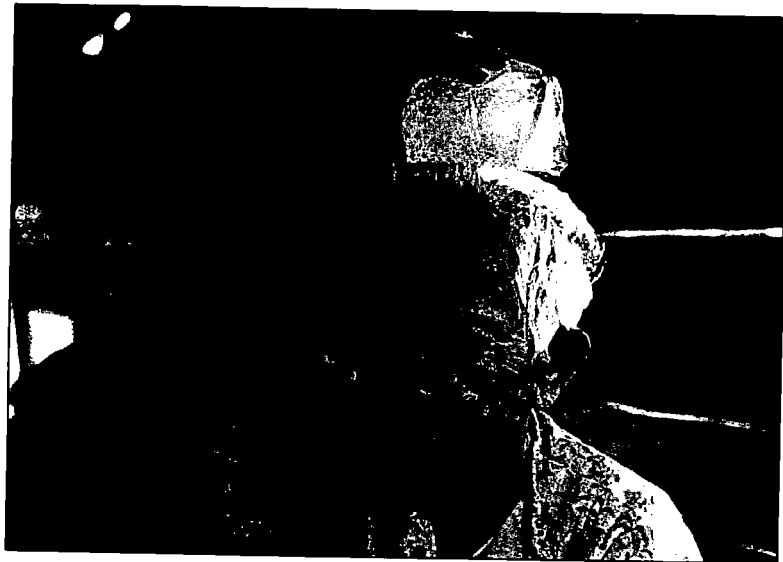
Researchers report that Northern Hemisphere temperatures during the 1990s have so far been the warmest in six centuries, and that for most of these past centuries, temperatures were well below the 20th-century average. Scientists from the Universities of Massachusetts and Arizona described these findings in the journal *Nature* (vol. 392 no. 6678, pp. 779-787, 23 April 1998). Analysis of this six-century global temperature record incorporated data from tree rings, coral structures and ice cores. Without such proxy measures of temperature, scientists are limited to the relatively brief 140 year period for which direct temperature measurements are available.

In addition to the recent warming, Michael E. Mann, Raymond S. Bradley and Malcolm K. Hughes observed "pronounced cold periods" in the Northern Hemisphere during the mid-17th and 19th centuries. The scientists also correlated their findings with the estimated values of known "forcing" factors that can affect large-scale temperature changes. These factors include solar variation, volcanic eruptions and changing concentrations of greenhouse gases in the atmosphere.

When solar activity was lowest, a cold period from the mid-17th to the early 18th centuries was observed. As solar activity gradually increased from the early 19th to mid-20th centuries, a general warming occurred. Volcanic activity — most pronounced over a 200 year period centered on 1830 — was "marginally significant." Despite the importance of solar variations and volcanic eruptions in influencing global temperature variability during past centuries, greenhouse gases appear to play an "increasingly dominant role during this century."

—Leonie Haimson

More information about this reconstructed time series is available at the National Oceanographic and Atmospheric Administration (NOAA) paleoclimatology Web site: www.ngdc.noaa.gov/paleo/pubs.



CAMBODIAN HEAT WAVE, MAY 1995

As the Northern Hemisphere experienced one of its warmest years in six centuries, this woman sought relief from a block of ice.

Greenhouse Gases Worsen Ozone Depletion

An article published in *Nature* revealed a new wrinkle in the complex relationship between ozone depletion and global warming (vol. 392 no. 6676, pp. 589-592, 9 April 1998). Drew T. Shindell, David Rind and Patrick Lonergan from the Goddard Institute for Space Studies (GISS) argue that increased levels of greenhouse gases are causing temperature and wind changes high in the atmosphere. This will lead to a colder and more persistent Arctic polar vortex, a swirling air mass, which in turn is likely to cause significantly larger ozone depletion in the Arctic in the future.

In the troposphere (lower atmosphere), greenhouse gases trap heat before it can reach the stratosphere. The stratosphere (upper atmosphere) tends to be cooled in this process and may be now producing more frigid polar air masses, leading to the formation of ice clouds that together with early spring sunshine and chlorine from chlorofluorocarbons (CFCs), destroy ozone.

