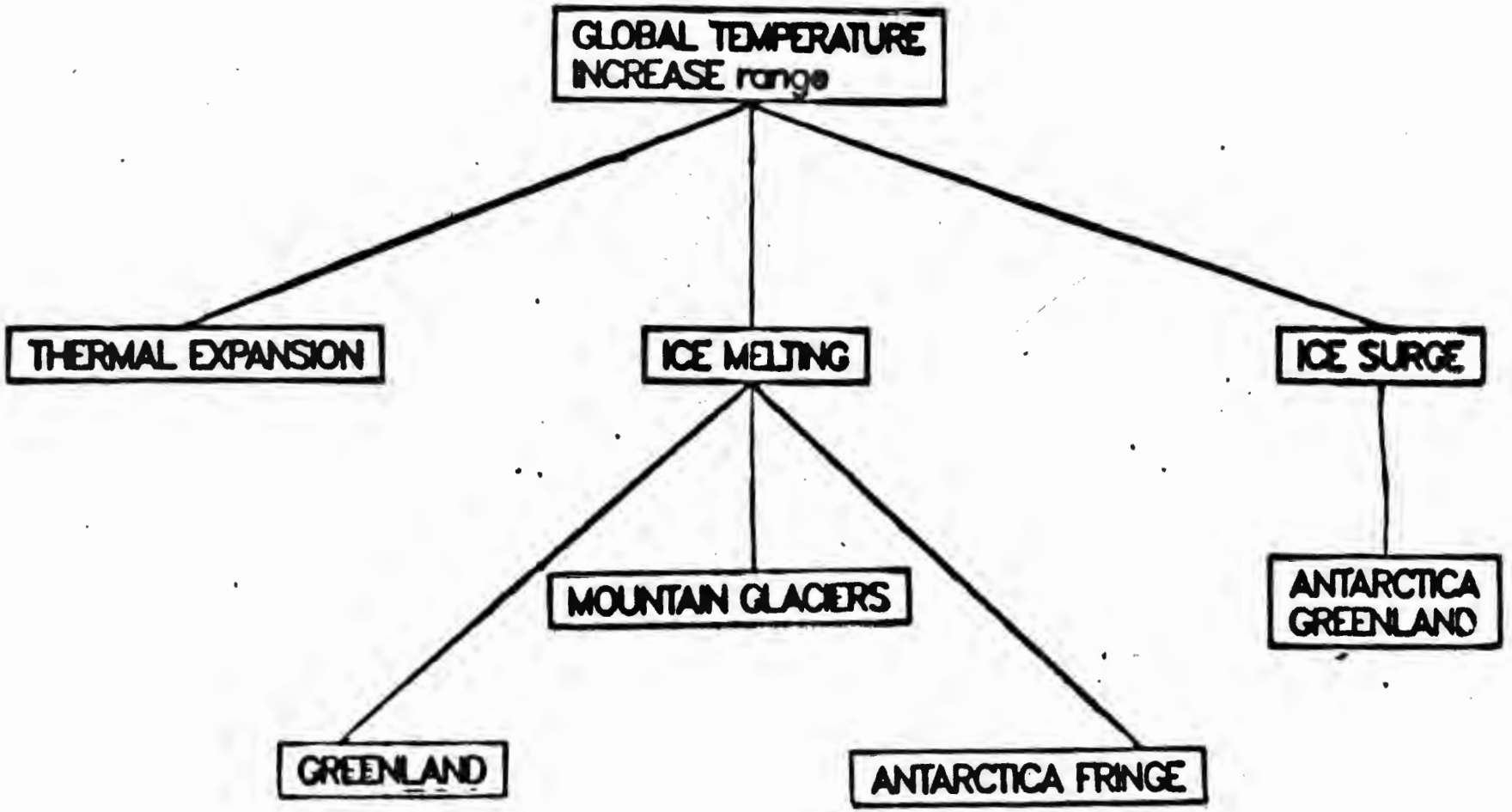
SEA LEVEL RISE



PHYSICAL EFFECTS OF SEA LEVEL RISE

- Inundation of Wetlands and Lowlands
- Erosion
- Increased Flooding
- Higher Water Tables
- Increased Salinity

ESTIMATED WORLDWIDE SEA LEVEL RISE IN THE NEXT CENTURY (cm) [1]

	Thermal Expansion	Alpine Glaciers	Greenland	Antarctica	Total
Revelle	30	12	12	**	70
*Meier et. al. (1985)	-	10–30	10–30	-10 +100	-
Villach (1985)	-	-	-	-	20–160
EPA (1985)	28–83	12–37	6–27	12–220	57–368
*Thomas (1986)	28–70	14–35	9–45	13–80	64–230

* Year 2100 estimate

** Revelle attributes 16 cm to other factors.

[1] Sea level appears to be rising 15–20 cm more rapidly along most of the developed U.S. coast.

BEACH EROSION FOR A ONE FOOT RISE IN SEA LEVEL

OCEAN CITY, MARYLAND	50-100 feet
SEA BRIGHT, NEW JERSEY	50-100 feet
CAROLINA BARRIERS	100-200 feet
SAN FRANCISCO	200-300 feet
FLORIDA	200-1000 feet
LOUISIANA	Several Miles

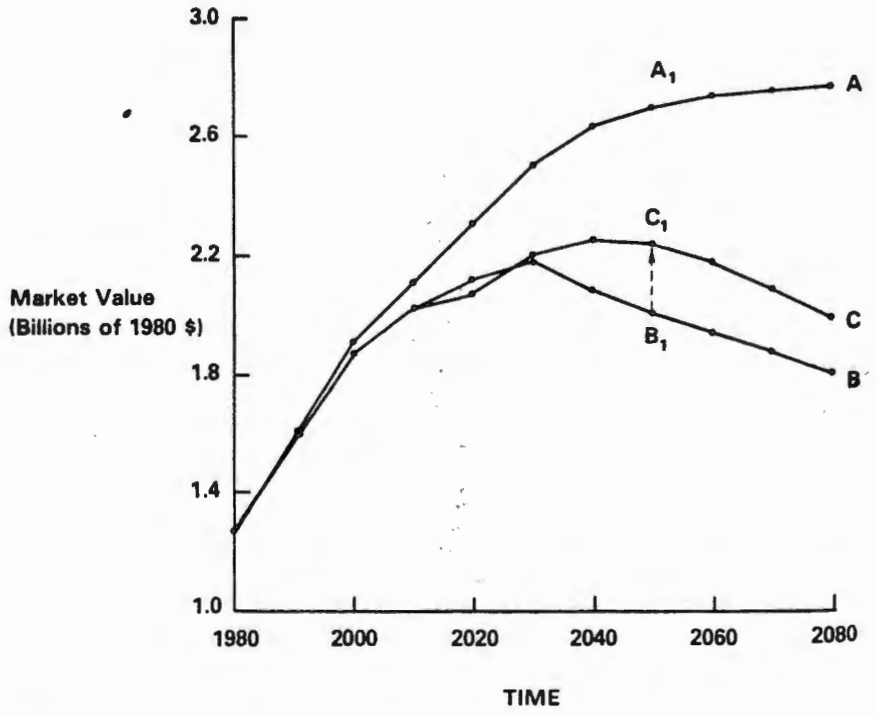
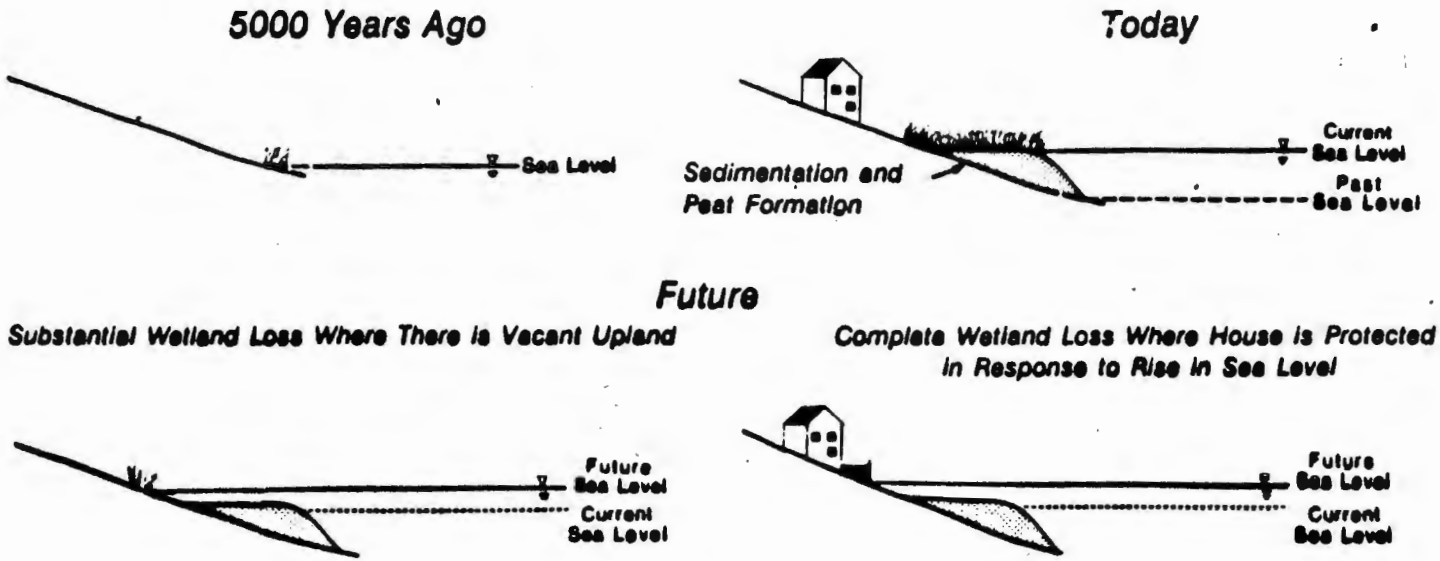


Figure 7-2. Market values in the Charleston case study area over time for three scenarios. (*A*) trend rate of sea level rise; (*B*) high sea level rise scenario without anticipation; and (*C*) high sea level rise scenario with anticipation.

EVOLUTION OF MARSH AS SEA LEVEL RISES



Coastal marshes have kept pace with the slow rate of sea level rise that has characterized the last several thousand years. Thus, the area of marsh has expanded over time as new lands were inundated. If in the future, sea level rises faster than the ability of the marsh to keep pace, the marsh area will contract. Construction of bulkheads to protect economic development may prevent new marsh from forming and result in a total loss of marsh in some areas.

SCOPE OF DATA BASE

Chemical compounds:

* CFC-11
* CFC-12
* CFC-113
* Halon 1211
* Halon 1301
* methyl chloroform (CH3CCl3)
* mixtures containing above compounds

Use categories:

* Aerosols
* Fire extinguishing agents
* Floating agents
* Foam blowing
* Freezing agents
* Other/miscellaneous
* Refrigeration
* Solvents
* Sterilization

Specific Application categories for each End Use

* Refrigeration (example)

  -- centrifugal chillers
  -- ice machines
  -- mobile air conditioning
  -- refrigeration transport
  -- vending machines
  .....
  .....
  -- other

Technical control options identified for each Application and End Use

* Example: Centrifugal chillers (Refrigeration)

  -- Substitution of CFC-123
  -- Air cycle modifications
  -- Alternative leak testing gases
  -- Enhanced maintenance schedules
  -- Recovery at disposal
  .....
  .....
  -- other

QUALITY CONTROL

* Internal review at each contractor

* Background reports (e.g. RAND and RADIAN) were peer-reviewed and published .

* Data check: several iterations

  -- data merged into single database at ICF

  -- reports prepared and sent to contractors for checking:

     SAMPLE DATA CHECKS
     ** do production, imports and exports balance?
     ** is sum of end use applications equal to total end use?

  -- errors and omissions corrected and returned

* External review

  -- EPA review at Research Triangle Park

  -- Data audit initiated to bring in outside experts

CLEAN AIR ACT -- "WEEKLY" ACTIVITIES REPORT
March 5, 1987

I. CONGRESS

A. Ozone nonattainment - EPA eyes blanket rule on national ozone policy, seeks congressional, state and private input on strategy; more than 70 areas may not attain the ozone standard this year, more than 25 may remain out of compliance by 1993, and "total attainment by 2010 is implausible," EPA says; Administrator Thomas says "extraordinary" measures may be necessary; Subcommittee on Health and the Environment Chairman Waxman gears up for ozone hearings with flurry of letters to EPA, states and automakers and, at the first hearing on February 13 in Los Angeles, he lays foundation to extend compliance deadlines with strengthened requirements; at January 19 hearing, Thomas said he "probably" will impose industrial growth bans in several areas. (Attachment A)

B. Stratospheric Ozone - Senators Baucus (D-MT) and Chafee (R-RI) to introduce similar bills reducing use of chlorofluorocarbons (CFCs) and halons 95% within the next decade to prevent depletion of Earth's protective ozone layer; Congressional environmentalists warn industrialized nations they could face tough U.S. trade barriers unless they join drive against chemicals that destroy ozone; WRI issues wide-ranging doomsday report on atmospheric ozone in rural areas, stratospheric ozone, the "ozone hole" in Antartica, metals, climate change, loss of biological diversity, forest damage, killed fish and fouled drinking water. (Attachment B)

II. ACID RAIN

A. Canada steps up criticism of U.S. adherence to Special Envoys' Report on Acid Rain; Detroit News cartoon says the pot is calling the kettle black; Ontario Environment Minister spends three days in New York manning acid-rain booth at sportsmen's show; meanwhile, things are not going well in Canada (Canada's own $300 million acid rain program, which calls for a 50 per cent pollution cut by 1994 is not yet on "track", federal environmental official admits; Newfoundland and Prince Edward Island are "ready" to sign the agreement with the federal government; Ontario, Quebec and Manitoba "will be ready to sign soon"; but Nova Scotia and New Brunswick "are still having difficulty," and the latter may nearly triple its current emissions.); Canadians dismayed over U.S.-Mexican smelter-control agreement; many editorials denounce the pact, point out ironics, and criticize Canadian government for not negotiating a similar deal; Canadian Environment Minister says it's not fair to compare the Mexico-U.S. action with Canada-U.S. effort. (Attachment C)

B. Report predicting economic stimulus and jobs growth from acid rain control legislation is criticized by Pennsylvania Coal Mining Association official and Temple, Barker & Sloane; physicians inject health issue into Senate debate on acid rain; Isaac Walton League releases "preliminary" report, based on "circumstantial" evidence which adds acid rain to a long list of factors that may have led to a 30-year decline of black ducks; get this one: acid rain dangerous to trees and shrubs in the Chicago area because it dissolves "limey particles" from building materials and makes the soil alkaline (a more likely explanation for urban tree decline was presented by Cornell scientist, who attributes the phenomenon to the "harsh, dry, salty environment for trees planted in cramped conditions, surrounded by concrete"); State University of New York forest biologist says drought and unusually cold winters, not acid rain, may have caused forest decline in the Adirondacks; NFPA President says forest industry scientists "have been unable to link acid rain to a forest health problem"; Pennsylvania Electric Association official says enactment of any acid rain control bill "would be a leap of faith, not an exercise in logic"; sports fishermen will find an enclosure urging support for acid rain controls in many types of fishing equipment sold nationwide; West Virginia editorial says more air quality legislation is unneeded and too costly; Senator Byrd exhorts coal miners to fight acid rain controls, warns it could make ghost towns of coal communities and heavy-industry cities in the Ohio River region; activists on Capitol Hill disagree on whether an acid rain control bill will emerge from Congress this year; LCV representatives going door-to-door on environmental issues; Sierra Club picks Clean Air Act reauthorization, control of acid rain, smog and air toxics, and protection of the "atmospheric" ozone layer among six issues for 1987-88 national campaign; Perry County, Pennsylvania, has most acidic rain in the State, but "the effects...are apparently so subtle that no one notices them. There have been no unexplained fish kills, the food chain that begins with microorganisms appears to be in tact; trees and other plants including crops are growing; and so far as we know there has been no acid-rain damage to local manmade structures." (Nonetheless, editorial encourages legislative action.) CAWG Chairman replies to US Today editorial on acid rain. (Attachment D)

C. EPA's consideration of short-term sulfur dioxide standard could be "end run" on acid rain; NAPAP gives Chairman Dingell action schedule for first interim assessment on acid rain; Sandia National Laboratories claims simple and cheap technology for controlling nitrogen oxides, says it would reduce vehicle emissions and might even be used at coal-burning plants, but five years' additional research will be needed; Canadian has "magic potion" to cope with acid rain. (Attachment E)

D. Wisconsin's new and immediate past Governors in Washington, the latter to promote the Proximre acid rain bill (which he helped draft as Chairman of the Alliance for Acid Rain

Control); Wisconsin Senators Kasten and Proxmire clash on acid rain control bills; two Washington editorials note no acidified lakes in the State, but one warns acid rain still is a threat and the other cautions against costly premature action. (Attachment F)

III. ENERGY AND TECHNOLOGY

A. DOE says U.S. Clean Coal Technology investment is expected to exceed $6 billion by 1992, reports electric utility expenditures since the early 1970s to reduce sulfur emissions were $62 billion; CRS finds the U.S. lacks the "integrated approach to clean coal technology demonstration" needed if the Administration hopes to fulfill goals of the Joint Envoys' report, says the DOE program "does not represent a major down payment of the...$5-billion technology demonstration recommendation"; Clean Coal Technology Coalition says a decade of federal funding is needed to help find cost-effective commercial applications for clean coal technologies; prediction that solar power soon will become competitive. (Attachment G)

B. Interior Secretary Hodel blasts Canadians for making it "more costly and difficult to generate electricity in the U.S." in order to export more power to this nation, specifically referring to Canadian pressure for tighter U.S. acid-rain controls and objections to U.S. oil development on Alaska's North Slope on the grounds it would affect the calving area of a major caribou herd; Canadian Ambassador replies immediately and sharply, strongly objecting to Hodel's allegations; Hodel, undeterred, repeats the charges a week later on NBC's "Today" show, makes clear he does not intend to back down; Washington Times article asks "Do Caribou Control Our Energy Future?", pointing out that environmentalists blocked building of the Alaskan pipeline more than five years by exploiting the same arguments but, since construction of the pipeline, the caribou herd has grown from 3,000 in 1975 to more than 13,000 today; NCA says if Canadian industry had had to observe tough U.S. pollution control requirements between 1970 and 1980, their sulfur dioxide emissions would have fallen by 250% more than they did under laxer Canadian law; meanwhile, Central Maine Power Co. has signed a letter of intent to buy $15 billion of electricity from Hydro Quebec, and a study confirms that an export market exists for British Columbia Hydro power. (Attachment H)

IV. ENVIRONMENTAL PROTECTION AGENCY (Attachment I)

A. Internal report suggests EPA may be concentrating on the wrong problems; Washington Post editorial lauds the effort.

B. EPA Region X rejects second Washington State "disclaimer" to radon guide.

C. Researchers say dirty fog is more hazardous to health than air pollution.

D. GAO criticizes EPA for delays in setting NAAQS, recommends the Agency better identify its research needs.

E. EPA work on uniform risk assessment practices is taking longer than expected.

F. Wisconsin officials claim bad air from Illinois and Indiana prevents the State from complying with ozone standard this year, ask GAO to investigate whether EPA has been lax in enforcing Clean Air Act requirements in those other States; in addition, Wisconsin files notice of intent to sue EPA.

