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# Withdrawal/Redaction Sheet

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Council of Economic Advisers  
Stiglitz, Joseph  
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### RESTRICTION CODES

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Lisa — Will  
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Climate  
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— Thanks,  
Sally

# "Waterworld," Bootleg Freon and a Berlin Plot

The U.N.'s latest save-the-earth festival now underway in Berlin has averted one perceived disaster, an oil nation boycott of nonsense. Considering the flimsy science mobilized for these events and the huge and unnecessary costs they are inflicting on the global economy, preventing mass defections is no small accomplishment.

It may be, however, that eco-catastrophe hyperbole is losing its punch. Politicians are beginning to see that kowtowing to enviro-extremists can lose votes, big-time, as well as win them. One of the prescriptions for fighting "global warming" that came out of the U.N.'s 1992 "Earth Summit" in Rio was a carbon tax to discourage the burning of fossil fuels. Eco-

## Global View

By George Melloan

munchkins claimed, without benefit of valid evidence, that our home furnaces, cars and trucks and electrical power plants were turning the earth into a hothouse. Oil nations, electric utilities and coal companies aren't the only ones unconvinced. Bill Clinton couldn't push the U.N.'s recommended energy tax heist through Congress at the outset of his reign. Overtaxed Europeans also are saying no. "Tut, tut," the eco-fearmongers mutter in Berlin. Their arrival, by the way, was greeted by a spring snowstorm.

Some U.S. Congressmen also now know that they were rolled by the U.N.'s 1987 "Montreal protocol." Docilely succumbing to the protocol's absurd claims that refrigerants containing chlorine were destroying the earth's protective ozone layer, they passed a law banning the most widely used refrigerant, Freon. Freon manufacture must cease by the end of this year. Existing supplies can be used until they run out.

The cost to Americans for retrofitting air conditioners and refrigerators to use non-Freon coolants (which do not entirely overcome Freon's alleged threat) is estimated at \$100 billion. As a result of the ban, Freon now has become a much-in-demand bootleg item, with thieves reportedly hijacking air conditioner repair trucks to steal this latest valuable "controlled substance."

Eco-fearmongering may even have passed its peak in Hollywood, where the "Earth Communications Office," run by liberal Democrats, has had incredible success in getting producers and writers to inject eco-fears into movie and TV scripts. Fiction thus becomes fact in the minds of 15-year-olds and couch potatoes. But not all eco-fiction succeeds and Kevin Costner has every reason to worry about his new flick, "Waterworld," which postulates the ultimate catastrophe of a "global warming" melting the polar icecaps, forcing everyone to become mermen and mermaids, or merms's. Big cost overruns, some inflicted by Mother Nature, have put the film's budget even deeper underwater than its script.

Indeed, the world has come a long way since the Montreal Protocol, since EPA administrator William Reilly was spouting nonsense about cancer deaths that would result from "ozone depletion" in 1991 and even since the "Earth Summit." Mainly that is because serious scientists have finally involved themselves in debates over "ozone depletion" and "global warming" and have exposed just how little real science these scenarios have contained.

The resulting nervousness of eco-fearmongers has been palpable. Eco-Field Marshall Al Gore early last year urged television's Ted Koppel to investigate the dark forces behind the "anti-environmental" movement. The ploy backfired. Mr. Koppel reacted badly to this blatant attempt to use him politically. One guest on Mr. Koppel's "Nightline," Michael Oppenheimer of the Environmental Defense

Fund, even succinctly described his own problem. If skeptical scientists can persuade the public that ozone wasn't worth acting on, he said, "there is no reason for the public to believe anything about any environmental issue."

That comment grossly underestimates the ability of voters to distinguish between hokum and real problems, such as the pollution of streams and rivers by untreated municipal and industrial wastes. But it is true that eco-fearmongers had things their own way for a long time—in part because so many reporters and editors were susceptible to sensational claims from self-

*Serious scientists have finally involved themselves in debates over "ozone depletion" and "global warming."*

styled "scientists." Only belatedly have real scientists begun to see the threat the politicization of scientific inquiry is posing to their credibility and to insist that sensational claims be subjected to professional rules, such as peer review, replication of experimental data and rigorous examination of data sources.

One of those real scientists is Sallie Baliunas, chairman of the Harvard-Smithsonian Center for Astrophysics and a member of the Science Advisory Board of the George C. Marshall Institute, a leading public policy research group. At a roundtable discussion last December in California sponsored by the Marshall and Claremont institutes, Ms. Baliunas proceeded to demolish both the "global warming" and "ozone depletion" scare campaigns.

The science is as follows: With regard to global warming, atmospheric sampling does indeed show that there has been a buildup of "greenhouse" gases, particu-

larly carbon dioxide, over the last 100 years. But Ms. Baliunas says flatly that, "No evidence can be found in the temperature measurements to support the theory of catastrophic global warming caused by human activities." The evidence she cites in support of this assertion is exhaustive. For one thing, most of the small earth temperature rise since 1880 (0.5 degrees Centigrade) occurred "before the greenhouse gases from human activities existed in the atmosphere." Serious environmental scientists know, of course, that the ecosystem itself dwarfs human activity in terms of generating or absorbing carbon dioxide.

It is widely accepted that a higher concentration of carbon dioxide in the atmosphere increases plant and animal life, contrary to some of the scare claims. Some American readers may have evidence of that, admittedly unscientific, in the number of Canadian geese flocking to their ponds and lakes or the deer that have become a hazard for drivers on the east coast.

As to ozone depletion, Ms. Baliunas finds "no observational evidence that man-made chemicals like CFCs are dangerously thinning the ozone layer over most of the world." Moreover, she notes that the kind of ultraviolet rays that would be let through by a thinner ozone layer, UV-B, is not the UV that causes melanoma. "On two counts, the hysteria and costly regulations are entirely unfounded." Ms. Baliunas, by the way, was described by Discover magazine in 1991 as one of America's most outstanding women in science.

Now back to the 1,000 delegates from 130 nations gathered in Berlin. It is estimated that the U.N.'s agenda to limit emissions of greenhouse gases, if actually carried out, would cost several trillion dollars by the year 2100. Ms. Baliunas figures it would soak up about one fourth of the GNP of the U.S. on an annual basis. That would be expensive even for a Kevin Costner production.



*Environmental  
Democrat  
David*

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# Rio Summit Group Sets Date for Limits On Some Emissions

By TIMOTHY NOAH

Staff Reporter of THE WALL STREET JOURNAL  
**WASHINGTON** — The U.S. and other signatories to an international treaty on global warming agreed to set firm limits on emissions of carbon dioxide and other greenhouse gases by 1997.

Environmental groups expressed mild optimism — and business groups some dismay — about the agreement, which came Friday at a Berlin conference attended by representatives of most of the 120 nations that signed the United Nations global-warming treaty at the 1992 Rio summit.

Environmentalists and many developing countries had hoped the conference would produce specific international limits on emissions. Although the goal wasn't achieved — partly because of opposition from the U.S., which produces 20% of all global carbon-dioxide emissions — the signatories did agree to establish greenhouse-gas limits in 1997. Until now, the treaty has had goals for reducing greenhouse gases, but no legally binding limits.