Already, observed Arctic ozone depletion has been greater than would be expected without stratospheric climate change. Earlier studies suggested ozone levels in the stratosphere would begin to recover around 2005 because of international restrictions on (CFCs). But this new model points to a later recovery time for the Arctic and Antarctic, with especially severe declines expected between 2010 to 2019. According to the GISS model, up to 65% of Arctic ozone may be destroyed in the future — a greater loss than currently observed in the Antarctic.

—Leonie Haimson

Agence France Presse

data &

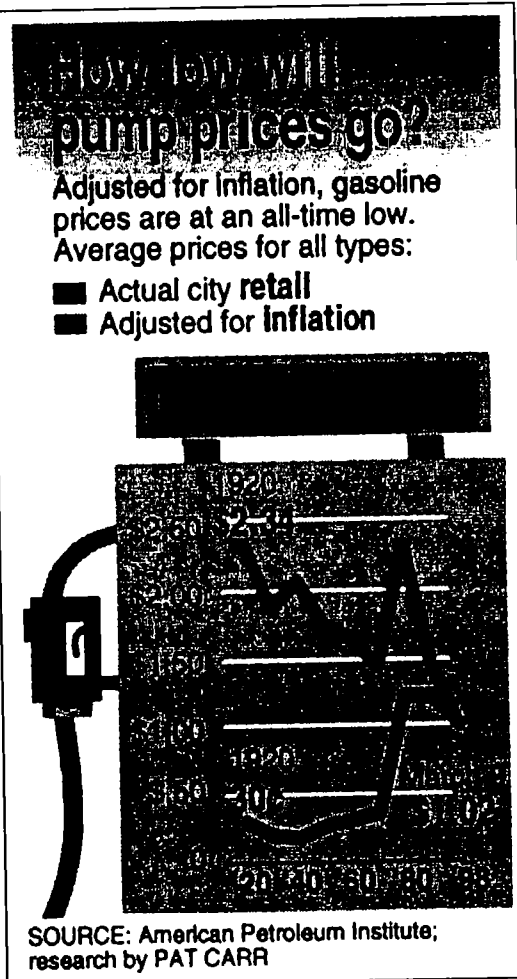
Gas Prices Dip

Driving accelerates into summer

Oil prices dropped more than 40% between October 1997 and March 98, drifting below \$13 a barrel, the lowest level in ten years. Adjusted for inflation, crude prices are the lowest since the 1970s oil crisis. In some US locations, a dollar buys a gallon of gas. Today's US gasoline price is less than half the price in 1960 (in constant dollars).

Several factors contributed to the precipitous price drop. Successful exploration and development programs in frontier areas increased world oil supplies more rapidly than the growth in demand during the last decade and, by fall 1997, led to high inventory levels. The Organization of Petroleum Exporting Countries (OPEC) increased its members' output quotas by 10% in November 1997, irrespective of the Asian economic crisis and a slack demand for fuels in the Pacific Rim, the United States and Europe. In the spring of this year, OPEC and non-OPEC producers agreed to reduce production by 1.5 mb/d starting April 1, but the market has not yet absorbed the earlier surplus.

According to the US Energy Information Administration (EIA), cheap gasoline will stimulate US travelers to drive approximately 1.4 trillion miles this summer, increasing vehicle miles traveled during the vacation months by 3.9% over 1997. This would be the biggest summer driving increase in a decade. If current trends continue,



EIA estimates increased petroleum use in transportation will raise US carbon emissions by approximately 180 million metric tons between 1998 and 2020 (an increase equal to almost 15% of 1990 US emissions).

The Kyoto Protocol to the UN Climate Convention has not yet been ratified. The Protocol's target—a reduction of industrial countries' greenhouse gas emissions of 5.2% from 1990 levels by 2012—will be difficult to achieve given expected increases in US emissions from transportation. Dr. Janet Yellen, chair of the President's Council of Economic Advisors, in 4 June 1998

testimony in the House of Representatives estimated that achieving Kyoto targets would increase gasoline prices by 4-6 cents per gallon if the Kyoto Protocol were implemented immediately but otherwise could require increases of as much as 25 cents per gallon.