G. EPA Journal for December 1986 highlights the greenhouse effect and ozone depletion.

V. MISCELLANEOUS (Attachment J)

A. Worldwatch Institute, in its fourth and gloomiest annual report on the "State of the World," says human activities are pushing natural systems to the point of collapse and creating environmental havoc that eventually could render the planet uninhabitable.

B. Foul air from East Germany stagnates over West Germany for several days; Hamburg officials ordered all cars off the road, factories in Bremen and other places were forced to reduce output, but East Germany operated full blast.

C. Toxic fog containing agricultural chemicals may be harming U.S. forests, USDA and University of California researchers hypothesize.

D. DOE-supported university scientist says funding for research on the environmental damage caused by carbon dioxide from fossil-fuel burning should be removed from DOE because of conflict of interest, suggests creation of a National Institute of Environment "isolated from political pressures."

E. New York, New Jersey and Connecticut rank among top five States in environmental protection programs, non-profit educational Fund for Renewable Energy and the Environment says; Mississippi, West Virginia, Wyoming, Utah and North Dakota receive lowest ratings.

F. Contrary to other researchers, paper in JAPACA ("Respiratory Responses of Exercising Asthmatic Volunteers Exposed to Sulfuric Acid Aerosal") finds: "Physiologic and symptom changes possibly attributable to sulfuric acid exposure were small and not statistically significant."

ATTACHMENT A

INSIDE EPA — February 13, 1987

Interim actions to prod compliance expected

THOMAS EYES BLANKET RULE ON NATIONAL OZONE POLICY FOR SUMMER

Sources say EPA's new approach to dealing with the fact that many areas in the country will not meet the the Clean Air Act's 1987 deadline for compliance with the ozone standard will remain unclear to the public until summer — when the agency is likely to propose a broad rulemaking outlining a series of specific decisions as well as an overall "national strategy." Agency officials explain that EPA chief Lee Thomas is sidestepping announcement of a firm course of action in hopes of generating congressional, state and private sector "input." Instead, Thomas reportedly intends to use the next several months to lay out the agency's "options" for attacking the problem — which are detailed in agency briefing documents obtained by *Inside EPA* — and will begin this process at upcoming (Feb. 13 and 19) House hearings sponsored by Rep. Henry Waxman (D-CA).

Mindful that delay in dealing with the ozone problem is cited by critics as a key cause for the current crisis, EPA officials say they are eyeing interim actions to aid state compliance. These could include, sources explain, issuing federal technical guidance on new stationary source controls on volatile organic emissions; rulemaking on fuel volatility standards; and warnings to reluctant states about the consequences of failure to put into action their current state implementation plans (SIPs).

"Everyone here is very aware that we're going to take a lot of heat for not coming out with a solid plan," one official said of the decision to take an incremental approach that begins with educating the public about "the complex nature of the problem." Another EPA source admitted that there will be a time when the public "is confused and in the dark," adding that it "will not be a pleasant period." But agency officials intimately involved in the discussions say Thomas himself is going to manage the process, which reportedly is being given "top" priority across EPA. "Lee's got his own communication strategy on this," one source explained. "We know the general direction he wants to go now, but things are fluid based in part on public receptivity." Many top officials are convinced that the problem is so big, and the costs of addressing it so high, that how EPA proceeds could have "an impact on the GNP [gross national product]."

EPA's briefing documents say more than 70 areas "may not attain" the CAA national ambient air quality standard for ozone (NAAQS, set at a 0.12 parts-per-million limit on an hourly basis) by 1988, and more than 25 areas may remain out of compliance by 1993. This number represents an increase from earlier agency estimates, but Air office staffers involved say it probably remains an underestimation (Inside EPA, March 28, 1986, p1). "Accelerated and significant progress comes at high social cost," EPA's papers say, and "total attainment by 2010 is implausible."

However, agency sources say, EPA may be wary of releasing city-by-city data on attainment status, SIP adequacy, and emissions reductions necessary — data the agency must have to even begin the planning process to address the problem — fearing the almost inevitable onslaught of state and local complaints about the accuracy of the data. Few states, federal officials say wearily, will willingly accept the burden of additional control measures if they believe they "have a shot" at convincing EPA they are unnecessary. Even states clearly out of attainment attack EPA's data in order to claim the emissions reductions required are less, EPA staff say. The "data game" has already begun, in fact, in a series of Thomas briefings over the past month that have included EPA regional and state officials.

EPA's documents lead to the conclusion that a "strict" interpretation of the Clean Air Act part D will necessitate "significant expansion of direct federal intervention in consumer products and land use planning decisions." Thomas instructed staff to look at this "dramatic" approach when the agency first "punted" the issue to Congress, anticipating some criticism that EPA hesitation to fully enforce the act has aggravated the nonattainment problem (Inside EPA, Jan. 9, p6; Dec. 5, 1986, p3). This approach would entail EPA making upfront "SIP deficiency calls" for all nonattainment areas. Where a state could not "demonstrate attainment" even with a new, more stringent plan, EPA would be required to issue its own attainment plan. Federal plans (FIPs) could be required in "up to 60" areas, EPA's papers say, at a cost of nearly $230-million in federal funds and 500 EPA workyears. Implementation of those plans could cost the federal government another $220-million a year, and more than 1,000 workyears in EPA headquarters and regions. Sources say the cost figures are "very rough," but note that it is quite clear the agency currently does not have even half the resources necessary.

EPA's study lays out a "hierarchy of measures" that would be necessary under this approach:

- SIP rule improvement;
- national mobile source measures (this would, sources explain, include EPA imposition of gas

marketing controls via on-board cannisters, stage II at-the-pump controls and development of a fuel volatility standard);

- stationary point source measures;
- local mobile source measures;
- "national policy/procedural changes";
- stationary area source measures;
- "incentive type" transportation control measures (TCMs);
- stringent stationary point source measures;
- "stationary source growth restrictions, heavy offsets, production caps";
- prohibitions on vehicle use;
- "shutdown/relocation of significant sources".

In some areas, EPA's paper explains, consumers could be forced to pay three dollars per gallon for gasoline, saddled with carpool requirements or "no-drive" days, subjected to a tax of $1,000 per year for a second or third family car, or faced with gas rationing. Retrofitting of old plants, shutdowns and source relocations could limit job growth or reduce area jobs. EPA officials admit this is a "worst case" picture, but counter critics' allegations that the scenario has been crafted simply to "scare Congress to death" — insisting that "draconian" measures will be required in many major metropolitan areas to ensure attainment.

EPA sources say the agency has little desire to go this route, but add that EPA is just as unlikely to back a relaxation of the ozone standard (one of the four current law-based options in the briefing papers). Nor is EPA at this time ready to make a full-fledged pitch to Congress for revisions to the Clean Air Act, top officials say, even though the options paper, developed by the Office of Air & Radiation, lays out four possible routes for doing this. "Lee didn't simply pick 'an option'," one source explained, "He's crafting a more complex approach" by combining parts of the various options.

The one option that has received "considerable" and "lively" discussion, sources say, is a variant of EPA's earlier "four part strategy" based on "sustained progress" for areas unable to meet the 1987 deadline (Inside EPA, June 6, 1986, p9; June 20, 1986, p5). The long-term approach envisioned by EPA since last spring was called into question by the agency's Office of General Counsel (Inside EPA, Dec. 5, 1986, p3), with one key problem being the lack of future deadlines for compliance by the nonattainment areas. The "specific attainment date" plan would correct this failure by setting up "a reasonable date certain" for each nonattainment area.

However, EPA is likely to be circumspect on just what decisions are being made until at least summer, when Thomas reportedly hopes to unveil a "master plan" in an overall rulemaking. Sources explain that EPA is likely to attempt what is known as "legislative rulemaking" — setting out a program to deal with the "gap" left in the law regarding post-1987 nonattainment. Such a rule would lay out what EPA expects states to do in revised SIPs to demonstrate attainment, EPA staffers say, as well as address the national regulatory calls necessary.

Several key issues must be resolved quickly, sources add, if not made public — and are likely to be the focus of much congressional criticism. These include: 1. a legal call on what **sanctions** are available for what violations, and a policy call on when they should be used; 2. approval or disapproval of **SIPs still pending** because of EPA hesitancy to crack down on highly polluted regions (i.e. Southern California, the Chicago area); and 3. EPA **action to force states not implementing or enforcing SIPS** to do so. EPA's briefing papers admit that part of the current nonattainment problem can be blamed on the agency's lackluster responses to these questions to date. EPA has in some cases approved "inadequate plans;" there is a "historical reluctance" to use sanctions (Inside EPA, Nov. 22, 1985, p2); and the agency has looked the other way as states stalled implementation and enforcement of SIPs (and is therefore facing several lawsuits by environmentalists, Inside EPA, Jan. 30, p1).

Further, EPA's papers admit that the agency has not "aggressively come forward with needed federal measures." These include, according to the documents: an "ozone policy"; control technology guidance documents (CTGs) that lay out specific emissions reduction methods considered "reasonably attainable" (RACT) by EPA and thus required (on a "rebutable presumption") in nonattainment areas; "onboard" vehicle controls; a fuel volatility standard; and new source performance standards (NSPS) for synthetic organic chemical manufacturers.

EPA officials hinted that the agency will move very quickly to take these long-awaited actions, and others of similar nature, to prove that EPA is seriously working to "better utilize" the current act to "forward the process." For example, sources say, EPA may well press ahead with outlining RACT for small stationary sources such as solvent manufacturing plants, printers, coke-oven by-product plants, architectural paints and coatings operations, autobody repair shops, and drycleaners, as well as making a decision on stage-II, at-the-pump gas marketing controls. Whether it will be done through a CTG, or a

"like document" without the legal "baggage," (CTGs, staffers explain, require Office of Management & Budget review) is another unresolved question, however. Several sources also hinted that a fuel volatility standard, and more stringent standards on light-duty truck emissions, may also be forthcoming before the overall package. While Thomas may not reveal his plans in testimony before Waxman, sources say he is likely to "give hints" in written responses to the health & the environment subcommittee chairman and the chairman of the parent Energy & Commerce Committee, John Dingell (D-MI).

WAXMAN GEARS UP FOR URBAN OZONE HEARINGS WITH FLURRY OF LETTERS

House Energy & Commerce health & the environment subcommittee chairman Henry Waxman (D-CA) is gearing up for Feb. 13 and 19 slated hearings on the widespread problem of urban smog — bombarding EPA, states, and automakers with questions on the nature of the problem. In a flurry of letters, Waxman is calling for opinions on the key reasons so many cities are not likely to meet the 1987 deadline for demonstrating attainment with the national ambient air quality standard (NAAQS) on ozone. At the same time, he makes clear his key concerns: that EPA and states have failed to seriously enforce the Clean Air Act requirements and that mobile source controls have been too lax.

While asking EPA for an "emissions inventory" for ozone, Waxman has enlisted the aid of the State & Territorial Air Pollution Program Administrators (STAPPA) and the Assn. of Local Air Pollution Control Officials (ALAPCO) in gathering the basic data needed to assist Congress and the public in grasping the scope of the ozone problem. The state air groups have called upon individual state directors to: "list all steps called for in the [state implementation plan], describe whether and how each step was implemented, and estimate the air quality impact and number of tons of emission reductions or increases associated with the action taken." Further, state directors have been asked to detail "key assumptions" used in planning that have "proven to be incorrect," and thus resulted in greater emissions levels than predicted. Waxman also brings up the question of interstate transport of ozone pollution — ozone is created by a reaction between sunlight and volatile organic chemicals which migrate easily — allowing states to comment on an issue that many, particularly New England states, have long felt EPA has ignored.

Many of Waxman's questions center on emissions from cars and trucks, and the adequacy of mobile source controls. In letters to all the major American and foreign automakers, he solicits comments on basic issues, such as health problems caused by ozone (and precursors carbon monoxide and nitrogen oxides), to more arcane controversies, such as whether enough rhodium (used in catalytic converters) is available, since its primary source is South Africa, to upgrade the nation's auto fleet's capability to reduce NO_x emissions. He quizzes EPA on possible repeal of current Dept. of Transportation fuel economy standards, which have just been relaxed. He prods states on the need for better inspection and maintenance programs, a historical state bugaboo. Finally, Waxman raises an action he has long pushed — the ratcheting down of current tailpipe standards.

Waxman also probes EPA and states about the impacts of recent regulatory reforms, revealing his strong concern that schemes such as "bubbling" between emissions sources (so that one source's reduction below the standard level cancels out another's exceedance) have exacerbated the ozone problem. For example, he asks: "Please explain why, in light of the nationwide severity of the nonattainment problem and the importance of transport in the regional ozone problem, the prohibition of bubbling/netting to escape new source review rules should apply only in nonattainment areas, rather than covering all sources."

Waxman's hearings are scheduled for Feb. 13 in California, where EPA Region IX chief Judith Ayers is likely to be interrogated about the future of the "reasonable extra efforts program (REEP)" EPA has been pushing for in the seriously, and many at EPA believe hopelessly, out-of-attainment South Coast basin. The REEP program was the basis of EPA's four-part, "sustained progress" strategy that was recently called into question by the agency's Office of General Counsel as possibly illegal (Inside EPA, Dec. 5, p3; Dec. 12, p10). EPA officials say that while Ayers is not likely to make any definitive calls on REEP at the hearing, she will "evolve" the discussion by raising for public consideration the options EPA is debating. EPA chief Lee Thomas is expected to testify at Waxman's Feb. 19-slated hearing in Washington, D.C. (see related story).

INSIDE EPA — February 20, 1987

THOMAS LIKELY TO TELL CONGRESS EPA TAKING STRICT OZONE IMPLEMENTATION TRACK

EPA chief Lee Thomas is likely to tell Congress this week that the agency is set to strictly implement the Clean Air Act ozone standard, agency sources said at presstime Tuesday, while Congress debates how to address areas that will be unable to meet the 1987 deadline for compliance. Agency sources elaborate that this could mean quick EPA decisions to approve or deny state implementation plans (SIPs) now in limbo, and to take enforcement actions against states not fully in compliance with their SIPs.

Thomas is slated to appear before Rep. Henry Waxman's (D-CA) House Energy & Commerce subcommittee on health & the environment Feb. 20 to answer questions about the difficulty most of the nation's urban areas are expected to have complying with the national ambient air quality standard (NAAQS) for ozone (Inside EPA, Feb. 13, p1). EPA sources say that after meeting with several key congressmen, including Waxman and Energy & Commerce Committee chairman John Dingell (D-MI), Thomas is "pretty convinced" about the need to press forward to fully enforce the air act as it stands, before attempting to engage Congress in a discussion about the long-term ozone compliance problem. For example, sources say, Thomas "may well" announce that EPA will disapprove Southern California's SIP for failure to adequately demonstrate attainment by 1987 — explaining that while there is no way the area could attain by the deadline, the local air pollution body has not even acted to fully implement measures required by the air act already.

EPA sources say that while Thomas has not chosen one set approach for a long-term agency ozone policy — picking and choosing from all the options laid out to him by staff (Inside EPA, Feb. 13, p1) — the "linchpin" for now will be "the straightforward legal view" of the law's requirements, including sanctions. (EPA's Office of General Counsel has held for sometime that some sanctions can be levied only against areas without approved SIPs, although others may be applicable to areas with SIPs but not in compliance [Inside EPA, Dec. 5, 1986, p3]).

Waxman held the first of his hearings, that aides say will build a foundation for legislation extending compliance deadlines but strengthening requirements, Feb. 13 in California. Waxman blasted the local air pollution district board, which was recently the subject of an EPA and General Accounting Office audit, as having "undermined" the federal air act program to allow more industrial growth in Southern California. Outlining a series of requirements not enforced by the local district, Waxman said: "Taken together, these examples paint a shocking picture of an air pollution agency that has lost control, while trying to maintain its historically progressive image."

He also chided the state air pollution control agency and EPA for failing to oversee the locality by enforcing the law, and for "rhetoric" stating that all "reasonable steps" have been taken and that only "draconian measures" remain — when in fact this is not the case in many nonattainment areas. "It is not enough of a response to say that even with adoption of these regulations and measures we would not have achieved attainment by the end of 1987. Areas of the South Coast Air Basin would have met the standards more often and the public would have suffered less," Waxman noted. Finally, Waxman also tagged EPA Region IX's "reasonable extra efforts program" (REEP) as not strict enough, although perhaps "well intentioned" (Inside EPA, Dec. 19, 1986, p10).

AIR/WATER POLLUTION REPORT 2-19-87

BITING A BULLET? Environmental Protection Agency Administrator Lee Thomas, who is facing a confrontation with Congress over enforcing federal clean air standards, is slated to testify Feb. 19 before the House Environment and Health Subcommittee, chaired by one of Capitol Hill's staunchest clean air advocates, Rep. Henry Waxman (D.-Calif.). Thomas is expected to focus on the ability of states with serious pollution problems to comply with the standards by the Dec. 31 deadline spelled out in the Clean Air Act. He recently indicated that attainment is "absolutely impossible" for some areas, including Los Angeles, where Waxman lives. The panel is "interested in finding ways to bring us closer to attainment of the standards," a Waxman aide said last week, when the panel held its first hearing of the year in Los Angeles. Thomas will focus on ozone problems. The proposals he will present to Congress will be somewhere between "a wimp approach" and unleashing "all the arrows in his sanctions quiver," an EPA aide said.

CLEAN AIR
BY DAVID GOELLER

WASHINGTON (AP) -- THE HEAD OF THE ENVIRONMENTAL PROTECTION AGENCY ASKED FOR CONGRESSIONAL HELP THURSDAY IN HANDLING A TOUGH POLITICAL PROBLEM THAT COULD LEAD TO DOZENS OF CITIES LOSING FEDERAL AID BECAUSE OF POLLUTED AIR.