Whatever specific limits are set under the 1997 protocol, they are likely to include language allowing countries that have companies operating plants abroad, such as the U.S., to count in their greenhouse-gas-reduction tallies the lowering of emissions at overseas plants. The new Berlin agreement sets up some guidelines for such a system, known as "joint implementation," but says overseas reductions may not be counted toward any country's tally of pre-2000 reductions.

Joint implementation is controversial with many Third World nations because it lets developed countries avoid some of the sacrifice involved in reducing global-greenhouse emissions. But Undersecretary of State Tim Wirth, who led the U.S. delegation, hailed the new accord's joint-implementation language as a major victory for the U.S. and the global environment. "Joint implementation today is heresy. It will become the conventional wisdom," he said.

Under the Rio Treaty, nations said they would aim to reduce greenhouse gases to 1990 levels by the year 2000. In April 1993, President Clinton pledged that the U.S. would meet that goal. Subsequently, the administration unveiled a plan to achieve it that relied heavily on voluntary agreements with utilities. But although the Energy Department has forged many such agreements, administration officials now concede that U.S. reductions aren't keeping up with President Clinton's promise.

Nonetheless, Vice President Gore has continued to express strong concern about global warming and support for the treaty, and in speeches has urged that treaty signatories reduce greenhouse gases below 1990 levels, by an unspecified amount, after 2000.

*Joe*  
 → decent article but optimistic that limits will be set by 1997 *Sally*

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# The Economist

APRIL 1ST-7TH 1995

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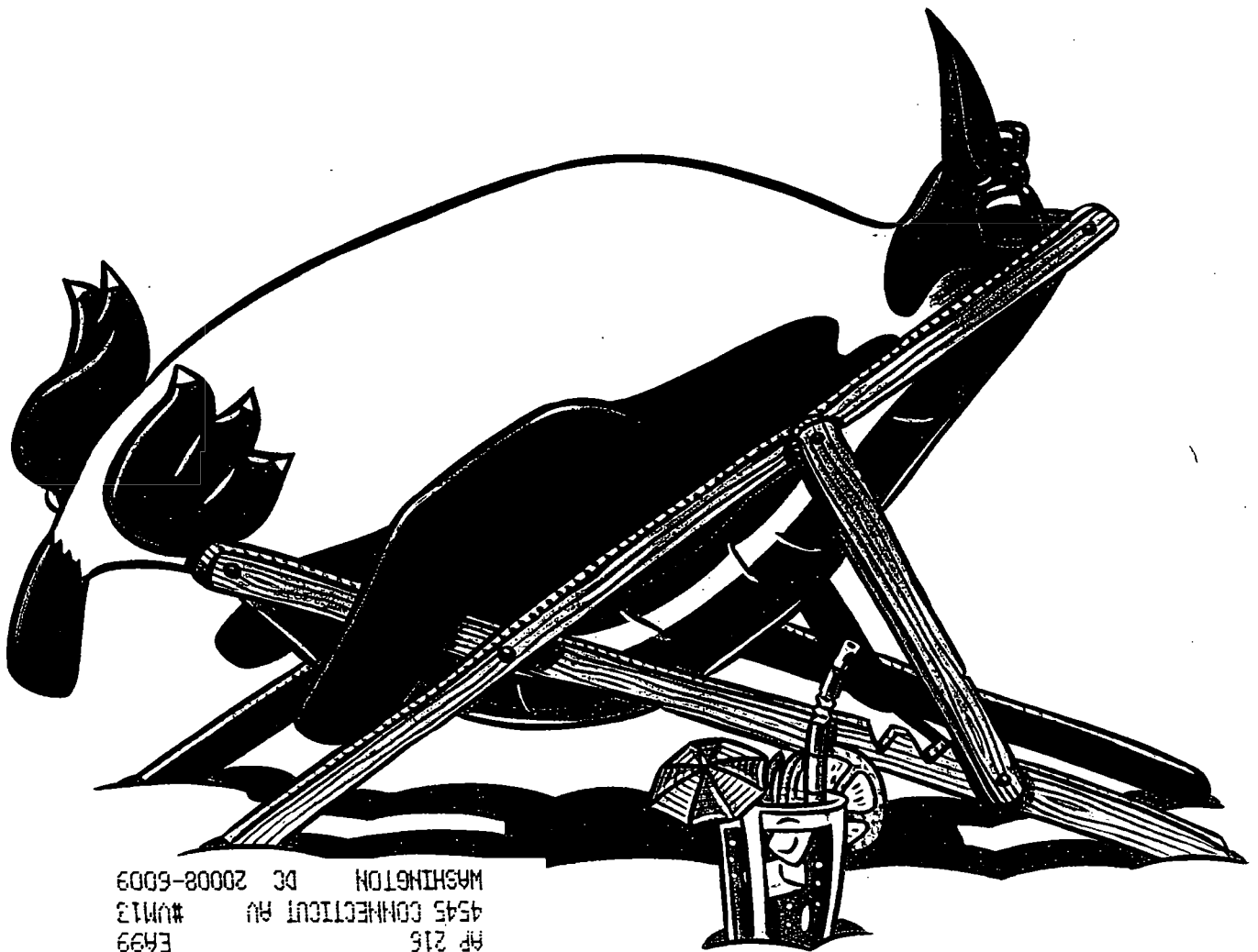
FISCAL IRRESPONSIBILITY

pages 14 and 59

DEMOCRACIES AND WAR

pages 17-18

## Stay cool about our changing climate



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## Stay cool

**E**NVIRONMENTALISTS are dismayed. Their efforts to scare the world over global warming seem not to have worked. Three years ago, in Rio, governments agreed to hold down their output of "greenhouse" gases, such as carbon dioxide, that are thought to be raising the earth's average temperature. But when this week's Berlin conference (see page 33) asks what progress has been made since Rio, the answer will be: virtually none. Rich countries are unlikely to meet the Rio target of reducing output of greenhouse gases to 1990 levels by 2000. Even if they do, growing emissions from coal-burning poor countries will more than offset their success. Few poor countries are even considering restraining their output of greenhouse gases. And thus, say the greens, will a short-sighted world stroll insouciantly towards a calamitous future of storms, floods and drought.

Well, maybe. It would certainly be a pity if the world's governments retreated from the promises made at Rio, for that would bode ill for any attempts to deal collectively with global environmental problems. Nonetheless, penguins and people can afford to relax for many years yet. For all the green clamour, it is far too early to be panicked into Draconian actions to avert global warming; especially when most actions would pose a bigger threat to human wellbeing than does global warming.

### Two clouds, and a hot prediction

Consider, first, the uncertainty of scientists about the extent of global warming. Despite recent advances (see pages 65-67), science still understands little about the world's climate, a system that depends on a huge range of variables, with causation flowing in every direction. Most scientists agree that, provided other variables remain the same, big increases in carbon dioxide will boost temperatures. But the extent of the boost is widely disputed. And nobody can predict whether other variables will remain the same. Some scientists reckon that rather than just growing gradually warmer, the climate may become subject to sudden lurches. That makes it even harder for countries to prepare for climate change. The Intergovernmental Panel on Climate Change, the body of scientists studying global warming, reckons that a doubling of carbon in the atmosphere could lead to a temperature rise of anywhere between 1.5°C and 4.5°C.