In the last decade a trend toward increasing transport sector emissions has emerged worldwide. A number of strategies are available to curb emissions including encouraging highly efficient automobiles, promoting a shift from cars to railways and reducing traffic levels. However, a recent survey of 26,000 US car owners indicates that gasoline prices above \$2 per gallon are required before drivers will switch to more efficient vehicles.

US fuel prices remain out of step with other industrialized countries. In Europe, gasoline prices are significantly higher (about double the US price), and automobile efficiency is up. The Scandinavian countries and the Netherlands have successfully implemented energy and carbon taxes to keep prices high. If the US price of gasoline accounted for the environmental costs of its use, gasoline prices would rise here as well. Nonetheless, on 11 April 1998 Vice President Al Gore told Peter Jennings of ABC News that the global warming problem could be solved without increasing gasoline prices. Few analysts share Gore's optimism.

—Bonzell/Earth

US Officials Outline Treaty's Economic Impacts

But opponents insist on more details

Since endorsing the Kyoto Protocol of the United Nations Climate Convention last December, the Clinton administration has been under siege. Repeatedly, administration officials have argued before Congress that compliance with the protocol should have only modest impacts. Skeptical congressional leaders and others counter that the administration is overly optimistic and the US economy could be seriously damaged. They cite studies supporting their views and seek full public disclosure of administration analyses and other evidence that they hope will support their claims. A House committee threatened the administration with a subpoena and a business group filed a Freedom of Information Act request for documents.

Janet L. Yellen, Chair of the Council of Economic Advisers, has been the leading administration spokesperson on Capitol Hill. In appearances before both the Senate and House, she has argued that "the economic impact of the protocol will be modest under the conditions we have specified." Yellen said the mild impacts assume "reductions are undertaken in an efficient manner."

Efficient reductions, Yellen said, require a market-based system within the US for issuing and trading emissions permits. In addition, she cited the need for "serious and responsible steps in the short run to prepare us to meet our obligations in the longer term." Those steps — which also serve other national energy and environmental goals — include a 5-year \$6.3 billion combination of tax cuts and investments in research and development proposed by the administration. Initial funding for the initiative is included in the



Janet L. Yellen, Chair,
Council of Economic Advisers.

administration's proposed fiscal-year 1999 budget. Among other required domestic steps cited by Yellen are extensive consultations between government and industry, and restructuring of the electricity sector.

Yellen also cited international conditions required to minimize the costs of complying with the Kyoto Protocol. Most important is "meaningful" participation by developing countries. Without it, said Yellen and other administration officials, the US will not sign the protocol. Also required is the swift start-up of the protocol's "Clean Development Mechanism" to facilitate investments by developed countries in projects that curtail emissions in developing countries (and earn certified emissions reduction credits for the investors). Furthermore, achieving US emissions reduction targets requires access to emissions trading and joint implementation between developed countries.

Under these and other assumptions, the US would drive down the cost of reducing net-emissions within its borders, and develop partnerships producing still cheaper offsets in other countries. While emphasizing the limitations of all economic models, Yellen points to the results of one model that suggests complying with the Kyoto Protocol might cost 0.1% of projected Gross Domestic Product in 2010. At the household level, annual energy bills in 2008-2012 might be \$70 to \$110 higher than without emissions controls.

Critics challenge the administration's conclusions citing studies suggesting serious economic damage from compliance with the Kyoto Protocol. The degree to which the US will be able to offset domestic emissions with relatively cheap foreign reductions is a central issue for administration critics. Skeptics argue that when the Kyoto Protocol was negotiated, developing countries clearly indicated that they are unwilling to commit to binding curbs on their own emissions.