''I AM HERE TODAY LOOKING FOR ADVICE,'' EPA ADMINISTRATOR LEE THOMAS SAID AS THE THE HOUSE ENERGY AND COMMERCE HEALTH SUBCOMMITTEE BEGAN GRAPPLING WITH THE PROBLEM OF MASSIVE NON-COMPLIANCE WITH CLEAN AIR ACT STANDARDS.

THOMAS AND CONGRESS ARE LOOKING AT THE POSSIBILITY THAT UP TO 76 OF THE NATION'S METROPOLITAN AREAS, INCLUDING NEW YORK, LOS ANGELES AND CHICAGO, WILL FAIL TO MEET THE LAW'S DEC. 31 DEADLINE TO CURB EMISSIONS OF OZONE AND CARBON MONOXIDE.

THE 1977 LAW PROVIDES FOR A VARIETY OF SANCTIONS FOR FAILING TO ATTAIN THE GOALS, INCLUDING A BAN ON CONSTRUCTION AND LOSS OF FEDERAL AID FOR SEWERS AND HIGHWAYS.

''IT HAS BECOME INCREASINGLY CLEAR THAT A NUMBER OF AREAS OF THE COUNTRY SIMPLY CANNOT ATTAIN THE STANDARDS'' BY DEC. 31, THOMAS TESTIFIED. ''THE OZONE PROBLEM HAS PROVEN TO BE MUCH MORE INTRACTABLE THAN WAS ONCE ANTICIPATED.''

HE SAID THE SEVERITY OF THE PROBLEM VARIES FROM CITY TO CITY, WITH LOS ANGELES BEING THE EXTREME CASE. THOMAS SAID THAT EVEN IF ALL AUTOMOBILES, A MAJOR SOURCE OF THE POLLUTANTS, WERE BANNED THERE TODAY, IT STILL WOULD TAKE 25 YEARS FOR ITS AIR QUALITY TO REACH LEGAL STANDARDS.

NEITHER THOMAS NOR MEMBERS OF THE SUBCOMMITTEE, WHO DID NOT OFFER THOMAS THE GUIDANCE HE REQUESTED, DIRECTLY ADVOCATED EITHER CHANGING THE LAW TO EXTEND THE DEADLINE OR APPLYING SANCTIONS TO AREAS MISSING THE ATTAINMENT DEADLINE.

AP-WX-02-19-87 1828EST

U.S. Is Likely to Impose Growth Curbs In Areas Not Meeting Ozone Standard

By Robert E. Taylor
Staff Reporter of The Wall Street Journal

WASHINGTON — Environmental Protection Agency chief Lee Thomas said he "probably" will have to impose curbs on industrial growth in several areas that haven't shown they can meet the federal ozone standard.

Mr. Thomas told the House subcommittee on Health and the Environment that he will decide in the next few months whether to impose sanctions on cities that are flunking the important air pollution standard.

He said the law gives him "limited flexibility" in dealing with areas that never have developed federally approved plans to meet the standard. For such areas, he warned, he is "probably going to have to impose sanctions" in the form of curbs on construction of large, polluting plants.

Cities that lack approved plans and that are unlikely to win approval by the end of the year are Los Angeles; Chicago; Sacramento, Calif.; Fresno, Calif.; Atlanta; Dallas-Fort Worth, and Phoenix, Ariz. Also needing approval but likely to get it this year, according to the EPA, are, among others, Cincinnati; Bakersfield, Calif.; Baton Rouge, La.; El Paso, Texas, and Memphis, Tenn.

Use of Sanctions

The EPA administrator said he has more discretion over whether to impose sanctions on areas that drag their feet in implementing plans or tightening those that prove inadequate. For such areas, which Mr. Thomas didn't identify, he could impose construction curbs or withhold federal aid for air pollution programs, highways and sewer projects. He said he is prepared to use any of these sanctions under certain circumstances.

The testimony came as, separately, an internal EPA report concluded that air pollution continues to pose higher risks to people than many other environmental hazards. The same report suggested that the agency spends too much on hazardous-waste problems and not enough on some other environmental hazards.

The testimony was the closest Mr. Thomas has come to predicting imposition of so-called construction bans for areas plagued by ozone, the nation's most troublesome air pollutant. The environmental agency calculates that more than 70 areas probably will fail to meet the federal ozone standard by this year's statutory deadline, and that about 20 of them aren't likely to comply for 20 years or more.

Mr. Thomas surprised many lawmakers by saying he may propose some construction bans "within the next several months." Officially, the statutory deadline for compliance with federal pollution standards is Dec. 31. But EPA officials said they will be able to determine whether various areas meet the standards earlier than that, because the assessment is based on pollution averages over the past three years.

The construction bans would affect only plans to build large plants that would emit the volatile organic compounds or nitrogen oxides that react to form ozone on warm, sunny days. Many areas have found loopholes in the bans. Some, for example, have issued permits to build many facilities before a ban could take effect.

Viewed as Serious Threat

Still, local officials and many lawmakers view possible bans as a serious threat. Rep. Norman Lent (R., N.Y.) said the statutory requirement for construction bans puts Congress "in sort of a hole. We've got to dig out of it, otherwise the whole country will grind to a halt."

Noting that ozone can cause lung damage and reduce resistance to infection, Mr. Thomas said he wouldn't recommend relaxing the standard. But he urged Congress to reconsider the sanctions mandate and to defer the compliance deadline to different dates for different cities.

The internal EPA study on environmental risks, first reported in the New York Times, is based on subjective judgments by 75 top agency staff members. They said there are relatively low public or environmental risks from mismanagement of hazardous waste or from leaking toxic-waste dumps and underground gasoline or chemical tanks. Those problems are addressed in the five-year, $9 billion Superfund law that was enacted last year with strong popular support.

The report ranked the following as relatively high risks that currently draw low EPA effort: radon and other indoor air pollutants; contaminants that wash off farms and cities in rainwater; accidental releases from chemical plants; pesticide residues in food, and worker exposure to pesticides and other toxic materials. The report also put in the high-risk, low-effort category the unproven theories that man-made chemicals are depleting the stratospheric ozone level and causing a rise in global temperatures.

Pesticides, Rain Runoff

The EPA currently is addressing the apparent mismatch of resources in two areas. It is increasing its regulation of pesticides and launching a new program to help states regulate rain runoff.

The report noted that the agency's current priorities are influenced by laws, public demands and feasibility of controls. Current spending patterns, it said, "appear more closely aligned with public opinion than with our estimated risks."

Mr. Thomas requested the study to "spark a discussion of where to put our money" in the future, according to an EPA spokesman.

ATTACHMENT B

INSIDE EPA — February 20, 1987

As U.S. team heads for international summit

CHAFEE, BAUCUS INTRODUCE BILLS TO PROTECT STRATOSPHERIC OZONE

Sens. Max Baucus (D-MT) and John Chafee (R-RI) were slated Wednesday to introduce separate, but very similar, bills designed to prevent deterioration of the Earth's stratosphere based on reducing by 95% the use of chlorofluorocarbons (CFCs) and halons within the next decade. The Senate action comes at the same time that a team of EPA and State Dept. negotiators head for Vienna, Austria for a second round of preliminary talks on a global agreement to prevent depletion of the planet's protective ozone layer by such chemicals.

Both the Chafee and Baucus bills stress immediate emission reductions of those chemicals widely believed to be the most harmful to the stratosphere: CFC-11, -12, -113 and halon-1211 and -1301 (Inside EPA, Nov. 7, 1986, p1). The bills differ slightly in their time schedules to cut back usage, and in their approach to restricting trade of the controlled chemicals. In fact, sources say, several of the differences were crafted deliberately in order to "foster debate" about the best approach, noting that the senators are cosponsoring each other's bill. Further, Baucus and Chafee reportedly see the bills as helping the U.S. in terms of "competitiveness" by forcing industry to produce substitutes ahead of foreign firms. Aides for both senators agree that the trade provisions are the most important in ensuring that unilateral U.S. action has a significant worldwide effect.

While the Reagan Administration has publicly towed the line that unilateral U.S. action would disrupt the ongoing international negotiations under the Vienna Convention on the Ozone Layer (Inside EPA, Dec. 5, 1986, p1), government sources privately say they believe the legislative action will help push the reluctant European Economic Community into stronger protective action. "It's a show of seriousness in the U.S. Congress," one source said, but added that getting such a bill through Congress and the Administration might be impossible because of the trade issues. Sources involved say the U.S. negotiating team is standing fast behind its December proposal at the first round of talks in Geneva, elaborating on some proposals and pushing for a commitment to "some sort" of long-term action to "begin the march downward."

Environmentalists welcome the bills — particularly pleased with the speedy timeframes (six and eight years) for racheting down emissions. Several sources also admit cynicism about the Reagan Administration's seriousness in forcing the international negotiations to "meaningful" reductions of CFC and halon use. For example, one environmentalist worried over reports that the U.S. team would call for trade restrictions on products containing — but not products made with — CFCs. Environmentalists are wary that, despite protests to the contrary, the U.S. might accept an immediate agreement on a production freeze for only CFC-11 and -12 coupled with a "further study" clause — an agreement that environmentalists feel would be counterproductive to achieving the major emissions reductions required to curtail devastating ozone loss.

The Baucus bill freezes the five chemicals having the greatest "ozone depletion factor" at 1986 production levels by Jan. 1, 1988. The bill also reduces total U.S. 1986 production of all chemicals potentially damaging to the ozone layer, as identified by EPA, by 95% within eight years under a phase-out plan based on each substance's ability to deplete ozone. The Baucus bill allows EPA regulatory flexibility to crack down on some chemicals in exchange for easing regulations on others, as long as the overall emissions ceiling (1986 production level) on "ozone depletion factor" is kept.

Baucus would apply non-compliance penalties beginning one year after enactment (beginning at $1 times the depletion factor of the substance, and after five years equaling $5 times the depletion factor) that would also serve as import fees on any "substance, product or good manufactured or derived from in whole or any part" from the restricted substances. Further, as of 1995, import of such substances would be banned except from nations certified by EPA and the State Dept. as having control programs "at least as stringent" as the U.S.

The Chafee bill would phase out by 95% usage of the five "priority" chemicals within six years, based on 1986 production levels. All other substances with an ozone depleting ability would be listed by EPA, and industry would be given eight years to reduce the collective "ozone depletion factor" of these chemicals by 95% from the current level. Producers individually would be responsible for maintaining their 1986 levels, and would be given emissions "credits" for total destruction or "recapture" of listed substances. Within a year of enactment of the domestic program, Chafee would ban imports of any products containing or made using the U.S. regulated substances unless the "country of origin" has an equivalent control plan.

OZONE DEPLETION
BY DAVID GOELLER

WASHINGTON (AP) -- ENVIRONMENTAL LEADERS IN CONGRESS WARNED INDUSTRIALIZED NATIONS WEDNESDAY THAT THEY COULD FACE TOUGH U.S. TRADE BARRIERS UNLESS THEY JOIN A U.S.-LED DRIVE AGAINST CHEMICALS THAT DESTROY VITAL ATMOSPHERIC OZONE.

''THIS BEGINS THE LEGISLATIVE RACE TO SUSTAIN THE LIVABILITY OF OUR PLANET,'' REP. JIM BATES, D-CALIF., SAID AS HE AND OTHER LAWMAKERS LAUNCHED A CAPITOL HILL CAMPAIGN AGAINST THE GROWING INTERNATIONAL USE OF CHLOROFLUOROCARBONS (CFCS).

THEY ANNOUNCED A TWO-FRONT ATTACK ON CFCS, WHICH DESTROY THE EARTH'S OZONE LAYER, LEAVING PEOPLE EXPOSED TO MORE OF THE SUN'S CANCER-CAUSING ULTRAVIOLET RAYS AND CONTRIBUTING, SOME SCIENTISTS SAY, TO THE GLOBAL RISE IN TEMPERATURES KNOWN AS THE ''GREENHOUSE EFFECT.''

AS A FIRST STEP, THEY ARE ASKING THE HOUSE AND SENATE TO APPROVE A RESOLUTION STRONGLY BACKING REAGAN ADMINISTRATION EFFORTS TO GET OTHER INDUSTRIALIZED NATIONS TO FREEZE AND THEN CUT PRODUCTION OF THE MOST DESTRUCTIVE CFC COMPOUNDS.

SEN. JOHN CHAFEE, R-R.I., AND OTHER KEY MEMBERS OF THE GROUP SAID THAT IF THESE NEGOTIATIONS, WHICH RESUME NEXT WEEK IN VIENNA, FAIL, THEY WILL PUSH LEGISLATION DESIGNED TO FORCE OTHER NATIONS INTO REDUCING CFC USE.

CHAFEE'S BILL WOULD REQUIRE A SIX-YEAR DOMESTIC PHASEOUT OF 95 PERCENT OF THE WORST CFCS AND WITHIN A YEAR BAN IMPORTS OF PRODUCTS CONTAINING OR MADE WITH THESE CHEMICALS UNLESS A TRADE PARTNER IS MEETING THE U.S. PHASEOUT SCHEDULE.

''IT REALLY IS A DOOMSDAY PROBLEM,'' CHAFEE TOLD A NEWS CONFERENCE. ''WE'RE PREPARED TO GO AHEAD UNILATERALLY. JAPAN AND THE EUROPEAN COMMUNITY ARE DRAGGING THEIR HEELS.''

''WE ARE SENDING A SIGNAL TO THE EUROPEAN COMMUNITY AND JAPAN THAT THE U.S. CONGRESS VIEWS THE THREAT OF OZONE DEPLETION AS A VERY SERIOUS THREAT TO THE GLOBAL ENVIRONMENT,'' SAID SEN. TIM WIRTH, D-COLO.

WIRTH CITED SCIENTIFIC ESTIMATES THAT THE EARTH'S OZONE LAYER HAS DECREASED BY UP TO 40 PERCENT IN THE LAST SEVEN YEARS AND THAT WITHOUT INTERNATIONAL REGULATION, CFC EMISSIONS COULD GROW UP TO FIVE PERCENT A YEAR.

REP. BILL RICHARDSON, D-N.M., SAID THAT IF CHLOROFLUOROCARBONS ARE NOT CURBED, ''WE CAN EXPECT MANY MORE CASES OF SKIN CANCER AND DRAMATIC INCREASES IN THE NUMBERS OF (EYE) CATARACTS WORLDWIDE.''

AP-WX-02-18-87 1611EST

WORLD OZONE
BY GUY D. DARST

WASHINGTON (AP) -- THE STATE DEPARTMENT ON THURSDAY WELCOMED A CONGRESSIONAL THREAT TO BAR IMPORTS OF OZONE-DEPLETING PRODUCTS FROM NATIONS THAT DO NOT AGREE TO END THEIR USE SOON.

''I THINK IT'S IMPORTANT THAT THE REST OF THE WORLD KNOW THAT THE U.S. POSITION HAS THE STRONG BACKING OF THE U.S. CONGRESS,'' SAID RICHARD BENEDICK, DEPUTY ASSISTANT SECRETARY OF STATE FOR OCEANS AND ATMOSPHERES.

BENEDICK IS HEAD OF THE U.S. DELEGATION TO INTERNATIONAL TALKS THAT RESUME MONDAY IN VIENNA ON LIMITING PRODUCTION OF CHLOROFLUROCARBON CHEMICALS THAT DESTROY OZONE HIGH IN THE STRATOSPHERE. SUCH OZONE BLOCKS HARMFUL ULTRAVIOLET RAYS FROM THE SUN, THOUGH THE SUBSTANCE IS AN UNWANTED POLLUTANT AT GROUND LEVEL.

ON WEDNESDAY, SEVERAL MEMBERS OF CONGRESS INTRODUCED A NON-BINDING RESOLUTION EXPRESSING SUPPORT FOR THE U.S. NEGOTIATING POSITION, WHICH CALLS FOR ENDING PRODUCTION OF THE CHEMICALS IN QUESTION IN A FEW YEARS, AND SAID THEY WOULD PUSH TRADE LEGISLATION IF THE NEGOTIATIONS BREAK DOWN.

A DRAFT BILL SPONSORED BY SEN. JOHN CHAFEE, R-R.I., WOULD REQUIRE A SIX-YEAR PHASEOUT OF 95 PERCENT OF CHLOROFLUROCARBONS AND WOULD BAN IMPORTS OF PRODUCTS CONTAINING THOSE CHEMICALS, OR MADE FROM THEM, FROM COUNTRIES THAT DO NOT MATCH THAT SCHEDULE.

BENEDICK SAID AT A NEWS CONFERENCE THAT THE RESOLUTION AND BILL DRAFT WERE ''A STRONG SIGNAL'' OF CONGRESSIONAL SERIOUSNESS.

''I CERTAINLY WILL REPRESENT IT THAT WAY WHEN I MEET WITH MY FOREIGN COUNTERPARTS,'' BENEDICK SAID.

HE PREDICTED AN AGREEMENT BY THE END OF THE YEAR ''WITH SOME GOOD WILL AND SOME HARD NEGOTIATING.''

HOWEVER, IT IS POSSIBLE THAT SOME MAJOR PRODUCING COUNTRIES WILL NOT GO ALONG. IT IS ''NOT INCONCEIVABLE'' THAT THE UNITED STATES AND OTHER COUNTRIES COULD ENTER A LESS-THAN-UNIVERSAL AGREEMENT, HE SAID, ''AND CERTAINLY THOSE COUNTRIES WOULD WANT TO PROTECT THEIR DOMESTIC INDUSTRIES FROM WHAT THEY CONSIDER UNFAIR COMPETITION'' THROUGH USE OF MEASURES SIMILAR TO CHAFEE'S.

EUROPEAN GOVERNMENTS ARE HEAVILY INFLUENCED BY THEIR CHEMICAL COMPANIES, BENEDICK SAID, AND THOSE COMPANIES ''HAVE NOT TAKEN A PROGRESSIVE, FORWARD-LOOKING ATTITUDE,'' WHILE U.S. COMPANIES ARE SUPPORTING THE U.S. GOVERNMENT'S POSITION.

''IN EUROPE THERE HAVE BEEN SO MANY OTHER SHORT-TERM ISSUES LIKE (POL

AP-WX-02-19-87 1839EST

OZONE PROBLEMS SPOTTED IN COUNTRY
WORLDWATCH'S NEW STUDY MAINTAINS

Although ozone is necessary to the upper stratosphere, it is causing problems in the lower atmosphere, not only for urban areas, but in the countryside, Worldwatch researchers said in a new report released Feb. 14. "In many rural areas of Europe and North America, summer ozone concentrations now measure two to three times higher than natural background levels," the study noted. There is a bigger emphasis on stratospheric ozone in this study than in past studies.