There is also much uncertainty about the costs of global warming. Some areas of the world would benefit from a warmer climate. Cold wastelands, for example, might become fertile farmland. Other areas would suffer. If global warming raised the sea level, valuable inhabited land (eg, in Bangladesh, the Nile delta and the Maldive Islands) would be submerged. Estimates of the overall economic impact of global warming depend on weighing these costs—the dislocations of ways of



life based on the present climate—against potential benefits, ie, the opportunities for growth in places where the climate improves. Few expect the benefits to carry the day, especially if the temperature rises quickly.

Economists have, however, pointed out that even substantial net costs can and should be tolerated if the alternatives are worse. Even a pessimistic prediction that climate change could knock 20% off world income in a hundred years' time would imply merely that the world economy expands a little more slowly than otherwise. To set this in perspective, consider another extrapolation: the world economy could, if recent growth continues, be over 300% bigger in 2095 than today—and so that much better able to bear the costs of coping with climate change.

One of the few certainties about global warming is that the costs of severely curbing emissions of greenhouse gases now would be huge. The world relies on carbon-based fuels for 90% of its energy needs. A quick, enforced switch to non-polluting alternatives would savagely cut people's living standards. In developing countries reliant on fossil-fuelled economic growth to lift them out of poverty, the pain would be acute. Why should people make such a sacrifice for a problem whose extent and cost are so uncertain? There are more pressing environmental concerns such as urban smog, the spread of disease and inadequate sanitation in poor countries. Unlike global warming, these cause enormous suffering for millions of people now. And it would cost less to alleviate or even eliminate them than to reduce sharply the world's output of greenhouse gases.

This does not mean that world governments should do nothing about the possibility, however remote, of climatic catastrophe. Many policies that would reduce greenhouse emissions are desirable on their own terms. For example, most state subsidies for energy industries should be scrapped on grounds of economic efficiency. That would lead to less coal being burned (the coal industry is often heavily subsidised) and to higher electricity prices, encouraging conservation. Proper road pricing should be introduced to reduce congestion in cities. Policies designed to deal with one environmental problem may not necessarily help with others, however. Scrubbing sulphur dioxide out of power-station emissions curtails acid rain, but it may enhance warming; sulphur compounds in the atmosphere cool the earth.

Besides encouraging energy efficiency, governments should also continue to finance research into the science of climate change, and into how to reduce the costs of non-polluting fuels. Such actions could pay dividends if more drastic measures to counter global warming ever became necessary. Even the occasional jamboree such as Berlin's may be justified, so long as it does not foster panic: the wheels of global co-opera-

tion should be kept oiled in case climate change turns nasty. Other than that, however, patience should be the watchword. Within a couple of decades, scientists should have a firmer grip on the influences on climate. By then the costs of altering the world's economic structure are likely to be lower: although prices of most non-polluting fuels, such as solar power, are still higher than fossil fuels, the gap is narrowing. And if climate change turned out to mean no more than a slow but steady rise in temperatures, the costs of adapting as warming occurs (such

as building higher sea walls) might still prove lower than the costs of prevention.

Greens will no doubt continue to paint their scary pictures of the future. What, they will ask, if climate change were to entail a sudden lurch that led to half the world starving to death in 50 years' time? The best answer is that anything can happen in half a century: even an invasion by aliens, say. On present evidence, though, any huge catastrophe looks highly improbable. There is still time to bask in the sun.

## Candidate Chirac

Has he changed enough to become the next president of France?

LIKE the sumo wrestlers he admires, Jacques Chirac, would-be president of France, is a master of tactics, timing and deadly bursts of speed. Dismissed as a has-been, for months Mr Chirac trailed in the opinion polls. Now, with less than a month to go before voting starts for the presidency, he has sprung back as the contender to beat. By presenting himself as a man of deep experience yet with the common touch, he has made the Socialist candidate, Lionel Jospin, seem merely dull and the prime minister, Edouard Balladur, look like a nose-in-the-air bourgeois. Candidate Chirac is on the rebound. But would he make a good president?

One issue was bound to dominate the election: unemployment, which has stuck at over 12% for more than a year (see page 42). Mr Chirac's solution is a radical expansion of employment subsidies, sharp cuts in payroll taxes and increased spending on education and health. He cannot keep these promises, while also reducing the public-sector deficit, as he says he will, from 5.7% of GDP to below 3%, without increasing taxes sharply. But Mr Chirac has promised to cut taxes. To the charge of innumeracy can be added that of sogginess: he wants to give still more protection to France's farmers.

Mr Chirac's numbers may not add up, but nor do those of his opponents. Especially when it comes to the battle for the presidency, the French take politicians' promises for what they mostly are—hot air—and concentrate instead on the personal qualities of the candidates.

Mr Chirac's claim to be a man of experience is borne out by his record of office. He first became a minister almost 30 years ago. He was prime minister twice, in 1974-76 and then in 1986-88 (though without notable success). He has been an effective and admired mayor of Paris for almost 20 years. Though he has tried twice before for the presidency, in 1981 and 1988, and lost, this is now presented as necessary preparation: like François Mitterrand, and De Gaulle before that, Mr Chirac has endured a long "crossing of the desert" in mid-career.

His famous resilience, however, is not matched by consistency. Once known as a nationalist Eurosceptic, a point he was happy to highlight last year when he thought Jacques Delors would bid for the presidency, Mr Chirac now presents himself as a good European and a supporter of a single currency. Once a right-wing budget-slasher who abolished the wealth tax in 1986 (and before that a proponent of trade unions and workers' rights), he has reinvented himself once again, this time as a one-nation Gaullist with a social conscience. The real Chirac, say

his supporters, is these days a more mature, sober politician. To his detractors, Mr Chirac is erratic and impulsive, a man who will jump at the first idea thrown at him.

The great unanswerable question is whether such a compulsive tactician could make a good president. Yet Mr Chirac's policy zigzags over the years have been no worse than those of President Mitterrand. Since Mr Mitterrand's most spectacular U-turn, in 1983, when he junked his reflation convictions for the austerity and stable-franc policies that have prevailed since, he has been a pillar of stability. The moral constraints of the presidency—the incumbent is, after all, president of all of France, not just of one of its political factions—would restrict his freedom to wobble.

But President Chirac would also have the advantage of a large centre-right majority in parliament. How might he use it? He is not a radical in the modern British or American sense. He is a *Radical* in the historical French one—a man of the centre, of toleration and modernisation. Although he has taken a tough line on immigration, more than most leading conservatives he has kept his distance from Jean-Marie Le Pen's xenophobic National Front. Sceptical about the sort of European political union favoured by some German conservatives, Mr Chirac nonetheless campaigned for the Maastricht treaty in the 1992 referendum, though many of his allies opposed it.

### Stand up, and be counted

Mr Chirac is far from a shoo-in for president (if only because many voters have yet to make up their minds). Yet his constant campaign theme—France's need to "break with the past"—has touched a chord among the electorate. France faces big challenges. At home, the welfare state, the social-security system and the public-health and education systems are all in urgent need of reform. Meanwhile Germany, the country against which France measures itself, has grown larger and more powerful. The relationship with Germany needs to be recalibrated—a tough task at the best of times, but one that will become trickier still if European monetary union turns out to have the political consequences that many French politicians, including Mr Chirac, hope to avoid.

This is the first opportunity French voters have had to choose a president to meet these new challenges. Mr Chirac's bid to be that president seems a strong one—always assuming that the real Jacques Chirac has finally stood up.