The critics' concerns were heightened on 17 May 1998, when the Group of Eight major industrialized nations issued a communiqué pledging only that they would "work together with developing countries to achieve *voluntary* efforts and commitments" [emphasis added]. Likewise, a June 1998 meeting of the Climate Convention's Parties, ended without resolving any key issues — including that of new developing country commitments. Meanwhile, both the House and Senate refuse to fund many of the initial steps the administration claims necessary to minimize the costs of complying with the Kyoto Protocol. ■

White House

Minnesota on the Edge

Global warming could transform the state

Minnesota, Land of 10,000 Lakes, could in the future be known more for its forest fires if the implications of a recent report on the potential impact of climate change are borne out. According to *Playing with Fire: Global Warming in Minnesota*, a warmer and drier climate combined with extensive forest die-back could create prime burning conditions for the state's woodlands. Minnesota's peatlands — the largest in the continental US — could also blaze out of control. Since peat holds huge amounts of carbon, such fires would add large quantities of carbon dioxide to the atmosphere.

Playing with Fire was published by Minnesotans for an Energy-Efficient Economy (ME3), a coalition of groups focused on environmental and energy issues. Authors Jim Woehrle and Julie Bach argue that Minnesota is especially vulnerable to climate change because it is a "land of ecological edges." The state is the only place on the North American continent where Western prairies, Eastern hardwood forests and Northern conifer forests converge, bringing about a "remarkable diversity" now threatened by global warming.

Between 1900 and 1958, average temperatures across the state increased 1.6°F (0.9°C) in summer and 2.8°F (1.6°C) in winter. Future warming could be so rapid that many tree species may not be able to extend their ranges northward fast enough. Oak and maple could supplant northern species like fir, spruce and aspen, with the dominant species shifting to those of less commercial value.

Moreover, prairies may replace many of the state's coniferous forests over the course of the next century, if soils dry out sufficiently and temperatures rise by 5°F (2.8°C)



Photo from antique glass plate, courtesy Hinckley Fire Museum

Remains of a railroad depot, Hinckley, Minnesota, after the great fire of 1894. As climate changes rapidly, the exceptional weather and fuel conditions that favor such conflagrations may become more common in the region.

or more, as some models predict. Margaret Davis, an ecologist at the University of Minnesota, testified at hearings before the legislature that the state could become a "northern Nebraska" as a result.

In 1996, farm exports from Minnesota totaled \$3 billion, seventh highest in the nation. Climate change could jeopardize the state's agricultural sector, since the predicted warming may lead to increased levels of pests and crop diseases, as well as more severe and frequent floods and droughts. Climate models project significant reductions in soil moisture during the summer, which could lead to diminished harvests or even complete crop losses.

Drier conditions and elevated water temperatures may also endanger important state fisheries, potentially eliminating trout habitat in many areas, including 50% of northern Minnesota lakes. Prairie wetlands may warm too much to allow the breeding of many species of

duck now common to the state. Some wetlands may dry out.

Woehrle and Bach recommend that residents slow global warming by supporting policies that increase energy conservation, expand the use of renewable energy and halt urban sprawl. They note numerous ancillary benefits — from bringing residents more breathable air to reducing mercury levels in fish. The authors propose that the state take a leadership role by encouraging investment in wind power and forms of biomass energy that will provide new business opportunities for farmers. Shifting toward a less carbon-intensive mix of energy sources, they conclude, will invigorate the economy and benefit the state.

— **Leonie Haimson**

The report, complete bibliographic information, and the text of some of the publications on which the report's conclusions are based are available at ME3's website (www.me3.org/issues/climate).

Surviving the Next Heat Wave

Timely warnings and effective emergency plans are essential

Early in the morning on 26 June 1998, the National Weather Service office in Mount Holly, New Jersey, issued an "excessive heat warning" for Philadelphia, Pennsylvania and other urban areas of the Delaware Valley. With the heat index (reflecting both heat and humidity) expected to reach 107°F (42°C), the agency advised people to "seek air conditioned relief where possible." Without such timely warnings accompanied by effective local responses, extreme temperatures are more than uncomfortable. Heat kills.

According to the Centers for Disease Control (CDC), from 1979 through 1995, 2,792 deaths in the US were attributed officially to heat exposure "due to weather conditions." The CDC's *Morbidity and Mortality Weekly Report* (19 June 1998) adds that "because other causes of death (e.g. cardiovascular and respiratory diseases) also increase during heat waves, heat-related deaths 'due to weather conditions,' represent only a portion of heat-related excess mortality."