The study added that industrial emissions have "turned metals into troublesome pollutants" which return to water bodies, killing fish and fouling drinking water. Forest damage continues to spread, now showing up in central and northern Europe and the U.S., it added.

Ozone Hole Makes Researchers Wary

Researchers also noted that while ozone depletion of the stratosphere is not expected to pose major problems until well into the next century, they are wary of the recently discovered "ozone hole" in Antarctica -- when a 40% reduction occurs in the layer over that region every October. Researchers are concerned that it may foreshadow a more rapid loss of ozone globally than had been expected.

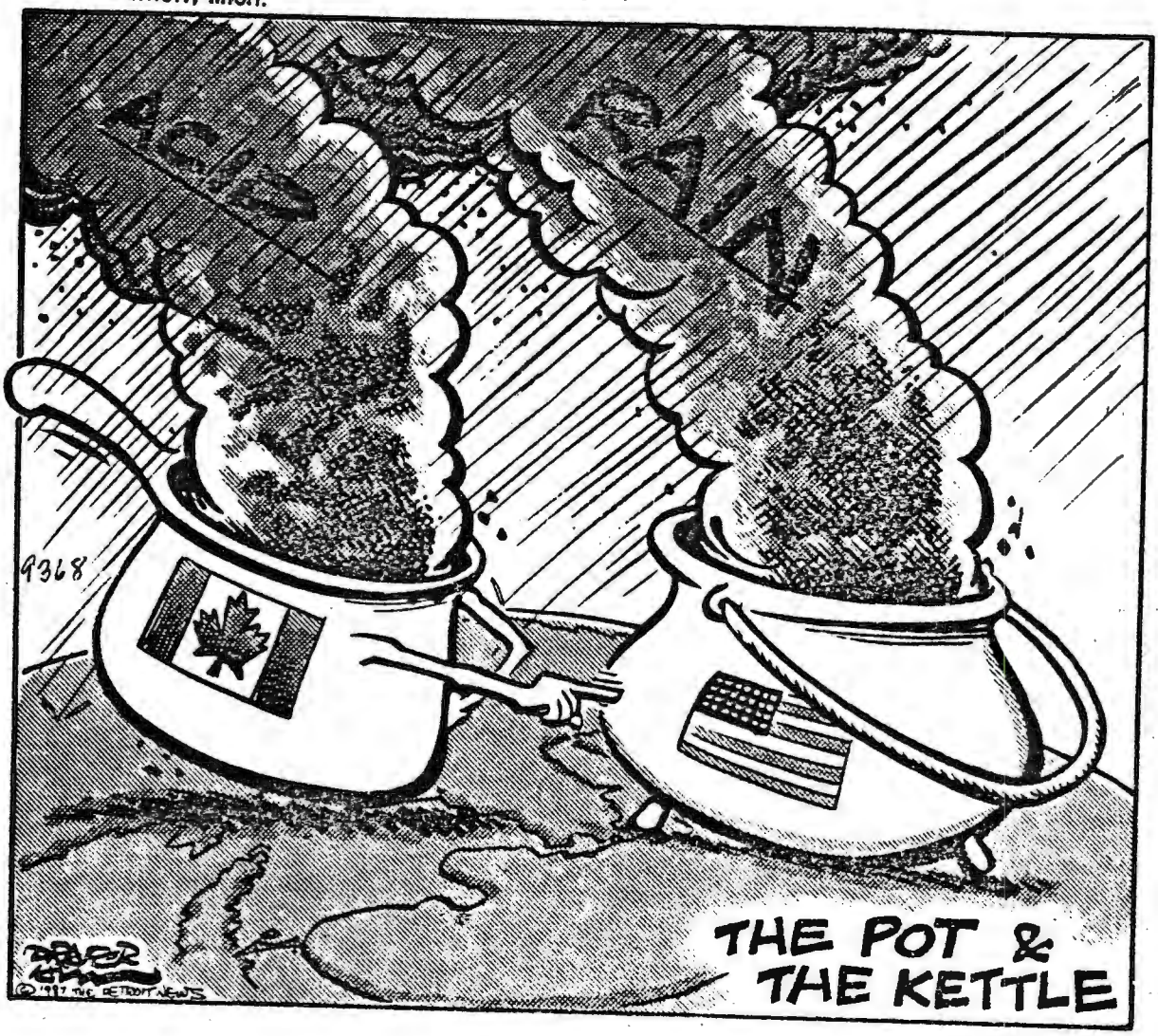
In addition to ozone depletion, climate change and the loss of biological diversity are the most threatening environmental problems globally, said Worldwatch President Lester R. Brown, who directed the study.

The institute also urged, as in years past, for a reduction of fossil fuel combustion. "As costs associated with fossil fuel combustion -- primarily acidification and climate change -- become more apparent, pressures will force governments to promote energy efficiency and renewable energy sources far more vigorously." The U.S., Soviet Union and China account for half of all carbon dioxide emissions from fossil fuels, and reductions by these countries could "go a long way." The "State of the World: 1987" is $9.95 from Worldwatch Institute, 1776 Massachusetts Ave., N.W., Washington, D.C. 20036, (202) 452-1999.

ATTACHMENT 2

The Detroit News
DETROIT, MICH.

JAN 26 1987



COAL NEWS 2-9-87

Mulroney Government Steps Up Criticism of U.S.

Canada's environmental minister, under pressure from political opponents and environmental groups, has stepped up criticism of the Reagan administration's adherence to the Special Envoys' Report on Acid Rain.

The 1986 report by U.S. envoy Drew Lewis and his Canadian counterpart William Davis acknowledged acid rain as an issue affecting the relationship between the two countries, but said not enough scientific evidence exists to justify massive pollution control requirements beyond those already mandated by the Clean Air Act.

However, the study recommended a $5 billion clean coal technology development program be undertaken by the U.S. to respond to concerns about sulfur dioxide emissions.

In an analysis of how Canada views the U.S. clean coal program in light of the envoys' report, Thomas McMillan said the American effort "might meet requirements in that country, (but) it is largely irrelevant to the envoys' report and to Canadian concerns."

Substantial U.S. Spending

Conceding the U.S. is spending "substantial amounts" on clean coal technology research, development and demonstration and that $5.3 billion of the $6.8 billion in scheduled and proposed funding probably meets at least one of the envoys' criteria, McMillan claims only $1.7 billion appears to meet the "technical" aspects of the report.

In reference to Reagan's 1988 budget, the Canadian assessment says that $690 million appears to be directed at work that might eventually meet the envoys' cirteria. However, "there are no projects that would result in commercial-scale demonstrations in the foreseeable future, nor will any of the expenditures result in any near-term reductions in U.S. emissions affecting Canada."

The assessment makes no mention of the lack of a national pollution control program in Canada akin to the U.S. Clean Air Act, which mandates strict control of sulfur dioxide emissions. Under the Clean Air Act, sulfur dioxide emissions have been declining since 1973.

As the third "Shamrock Summit" approaches, Canadian environmentalists and others have turned up the heat on Prime Minister Brian Mulroney, whose government has taken a more aggressive stance in its deliberations with the U.S.

ENVIRONMENT

CANADA STEPS-UP ACID RAIN CRITICISM; SAYS PROGRAM DOESN'T MEET TARGETS

The latest criticism from Canada's Environment Minister Tom McMillan appears to dash any hopes the Reagan Administration had that Canada would consider the American Clean Coal Technology program as evidence that the US is living up to the Special Envoys' Report on Acid Rain that the two countries signed last year.

Late last month, McMillan released an analysis of how the Canadians see the American clean coal program in relation to the Envoys' report. The news from Canada is again not good for the President who continually touts the clean coal program as a key component of the Administration's acid rain efforts and a signal of the US committment to the Envoys' report.

McMillan sees it differently: "the clean coal technology program might meet requirements in that country, (but) it is largely irrelevant to the Envoys' Report and to Canadian concerns." The Envoys' report recommended the US federal government and industry participate in a $5-billion five-year program to curb acid rain.

The assessment concedes that the US is spending "substantial amounts" on clean coal technology research, development and demonstrations. Canada estimates that $5.3-billion of the $6.8-billion in scheduled and proposed funding probably meets at least one of the Envoys' criteria.

However, at the same time, the analysis says that only $1.- billion appear to meet the "technical" aspects of the report an even that funding does not give much attention to transbounc ary acid rain-causing emissions. The initiatives, thus, will no provide any "measurable reduction in the transboundary flow o US air emissions affecting Canada between now and 1995."

In fact, the analysis says, even after 1995, without an acid rai program, neither the currently planned clean coal program no existing air pollution control plans will reduce transboundary ai pollution for at least 25 years.

In reference to Reagan's 1988 budget, the Canadian assess ment says that $690-million appears to be directed at work tha might eventually meet the Envoys' criteria. However, "there ar no projects that would result in commercial-scale demonstratior in the foreseeable future, nor will any of the expenditures resu in any near-term reductions in US emissions affecting Canada Therefore, the analysis says, the expenditures do not meet th Envoys' criteria.

Of the nine projects the Dept. of Energy selected for Phase of the clean coal technology program, eight meet at least one the Special Envoys' criteria, the analysis says. Overall, the clea coal program could result in cleaner, more cost-effective tec nologies on a commercial and competitive basis, according the assessment, but it will take the next 10 years to achieve the results, according to the department.

TORONTO STAR

TORONTO, ONTARIO, CN

JAN 30 1987

Bradley's acid rain push in U.S. is lauded

By David Israelson Toronto Star

NEW YORK — Ontario Environment Minister Jim Bradley is making a good move by coming here to tell Americans directly about acid rain, says a Canadian lobbyist pushing for a cleanup.

But the federal government should really be making the same kinds of moves too, said Michael Perley of the Canadian Coalition on Acid Rain.

Bradley's three-day trip here will reach "a very important constituency" — U.S. anglers and hunters — when the minister mans Ontario's acid rain booth at a New York sportsmen's show tomorrow, Perley said from his Toronto office.

The show, in Manhattan, is expected to draw up to 150,000 people.

Its visitors ought to be informed directly about Canada's concerns about acid rain because many of them come north to fish and hunt, Perley said.

They are "a very important constituency, which can influence the passage of acid rain control legislation by Congress" by lobbying their representatives.

Reaching them is better than "continuing a fruitless dialogue with the Reagan administration," which opposes controls.

Perley agreed with Bradley, who said Tuesday he was making the New York trip because "the Reagan administration has made it clear that it is not serious about tackling the acid rain issue."

Reagan's $1 trillion-plus budget contained virtually no new money for curbing acid rain, despite assurances he gave to Prime Minister Brian Mulroney that he would seek funds for a study program.

Bradley said he was coming to New York to talk to the sportsmen's show visitors because "the time is right to rally support among the American public to press their government" for a cleanup.

Bradley's visit was also to include talks with key U.S. environmental lobbyists and lawyers and influential journalists from major publications, including Time, Newsweek and the New York Times.

Perley praised the minister's plan for a publicity blitz, saying, "Breaking new ground is the name of the game."

But he said that Ottawa, not Ontario, should really take the lead in an acid rain publicity campaign aimed at the U.S.

As an example, he said American visitors should be handed information about acid rain at border crossings — something that was done in the early 1980s but stopped several years ago.

Ottawa now spends about $500,000 a year on acid rain pamphlets and other information material — an amount that has remained the same since the Progressive Conservatives took power in 1984. A federal official said information in the U.S. is made available at Canadian consulates and distributed to environmental groups.

This is a waste of money, Perley said.

"There's no point preaching to the converted any longer.

JOURNAL OF COMMERCE 2-23-87

Acid Rain Strains US-Canada Ties

Journal of Commerce Special

The Reagan administration's go-slow approach to fighting acid rain is straining relations between the United States and Canada, the United States' largest trading partner.

Canadian officials contend that emissions of sulfur dioxide and nitrogen oxides from the United States — much of which come from coal-fired utility plants — cause acid rain that kills lakes and streams and damages forests north of the border. And they say the United States has done too little, too slowly to slash the emissions.

"We're quite unhappy with the situation," Alex Manson, manager of Environment Canada's acid rain program, said. "We don't get a warm, comfy feeling from the size of (U.S. efforts)."

"It's a question of degree," Robert Porter, a spokesman for the U.S. Department of Energy, said "We've made an attempt to determine what the private sector and the states are funding. That's still going on."

A nationwide Canadian poll released last month shows that two-thirds of Canadians think environmental protection is one of the country's two most pressing issues. But the U.S. administration has sent Canada mixed signals on the environmental issue that divides the two nations more than any other.

On the one hand, President Reagan agreed during a 1985 summit with Canadian Prime Minister Brian Mulroney that acid rain "is a problem which belongs to both of us."

Also, U.S. Special Envoy Drew Lewis joined Canadian Special Envoy William Davis last year in urging the U.S. government and private sector to launch a five-year, $5 billion effort to develop clean coal technologies that could reduce U.S. sulfur emissions in the future.

But by the time Mr. Mulroney met with Vice President George Bush in January, much of the sense of cooperation that accompanied the release of the special envoys' report had been lost.

Canadians are upset about how the U.S. government has handled its clean coal technology program, calling U.S. efforts too small and too poorly focused to help solve trans-boundary pollution problems.

And they remain angry and bewildered at the administration's firm opposition to new sulfur emissions controls for utility plants. The administration has insisted that scientific evidence linking environmental damage to acid rain is too weak to justify requiring utilities to spend tens of billions to clean up smokestack emissions.

"This administration doesn't believe we should direct the marketplace to adopt specific technologies," Mr. Porter said. "We think market forces will move many of these new technologies into common use."

Mr. Porter said sulfur emissions in the United States have fallen 23% since 1973, while coal use has risen more than 60%. He, like utility spokespeople, said those statistics make it uncertain whether sulfur emissions are really creating a worsening acid rain problem, as the environmentalists insist.

"We feel real, live evidence that (controls) work," Mr. Manson said. He said surveys of river systems in areas of Nova Scotia where acid rain has been reduced show the rivers recovering from damage that had been blamed on acid rain. "It's almost like having smoking-gun evidence that what we believe needs to be done will work," he said.

He added that Canada is working to reduce its emissions, which come less from utility plants than from such industries as smelters. A combination of provincial and federal initiatives will reduce sulfur emissions in the seven eastern provinces from 4.5 million tons in 1980 to 2.6 million in 1994.

Mr. Manson said early in February that the Canadian government hasn't analyzed the acid rain control bills introduced so far this year in Congress, and has not endorsed any of the four bills offered.

But the Reagan administration has opposed emissions controls since taking office, and Canadian officials are pretty much used to it. Mostly, when they talk these days about what they see as U.S. failures on acid rain, they talk about the clean coal technology program.

The Canadians say the United States hasn't lived up to the specific recommendations of the special envoys.

"The (U.S.) government should co-fund those programs that have the potential for the largest emissions reductions," the envoys wrote in their January, 1986 report. "More consideration should be given to projects that demonstrate retrofit technologies applicable to the largest number of existing sources, especially those that, because of their size and location, contribute to transboundary air pollution."

Canada hoped the program would cut the amount of sulfur dioxide emitted in the United States that floats across the Canadian border annually from 4 million tons in 1980 to 2 million tons. Sulfur emissions from all U.S. sources totaled 26 million tons that year.

Congress created a clean coal program in December, 1985, the month before the special envoys' report was issued. The idea was to fund demonstration projects that would develop new ways to use coal cleanly. Industry and the government would split the cost.

Industry saw the clean-coal program as a hedge against the possibility of emissions regulations to fight acid rain: If there must be regulations, executives and lobbyists reasoned, it would be better to use cheap technology to comply with them than to put flue gas scrubbers on still more plants.

Susan K. Roth, a spokeswoman for the Edison Electric Institute, a utility industry lobbying group, said a single scrubber can cost $100 million or more to install and uses so much power that the machine itself becomes the utility plant's biggest customers — and a non-paying customer at that.

Mr. Manson said that Canadians are upset about the projects the Energy Department chose last summer to receive the first round of clean coal research grants.

"They're not going to have any impact on transboundary pollution," Mr. Manson said.

Only three of the nine projects the department chose will demonstrate retrofitting technologies directly applicable to existing coal-fired electricity plants in the United States.

The utility industry, which buys 10% of the nation's coal, didn't like DOE's choices either. Officials said too many were designed to develop

synthetic fuels from coal, or find new industrial uses for coal, instead of developing ways to adapt existing technology to burn coal cleanly in electricity plants.

Mr. Manson said too few of the DOE's projects will be demonstrated within the belt of Midwestern states, such as Michigan and Ohio, where the United States produces most of the sulfur dioxide that eventually crosses the border. He added that the projects are too small to have any effect on transboundary emissions even if all nine of them were located in the Midwestern United States. A Canadian study projects that the projects will reduce transboundary emissions by one half of 1%.

"The principal interest is, 'what are the projects going to do?' " he said. "Just spending the money, period, is not going to provide the answer."

The President's 1988 budget proposal projects that the United States will spend about $6.8 billion on clean coal technology development, according to a Canadian government study released last month. But the same study said that only $1.7 billion of that money will fulfill more than half of the special envoys' criteria for choosing which projects to fund.

Mr. Porter defended his department's handling of the clean coal program. He said that Congress wanted the program to do much more than come up with ways to fight acid rain. Congress was also interested in using coal technology to reduce the United States' dependence on imported oil, for example, Mr. Porter said.

"Congress told us to proceed with a very broad, very general clean coal program," Mr. Porter said. "It was a congressional mandate that this be open to any type of coal technology . . . we were required by law to carry out a much broader program than the Lewis-Davis report recommended."

Mr. Porter added that Congress approved the original clean coal program before the Special Envoys made their report public. He said the program was under way before President Reagan publicly endorsed the Special Envoys' report last March.

But in response to criticism from Congress and business lobbyists, the department plans to fund more demonstration projects in the future that will develop technology that can be used to reduce sulfur and nitrogen emissions from existing electricity plants, Mr. Porter said.

DEMOCRAT & CHRONICLE

ROCHESTER, NY JAN 26 1987

Acid rain fight: One stone wall at a time

EDITORIAL

Clearly, there will be no real progress on acid rain until Mr. Reagan is put out to pasture.

Unfortunately, that assessment in a recent Toronto *Globe and Mail* editorial may be right. The president's trillion-dollar budget includes less than $300 million for acid rain research, much of it committed before Reagan and Canadian Prime Minister Brian Mulroney signed an agreement on acid rain last May.

And Vice President George Bush could offer no more than hangdog silence to Mulroney during a chilly visit to Ottawa last week.

Mulroney was not amused, and no wonder: For several years now, attempts to fight acid rain have been on the farthest-back burner.