## Global warming and cooling enthusiasm

BERLIN

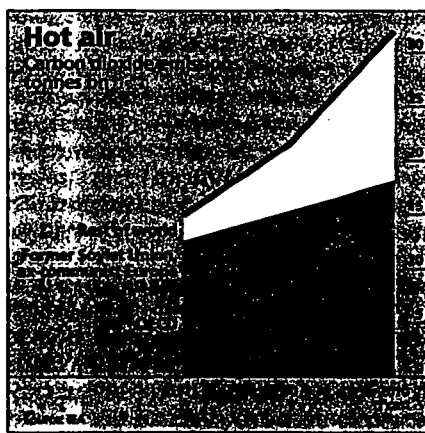
**H**AS the great global-warming bubble burst? The 1992 "Earth summit" in Rio, at which the world committed itself to avoid the threat that is said to overhang it, was conducted in a spirit of zeal. The globe had just experienced some of the warmest years on record. In many countries voters were flush with green idealism. Politicians made eager promises about curbing greenhouse gases. This week, as politicians, bureaucrats and the ever-growing fringe of non-governmental organisations gathered in Berlin for the second summit on climate change, reality sent a chill breeze through their deliberations.

Talks on the global climate are now viscous with regional politics and national self-interest. For all its output of warm guff, the conference was expected, at best, to thaw out only a few of the problems. Too much is at stake, and quite different things for different countries. Broadly, these:

- **Small island states.** The threat of global warming terrifies a group of 30 Caribbean, Indian Ocean and Pacific islands. They fear it would lead to a rising sea level that would flood low-lying areas, and might overwhelm some of them, such as the Maldives, altogether. This group wants the rich countries to promise to reduce their carbon-dioxide emissions by at least 20% from 1990 levels by 2005. Fat chance. The rich countries promised at Rio to stabilise at the 1990 level by 2000. Most are unlikely to achieve even that.

- **OPEC.** This is the group most vehemently opposed to action on climate change. The economies of many OPEC countries have already been badly hit by low oil prices. If their industrialised customers commit themselves to further reductions in greenhouse-gas emissions, demand for oil and gas will fall. Green groups suspect that Saudi Arabia ratified the Rio treaty only in order to disrupt negotiations. "Whatever's on the table, they say no," says one diplomat.

- **Rich countries.** Although industrialised countries still have five years left to meet their target of sta-



bilising emissions, the omens are poor. Voters are more concerned about jobs than the environment. So governments have taken few costly measures. America, Canada, and the European Union (EU) admit that, on current trends, they will not reach their targets.

At Rio, the EU was the world's most forceful advocate of strong targets. Since then sundry proposed EU policies to reduce emissions—a carbon tax, for instance—have been pigeon-holed. Those EU countries likely to meet their targets, such as Britain

and Germany, will probably do so by accident. Unification has killed off antique coal-burning industries in eastern Germany. Britain has shut most of its coal mines to save taxpayers' money, not the world's environment.

Unable to keep their promises, rich countries have reacted in three ways. First, they have squabbled over definitions. For example, should countries be allowed to meet their targets by, say, planting forests, which would absorb carbon dioxide? The United States, with plenty of space to do it in, says yes. So does New Zealand. More crowded countries disagree. Some countries have adjusted their targets, arguing that 1990 was an unusual year. Others want to exclude emissions from certain sources, for instance aircraft fuel.

Second, many rich countries have pushed the idea of "joint implementation". This would allow them to pay for emission-reducing projects in poor countries—pollution control or indeed tree-planting, say—and then to count the reductions against their own targets. This would save them money: the marginal cost of reducing emissions in poor countries is low. But many—not all—poor countries oppose the idea, arguing that would merely allow rich countries to avoid tough action at home.

Third, and most important, rich countries have begun to ask why they should make any effort against global warming when poor ones have committed themselves to nothing. Indeed, by 2010, carbon-dioxide emissions from developing countries will probably be more than the rich world's output. Fifty years hence, coal-burning by economic giants such as China and India could make today's rich world emissions look insignificant.

- **Poor countries.** The mere suggestion that the third world should make any commitments is a "diplomatic dead end", says one green activist. It argues that the rich have contributed most to greenhouse-gas emissions so far, and should therefore suffer the most pain. "We take global warming seriously", says one Asian diplomat. "But we are disillusioned by the way it is being handled by the developed world."

However, the poor can smell money in the climate-change negotiations. If the rich world wants them to reduce emissions, they argue, let it both pay the cost and provide them with non-polluting



technologies. "We are talking about a huge, huge transfer of resources," says one Latin American climate-negotiator. Really? The rich are not. Few are ready to supply new technologies for free. And the Global Environment Fund—the body which distributes money to poor countries—has so far received pledges of only around \$2 billion for 1994-97; enough, maybe, to pay for the poor to find out what they are emitting anyway.

Some poor countries see "joint implementation" as a way to draw in rich-world investment. Chile, Costa Rica and Pakistan have all signed agreements with the United States. Others are playing hard to get. An Asian diplomat reckons that his country will earn a higher price for this sort of project if it delays agreement until 1999. By that time, he reasons, rich countries will be desperate for ways to fulfil their Rio targets. Possibly; but in collaboration with whom? Those whose claim to take a threat seriously does not include doing anything about it?

## South Africa

# Fighting Winnie

JOHANNESBURG

**I**S SHE finished? Or on the way to the top? Winnie Mandela certainly felt her dismissal from the cabinet on March 27th as a personal blow. But the loss of her post as deputy minister of culture, science and technology, for defying President Nelson Mandela and criticising the government of which she was part, does not end her long political career. It may help her.

In her nine months of office, Mrs Mandela more than once accused the gov-

ernment and fellow African National Congress (ANC) members of being less concerned to assuage black grievances than white anxieties. She attacked their eagerness to make a deal with the white establishment and to "sleep between silk sheets". She herself, her critics remark, indulges a taste for fine clothes and expensive cars. But that does not seem to diminish her popularity with the black electorate. And now she can freely make her populist rhetoric the focus of a campaign.

At the ANC's national conference in December, she came fifth in the vote for the executive, after the election of key office holders including Mr Mandela himself and his deputy—in the party as in the nation—Thabo Mbeki. Other populists too did well. Bantu Holomisa, formerly military ruler of Transkei, topped the poll; Peter Mokaba, past president of the ANC Youth League, came third; Harry Gwala, a fiery Stalinist from Natal, ninth. If the populists hold together, they could create grave difficulties for the present ANC leadership.

Mrs Mandela has always been a fighter, against white rule in the past, recently against her foes—the "cabal" as she labels them—within the ANC. By late 1992 she appeared to have lost. She had been found guilty in 1991 of involvement in the kidnapping of a black youth later murdered by one of her bodyguards. Mr Mandela in April 1992 announced that he and his wife were to separate. She resigned as head of the ANC social-welfare department and, in September 1992 was pushed from all her ANC positions, after the publication of a love letter reportedly written to her by her dashing young number two in the department. Yet by December 1993 she was back, elected to the presidency of the ANC Women's League,

a victory that guaranteed her a seat in parliament and a post in the future elected government.