Health threats posed by extreme heat are likely to grow as climate changes. According to a new report from the Intergovernmental Panel on Climate Change (IPCC), *Regional Impacts of Climate Change*, the number of very hot days could double in temperate regions like the US, with an increase of 2-3°C (3.6-5.4°F) in average summer temperatures. The IPCC points to several studies suggesting a consequent increase in mortality rates.

According to the CDC, "when a heat wave is predicted, prevention messages about avoiding heat-related illnesses should be disseminated to the public as early as possible to prevent heat-related illness, injury and death." In response, the University of Delaware's Synoptic



Agence France Presse

Climatology Lab has developed a Hot Weather-Health Watch/Warning System. Developed with support from the US Environmental Protection Agency's Climate Change Division, the warning system was adopted first by Philadelphia before the summer of 1995 — the hottest on city records. Since then, improved systems have been implemented in Washington, DC and Phoenix, Arizona. Plans are afoot to use the system in other cities, both in the US and elsewhere (including Rome, Italy).

As the system presently is applied, a computer model determines whether an oppressive air mass — a potential killer — may develop over an area. If forecast 48 hours ahead of time, the system recommends issuing a health watch. With 24 hours before onset of the potentially dangerous conditions, the system advises that authorities issue a health alert. If the model predicts that the oppressive air mass threatens to elevate mortality rates above normal, the National Weather Service may decide to issue an excessive heat warning.

Such timely warnings are critical, but not sufficient to save lives. Local governments and other entities covered by the warning system must respond to the watches, alerts and

warnings. In Philadelphia in 1995, the watch/warning system encouraged appropriate responses and may have saved many lives.

A 1996 report by the National Oceanic and Atmospheric Administration (NOAA) underscored the need for effective response. NOAA noted that over 1,000 people died in US heat waves in 1995 despite "accurate National Weather Service warnings and advisories and effective media coverage." Chicago and Milwaukee suffered many heat-related deaths that year.

NOAA concluded that "due to the highly rare nature of the heat wave, neither city possessed an official plan for responding to heat emergencies." The agency recommended that "emergency response organizations at the federal, state and local levels recognize severe heat waves as potential natural disasters, and that areas at risk should be prompted to develop emergency response plans for severe heat waves." ■

CHICAGO HEAT WAVE, JULY 1995

Workers at the Cook County Medical Examiner's Office moving the body of a heat wave victim. Health officials attributed hundreds of deaths to the heat.

MODERATING CHANGE

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ACTIONS TO SLOW GLOBAL CHANGE

Innovative Oregonians Combat Carbon Emissions

Despite efforts emissions still grow

For the small northeast Oregon town of Hermiston, the *Farm City Pro Rodeo* is still the biggest claim to fame. But just south of town, a proposed 536 Megawatt power plant has earned the town some additional publicity even before construction begins. Though unlikely to draw many tourists, the Hermiston Power Project is the first permitted under a new Oregon standard requiring power plant developers to offset a portion of total carbon emissions.

Under the plant's amended site certificate, approved unanimously by the Oregon Energy Facility Siting Council on 6 March 1998, developers must offset at least 17% of the facility's carbon emissions. Project sponsors will comply by paying \$3.6 million to the Oregon Climate Trust, which will invest the funds in projects elsewhere that lower carbon emissions.

Siting Council Chair Terry Edvalson said that the Hermiston plant "is a clear demonstration that power plants can offset significant amounts of their carbon dioxide emissions in a competitive market. Oregon has shown that being a leader on climate change issues doesn't have to impose undue economic burdens on industry. This also demonstrates a significant step toward reducing future emissions, which we will need to do to meet interna-

tional agreements on climate change."

The Oregon standard applied to the Hermiston project became law on 26 June 1997. The law, first of its kind in the US, requires developers constructing most new power plants to offset at least 17% of carbon emitted. Offsets can range from growing trees (that remove and store carbon from the atmosphere) to improving household appliance efficiencies. Developers may choose to participate in offset projects or pay a qualified organization (such as Oregon Climate Trust) to secure offsets.