Although his foot-dragging may have been a clear message, President Reagan can't bear the full blame. Congress has been a stone wall that refuses to be eroded by acid rain.

It wasn't until last year that a glimmer of acid rain legislation appeared in the House Energy Subcommittee on Health and the Environment.

After much opposition and several compromises, the committee forged a coalition of Republicans and Democrats. This bipartisan group approved a bill acknowledging the concerns of midwestern states where strict controls would hurt the economy, and of northeastern states whose environment has been hard-hit by acid rain.

The legislation called for reductions of 9 million tons of sulfur dioxide and 4 million tons of nitrogen oxide. States would have had 11 years to meet the new levels. States hit hardest by cleanup costs would be partly subsidized by a national tax on electricity.

THE COMPROMISE sounded promising when it came out of the committee, but opponents kept the bill from ever reaching a vote on the House floor.

That same coalition is working this year to bring back a similar bill. The same opposition — perhaps even stronger now that Robert Byrd, D-W.Va., is the new Senate majority leader — is expected to put up another stone wall.

It's a wall that could come tumbling down only if the new Congress would accept the fact of acid rain. Few any longer can say that it doesn't exist or that its damage isn't devastating.

The compromise reached last year in the House committee was a clear signal that a fair bill is possible. The Canadians may be right; the president indeed may hold firm and block any bill passed. But the costs of acid rain demand that Congress keep trying — one stone wall at a time.

TORONTO STAR
TORONTO, ONTARIO, CN
JAN 23 1987

Ottawa report sharply attacks U.S. for inaction on acid rain

By David Israelson Toronto Star

Ottawa made its strongest attack yet on United States President Ronald Reagan's inaction on acid rain, saying point-blank for the first time yesterday that current U.S. plans won't clean up a thing.

The U.S. program, based on last year's agreement between Reagan and Prime Minister Brian Mulroney, "will not provide any measurable reduction" in the acid gas that crosses the border and kills lakes, says the government in a new report. The report was released just one day after Mulroney gave U.S. Vice-President George Bush "an earful" on the problem.

'A bust'

Current U.S. plans "will have absolutely no effect at all" on acid rain from south of the border, which causes half of Canada's problem, said federal environment official Alex Manson, who wrote the report.

But Manson stopped short of conceding that Canada had been outfoxed by Reagan, who agreed with Mulroney last March to seek funding for a five-year, $5 billion study program called for by the Canadian and U.S. special envoys on acid rain.

"I wouldn't go so far as to say it's a bust. I don't think we're wasting our breath. But the U.S. has failed to meet its commitment (under the report)," Manson said..

However, Manson's study said that current U.S. plans, which do not require polluters to cut their emissions, will fail on several counts:

- By failing to cut acid pollution affecting Canada during the crucial period between now and 1995, when Canada's own emission cutbacks are to take effect;
- By not providing "any significant reduction in U.S. transboundary air pollution flows for at least 25 years," if ever;
- By not alleviating "the damage being caused in Canada" — which has already led to the death of some 14,000 lakes.

The report adds that the U.S. plans consist of technology-testing programs which in seven of nine cases have little to do with cleaning up acid rain that affects Canada.

The programs, designed to test cleaner ways of burning acid-producing coal, would cut acid pollution by a mere 2.5 per cent — far less than the 50 per cent cut considered necessary to eliminate the hazard to lakes and forests.

Cleanup plans

At the same time, Manson admitted that Canada's own $300 million acid rain program, which calls for a 50 per cent pollution cut by 1994, is not yet on track.

While Ontario and Quebec have announced their cleanup plans, two provinces — Nova Scotia and New Brunswick — have no programs, and New Brunswick has balked at honoring the cleanup commitment it made two years ago. Ontario has already expressed concerns that its "investment" in pollution controls will be jeopardized unless Ottawa secures New Bruswick's word that it will honor its pledge.

Manson said he was not certain that New Brunswick's commitment would be nailed down in time for the next summit between Reagan and Mulroney, scheduled for April.

EVENING TELEGRAM
ST. JOHN'S, NF, CN
JAN 26 1987

Butt says after meeting

Ready to sign acid rain deal

Newfoundland is ready to sign an agreement with the federal government aimed at reducing acid rain, Environment Minister John Butt said following a meeting with his federal and provincial counterparts last week.

The agreement would commit the province to a 25 per cent reduction of its 1980 sulphur dioxide emission level by 1994. In 1980 Newfoundland produced 60,000 tons of sulphur dioxide, mainly from the oil fired generating plant in Holyrood and west coast pulp and paper companies.

BUTT

Sulphur dioxide combines with water in the atmosphere to produce acid rain.

Newfoundland is ahead of schedule in the fight against acid rain Mr. Butt said in an interview Saturday.. The agreement with the federal government would formalize the province's commitment to reduce sulphur dioxide emmissions. This is part of a package for eastern Canada that would see a total reduction of 2.3 million tonnes by the target date in seven years.

Mr. Butt said Newfoundland and Prince Edward Island are ready to sign the agreement with the federal government. The major sulphur dioxide emitting provinces of Ontario, Quebec and Manitoba will be ready to sign soon. However he said Nova Scotia and New Brunswick are still having difficulty negotiating a reduction with their power companies.

"Although Newfoundland only produces a very small amount of sulphur dioxide, it's important that all Canadian provinces that produce acid rain sign the reduction agreement so we can approach the United States with a unified voice," Mr. Butt said. Canada is pressuring the American government to agree to sulphur dioxide emmission reductions since much of the acid rain produced south of the border is brought to Canadian territory by travelling weather systems.

Mr. Butt says acid rain is not a serious problem in Newfoundland now but could become one.

"We're fortunate that where acid rain is falling on the province in the southwest area of the island there happens to be concentrations of limestone which neutralizes the acid," he said. "But if the same amount fell on the Avalon Peninsula where the soil tends to be acidic anyway,it could be disasterous."

Mr. Butt noted that 15 Nova Scotia rivers are dead due to acid rain.

THE TORONTO STAR 2-12-87

Acid rain reduction plans said 'on target'

By David Israelson Toronto Star

Plans by Ontario's four biggest acid-rain polluters to meet government-ordered pollution cuts are on target, provincial Environment Minister Jim Bradley says.

Inco Ltd., Ontario Hydro, Falconbridge Ltd. and Algoma Steel Corp. Ltd. have filed progress reports with the ministry showing they are taking steps to meet government aims to cut Ontario's acid emissions by up to two-thirds by 1994.

The reports say:

- Inco, whose Sudbury smelter is North America's largest single acid polluter, is concentrating on pollution control research, but has rejected one of its four technical options because it would cost too much and do too little to reduce pollution.
- Hydro's acid emissions were below the government limits set for last year. The utility's board has approved $9.7 million for research into pollution-reduction technology for its coal-burning power plants.
- Falconbridge is concentrating on research similar to Inco's but must revise its schedule due to a two-month planned shutdown this year.
- Algoma Steel will continue to meet government requirements at its Wawa plant by operating at reduced capacity.

The reports show that each of the polluters "is on target," Bradley said in a statement yesterday.

"We are showing that acid rain can be stopped when governments act decisively. Our American neighbors should take note."

The reports, required by law, were released just one day after Nova Scotia joined New Brunswick in backing away from a 1985 commitment to cut acid rain.

The Ontario reports are the second issued by the polluting companies. After the first late last year, Bradley complained that Inco's plans were too vague and said Hydro should rely less on its nuclear power program as a way of cutting acid pollution.

Ministry officials are preparing a response to the latest reports, which they hope to complete next week, a spokesman said.

THE TORONTO STAR, WEDNESDAY, FEBRUARY 11, 1987

Nova Scotia threatens not to sign acid rain pact

By David Israelson Toronto Star

OTTAWA — Nova Scotia has become the second province to threaten not to sign an agreement with the federal government to clean up acid rain.

Following talks with Ottawa, the seven provinces from Manitoba eastward pledged in 1985 to cut Canada's acid rain emissions in half by 1994.

The provinces then were to sign written commitments, considered important to show the United States that Canada is serious about a cleanup.

Environmental lobbyists are concerned that without these agreements, Prime Minister Brian Mulroney's negotiating position will be undermined when he discusses acid rain with U.S. President Ronald Reagan in April.

New Brunswick also has not signed a written agreement and has told Ottawa that it is unlikely to meet its commitment.

Yesterday, Nova Scotia Environment Minister Laird Stirling said his province wants federal money to help pay for any cleanup before it signs an agreement.

He said Nova Scotia will honor its pledge, which requires it to cut emissions by 7 per cent as its contribution to the over-all Canadian cut, but hesitates to put that in writing.

Stirling made his comments after appearing before a parliamentary committee studying acid rain. He did not say how much money he will seek from Ottawa.

Dan Brown, a vice-president of the province's major acid polluter, Nova Scotia Power Corp., suggested that up to $120 million would be needed for pollution controls.

As part of the 1985 pledge, Ottawa offered up to $150 million to help finance acid pollution controls, but this money is to be directed primarily at smelters in Ontario and Quebec.

Ontario has pledged to cut its acid pollution by more than 60 per cent, and will enforce the reductions by regulations announced in 1985.

Quebec has also pledged to cut emissions, while Manitoba, Newfoundland and Prince Edward Island have said they plan to sign a written commitment.

Toronto Globe & Mail 1·31·87

MP wants Hatfield to explain N.B. delay on pollution controls

BY MICHAEL KEATING
The Globe and Mail

The chairman of the House of Commons acid-rain committee wants New Brunswick's Environment Minister or Premier to explain why the province is "dragging its feet" on air-pollution controls.

Committee members are worried about a statement by Premier Richard Hatfield that the province may fail to meet its promises to cut acidic air pollution.

Stanley Darling, head of the seven-member Commons committee, said in an interview Thursday that New Brunswick Environment Minister Robert Jackson is to testify in Ottawa, Feb. 10.

"If we do not get a commitment and a proper explanation" from Mr. Jackson the committee should call Mr. Hatfield to testify, said Mr. Darling, the Conservative MP for Muskoka.

In February, 1985, New Brunswick and six other provinces pledged that they would cut emissions of sulphur dioxide pollution in half in eastern Canada by 1994. The clear gas, most of it coming from smelters and coal-burning power plants, causes sulphuric acid fallout.

But eight months later Mr. Hatfield wrote Prime Minister Brian Mulroney saying that he could no longer guarantee the province would meet its pledge and its pollution might be more than double its target.

Adele Hurley, of the Canadian Coalition on Acid Rain, told the Commons committee this week that Mr. Hatfield "reneged on his promise to control its acid-rain-causing emissions."

Ms Hurley said this will undercut Canada's domestic control program and undermine its efforts to convince the United States to reduce acid rain. She suggested that if New Brunswick does not promise within a month to meet its air pollution goals that Mr. Hatfield be asked to publicly explain his position.

In a later interview, the province's Environment Minister said the Hatfield letter indicated that it would be "impossible for New Brunswick to commit to the proposed federal-provincial agreement in its present form."

Mr. Jackson said he wants New Brunswick to meet its air pollution goals but also wants Ottawa to modify the 1985 federal-provincial acid rain agreement.

He would not be specific on what New Brunswick wants but hinted that Ottawa could assist the New Brunswick Electric Power Commission in reducing pollution from its coal-burning power plants.

He also hinted that the province was looking for some flexibility in how pollution limits are alculated.

New Brunswick's sulphur pollution is now well below the 1994 target but the Hatfield letter suggested that if the province faced power shortages it might have to burn more dirty fuel, nearly tripling the current emissions.

David Coon of the New Brunswick Conservation Council said that the province now has 70 per cent more electric generating capacity than it needs. There should be not need to burn more dirty fuel to generate power in the future if it does not create artificial shortages by selling power to the United States, he added.

Environment Canada is also pushing for a resolution to the New Brunswick situation before an April meeting between Mr. Mulroney and U.S. President Ronald Reagan.

Mr. Mulroney has made a bilateral acid rain cleanup a major part of his discussions with Mr. Reagan and has said that Canada must clean up its own pollution to show a reluctant U.S. Administration that it can be done.

TORONTO STAR
TORONTO, ONTARIO, CN JAN 21 1987

Officials try to agree on acid rain stance

By David Israelson Toronto Star

Federal and provincial environment ministers held a last-minute meeting on acid rain yesterday in a desperate bid to impress U.S. Vice-President George Bush about Canada's concerns, The Star has learned.

The ministers included federal Environment Minister Tom McMillan and virtually all of his provincial counterparts from Eastern Canada.

They met in Ottawa to try and iron out snags in Canada's acid rain program — just one day before today's scheduled visit to Ottawa by Bush and U.S. Treasury Secretary Howard Baker.

The ministers hoped to come up with points to support Prime Minister Brian Mulroney, who said he will tell Bush and Baker that Canada thinks the United States is not doing enough to stop acid rain.

"Mulroney has to impress (U.S. President Ronald) Reagan, through Bush, that Canada is sincere about cleaning up," said one source.

But the ministers did little at the meeting other than to exchange points of view and agree that federal officials would meet with officials from New Brunswick — which is resisting tougher acid pollution controls.

"They were talking about the status of where things were in Canada," said a federal official. "And the minister (McMillan) was seeking the provinces' views."

The meeting was called hastily — and held quietly — after Ontario Environment Minister Jim Bradley wrote McMillan two weeks ago expressing "a great deal of concern" that Canada's $300 million acid rain cleanup plan is getting nowhere.

In his letter, which was sent to other provincial ministers as well, Bradley complained about a "lack of policy direction," at the federal level.

He also questioned "whether there is a softening of resolve on the acid rain issue" in Ottawa.

"I am concerned about feedback I am receiving from my officials," Bradley said.

The $300 million cleanup was promised by Mulroney in 1985, but virtually none of the money has been spent.

While Ontario and Quebec have announced programs of their own, and Manitoba is preparing one, New Brunswick has said it can't go along with the cleanup, leading to fears that Reagan will think that Canada is not really interested in the problem.

"In order to support the Prime Minister at the summit (to be held with Reagan in April), all provinces should have programs," Bradley said.

"There is an onus on the federal government" to come up with "real and significant progress in the acid rain debate with the U.S."

The meeting comes just a week after External Affairs Minister Joe Clark wrote U.S. Secretary of State George Shultz, saying that Ottawa is "greatly disappointed" with U.S. reluctance to control its acid pollution, which causes 50 per cent of the problem affecting Canada.

Clark said he was concerned that Reagan's $1 trillion-plus budget contained virtually no new money to curb acid rain, and that the United States is ignoring the problem on the Canadian border, but has signed a cleanup deal with Mexico.

Clark also said Canadians are baffled by the U.S.-Mexico agreement — first revealed in The Star — when "there is such reluctance to deal with a more serious problem on your northern boundary."

SUNDAY STAR

TORONTO, ONTARIO, CN 1·25·87

Queen's Park dilemma: jobs vs. the environment

DAVID ISRAELSON

Cleaning up pollution would be a whole lot easier were it not for a nasty thing called job blackmail.

It comes in many variations, but the theme is always the same: A company that is fouling the air or water — or both — says it can't afford to clean up because to do so would force it to throw people out of work.

A classic form of it is happening right now in Ontario, in the northern community of Terrace Bay.

This community, an hour east of Thunder Bay, is a one-industry town, dominated by Kimberly-Clark of Canada Ltd., the company that makes Kleenex and Huggies diapers.

The company's Terrace Bay pulp mill pours more than 120 million litres of waste water a day into Lake Superior, including a smelly black ooze containing at least 40 toxic chemicals. Some of these chemicals, according to the Ontario environment ministry, have the potential to cause cancer and birth defects, to kill fish, and simply to make the water stink and taste bad.

So why doesn't the provincial government just make the place clean up? It probably would, except that Kimberly-Clark says quite clearly that if the government is too tough, the company won't clean up; it will close up.

The company says it has lost $78 million at Terrace Bay in the last six years, so it "hasn't got the money" to launch a major pollution control program right now. Instead, it has made clear that it is quite willing, if pushed too hard on pollution, to throw its 1,600 people out of work.

This would destroy Terrace Bay. So the Liberal government at Queen's Park is understandably divided over what to do. It is taking a long time deciding whether or not to resist the company's threat, and if so, how to do it.

The government can't really be blamed for hesitating. Kimberly-Clark's threats must be taken seriously. No politician wants to be caught near the scene of the kind of economic train wreck that closing the mill would cause.

But the Liberals will set the scene for an even worse political disaster if they do too little to stop the cancer-linked, black slime that can kill Lake Superior's fish. Whether they like it or not, Terrace Bay is a test of their resolve and their credibility.

A flash of weakness in a situation like this will undermine a public message they've worked hard to send out — that they, unlike their Progressive Conservative predecessors, won't knuckle under to polluters.

To meet this threat, the Liberal government needs to understand a few things:

☐ Job blackmail is usually a false threat. True, companies faced with pollution controls do cut jobs. And if they're clever, they can make it look like the government's fault.

But controls are almost never the main cause of layoffs. According to data gathered for a conference of Ontario environmentalists and unionists last fall, "in most cases, obsolescence, declining sales, problems with raw materials, more efficient competitors and increased energy costs" cost far more jobs than pollution controls.

At that conference, Environment Minister Jim Bradley took special aim at job blackmailers: "They predict all manner of dire consequences, chief among them being the shutdown of a plant and the loss of jobs. . . . (But) in Ontario there have been no documented cases of business or plant closures due solely to environmental regulation."

☐ Job blackmail can be resisted. For example, a company's bluff can be called by offering it financial incentives to clean up if it really can't afford to pay. Pulp mills in Ontario rarely, if ever, close up completely or forever. What would be wrong with offering a company like Kimberly-Clark money to clean up, perhaps even in return for equity in the mill?

☐ Job blackmail can be resisted *successfully*. The province's own ambitious acid rain control program is a case in point. For years, the biggest single acid polluter, Inco Ltd., said it couldn't live with tough controls. Now Inco boasts about its government-ordered program in glossy magazine ads.

☐ Resisting job blackmail pays off. At that conference last fall, Bradley also referred to weak pollution laws as "a hidden subsidy" that Premier David Peterson is "no longer willing to pay." And he pointed out that, in the long term, pollution controls can actually create jobs. "Total employment directly associated with environmental protection is at least 100,000 jobs, which amounts to 1 per cent of the entire Canadian labor force," he said. "There is also evidence that companies can save money by cleaning up their processes to avoid creating pollution."

Getting tough with big companies that pollute is never an easy thing to do. But as the Liberals grapple with the dilemma of Terrace Bay, they should remember why their Tory predecessors lost power — for taking the easy way out too often.