Can she now stage another spectacular recovery and re-emerge as a serious contender for the presidency after Mr Mandela, who is now 76, is gone? Some think so. Yet her main potential is probably as a backer—or wrecker—not a candidate. For there is a new, perhaps decisive, factor in the calculation. In the past, Mr Mandela has either stood by his wife (during the crisis over the kidnapping) or remained publicly neutral (after their separation). Now he has disowned her politically. She cannot claim that her only critics are the "cabal".

The ANC and its allies—the Communist Party, the Congress of South African Trade Unions and the South African National Civic Organisation—have rallied around Mr Mandela, promising "unequivocal support". Even the ANC Women's League has acknowledged his right to dismiss his estranged wife. With these forces against her, Mrs Mandela may find her position in parliament threatened if she persistently challenges the ANC leadership. Members are elected from a party list. If the leadership dislikes them, down or off the list they go.

Meanwhile the police are looking into allegations that Mrs Mandela used her cabinet job to aid a building company, in return for kickbacks. A Supreme Court judge last week ruled that the search warrant used by policemen when they raided her house was invalid, but the investigation continues.

So she looks an unlikely successor to Mr Mandela. But she could certainly help or hinder likelier hopefuls. The front-runner today is Mr Mbeki. He rose with the backing of the populists. Will they now turn against him, for his role as Mr Mandela's trouble-shooter in the run-up to Mrs Mandela's dismissal? If so, the balance could tip toward the ANC secretary-general, Cyril Ramaphosa, for all that Mrs Mandela used to call him a member of the cabal.



Never underestimate her

## Rwandan refugees

# Crime and nourishment

GOMA, ZAIRE

**T**HE Mugunga camp in Goma, near to the border with Rwanda, supposedly is a refuge for people, nearly all of them Hutus, who fled that country last summer and dare not go home, now that it is run by Tutsis. In reality, the camp looks more like a military training ground. Soldiers from the army of Rwanda's former Hutu government loiter about in full uniform. Militiamen wave axes menacingly at white-skinned foreigners. Weapons are hidden close by and vehi-

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

June 9, 1995

*Lisa - could you put in some other talking points M*  
*file Talking points*

TO: LAURA TYSON

FROM: MARK MAZUR *mark*

SUBJECT: ADDITIONAL TALKING POINTS ON DIFFERENCES BETWEEN OMB AND CBO MEDICARE AND MEDICAID BASELINE ESTIMATES

Joe Stiglitz suggested that I add a couple items to the talking points I gave you earlier today. These additional points are attached.

Please let me know if you have any questions.

cc: JES, MB, MJolin, TO'D,

### Medicare

- Annual growth rates for Medicare expenditures have exhibited a lot of variability. For example, from 1981-1995, annual growth rates range from 4.8 percent (in 1988) to 22.3 percent (in 1981). The median growth rate over the past nine years is 7.5 percent, considerably less than either the CBO or OMB forecasts.

### Medicaid

- The high growth rates for Medicaid expenditures during the early 1990s (e.g., 27 percent in 1991 and 29 percent in 1992) reflect two features that are not likely to be repeated. First, the number of Medicaid recipients increased due to eligibility expansions and the last recession (there was a 4.7 million increase from 1989-91). Second, States attempted to take advantage of the Medicaid program through aggressive use of "voluntary" donations that were matched by Federal funds. Neither of these is likely to be repeated in the foreseeable future. Therefore, OMB is confident that the rate of Medicaid growth will be limited by increases in underlying costs of providing medical services and beneficiary growth.

### Medical CPI

- Related to the medical CPI issue -- Data for the first four months show a further decline in the rate of increase in medical care prices, from 4.9 percent in 1994 to a 3.6 percent annual rate for January through April 1995.



**Department of Energy**

Washington, DC 20585

JUN 01 1995

File 1

Joseph Stiglitz  
Member  
Council of Economic Advisors  
Room 314  
Old Executive Office Building  
17th St. & Pennsylvania Ave., NW  
Washington, DC 20503

Dear Mr. Stiglitz,

Please find the attached April and May 1995 testimonies from Tom Grumbly, Assistant Secretary for Environmental Management at the U.S. Department of Energy. If you have any questions, please contact me at 202-586-4253.

Sincerely,

*Stephanie K. Bennett*  
for

Dave Simon  
Program Coordinator  
Environmental Management



**STATEMENT OF  
THOMAS P. GRUMBLY**

**ASSISTANT SECRETARY for ENVIRONMENTAL MANAGEMENT  
DEPARTMENT of ENERGY  
before the  
SUBCOMMITTEE on SUPERFUND, WASTE CONTROL, and RISK ASSESSMENT  
of the  
COMMITTEE on ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE**

**MAY 9, 1995**

Mr. Chairman and Members of the Committee, I appreciate this opportunity to appear before you today to discuss the Superfund program and how it affects the Department of Energy's Environmental Management program. In its current form, Superfund has flaws that lead to unnecessarily high costs and long time frames for cleanups. Since Superfund plays a large role in the Department's environmental programs, current shortcomings of the law will impede our ability to achieve the cost savings and productivity increases we have set.

Today I will briefly describe the Environmental Management program, the progress we have made, the substantial business changes we are implementing, and our budget outlook. Then I will explain how implementing certain changes to the Comprehensive Environmental Response, Compensation, and Liability Act - - or Superfund law -- can help reduce the costs and improve the effectiveness of this program.

#### **THE ENVIRONMENTAL MANAGEMENT PROGRAM**

The Department of Energy's Environmental Management program was created in late 1989 to manage the legacy of 50 years of nuclear weapons production and research at over 130 sites and facilities in over 30 states and territories. The scope of our activities -- the world's largest environmental stewardship program -- involves far more than just "cleanup of contaminated land." The Environmental Management program handles some of the highest risk environmental, health, safety, and nuclear nonproliferation problems in the world, such as unstable plutonium and potentially explosive underground radioactive waste tanks. In addition, we have inherited an enormous backlog

of nuclear waste and contaminated facilities that do not necessarily present immediate risks, but require funding to stabilize and even more funding for ultimate disposition. All of these risks -- urgent as well as long-term -- are part of the Government's obligation to deal with the legacy of the Cold War.

The task ahead remains formidable, and yet presents many opportunities for improving upon how we, as a Nation, respond to the challenges of remediating the environmental legacy of almost five decades of nuclear weapons production. The Department favors the use of sound science in the conduct of risk assessments, the use of risk assessments and appropriate consideration of cleanup costs for decision-making, and the consideration of risk to human health and the environment in establishing priorities for its Environmental Management program. While the full nature and extent of contamination at the sites may not be fully known for many years, we are taking some tangible steps now to identify and mitigate the environmental and health risks associated with exposures to these dangerous materials.

#### **PROGRESS AND CHANGES IN THE WAY WE DO BUSINESS**

I would now like to highlight some of the Environmental Management program's accomplishments. These results not only demonstrate significant progress, but also reflect a new way of doing business by addressing urgent risks first while simultaneously controlling the long-term contamination and other hazards present at our sites. For example, recently we have addressed urgent risks in the following areas:

- At the Rocky Flats site in Colorado, we completed safety improvements to a building and began to stabilize inventories of pyrophoric plutonium

contained inside it. This material poses a fire hazard since, under certain conditions, plutonium ignites in air;

- Safely transferred 303 spent nuclear fuel elements to safer storage facilities in Idaho over the past 18 months; and
- Returned 153 spent nuclear fuel elements containing weapons-grade uranium of United States origin from foreign research reactors. Accepting these fuel elements helps support the Nation's nuclear nonproliferation policy because they contain weapons-usable highly-enriched uranium.