Despite the new power plant standard and other measures to encourage energy efficiency and renewable energy, the state's greenhouse gas emissions are still growing rapidly, as is its population. According to the Oregon Office of Energy, net carbon emissions rose by 17% from 1990 to 1995. While the new standard for power

plants will help slow emissions growth from electricity generation, it cannot prevent future increases. And the measure does not curb emissions in other sectors responsible for most Oregon emissions.

The state government is not alone in working to curtail Oregon's future greenhouse gas emissions. In 1993, Portland became the first US city to adopt a plan limiting carbon emissions. Between 1990 and 1995, *per capita* emissions fell by 3%. But with a 15% increase in population over the same period, Portland's *total* emissions grew by 7.6%. To achieve its goal of reducing total emissions by 20% below 1990 levels in 2010, the city government acknowledges in a November 1997 report that it must redouble efforts reducing energy use in transportation and buildings. ■

Portland Regional Arts and Culture Council, Raymond Kaskey ©1985



PORTLANDIA

The sculpture by Raymond Kaskey, located on the Portland Building, Oregon, is a city landmark. In 1993 Portland became the first US city to adopt a plan to reduce carbon emissions.

Clinton Launches Housing Initiative

Program already in jeopardy

President Bill Clinton in May launched an initiative designed to reduce dramatically carbon emissions from houses. Under the Partnership for Advancing Technologies in Housing (PATH), the federal government working with the private sector and state and local governments would encourage deployment of technologies curbing greenhouse gas emissions. The plan was originally outlined on 22 October 1997 during a presidential announcement of initiatives to address climate change.

Currently, America's 100 million houses account for about 20% of US carbon emissions. Under the President's plan, the administration hopes that occupants can cut energy use in 15 million of these residences by 30% through better insulation and other technological improvements. Superior technologies also will be encouraged in the 15 million new houses built over the next decade, raising efficiencies 50% higher than otherwise anticipated. If successful, PATH could save consumers \$11 billion annually by 2010 and reduce US carbon emissions by 24 million tons. This emissions reduction is 5% of the carbon reduction required for the US to comply with the Kyoto Protocol to the United Nations Climate Convention.

Clinton said PATH will "be profitable to homeowners, won't hurt home builders, and will help to save the planet." He added, "it will put more money into consumers' pockets, and by saving the environment, we will generate higher, not lower economic growth."

Directed toward a sector traditionally resistant to rapid technological change, PATH faces great difficulties. Energy expert Amory Lovins, of the Rocky Mountain Institute, has studied the potential to improve efficiency in buildings. In a 1994 summary of his findings, Lovins concluded that US buildings are far less efficient than they could be.

"One major reason," Lovins wrote, "is that the existing design system penalizes efficiency and rewards inefficiency. For example, we've identified about 24 parties — in conception, finance, design, building, operations, maintenance, etc. — who all speak different languages and have perfectly perverse incentives." Overcoming those formidable institutional barriers, Lovins predicted in a 1992 interview, "is going to keep us all busy for the next lifetime or so."

Todd Stern, assistant to the president for special projects, acknowledged these difficulties. In a 4 May 1998 press briefing before Clinton launched PATH, Stern termed the housing sector a "very diffuse octopus of an industry." But Stern quickly mentioned another major challenge: obtaining adequate funding from a recalcitrant Congress. "I think it's very important in this context for Congress to take positive action on the president's \$6.3 billion budget proposal," Stern said.

He noted that the administration's budget contains items crucial to PATH's success, including tax credits for energy efficient homes and appliances; and research



President Clinton launches Partnership for Advancing Technology (PATH), 4 May 1998, San Fernando, California. To his right sits Don Martin, president of the National Association of Home Builders.

and development funds directed at improved efficiencies and greenhouse gas emissions from the residential sector. But Congress, repeatedly expressing opposition to the president's climate change efforts, is uncooperative. Most of the requested \$6.3 billion was not included in the House and Senate budget resolutions for Fiscal Year '99. Consistent with the resolutions, appropriations bills were moving forward without many of the requested tax credits or expenditures.