☐ **David Israelson is The Star's environment reporter**

TORONTO SUN

TORONTO, ONTARIO, CN JAN 22 1987

Earache

EDITORIAL

Unfortunately the prediction came true. The American vice president discussed the crisis of acid rain in Ottawa yesterday. Judging by results, he shoulda stood in bed.

George Bush says he got "an earful" from Brian Mulroney. Good! Indeed, we've got a few things we would like to tell him about the rot his country puts in our air.

Maybe a four-leaf clover rather than a shamrock should have been the symbol of that summit where President Ronald Reagan promised an attack on acid rain.

We needed the luck of the Irish as well as the blarney.

Bush had nothing to offer about that U.S. promise to spend billions on a cleanup. It went poof before it got into the budget.

We would have done a jig if he had promised us real action. But the only dancing over acid rain is around a Mexican hat since the Americans signed a pact with Mexico, of all places, while saying they had to do more study about why all our lakes had died.

Canada's politicians are united in disappointment with the U.S. stalling. It's also a national concern. Another poll has just shown that Canadians put concern over the environment ahead of such headaches as free(r) trade.

But the American reaction is voiced by Bush. He understands our position, says that Americans are sensitive to our concerns, and that the U.S. wants to fulfil their commitment in every way.

Why don't you start, Mr. Vice President, by doing something? You know, plant an acorn from which a mighty oak will grow — if your acid rain only gives it a chance.

External Affairs Minister Joe Clark set the stage for the talks with a tough letter to the Americans on the acid rain question. But it's clear from bland Bush that the impact was close to zero.

Our prime minister didn't hide his disappointment. "The United States is absolutely not doing enough on acid rain . . . I'm going to believe (the promises) when I see the cash." He said Canada doesn't want "to be on anybody's back burner or be taken for granted at any time."

Well said, Mr. Prime Minister. Obviously you've got to keep on talking tough, the disgusting way acid rain keeps eating holes in those American pledges of action

FRESNO BEE

FRESNO, CA JAN 17 1987

A tale of two borders

The new agreement between Mexico and the United States limiting sulfur dioxide emissions along the border would be good news if it weren't for the fact that it has infuriated the Canadians. From Ottowa's perspective, the success of the accord (and the speed with which it was negotiated) makes a depressing contrast with the Reagan administration's continuing indifference to Canada's concerns about acid rain.

So far the president has offered Canada only empty promises on this issue, although that's an advance from the administration's original refusal even to acknowledge the problem. Following meetings with Canadian Prime Minister Brian Mulroney last March, Reagan announced a $5 billion joint effort with Canada over the next five years to reduce such emissions, which are the primary components of acid rain.

But whereas Mulroney has already launched a program to cut contaminants by half on his side of the border, Reagan proposes to support his end of the bargain with only $300 million in his new trillion-dollar budget, most of it money that had been committed even before the meeting with Mulroney. As a final fillip of bitter irony, the Canadian government is lending Mexico the $50 million it needs to comply with its new agreement with Washington.

There are important differences of scale distinguishing the Mexican and Canadian situations. Acid rain isn't as big a problem in the arid southwest. And while contamination from Mexican industrial plants has turned up in the American snowpack as far north as Wyoming, the new agreement with Mexico will principally benefit retirees in Arizona who suffer from asthma and emphysema. In addition, the Mexican agreement covers just three copper smelters, only one of which is in the United States and is so antiquated that it was slated for closure anyway. Tackling the problem along the Canadian border, in contrast, would require massive expenditures affecting vital American industries across a large area.

The most important difference is a simple function of which way the wind blows. In the south, it's the United States that suffers from Mexican emissions; the new agreement is essentially aimed at enforcing the same air quality standards in Mexico that American industries already have to meet. Canadian officials, however, have to deal with U.S. pollutants that they contend are killing all life in thousands of their lakes.

Reagan is not solely to blame for American inaction. Congress is looking for ways to minimize the economic impact that a serious control effort might have on some regions of the country, and there's considerable disagreement among technical experts as well over the design of an effective cleanup campaign. But those are precisely the problems the president proposed to tackle through the joint effort he announced last March and seems now to have forgotten.

TORONTO STAR

TORONTO, ONTARIO, CN

JAN 13 1987

Canada said told of deal on acid rain with Mexico

By David Israelson Toronto Star

Canadian officials have known since at least last summer about an acid rain cleanup deal to be signed tomorrow by the United States and Mexico, a former U.S. official says.

"There was a meeting involving Environment Canada on some of the issues we were discussing," said Cliff Metzner, a former U.S. State Department official now working at San Diego State University in California.

Metzner said a Canadian official — whom he did not name — went to Washington to be briefed on the deal in May or June.

In addition, State Department official Edmund M. Parsons told The Star that a rough outline of the U.S.-Mexico deal was made public — and therefore available to Canadian officials — as long ago as 1985.

As The Star revealed Thursday, the United States is about to sign its first-ever acid rain cleanup deal with Mexico, although the U.S. has refused to consider a similar agreement with Canada.

The agreement is expected to be signed in Washington tomorrow by a Mexican environmental official and Fitzhugh Green, the U.S. Environmental Protection Agency's associate administrator for international affairs.

Hopes dashed

The deal — being financed partly by the Canadian government — may bitterly disappoint Ottawa, which has failed to get a similar deal for Canada despite bending over backward to please U.S. officials.

Instead of gaining a Canada-U.S. cleanup, Prime Minister Brian Mulroney has counted on a pledge by U.S. President Ronald Reagan to back a five-year, $5 billion study program, recommended by the Canadian and U.S. special envoys on acid rain a year ago.

But even these hopes were dashed last week, when the $1 trillion-plus budget Reagan sent to Congress contained virtually no new money for curbing acid rain.

Federal Environment Minister Tom McMillan told The Star that the budget means Ottawa must rethink its "assumption" that Reagan cares about the issue.

The deal will:

- Control all acid pollution within 100 kilometres (60 miles) of both sides of the U.S.-Mexico border;
- Shut down — likely this Thursday — a copper smelter in Douglas, Ariz. which is the largest single U.S. source of sulphur dioxide (a major cause of acid rain), spewing out as much as 119,000 kilograms (1,120 tons) of the pollution a day.

On the Mexican side, pollution controls are being installed at a smelter in Nacozari, Sonora, by a Toronto engineering firm, Fenco Inc.

GLOBE & MAIL

JAN 10 1987

TORONTO, ONTARIO, CN

Politics of a smelter

EDITORIAL

At first blush, Mexico hardly appears well-placed to force concessions from the United States. The "wetbacks" who slip across the Rio Grande earn the Mexicans a measure of U.S. ill will, and the greenbacks which U.S. banks use periodically to refinance the Mexican debt are not overlooked in Washington.

Despite these handicaps, Mexico has wrested from Washington an environmental accord that can only make its Canadian *amigos* green with envy. Under a new bilateral anti-pollution pact to be signed next week, Mexico will clean up a smelter that dumps acid rain in the United States in return for the shutdown of an old U.S. smelter in southern Arizona, near the Mexican border.

This is the kind of firm commitment to action that Ottawa hoped would flow from the 1980 Canada-U.S. memorandum of intent on acid rain. Instead, Canada's moves to cut its sulphuric acid emissions in half have been reciprocated by a patent lack of U.S. interest in the curtailment of its own industrial producers of acid rain.

In the past two years, Prime Minister Brian Mulroney has made acid rain a top item in his summit meetings with U.S. President Ronald Reagan. But their last tête-à-tête produced no real headway. The two leaders did endorse the recommendations of their respective envoys for more research into acid rain and possible pollution controls. But this was mostly a fig-leaf for inaction.

At the next shamrock summit, in April, Mr. Mulroney's claims of a special relationship with Mr. Reagan will look empty indeed if Canada cannot cut a deal comparable to Mexico's. Perhaps the Prime Minister should learn from the Mexicans' tactics. They didn't sing When Irish Eyes are Smiling. They didn't even hire Michael Deaver, the ex-White House aide turned lobbyist.

Instead, they started up the Nacozari copper smelter 100 kilometres south of the Arizona border and began to spew 1,300 tons of sulphur pollution a day northward — much to the dismay of Arizonans. Suddenly, the United States discovered what it means to be downwind. Ironically, Ottawa's export credits will finance the sale of Canadian-made pollution control equipment to curb the emissions.

Does Canada have to unleash a stinker of its own in order to achieve a Mexican stand-off with its indifferent neighbor?

OTTAWA CITIZEN

OTTAWA, ONTARIO, CN JAN 9 1987

Comparing Mexico, U.S. acid-rain deal with Canada's effort unfair: McMillan

By Bob Marleau
Citizen staff writer

Environment Minister Tom McMillan said Thursday it is unfair to compare an acid-rain agreement to be announced next week between the U.S. and Mexico with Canadian efforts to come up with a similar deal.

The agreement, to be signed Tuesday, would formalize an 18-month-old commitment by the U.S. and Mexico to reduce sulphur dioxide emissions along the border of Arizona and the Mexican province of Sonora.

Opposition Liberals Thursday said the agreement shows Canada isn't being taken seriously by its American neighbors.

Liberal House Leader Herb Gray said in an interview the U.S.-Mexico agreement shows the Americans are only willing to take quick action against acid-rain problems when it involves the health of Americans.

But McMillan, contacted at his home in Prince Edward Island, said the agreement with Mexico involves only a "tiny area near the border of the two countries" and deals with only five plants.

"We are trying to get a far reaching agreement having to do with millions of tons of sulphur dioxide emissions that need to be reduced at hundreds of plants in the U.S. at a cost of many billions of dollars."

Gray said U.S. President Ronald Reagan's budget, released Monday, showed Reagan is not keeping his promise to the Mulroney government to take action on acid rain.

The trillion-dollar budget earmarked $287 million to further study methods of curbing acid rain.

McMillan admitted his government is disappointed with the lack of action by Reagan on meeting commitments made at the last summit meeting between the two leaders.

While it appears Mexico is about to get the kind of acid rain deal from the U.S. that has eluded Canada despite a decade of pressure and protests, the U.S. government is not calling the deal with Mexico an acid rain agreement.

One U.S. Environmental Protection Agency official, Conrad Kleveno, said the agreement is to improve the air for asthmatics and "we don't look at it as an acid rain issue though it may have some benefit."

This prompted a prominent U.S. scientist to accuse officials of "double dealing" with Canada and environmentalists.

Sulphur dioxide emissions are known as a chief cause of acid rain.

Michael Oppenheimer, a scientist with the U.S. Environmental Defence Fund, a lobby group, said the government obviously doesn't want to announce an acid rain agreement with Mexico when it won't work one out with Canada.

Michael Perley, of the Canadian Coalition on Acid Rain, said the U.S.-Mexico agreement shows the U.S. always acts quickly on matters in its interest, as is the case with Mexico, where the sulphur dioxide emission cross over to the U.S.

"Reagan has no domestic interest in cleaning up the Midwest (where most of the acid-rain producing emissions from U.S. coal-fired power plants comes from) just to help Canada."

(With files from CP.)

GLOBE & MAIL

TORONTO, ONTARIO, CN JAN 21 1987

Acid rain inaction

EDITORIAL

U.S. President Ronald Reagan, judged by his actions, does not believe that acid rain drifting into Canada from his country requires much attention. He has allotted a relatively insignificant $287.1-million to the issue and ensured that none of it will go in the short term to reduce sulphur dioxide emissions. He calls for more research into a problem that has, by the latest reckoning, killed 14,000 Canadian lakes and put 40,000 others at risk.

In short, he has broken faith with those who imagined, following his "full endorsement" last March of a bilateral report on acid rain, that he had read and understood the 35-page document. When U.S. Vice-President George Bush arrives in Canada today for discussions with Prime Minister Brian Mulroney, they will have words on this.

They will do so with the memory of Mexico's acid rain fresh in their minds. The United States has scurried to make a bargain with that country, to shut down an old Arizona smelter in return for Mexico's promise to clean up a copper smelter that has been sending acid rain into that state.

There was no song and dance, no cry for more research, no call for years of studies on whether the Mexican smelter was polluting the state or whether its pollution fell as acid rain. How different the U.S. attitude is when the equation is adjusted — when the United States sends far more acid rain over the Canadian border than Canadian stacks send southward, and the costs are assessed accordingly.

Canadian External Affairs Minister Joe Clark has written to U.S. Secretary of State George Shultz expressing "great disappointment" over the U.S. inaction and, with some understatement, referring to the U.S. excuse of further research as "continued quibbling." "While the United States will be spending a great deal of money on clean-coal technology research and

(Continued)

development," he wrote, "there is simply no information or evidence that this will produce significant reduction in transboundary pollution in the foreseeable future."

Mr. Clark noted the recommendation of last year's bilateral report — by Canadian envoy William Davis and U.S. envoy Drew Lewis — that a vital criterion for developing new technology was that it produce "near-term reductions in U.S. air emissions that affect Canadian ecosystems."

As Mr. Clark suggests, the only near-term result of Mr. Reagan's actions will be delay. Canadians, and those Americans whose own states suffer from acid rain created by distant U.S. smokestacks, have reason to share his unhappiness. And they may choose to lay some of the blame on the envoys' report, which pulled its punches in a bid to win Mr. Reagan's approval and, in the process, made it easier for him to dodge the issue.

As Mr. Davis stated in the report, methods already exist to reduce the sulphur dioxide emissions that cause sulphuric acid rain. The Americans could use low-sulphur coal or install scrubbers. The envoys decided that Mr. Reagan wouldn't buy either of those courses, because the first might shift jobs from eastern miners to western miners and the second might increase electricity bills. Instead, they urged that the United States spend $2.5-billion in the search for the holy grail of clean-coal technology with no political edges.

The search would be a waste of time. And even that option has failed to move Mr. Reagan, who reacts to a serious, documented crisis with a pitiful budgetary allotment. The President has indicated again that little U.S. progress will be made against acid rain until he has left the White House. Mr. Clark is right to express, in diplomatic code, his and Canada's anger.

MINNEAPOLIS STAR TRIBUNE

MINNEAPOLIS, MN JAN 14 1987

Acid rain on the back burner

Last January, the new U.S.-Canadian pact to study acid rain looked like an encouraging first step toward tackling an environmental menace. Now it looks like a subterfuge. Less than a year after President Reagan and Prime Minister Brian Mulroney agreed on a joint research venture, the president has backed out. His fiscal year 1988 budget allocates only a nominal amount for the project, putting acid rain back where the president seems to think it belongs: on the back burner.

Despite dozens of studies linking coal-plant emissions to dying lakes and forests, President Reagan has long refused to embrace a program to stop acid rain at its source. His adamancy has been particularly frustrating for Canada, which receives five times more windblown pollutants from the United States than it sends back. After years of Canadian pleas and American silence, Canada finally got an answer one year ago this month: a promise from the president to support a joint $5 billion program to develop technology for burning coal cleanly.

That promise was a far cry from a firm commitment to curb acid rain. But optimistic Canadians looked upon the agreement as an American acknowledgment that acid rain is indeed harmful and ultimately must be controlled. Even though the five-year research effort could give the White House an excuse for delaying acid-rain legislation, many Canadians viewed it as their best hope of forcing the president to face the problem.

No such luck. The president's trillion-dollar, fiscal year 1988 budget includes $300 million for acid-rain research — a slim amount in light of the president's pledge. Reports that most of the funds are slated for studies unrelated to last year's accord have fueled Canadian anger. The budget figures seem to verify what many in Canada have warned from the start: that Reagan's agreement to study acid rain was just another tactic to stall more substantive action.

The president's broken promise may thus be a blessing in disguise. As the Canadian government still maintains, the real solution to acid rain is not more research, but an immediate reduction in sulfur emissions. Since the president has opted out of further study, the way is clear for Congress to pass the needed legislation. Lawmakers should move this year to put an end to presidential procrastination and accommodate Canada's legitimate complaints.

RECORD

HACKENSACK, NJ JAN 20 1987

Acid rain: now it's pouring

When President Reagan and Canada's Prime Minister Brian Mulroney signed a long-overdue agreement last year to cooperate in curbing acid rain, environmentalists cheered but skeptics shook their heads. The disbelievers pointed out that the accord did not commit either nation to a specific sum of money or a specific timetable for reducing smokestack emissions, a major source of acid rain.

Now the Canadian officials complain that Mr. Reagan was just stringing them along, making a show of concession to help out his fellow conservative Mr. Mulroney. The suspicions are fed by Mr. Reagan's "new" acid-rain budget.

For fiscal 1988, the president has proposed $300 million for acid-rain research. Two things are wrong here. First, the money isn't new: It's part of a $400-million allocation voted in the last Congress, money that a bungling Energy Department hasn't been able to spend. Second, the president is proposing the wrong kind of research. Instead of fostering the development of more economical smokestack scrubbers — and better ways to dispose of the sludge they produce — Mr. Reagan wants to follow the prescription of the utilities and the soft-coal industry and devote scarce research dollars to developing "clean" coal.

Despite the power industry's protestations that it can't afford them, scrubbers are functioning in more than 100 installations across the nation. By contrast, the technique of "cleaning" coal to remove sulfur is in its infancy. Critics in Congress believe that the utilities and Mr. Reagan are insisting on the clean-coal research because that would postpone the need for concrete remedial action.

Power-industry lobbyists have many arguments against the expansion of scrubber capacity. Most of them are sophistry. The industry says scrubbers are costly burdens on ratepayers. They are expensive, true, but not nearly as expensive as destroying lakes, forests, and human health with polluted air.

The industry says that no one has proved that the sulfur and nitrogen oxides in smokestack exhaust are the actual cause of acid lakes and dead forests. Right; neither has anybody discovered the actual physiological mechanism by which cigarettes cause lung cancer and heart disease, but the fact is that smokers get these diseases far more often than do nonsmokers, and no sensible person disputes the causal connection.

So it is with smokestack emissions and acid rain. Lakes in eastern Canada and the northeastern United States are 10 to 20 times as acidic as lakes in nonpolluted airstreams. The National Science Foundation announced last year that it has conclusively connected smokestack pollutants with the death of lakes. With forests the damage is harder to prove, but scientists have established that acid rainfall dissolves toxic metals in the soil that are then taken up by tree roots and interfere with photosynthesis. At the same time, acid water seeping through the soil dissolves necessary plant nutrients and carries them down beyond the reach of roots. High acidity also interferes with the action of soil microbes necessary to the growth of many plants.

Someday ecologists will be able to write out the chemical formulas that link acid rain to the death of invaluable forests. But in the meantime the circumstantial case against smokestack emissions is too powerful to ignore. It is irresponsible to stall the development of affordable scrubbers and a speedy plan to cut emissions. The Canadians are right: Mr. Reagan has played them — and us — for suckers.