Since 1989, we have also achieved cumulative results that begin to reduce the backlog of accumulated waste and long-term contamination problems across the country:

- Decommissioned approximately 100 facilities across the complex;
- Cleaned up 18 former nuclear weapons and industrial sites and 14 sites associated with uranium mining and milling; and
- Treated 2.4 billion gallons of ground water and 1.8 billion gallons of surface water.

Despite these results, we know we can do more. We are in the midst of broad new initiatives across the Department's complex that will change the fundamental methods for accomplishing our environmental mission. We are changing the way business historically has been done at the Department by introducing proven economic and business techniques such as recompeting contracts at our sites to provide new incentives for performance. We are also reducing our contractor workforce to eliminate unnecessary layers of workers while retaining the right people with the right skills for our environmental mission, and hiring experienced cost estimators and project managers to increase the efficiency of ongoing work. These initiatives are just beginning to be implemented, but already they have demonstrated impressive savings -- over \$2 billion in savings are anticipated from FY 1994 through FY 1996.

## **CONTRIBUTING TO DEFICIT REDUCTION**

The Environmental Management program is playing a significant role in contributing to a leaner federal government and deficit reduction as part of the President's proposed FY 1996 budget. The entire Departmental budget is being reduced by \$10.4 billion over the next five years. The Environmental Management program budget request will account for a large portion of this reduction. For fiscal years 1997 through 2000, our request is being reduced by \$4.4 billion in outlays, which translates into a \$5.5 billion reduction in requested budget authority over the same period based on earlier Administration plans. I believe these are very aggressive, but ultimately achievable reductions.

Our program will continue to be driven by a results-oriented, risk-based approach that seeks to address the most urgent public health and safety problems first. However, after this fiscal year, even with the continued productivity savings that are expected, there will be a gap between available resources and requirements in the future. In order to continue to meet our legal obligations, we will need to address these outyear challenges with new analytical tools, pursue renegotiation of some of our compliance agreements, and statutory changes. Superfund is one statute that presents opportunities for change that will help the Environmental Management program better achieve its goals at less cost.

## **FUNDAMENTAL PROBLEMS**

In the past I have discussed how the Department was fundamentally reevaluating how we go about the process of "cleanup" at our facilities. I have stated that our reassessment was based upon the lessons learned by the Environmental

Management program over the past five years, as well as the lessons learned from the Superfund Program. We have found that:

- (1) we do not have adequate technologies to fully remedy many contamination problems -- and the investigation technologies, while more developed, are inherently experimental and often run into unexpected problems;
- (2) there are inadequate data available to fully characterize human and environmental risks associated with contaminant exposures;
- (3) few consensus standards exist for determining "how clean is clean" at Superfund sites; and,
- (4) the number of sites to be remediated exceeds the resources expected to be available.

The nation has learned a great deal about dealing with the problems of old waste sites since Superfund was enacted in 1980. When the law was first passed, news of "orphaned" waste sites were prominently featured in the news media. Public anxiety about the problem increased with each new discovery. The government lacked adequate authority to take timely action or to hold responsible parties liable for the cleanup costs. In the wake of Superfund's enactment, the Environmental Protection Agency worked to create a substantial response and enforcement capability. The time has long passed, however, when the initial response to the problem is adequate to deal with the problem cost-effectively.

#### **PROGRAMMATIC PROBLEMS WITH SUPERFUND**

Despite accomplishments at federal and private sector sites, Superfund's weaknesses have been recognized by virtually all stakeholders, and they threaten to undermine the efficacy of the statute. The Superfund program has been criticized for:

- Poor value for the money: Superfund is widely criticized for costing too much and delivering too little, and for imposing high costs while not delivering enough in the way of measurable public health benefits.
- Inconsistent and inadequate cleanups: The statute currently does not specify standard levels of cleanup nationwide; instead, it establishes a complex cleanup framework under which applicable or relevant and appropriate state and federal standards are used to set cleanup levels. Consequently, cleanup goals, remedies, and costs across the country are inconsistent. This inconsistency contributes to uncertainty, protracted site-by-site evaluations, debate over cleanup goals, and higher than necessary cleanup costs.
- Overlapping Federal/State relationship: The federal government has primary responsibility for implementing the Superfund Program, and it has exclusive access to the money in the Superfund. States, however, play a significant role in the program's implementation. State standards apply to all cleanups, and states must pay a share of cleanup costs at non-federal facilities. In addition, States have significant input in selecting and carrying out cleanup remedies. Due to this overlapping authority and responsibility, federal and state governments often disagree over the degree to which sites should be cleaned up, the remedy to be used, and the allocation of costs. These disagreements contribute to the costs and duration of cleanups, and can result in confusion among stakeholders.
- Inadequate community involvement: Many communities near Superfund sites, including low-income, minority, and Native American communities, are not provided with the opportunity to participate fully in the Superfund process. These and other communities believe that the program does not address local circumstances adequately when evaluating the risk or determining the method and level of cleanup. Consequently, communities may conclude that the resulting cleanup is either overly conservative or insufficiently protective.

Other criticisms have been made of Superfund such as liability provisions that create economic disincentives to purchase land and/or provide financing for doing so, among others. These other criticisms may be valid, but do not affect the Environmental Management program directly.

### **CHANGING SUPERFUND TO MAKE IT WORK BETTER AND COST LESS**

Reforms to Superfund are needed to remedy the weaknesses contained in the

current law. Many of these reforms were raised in my testimony before your Committee last year. These reforms will substantially increase the efficiency and effectiveness of the Environmental Management program's cleanups, while protecting human health and the environment. I will address four key reforms that are especially needed by the Environmental Management program:

- Clear, universally applicable cleanup standards
- Future land use/remedy selection
- Community involvement
- Innovative technology

#### CLEAR STANDARDS FOR REMEDIATION

One serious problem with the current law is that it does not provide a clear standard for acceptable cleanup or specify what level of risk can remain at a site after it is cleaned up. This can lead to sites being remediated to levels far greater than what might be required given the likely future use of the area and to confusion about what is an appropriate remedial technique for a particular site. Ultimately, these problems lead to higher costs than are necessary.

Through rulemaking, several steps could help remedy this flaw in the Superfund law. First, national goals for the protection of human health and the environment should be applied to all sites covered by the law. Second, generic cleanup standards should be developed for the specific hazardous substances, pollutants, and contaminants most commonly found at these sites. Third, efforts to define cost-effective, generic remedies for the different types of sites, and establish procedures for selecting a remedy at a particular site should be continued. Fourth, as discussed later, a plan to

more strongly encourage the use of innovative technologies for remediation which hold the promise for more effective and less costly cleanup should be put in place.

During the 103rd Congress, a consensus bill was developed that addressed a number of the problems discussed above. The most important of these involves the appropriate standards for the cleanup of radionuclides. Due to the unique properties of radionuclides, it may not be possible or feasible to detect specific radionuclides or to distinguish them from natural background at very low concentration levels; in addition there is a lack of cost effective technology for the cleanup of many radionuclides. To account for the potentially huge costs these technical problems with radionuclides pose for the Department, it is essential that the reformed remedy selection process address these issues. One option incorporated into the Senate Superfund bill in the 103rd Congress is to require the establishment of separate residual risk levels for specific radionuclides. In addition, Superfund reform should expressly clarify that cleanups under Superfund should not be required to achieve risk levels that are less than that of the background level of the contaminant.