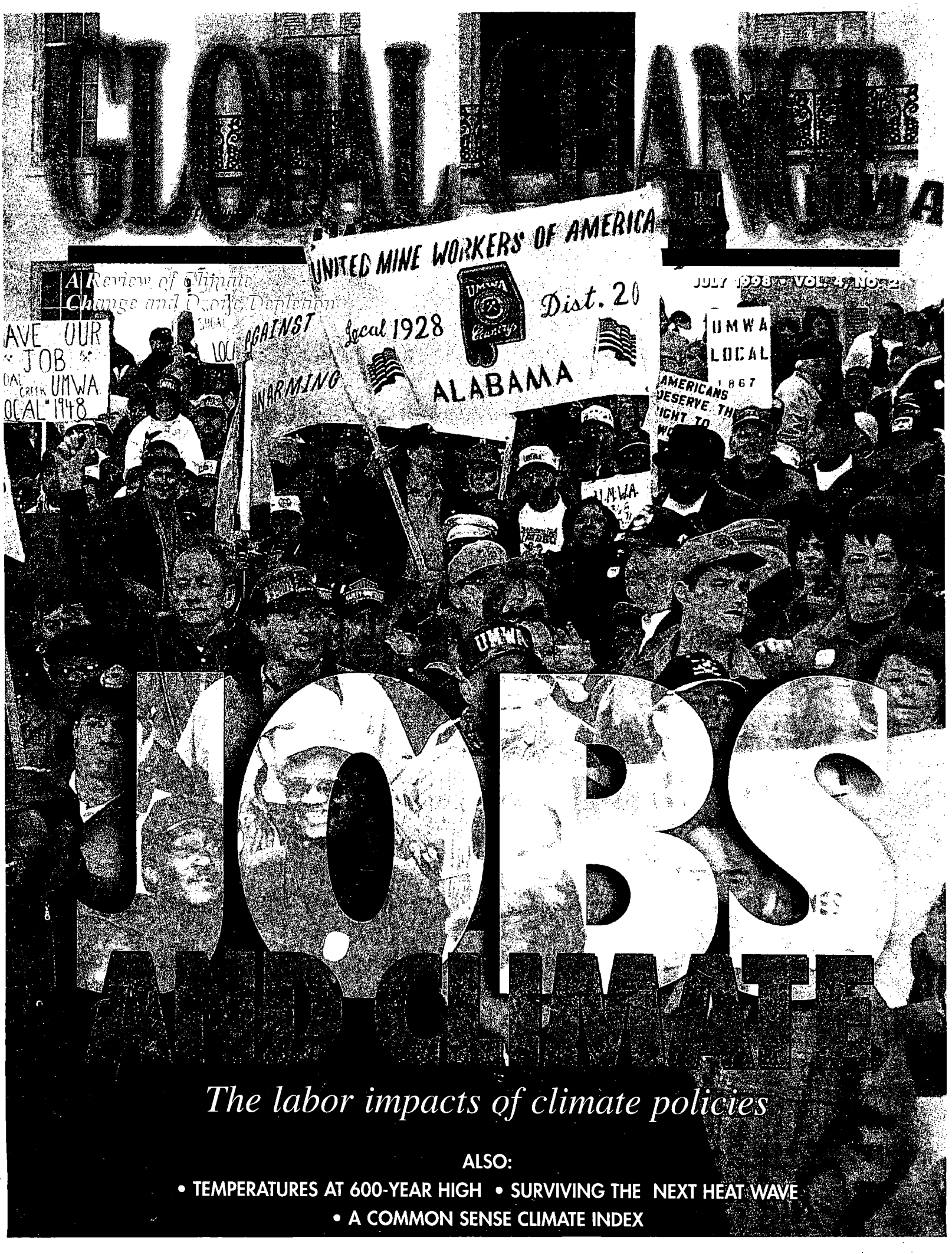
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