ATTACHMENT D

February 1, 1987 • ©1987 Fort Worth Star-Telegram

Acid rain controls called economy aid

Associated Press

WASHINGTON — The U.S. economy would get a multibillion-dollar stimulus if Congress passed a law to curb acid rain, with most states gaining profits and jobs, a new study says.

The annual net gain to the national economy, after factoring in expected job and sales losses in such industries as coal mining, would range from $7.5 billion to $13 billion, the study by a private company estimates.

The boost would come from sales generated by spending to meet the enforced cleanup of emissions from coal-fired industrial and utility boilers, said the study by Management Information Services Inc.

Across the nation, there would be a net gain of 100,000 to 194,000 jobs, depending on the shape of the final legislation, the study said.

The for-profit, Washington-based company said its study is the first attempt to estimate the net economic impact of acid rain abatement. Most other research has focused on the $4 billion to $9 billion a year in estimated compliance costs.

"The U.S. economy and labor market stand to gain substantially from acid-deposition control legislation," the study said.

"Far from hurting U.S. industry, acid-rain control legislation, through the large purchases of capital equipment and supporting goods and services it will generate, will provide a much needed shot-in-the-arm for many anemic U.S. manufacturing, capital goods, machine tool, iron and steel and related industries," it said.

Management Information Services arrived at its estimates by applying computer models to the provisions of acid rain bills considered last year by the House and Senate. The bills are expected to form the starting points for congressional discussion this year.

The drawbacks of abatement legislation also were noted. They include an increase in electricity bills to pay for cleaner emissions and severe dislocations in some industries.

"It is little solace to an unemployed coal miner to know of jobs opening up in another part of the state, much less another part of the country, for computer specialists or electrical engineers," the study said.

The House and Senate bills would have different impacts on different parts of the nation because of their varying approaches to how much reduction must be made in polluting emissions and how the reductions can be accomplished.

The Senate approach, for example, would require greater reductions in emissions of sulfur dioxide and nitrous oxides — precursors of acid precipitation — and could encourage power companies to switch away from high-sulfur coal, which would hurt many Eastern miners.

The study said that while most states would have net economic benefits from cleaning up their smokestacks, some would lose under the House bill and others would lose under the Senate bill.

Only Kentucky would be hurt by both approaches because of its concentration of coal mining interests and its comparative lack of businesses that would benefit from spending on pollution controls, according to the study.

Most of the utilities that would be affected by acid rain controls are concentrated in the Midwest, but the study said this area as a whole would benefit from legislation because it has the basic heavy industry that would produce much of the expensive emissions-cleaning equipment.

The study estimated that 95 percent of the spending for abatement measures would go to U.S. firms and workers and that the nation's trade deficit could be helped by export of abatement technology and equipment to places like Europe with acid rain problems.

Management Information Services is a partnership of five professional economists that has done studies for a variety of companies and the Canadian environmental protection agency. One of the partners, Al Cook, said that no outside funding was received for the latest study, which the company is selling for $185 a copy.

TIME, FEBRUARY 16, 1987

A Sweet Side To Acid Rain

One reason the U.S. Government has been in a quandary about what to do on the issue of acid-rain pollution is the widespread assumption that the cost of a cleanup would be prohibitive. Now a computer model of the economic impact of two acid-rain-control bills before Congress suggests the opposite is true.

According to a study released last week by Management Information Services, a Washington-based research organization, legislation to reduce sulfur-dioxide emissions from coal-fired utilities would result in a net gain of up to 195,000 American jobs and $13 billion in annual sales for U.S. companies. "Far from hurting the industry," the report says, "the large purchase of capital equipment and supporting goods and services . . . will provide a much needed shot in the arm."

The benefits would not be evenly distributed, however. States producing high-sulfur coal, among them Kentucky, Illinois and Pennsylvania, would come up losers. But some coal-burning states in the Midwest would be among the biggest winners. Michigan, for example, a heavily industrialized state that would be in a position to manufacture pollution-control equipment, could pick up nearly 14,000 new jobs and more than $1 billion in annual corporate revenues.

HARRISBURG (PA) PATRIOT 1-12-87

MY VIEW one reader's opinion

JAMES V. SCAHILL

The writer is executive vice president of the Pennsylvania Coal Mining Association.

Other sources of acid rain

YOUR EDITORIAL concerning acid rain and a report that details the cost to the public if further controls are imposed that appeared Dec. 22 begs comment. The report, prepared by Management Information Service, studies the impact various legislative proposals would have on the consumer. It would be pointed out that the report did not delve into all of the socio-economic impacts; it simply stated the average percentage increases for purchasing electricity that would occur if further environmental controls were imposed.

I would have thought that you would have been concerned about those socio-economic costs to your readership. Incidentally, those costs are estimated to be over $100 billion for the first five years under the less expensive House proposal! While we are all going to be hit with a substantial increase in our home electric bills, we will ultimately pay twice (or more!) for any manufactured goods that use electricity for producing those goods.

Think about it. Businesses that use great quantities of electricity will not be able to absorb that cost, it will be passed on to the consumer. What will happen to PPG in Carlisle? Or AMP? Or Bell of Pennsylvania? Or the hundreds of other industries thus affected? In fact, some industries will be forced to reduce their production or close.

PARTS OF your editorial I find offensive, such as your observation that the coal indsutry and utilities are arguing that these costs are too high, that we wish to ignore the problem. Nothing could be further from the truth! What the coal industry has been saying is that conclusive, scientific proof must be obtained before we spend billions that may not address the problem. To date, that proof is not there. Much of the damage blamed on acid rain five years ago has since been disproved. You mention the health of humans; recent studies by Dr. Reggis McFadden presented to the Clean Air Scientific Advisory Committee of the Environmental Protection Agency state that short-term exposure to sulfur dioxide does not pose a health threat for even the most sensitive of asthmatics; nor a link between sulfure dioxide exposure and acute asthma attacks that require emergency therapy or hospitalization

Five years ago, a University of Vermont researcher, Hubert Vogelmann, made headlines by declaring that acid rain was destroying spruce and other firs on Camel's Hump, a Vermont mountain. He became a leading "expert" on acid rain by his claim and Camel's Hump was used repeatedly by those arguing for more controls. What has happened since? Another University of Vermont entomology researcher, Don Tobi, has discovered that a cousin to our gypsy moth is a more likely candidate for blame. He has demonstrated — not just claimed — that *Hepialus gracilis* or "ghost moth" bores into roots of mature red spruce and balsam firs, opening the trees to fungi which contribute to their deaths. Similar moths have been found in New York's Adirondacks, New Hampshire's White Mountains, and even Soviet scientists in declining forests at high elevation with no acid rain association, according to the U.S. Forest Service Center for Biological Control. Even Vogelmann agrees that ghost moths complicate the issue, stating, "There's no question they (ghost moths) are at this time an ecological factor. This may upset people who are looking for simple answers like acid rain. Tobi is showing how complex it can be." How true.

Far from ignoring the problem, great strides have been made; utilities and the coal industry have spent millions to fund research for clean coal technology. The U.S. Dept. of Energy has done the same. This state, so dependent upon coal for its economy, has established the Pennsylvania Energy Development Authority. The Patriot-News has lauded this research in past editorials. Often overlooked in the debate of acid rain is the fact that there has been a 26 percent decrease in sulfure dioxide emissions (the main pollutant from coal burning) since establishment of the Clean Air Act while there has been a corresponding 86 percent increase in coal use nationwide. With that fact alone, one would think we should look elsewhere for culprits for acid rain.

Yet your editorial statement that "...the environment is subsidizing the burning of coal without adequate emission controls" is outrageous. You ignore the tremendous costs borne by Pennsylvania's coal fields, in terms of jobs and economy, that content of Pennsylvania coals. The Pennsylvania Coal Mining Association estimates that this state has lost over 12,000-15,000 mining jobs due to the Clean Air Act requirements, based on a Penn State study. As important, it also estimates that nearly $1 is lost to the state's economy in lost coal sales and jobs. The truth of the matter is that the Pennsylvania coal industry is subsidizing a cleaner environment. Acid rain legislation being proposed will result in further substantial losses.

To paraphrase, it is your editorial that is "...unconscionable and totally unwarranted environmentally and economically." To impose costly controls without knowing whether they will work should not be allowed.

TEMPLE, BARKER & SLOANE, INC.

MANAGEMENT AND ECONOMIC COUNSEL

MEMORANDUM

To: William Megonnell, EEI
From: T.J. Glauthier
Date: February 17, 1987
Re: MIS Report on Jobs Impact

This summarizes the conclusions from our review of the recent report by Management Information Services, Inc. (MIS), titled The Net Costs and Benefits to Each State and to the Nation of Acid Rain Abatement Legislation. We have contacted the authors and confirmed the specific points that are discussed below.

Briefly stated, our conclusion is that the MIS methodology is seriously flawed and the figures and conclusions in the report are inaccurate and misleading. Our major criticisms are summarized below.

First, the analysis is one-sided -- it includes all of the benefits but few of the costs of these programs. All of the expenditures for pollution control construction are included in calculating the beneficial effects of legislation in terms of jobs created. However, the report includes none of the negative effects that stem from the increases in electricity rates and other product prices needed to pay for that construction. Those costs would result in lost jobs and declines in spending across many industries. The only negative effect considered is that associated with shifts in coal consumption.

From a macroeconomic viewpoint, one would expect the net national jobs effect of such legislation to be relatively balanced, before taking into account any international trade implications. In order to add $4 to $9 billion per year to the economy as MIS has estimated, there would also have to be $4 to $9 billion removed from the economy through increased electric bills or other means. Those funds out of the economy also come from industry, commercial establishments, and consumers and would have a negative multiplier effect on the economy.

When one introduces an international trade perspective as well, the long-term net effects of such legislation on GNP would be negative. The effect of increased electricity and other factor costs would be to decrease production in the economy. At

the same time, the increased expenditures after the construction phase would not result in increases in GNP. From an economic perspective, those on-going costs for twenty years or more would represent an increase in the cost of production in the U.S. without a corresponding increase in the output of goods and services, which would worsen the international competitiveness of U.S. producers.

Second, the predicted job increases are short-term and relate primarily to the construction phase of the programs. The implication of the report is that this predicted level of jobs is a 'steady-state' level that would remain throughout the lifetime of such legislation. However, the major effects are those tied to construction and equipment purchases, which would occur within about four years prior to the effective date of such legislation.

There is no estimate of the long-term employment effects that would stem just from the operation and maintenance activities at powerplants over their remaining lifetimes. That would be a much smaller figure and would probably be significantly over-shadowed by the jobs decline that would occur in those same years due to the electricity rate increases and GNP effects.

Third, the state-by-state projections are inaccurate and don't really reflect the strong regional nature of these programs. The MIS figures are simply projected through an input-output methodology that predominantly reflects the current national geographic pattern of employment in basic industries. As a result, when scrubbers would be built, the materials and equipment is forecast to be supplied from around the country, roughly in proportion to the present patterns of supplies of such equipment nationally. That would be wrong for a bill such as these which would cause significantly different actions in various states and regions and which would account for a small share of total national construction and equipment purchases.

It is this methodology that leads to such results as the forecast that the greatest number of jobs created would be in California. Since the majority of the new construction activity would take place over 1500 miles away from California, and many of the parts and supplies could be obtained in regions such as Illinois and Pennsylvania, it is inconceivable that California would actually be the leading recipient of such new jobs.

Fourth, the level of detail in the projections is unwarranted by the data and models used. Carrying projections down to the level of 80 industries and 475 occupational categories is out of all proportion to the uncertainty of the assumptions and models on which they are based. There are at least three levels of uncertainty in the analysis, and they are multiplicative. These include uncertainty on the unit costs, such as coal prices, on the specific utility control strategies and the input-output

coefficients in the model. The combined uncertainty in these elements just does not support projections as detailed as the MIS estimates of, for example, one more chemist in Kentucky, four more communications equipment repairers in Virginia, or thirty-eight more computer programmers in Ohio.

* * * * * * *

To put this report in perspective, it may be helpful to recall that TBS had looked into performing this type of macro-economic analysis about three years ago with Data Resources, Inc. (DRI). DRI probably has the most extensive econometric databases and models in the country, yet the effort was abandoned because the models just were not accurate enough for analysis at this level of detail.

There were two major problems with the DRI models which would also apply to other econometric models. One was that the input-output coefficients were not sensitive enough to accurately predict the industry-specific effects of regional increases in electricity rates while other energy prices remain essentially unchanged. The second problem was that the input-output models and coefficients are based so completely on the overall <u>national</u> structure of the economy, that they could not project an accurate state-by-state breakdown of final results from a program such as this which would affect regions and states so differently. The final projections would predominantly just reflect the existing pattern of geographic concentration of industries throughout the country.

DOCTORS INJECT HEALTH ISSUE INTO SENATE DEBATE ON ACID RAIN CONTROL

The acid rain debate in Congress entered a new dimension last week when a forum of physicians unanimously advised the Senate Environment subcommittee on environmental pollution that concerns over human health justify controlling sulfur dioxide and nitrogen oxide emissions.

Subcommittee Chairman George Mitchell, D-Maine, said the argument in favor of acid rain controls has now gone from protecting the environment to protecting public health. "[The] data demonstrates that the health risks associated with exposure to air pollutants may be greater than previously believed," Mitchell told the subcommittee. "The health data, when combined with actual damage to our waters and potential damage to our forests, suggests that control legislation is needed. The fact that emissions of these pollutants are increasing suggests that legislation is needed now."

Sen. Robert Stafford, R-Vt., agreed with Mitchell, saying, "We know enough to make public health the number one reason for controls."

"More than trees are dying from acid rain," Dr. Anthony Robbins, past president of the American Public Health Assn., told the subcommittee. Robbins said the health effects on people, which include acute and chronic respiratory problems, have been neglected in the past and he urged the legislators to move forward and "begin to reduce acid rain in an effort to protect human health and welfare."

He said past efforts to control sulfur dioxide emissions through control technology have had the effect of making the problem "distant rather than local" by dispersing pollutants. He also said there is now concern that total sulfur dioxide emissions may actually increase with the use of tall stacks and with the burning of high sulfur coal.

Dr. Thomas Godar, president-elect of the American Lung Assn., said the National Ambient Air Quality Standard for sulfur dioxide must be strengthened by the addition of a short-term standard to ensure protection against adverse health effects at all locations in the United states. He said studies show that a one-hour standard of sulfur dioxide concentration no higher than 0.20 parts per million is needed to adequately protect public health. "The precursors of acid rain kill people," Godar said, "and the death of a human is a severe result of a pollutant."

Dr. Richard Narkewicz, president-elect of the American Academy of Pediatrics, and Dr. Phillip Landrigan, director of environmental and occupational medicine at Mount Sinai Medical Center in New York, also testified.

All panelists warned subcommittee members against waiting for more conclusive data before taking action — saying there is overwhelming evidence showing a correlation between acid rain and lung disease in healthy and high risk individuals. Landrigan also stressed that unlike the number one cause of lung disease — smoking — exposure to acid rain is not a personal choice.

Mitchell said there will always be scientific uncertainty associated with acid rain and that he is prepared to act this year to pass acid rain legislation rather than wait until the health and environmental impacts are manifest.

NEW YORK TIMES 2-17-87

Report Links Acid Rain to 30-Year Decline of Black Ducks

By JOHN NOBLE WILFORD

NEW research shows that acid rain may have contributed to the mysterious decline of black ducks in the last three decades and may be causing serious and widespread damage to the breeding grounds of many other water birds, according to a report released today by the Izaak Walton League of America, a private conservation group.

Although the research is preliminary and much of the evidence circumstantial, wildlife biologists familiar with the report said it was the first strong indication that birds as well as fish were suffering from the adverse effects of acid rain on the wetlands and lakes of eastern North America.

"We now know that acid-stressed lakes do not produce many baby ducks," said Kathleen L. Fischer, co-ordinator of research on acid rain at the Canadian Wildlife Service in Ottawa. The Canadian Government has sponsored some of the studies described in the new report.

Kenneth Ross, a biologist with the Canadian Wildlife Service, said that recent studies in the field produced a "fairly reasonable correlation" between acidified lakes and the decline of some fish-eating birds. Research is being conducted to determine the effect on other species, he said.

In a foreword to the Izaak Walton League report, Frank C. Bellrose, a scientist with the Illinois Natural History Survey and an authority on North American waterfowl, said the new study "presents alarming information that acid rain may be a real, and certainly is a potential, source of degradation for waterfowl breeding habitat." The report, written by Paul W. Hansen of the league's Upper Mississippi Regional Office in Minneapolis, concluded that the evidence suggested "that an extensive regional fish and wildlife resource may be put at great risk by further delays in passing measures to control acid rain."

Most in danger, according to the report, appeared to be the black duck, a big, shy, dark-feathered bird with coral-red legs and olive-green bill. This duck is a familiar sight along the East Coast from Cape Breton to the Carolinas. But its number has declined by 60 percent since 1955.

The decline has been attributed to many factors — increasing competition from other ducks, especially mallards; overhunting; human encroachment on habitats; the effects of ingesting lead shotgun pellets, which poison the birds and the effects of pesticides and other environmental contaminants.

Now acid rain is also suspected as being a problem for the black duck. In part the suspicion is based on circumstantial evidence. According to the report, the breeding range of this duck coincides closely with the area of North America where deposits from acid rain are heaviest, and the decline of the black duck since 1955 coincides closely with the increase of acidic industrial emissions in this region.

Moreover, the report noted, the black duck breeding season begins and the birds' nutritional needs are greatest in early spring when snowmelt surges into streams and lakes carrying the accumulation of the winter's acidic precipitation.

One of the studies cited in the Izaac Walton League report was conducted by biologists at the U.S. Government's Patuxent Wildlife Research Center in Maryland, where scientists raised black ducklings in experimental ponds with high and low

> 'An extensive regional fish and wildlife resource may be put at great risk' by legislative delay.

levels of acidity. G. Michael Haramis, a biologist with the United States Fish and Wildlife Service, reported that the mortality of ducklings raised on acidic wetlands was more than three times higher than that of ducklings raised on non-acidic wetlands.

Another study, this one conducted in natural areas in Quebec by Dr. Jean-Luc Desgranges of the Canadian Wildlife Service, showed that young black ducks in moderately acidic areas grew at a rate 60 percent slower than those in non-acidic areas. Many of them starved to death, and many survivors suffered from malnutrition.

The black duck belongs to the group of waterfowl known as dabblers. They sit on the water surface and pick up their food there, mostly insects, weeds, seeds and algae.