#### FUTURE LAND USE / REMEDY SELECTION

A closely related problem is that Superfund currently does not require that the projected future use of a site be considered when making decisions about a cleanup strategy (this affects both cleanup standards and remedy selection). Anticipated future land use at a site needs to be fully considered when

selecting a cleanup remedy for the site. Clearly, this issue affects not only Federal agencies, but state, local and tribal governments, and the public.

The current situation is difficult. In some cases, no clear decisions have been made on future land use. This lack of a decision about future land use can lead to a "default" choice of remediating the site to levels suitable for immediate unrestricted use. This situation tends to establish default cleanup levels that are technologically or economically infeasible in the near term and therefore hampers the progress of cleanup. It is possible that land where some degree of "cleanup" has occurred may be deemed unavailable.

The current law's preference for treatment/permanence should be narrowed and replaced with the concept of long-term reliability and a preference for the treatment of "hot spots."

The effect of these proposed changes will improve the remedy selection process so that cleanups will occur faster and cost less. It will also assure that all communities receive the same protection from potential health hazards associated with our 23 NPL sites and also with our non-NPL sites.

In addition to the changes mentioned above, the use of sound risk assessments based on land use decisions are needed. The Clinton Administration recognized early on the importance of applying sound risk analysis procedures to regulatory decision-making. An interagency regulatory work group has established a set of risk principles to guide decision makers in the areas of

risk assessment, risk management, risk communication and priority-setting. The Department of Energy has adopted these principles, which were modified to apply more specifically to the Department's programs and processes. The Environmental Management program was the chief driver behind the Department's efforts in this area. These risk principles could serve as a model for constructing an effective risk assessment mechanism in the Superfund process.

The idea of using land use decisions as a sound basis for remedy selection and cleanup levels is not an abstraction. The Department recently released the Baseline Environmental Management Report (BEMR), which showed that more stringent cleanup standards without full consideration of reasonable land use will equate to greater cleanup and greater costs. In fact, future land use of our sites was found to be the single most significant driver of the cost of the program. The report, which analyzes life-cycle costs based on several different sets of assumptions, estimates a range from approximately \$175 billion -- if we do nothing more than merely stabilize sites within "iron fences" -- to as high as \$500 billion for returning our sites to so-called modified "green field" conditions over the next 70 years, depending on the level of cleanup assumed. During development of the BEMR, we discovered that project managers and state and Federal regulators have already been taking future land use into consideration in planning and selecting remedies. Legislative changes are needed to facilitate greater consideration of future land use in our decisions.

We are committed to making land-use planning a key element in our cleanup strategy. Without specific statutory authority, we are doing as much as we can to consider future land use under current authority. In mid-1993, I

established a Future Land Use Working Group to develop an integrated approach to the land-use issue. The Working Group pooled the efforts of numerous Department organizations, national laboratories, contractors, universities and independent groups to focus on a single goal to develop and document a framework for Department sites to develop stakeholder-preferred future use options that would feed into the planning and decision-making activities of all Department organizations.

More than ten meetings and workshops were held throughout the country with a total participation in excess of 500 people. This effort produced a guidance document for site managers on how to identify future use options -- establishing Department roles, responsibilities and commitments, establishing a site-specific process, identifying the stakeholders and engaging in public participation, compiling adequate data and information, evaluating various options, and having this process feed into overall planning and decision-making process for the site.

In addition to the Environmental Management program's efforts, Secretary Hazel O'Leary created the Department's Land Use Initiative to promote effective stewardship of the Department's land, facilities, and other assets. As part of that initiative, the Department issued the Land and Facility Use Policy to augment the original Future Use initiative by requiring sites, with significant public participation, to develop comprehensive plans that integrate mission, economic, ecologic, social, and cultural factors. Many sites are currently well under way with efforts aimed at satisfying this directive.

## COMMUNITY INVOLVEMENT

Substantive community involvement in the Superfund process should be formalized to ensure stakeholder involvement in our site remediation decision-making. Under the Administration's proposal last year, communities would be involved in all phases of the cleanup process including the establishment of, and consultation with, community workgroups throughout the remedy selection and cleanup process. It is envisioned that these same community workgroups would also function as an information clearinghouse for the community -- informing the public of current and future site restoration activities being undertaken by the Department and its contractors.

The need for this provision in the Superfund law is clear. We have recognized that fifty years of secrecy related to nuclear weapons operations has contributed not only to widespread environmental safety and health problems, but also to a widespread distrust of the Department. We have learned that building trust is essential to the success of the Environmental Management program -- for negotiating agreements, obtaining permits, achieving consensus on risks and in defining the future use of the sites.

To support this effort, I have established an Office of Public Accountability in the Environmental Management program. This office is responsible for ensuring that all Environmental Management offices conduct substantive, cooperative planning with all our stakeholders in the development and implementation of budgets and policies. Approximately 25 percent of our personnel in the field have received training on public participation, and in a short time, this office has taken major strides to actively involve the public in meaningful ways:

- We are following the recommendations of the "Keystone Committee," by involving stakeholders in key decisions and establishing site-specific advisory boards (SSABs) at our major sites. We currently have nine SSABs in place and expect two additional boards to form within the next six months.
- Through the State and Tribal Working Group (STWG), the Department provides a forum for six tribes and 17 states to share their concerns and provide valuable perspectives on the effectiveness of our programs.
- The Environmental Management Advisory Board (EMAB) involves representatives from labor, the U.S. Environmental Protection Agency, tribes, states and citizen groups in a variety of issues facing the Environmental Management program.
- We are also committed, in accordance with the new Executive Order on environmental justice, to working with those individuals and groups who have been and continue to be disenfranchised around our sites. We are broadening our commitments, for example, in terms of grants to the Native American communities around our sites, and are working to ensure that the Indian Nations are responsibly included in all of our negotiations with regulatory authorities.

These efforts have made a difference. These steps have allowed us to work more cooperatively, effectively, and efficiently at our sites. In fact, a recent survey of Department of Energy stakeholders shows that the trust and confidence levels with respect to the Department have risen by five percentage points since 1992. This survey was conducted by Washington State University in the fall of 1994, and the results were released this spring. Some 300 stakeholders were selected randomly from a compilation of Departmental stakeholder lists, including an update of the Stakeholder Group list used in 1992 for the earlier survey. But we still have work to do. There are more opportunities for meaningful public involvement.

Superfund should be reformed to incorporate community involvement earlier in the remedy selection process. We have often been criticized for not adequately addressing local circumstances when we evaluate the risks associated with a site or determining the method or level of cleanup. For too

long, community groups have felt shut out of the process of site remediation decisionmaking, discussions of future land use options, and the risk evaluation process. Community involvement should be an integral part of the remedy selection process that will, in the long run, make the risk assessment and management process more open, and more democratic.