In breeding season, black duck females eat more insects, mayflies and dragonflies, as well as snails and other invertebrate animals to get the protein and calcium needed for successful reproduction. Studies have shown that ducks on a protein-deficient diet laid half as many eggs as those on a normal diet. Ducklings in the first nine days after hatching also require high-protein diets.

According to the recent studies, increased acidity in lakes decreases the abundance and diversity of the food species available to breeding ducks.

See previous "Weekly" Report for this article →

CONGRESSIONAL RECORD

February 9, 1987

ACID RAIN AFFECTS HUMAN HEALTH

HON. SILVIO O. CONTE

OF MASSACHUSETTS

IN THE HOUSE OF REPRESENTATIVES

Monday, February 9, 1987

Mr. CONTE. Mr. Speaker, as acid rain control bills remain bottled up in the hoppers of the Energy and Commerce Committee, the damage caused by this silent killer continues to mount. Just yesterday in the Senate, medical doctors and public health groups testified that acid rain and the pollutants that cause it are a serious threat to human health.

Dr. Paul Narkewitz, the president-elect of the Academy of Pediatrics, testified that "the ingredients of acid rain have been shown to adversely affect the respiratory tract and consequently the quality of health for children. They contribute greatly to morbidity and mortality rates." At the same hearing, Dr. Philip J. Landrigan said that "acid rain is probably third after active smoking and passive smoking as a cause of lung disease." For the reference of my colleagues, I will provide for the RECORD A New York article entitled "Acid Rain Seen as Posing Risks for U.S. Health—Doctors Tell Panel That Nation Must Act Now." This article reports on the details of the hearing, and I urge my colleagues to review this serious problem.

For those who closely monitor the evolving scientific data, the human health effects of acid rain have been known for some time. Over the past several years, I have sponsored amendments to increase funding for acid rain research by the National Institute of Environmental Health Sciences [NIEHS]. This research will play an important role in fully documenting the extent of the damage.

Mr. Speaker, acid rain is not just an isolated threat to fish in the water ways of New England. This silent killer is a threat to human health, and the Congress is obliged to address such an important human health and environmental issue. Shortly, a bipartisan group will again introduce legislation to control the pollutants causing acid rain. We will join with our colleagues in the Senate in a united front to pursue enactment of tough acid rain controls.

[From the New York Times, Feb. 4, 1987]

ACID RAIN SEEN AS POSING RISKS FOR U.S. HEALTH—DOCTORS TELL PANEL THAT NATION MUST ACT NOW

(By Philip Shabecoff)

CHICAGO TRIBUNE

CHICAGO, IL

JAN 20 1987

Arboretum finds twist to acid rain

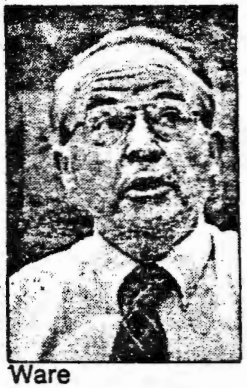
By Neil H. Mehler

Acid rain, a serious threat to forests in many parts of the world, has become a danger to trees and shrubs in the Chicago area in an unexpected way, say Morton Arboretum scientists.

Acid rain long has been known to cause deterioration in certain types of building stone in the Midwest. But the region's plant life, because of the nonacidic soil here, was thought to be relatively immune to the ravages that have partly denuded forests in Europe, the Eastern United States and Canada.

However, recent studies at the arboretum show that acid rain's effects on building and paving materials can increase soil alkalinity in the metropolitan area, damaging trees and shrubbery. The condition affects scores of different plants commonly used alongside parking lots and on parkways, the scientists have found.

The process takes years. It generally is not easily noticed by the public because of the practice in the metropolitan area of quickly replacing dead or dying trees.



Ware

The studies show that acid rain dissolves limey particles in various building materials, washing them into the soil, where they accumulate, raising the alkaline levels to a detrimental point, according to George Ware, arboretum research director.

In general, plants closer to buildings or pavements suffer greater damage, according to Ware's research, which is to be released by the arboretum soon.

The effect documented by Ware is the opposite of the highly publicized problem that has led to destruction of forests in the Northeast and in parts of Canada and Europe, where the acid rain damages leaves and raises the soil's acidity to levels intolerable to many plants.

Foresters have noticed in recent years that some acid-loving trees no longer do well in metropolitan area parkways but were unsure why. Apparently the effect of raising the alkalinity of soil in the region has been so gradual that awareness of the problem is just emerging.

The damage has shown up in various suburban areas, especially in old oak stands and parkway trees, but isn't noticeable in downtown Chicago because "the fact is that the tree industry has adapted to the high alkalinity of urban soils by utilizing trees that are able to accommodate," Ware said.

Ware said he has traveled to China, looking for calciphytes, or trees that grow well in alkaline soil. "I got seed for David elm, which grows in limestone areas, from northern China about five years ago from the Botanic Garden in Harbin, Manchuria, and some from Peking. The David elm is very promising."

Ware said many of the great, traditional trees of the Chicago area are succumbing slowly to afflictions induced by excessive alkalinity.

Acid rain is formed when certain pollutants from fossil fuel-fired power plants, factories, homes and vehicle exhausts combine with water vapor. The rain falls on bricks, concrete, stones, asphalt driveways, sidewalks, parking lots and roofing material, dissolving minute amounts of highly alkaline limestone.

The clay soil of the Midwest is already somewhat alkaline, and the addition of more limey material, perhaps over one or two decades, raises the levels to a point where plants and trees begin to suffer leaf yellowing and many eventually die.

There may be only 8 to 10 tree varieties still suitable for front yard and parkway planting in this area because of the situation, Ware said. Back yard trees aren't as severely afflicted because they are generally not near concrete or other surfaces affected by the acid rain runoff.

Already, two old standbys, the pin oak and red maple, are being shunned as parkway trees in the Chicago area because of their susceptibility to chlorosis, a leaf yellowing frequently caused by soil alkalinity. Most notable of these is an inability to take up needed iron from the soil, which prevents chlorophyll formation and leads to tree death.

Harold Hoover, the city forester in west suburban Elmhurst, said he has "noticed an increase in chlorosis for all types of trees sensitive to it." And even with treatment every year or so, the pin oaks and red maples can't be cured, so they have to be replaced with a less susceptible variety, he said.

Treatment of leaves and soil and direct injection into trunks can save some trees if begun in time, experts say.

Ware said one recent test on arboretum grounds in Lisle showed rainwater there had a moderately acidic level of pH 5. In a nearby concrete parking lot gutter in the same storm, however, the pH reading was 7.5, or fairly alkaline. The scale runs from zero [acidic] to 14 [alkaline], with 7 being neutral.

Acid rain by itself, "has virtually no effect on the pH of soil because soils have a buffering capacity—the ability to resist change," said Richard Mulvaney, assistant professor of agronomy at the University of Illinois. But adding lime overcomes this and changes pH.

Ware said that scientists must "improve the soil-root environment and breed and select more stress-tolerant trees" to solve the problem in this area.

White and red oaks on the North Shore have been severely affected by the accumulation of alkalinity, Ware said. He identified other trees suffering from the alkalinity situation here as the sweetgum, the river birch, the shingle and swamp white oaks, and the tulip tree.

Trees that can tolerate a slightly alkaline soil include the honey locust, green ash, elm, poplar, hard maples, hackberry, crabapple and flowering pear, and the northern pin, chinkapin, bur, shumard and Texas red oaks.

In addition, the widely planted silver maple does all right in Midwest alkaline soil, but in Nebraska and other Plains states it is suffering from chlorosis.

Soil tests, such as those offered for a modest fee through the University of Illinois Cooperative Extension Service in Wheaton and elsewhere, can help pinpoint tree and soil problems.

Garden centers offer a variety of aids for treating chlorosis, such as chelated iron.

The use of commercial lawn fertilizers high in phosphorus and potassium on parkways should be avoided in the metropolitan area to keep from aggravating the acid rain problem, according to some scientists.

THE WASHINGTON POST

FEBRUARY 23, 1987

Desert in the Streets

■ A city is often an urban desert, as far as a tree is concerned. The harsh, dry, salty environment for trees planted in cramped conditions, surrounded by concrete, leads half of the 1,000 or so new street trees planted in New York City each spring to die within three to 10 years, warned an urban horticulturist.

Cornell University's Nina L. Bassuk said that "environmental stresses, caused by the unlikely juxtaposition of plants with vast amounts of concrete and asphalt and enormous numbers of people, result in short, brutal lives of our trees and shrubs and their frequently unesthetic appearance." The loss is also costly, at about $300 each for trees that otherwise would live for decades in forests.

Bassuk's possible remedies include planting trees in groups, rather than singly as is common now, widening planting sites and providing more drainage, raising the tree beds to protect against salt runoff from streets in winter, and planting species of trees that are more tolerant of inhospitable living conditions.

"By understanding the limitations of the street environment in terms of the tree's physiological needs and by being imaginative in the ways in which we plant trees, we can begin a renaissance in the greening of our urban centers," she said.

ACID RAIN

CHICAGO (AP) -- A RECENT DECLINE IN THE FORESTS OF THE ADIRONDACK MOUNTAINS OF NEW YORK MAY HAVE BEEN CAUSED NOT BY ACID RAIN BUT BY DROUGHT AND UNUSUALLY COLD WINTERS, A NEW STUDY CONCLUDES.

''WE HAVE NOT ELIMINATED ACID RAIN AS A FACTOR,'' SAID DUDLEY RAYNAL, A FOREST BIOLOGIST AT THE STATE UNIVERSITY OF NEW YORK IN SYRACUSE. ''RATHER, WE HAVE POINTED OUT THAT CLIMATIC FACTORS PLAY A ROLE IN TREE GROWTH.''

RAYNAL, WHO PRESENTED HIS FINDINGS WEDNESDAY AT THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, SAID A DECLINE IN THE GROWTH OF RED SPRUCE TREES HAD BEEN OBSERVED ALL ACROSS THE TREE'S RANGE, FROM THE SOUTHEAST TO THE ADIRONDACKS AND NORTH INTO NEW ENGLAND.

POLLUTED AIR AND THE ATMOSPHERIC DEPOSITION OF POLLUTANTS ON TREES IN THE FORM OF ACID RAIN AFFECTS THESE SAME AREAS, RAYNAL SAID IN AN INTERVIEW. THAT LED MANY PEOPLE TO CONCLUDE THAT ACID RAIN WAS RESPONSIBLE FOR THE FOREST DECLINE, HE SAID.

''OUR STUDY INDICATED THAT A GOOD DEAL OF THE TREE GROWTH VARIATION IS ATTRIBUTABLE TO CLIMATE,'' HE SAID. ''IF WE'RE TO UNDERSTAND THE EFFECT OF ACID RAIN, WE HAVE TO UNDERSTAND THE CLIMATIC ROLE.''

ACID RAIN, WHICH HAS BEEN BLAMED FOR THE DEATH OF FISH IN MANY OF THE ADIRONDACK LAKES, IS FORMED WHEN AIRBORNE POLLUTANTS BECOME DISSOLVED IN RAINDROPS, MAKING THE RAINDROPS SLIGHTLY ACIDIC.

OVER A PERIOD OF TIME, THE ACID RAIN CAN MAKE LAKE WATER ACIDIC ENOUGH SO THAT IT CAN NO LONGER SUPPORT FISH.

RAYNAL SAID THE EXTENT OF THE DAMAGE CAUSED IN ADIRONDACK LAKES BY ACID RAIN IS DIFFICULT TO DETERMINE BECAUSE SOME LAKES MAY BY VIRTUE OF THEIR PARTICULAR CIRCUMSTANCES BE ESPECIALLY SENSITIVE TO ACID RAIN WHILE OTHER LAKES MAY BE RELATIVELY INSENSITIVE.

EVEN LESS IS KNOWN ABOUT THE EFFECT OF ACID RAIN ON FORESTS, HE SAID.

''THE HARD SCIENTIFIC DATA NECESSARY TO ALLOW SCIENTISTS TO DRAW FIRM CONCLUSIONS ABOUT THE EFFECTS ON FORESTS ARE NOT AVAILABLE,'' HE SAID.

RESEARCHERS AT THE UNIVERSITY OF VERMONT HAVE BLAMED ACID RAIN FOR THE DESTRUCTION OF TREES ON A MOUNTAIN IN NEW ENGLAND.

AP-WX-02-19-87 1632EST

ATLANTA CONSTITUTION

ATLANTA, GA JAN 26 1987

Some evidence still out on acid-rain issue

WASHINGTON — In a Jan. 7 editorial, The Constitution unequivocally said, "It's time for acid-rain action." You claimed that "a tough new law could preserve the health of forests ... from Maine to Florida."

As owners of 70 million acres of timberlands, the forest-products industry has as great a stake as anyone in the health of the American forests. Companies in our industry spend tens of millions of dollars annually combating threats to the health of the forests and improving their productivity. That's why we must set the record straight.

Our scientists have been studying the acid-rain issue for a number of years and have been unable to link acid rain to a forest health problem. The sulfur dioxide concentrations are just not high enough to cause damage to trees.

The legislation you advocate could cost as much as $50 billion, and we believe our nation can ill-afford to spend these billions unless we can fairly predict an environmental benefit. Therefore, we oppose the enactment of this legislation until we can conduct the necessary research. Then, and only then, can a judgment be based on scientific evidence rather than on speculation.

DAVID E. STAHL, President
National Forest
Products Association

Utilities' view

PHILADELPHIA INQUIRER

PHILADELPHIA, PA

JAN 29 1987

Doubts on acid-rain remedies

To the Editor:

The Jan. 20 editorial "New proof of acid rain threat" endorses the principle of "acid rain" control, although it wisely stops short of advocating a specific formula.

Those who advocate strict and immediate controls on industrial boiler emissions, no matter what the cost, are impatient with the argument that we know too little about the phenomenon of acid deposition to be certain that control procedures currently being proposed will produce significant improvements. This is the concern of the electric utility industry.

Whether emission controls cost $5 billion, a fraction of that or a multiple of that would be of limited concern if there were absolute assurance that expenditures of this magnitude would result in commensurate reduction in acid deposition.

There is no such assurance. Enactment of any one of the several "acid rain" control bills that have been introduced in recent years would be a leap of faith, not an exercise in logic.

The public has often indicated its willingness to pay for a cleaner environment, and the electric utility industry in Pennsylvania has certainly cooperated in helping to produce a cleaner environment. Electric ratepayers in the commonwealth pay an environmental protection cost that amounts to about 15 to 17 percent of their electric bills. And they can see the results in cleaner air and water.

Research into ... phenomenon of acid deposition is being pressed on several fronts and is being supported by millions of dollars in contributions from the electric utility industry. In addition, research is continuing — by the industry, government and the scientific community — in new combustion methods and clean coal technology. We have hopes that this research will provide answers to difficult questions, that it will clear up many uncertainties and resolve doubts about control methods.

But to demand that Pennsylvania citizens pay hundreds of millions of dollars more each year to fight "acid rain," with no assurance whatever that the additional burden will bring commensurate improvement in the environment, appears to be both unreasonable and inequitable.

Harold R. Piety
Pennsylvania Electric
Association
Harrisburg.

INSIDE EPA — February 13, 1987

SPORTS FISHERMEN WILL NOW FIND AN ENCLOSURE URGING SUPPORT FOR ACID RAIN controls in many types of equipment sold nationwide. In an attempt to broaden support for acid rain control legislation beyond the environmental community, the Izaak Walton League developed the graphic brochure, and successfully pushed the American Fishing Tackle Manufacturers Assn. to distribute them in fishing gear. The "save sports fishing" campaign is designed to rally some 50-million anglers in the U.S. — who spend an estimated $50-billion a year on the recreation — to push legislation to control acid rain. Sources involved explain that sports fishing and other recreational groups have much at stake in protecting the environment from acid rain, and the potential to become a powerful lobbying force. These groups could be particularly helpful in convincing Midwestern states, traditionally at odds with acid rain control because of their abundance of polluting industries, about the need for controls.

HUNTINGTON (WV) HERALD DISPATCH
1-23-87

Air quality legislation unneeded, too costly

When Sen. Robert T. Stafford, R-Vt., recently introduced the Clean Air Act of 1987, he accused U.S. industry of spending millions of dollars, "not in controlling air pollution, but in arguing that it is too expensive to do so."

Baloney.

Stafford's unfortunate comments illustrate a common misconception about air pollution.

The simple fact of the matter is that this country is a world leader in air pollution control. U.S. air pollution control expenditures now total nearly $30 billion yearly. The Environmental Protection Agency's latest report to Congress shows that electric utilities alone shell out $10 billion yearly — a substantial outlay that's of course passed on to electric customers in the form of higher rates.

And that investment is paying off.

The EPA reports that from 1973 to 1984, total sulfur dioxide emissions — which most experts link to damaging "acid rain" — dropped 26 percent. Electric power plant sulfur dioxide emissions were down 16 percent during the same period — while the use of coal by the utility industry soared by more than 70 percent.

Stafford's comments suggest that the air pollution problem is one that's been ignored. That's simply not the case.

The issue now is whether Stafford and others of like mind will be able to saddle the utilities with a whole new round of even more stringent (and expensive) air quality regulations — ones that will cost thousands of coal miners their jobs while sending electric bills soaring.

INSIDE ENERGY
2-9-87

BYRD EXHORTS COAL MINERS TO JOIN FORCES AGAINST ACID RAIN CONTROLS

Senate Majority Leader Robert Byrd last week urged American Mining Congress members to join forces against "costly" acid rain legislation. "If you allow yourselves to be divided, either by region or fuel source, the proponents of costly mandatory regulatory controls will dominate the legislative debate," the West Virginia Democrat said.

Byrd said low-sulfur coal producers should not to be fooled into stepping aside and allowing high-sulfur producers bear thye brunt of acid rain controls. "They will come after you next," he said at AMC's annual meeting in Washington. "There are forces in this country that don't want to see coal burned at all."

Byrd said he remains opposed to legislation requiring new sulfur emission reductions, predicting such laws would result in "ghost towns" in the coal fields and higher utility bills in other parts of the country.

He also promoted DOE's clean-coal technology program as an alternative to emission controls, calling it the "cornerstone of a positive, non-regulatory alternative to current proposals."

Later, AMC President John Knebel urged a "competitiveness test" for all legislative and rulemaking initiatives — one that would judge the impact of new measures on U.S. ability to compete worldwide. What Knebel has in mind is raising three questions before a bill is sent to the president for his signature or a federal regulation is issued: Will employment be adversely affected? Will U.S. trade be hurt? Will capital formation be impeded?

"If the answer to any of these questions is 'yes', the legislation or rulemaking could not go forward," he said.