#### INNOVATIVE TECHNOLOGY

The current Superfund cleanup remedy selection process often favors the application of existing, proven, technologies over consideration of promising innovative technologies that could reduce costs and increase effectiveness and potentially lower treatment costs. Incentives are needed to encourage the development and use of innovative technologies. We believe that the statute should be amended to allow the deferral of the remedy selection for remedial action(s) under certain conditions:

- An innovative treatment remedy is likely to become available within a reasonable period of time;
- The hazard can be adequately contained during the deferral period; and
- The interim containment includes adequate monitoring to ensure the integrity of the containment system during the deferral period.

For private sector cleanups, EPA should be required to share technology risks by approving the use of innovative technologies, and, if the technology fails, contributing a percentage of the cost of any additional remediation required. The Department estimates that it could derive dramatic savings in ultimate cleanup costs if remediation deferrals were allowed through the year 2005 for the development of innovative cleanup technologies. Our Technology Development program has already saved over \$115 million by using new or improved environmental technologies, and now that the program is focussed on

our most urgent programmatic needs, future savings will likely surpass this significantly.

As you know, we have begun to implement a strategy that identifies and develops technologies that can clean up the nuclear weapons complex, and manage our wastes more safely, quickly, and at lower costs. In many cases, developing new technologies presents the best hope for ensuring a real reduction in risk to the environment and improved worker and public safety, especially given the fiscal constraints of our Nation's economy.

In support of the Department's commitment to the effectiveness of all its programs, I have implemented a new approach to managing the Department's environmental research and technology development program that is focused on overcoming major obstacles to progress in cleaning up the sites and that involves the best talent in the Department and the national science communities.

Key features of this new approach include teaming up with the Department's waste management and environmental restoration programs to: (1) identify, develop and implement needed technology; (2) focus technology development activities on major environmental problems; (3) ensure the coordinated management of all scientific and development activities in support of the Environmental Management program; (4) focus all available resources in the national laboratories more effectively; (5) involve industry in developing and implementing solutions including both technology transfer into the Department and technology transfer from the Department to the private sector; (6) strengthen basic research by involving academia and other research organizations to stimulate technological breakthroughs; (7) enhance mechanisms

for regulator and stakeholder involvement; and, (8) enhance mechanisms for implementing technology development results.

We are involved in a number of efforts to develop these new technologies. First, of course, are the numerous efforts underway at the national laboratories. These institutions have some of the best technical talent and facilities in the world: they are now available for conversion from their previous defense mission. Second, we are serving on a Federal Advisory Committee to Develop On-Site Innovative Technologies (DOIT) with several western state governors, senior representatives from the Departments of Defense and Interior, the Environmental Protection Agency, and ex-officio members of the Western Governors Association and the Office of Management and Budget. Third, we intend to develop positive incentives to encourage the use of innovative technologies at each site.

#### CONCLUSION

The future course, length, and cost of the Environmental Management program will depend on a number of fundamental technical and policy choices, many of which have not yet been made. Ultimately, these decisions will be made on the basis of fulfilling Congressional mandates, regulatory direction, and adequate stakeholder input.

Part of the process of making these national decisions involves re-evaluating the statutory regime in which we operate our environmental programs. The Environmental Management program conducts activities under many federal environmental laws. Superfund has substantial impact on our program. Thus, implementing needed changes to correct the problems with the Superfund law can

greatly improve the efficiency and success of our projects, as well as reducing the costs associated with cleanups.

The proposals I have outlined, which address standardized cleanup levels, future land use planning/remedy selection, community involvement, and technology innovation, can go a long way in making the Environmental Management program less costly and more productive.

There is much that the Department can do on its own to increase efficiency and cut the costs of doing business. But we cannot get to where we need to be without a team effort with regulators and Congress to address the systemic roots of our problems. Furthermore, these problems need to be addressed quickly. The necessary legislative changes are needed this year in order for the Department to be able to meet its legal commitments and effectively protect public health and safety given our declining resources.

In closing, I would like to make clear that we would like to work with this Committee to find common ground so that we can move ahead and cooperatively address the problems the Department and the Nation, face.

Mr. Chairman, thank you for this opportunity to address this Committee on some changes we would like to see in any Superfund reform legislation and the effect(s) such reforms would have on the Environmental Management Program. I would be happy to answer any questions you might have at this time.

**Statement of Thomas P. Grumbly**

**Assistant Secretary for  
Environmental Management**

**U.S. Department of Energy**

**before**

**the Committee on Armed Services**

**U.S. Senate**

**April 25, 1995**

Mr. Chairman, and Members of the Committee, I appreciate this opportunity to appear before you to discuss the Department of Energy's Fiscal Year 1996 budget request for the Department of Energy's Environmental Management (EM) program. This program manages the human health and safety and environmental contamination consequences of the nation's fifty year nuclear weapons research, production, and testing program.

In my testimony, I will:

- Begin with some background of the Environmental Management program and describe the progress we have made, the challenges we face, and what we are doing and propose to do about them;
- Present an analysis of the budget requests for each program area, explaining the major activities, accomplishments, and commitments for each program; and
- Discuss some of the new program initiatives and progress being made toward achieving our strategic goals.

## I. INTRODUCTION

Last year the Department submitted a budget request for the Environmental Management program that was essentially flat, halting the trend of increasing budget requests that had occurred since the program was established in 1989. This year, I can report that this trend is being reversed with our FY 1996 budget request, which represents a reduction from last year given a comparable work scope. We have made substantial progress in changing the way we do business and have achieved increased cost savings through efficiency gains and

productivity improvements. This effort translates into safer working conditions, better protection of public health and safety, and a cleaner environment. All at less cost to the taxpayer.

The Environmental Management program is playing a significant role in contributing to a leaner federal government and deficit reduction as part of the President's proposed FY 1996 budget. The entire Departmental budget is being reduced by \$10.4 billion over the next five years. The Environmental Management program budget request will account for a large portion of this reduction. For fiscal years 1997 through 2000 our request is being reduced by \$4.4 billion in outlays, which translates into a \$5.5 billion reduction in requested budget authority over the same period, from the previous budget targets established by the Administration. I believe these are very aggressive, but, ultimately achievable reductions.

Our FY 1996 request reflects a continued commitment to solving environmental and safety problems as well as a continued commitment to improve the way the Department does business. Our request includes funding for major added responsibilities previously in the Defense Programs budget. The new scope includes management of the Savannah River site in South Carolina, the Mound site in Ohio, and the Pinellas Plant in Florida and 18 high risk facilities and 16 supporting facilities. Without the additional transferred scope of work, the Environmental Management base budget request for activities in waste management, environmental restoration, nuclear materials and facilities

stabilization, and technology development is actually four percent less than the amount appropriated in FY 1995.

The Environmental Management program is committed to doing more with less now and into the foreseeable future. The aforementioned reductions in outyear budgets will take place over a five-year period to allow us to ramp down in a controlled fashion. More extreme budget cuts beginning in FY 1996 would likely have negative consequences.

First, a drastic drop in our resources could diminish our ability to protect human health and safety at our sites. We have focussed significant attention on the most urgent risks at our sites. But, we cannot afford to defer indefinitely the lower priority efforts. Deferring problems only increases costs later and saddles future generations with the problems, and may, in some cases, cause the cleanup to be more expensive and more dangerous as conditions deteriorate.

Second, extreme budget cuts could also cause the Department to be out of compliance with its environmental requirements. Roughly 65 percent of our budget is driven by enforceable agreements. Without the needed time to renegotiate and reconfigure these agreements, where appropriate, to account for funding constraints and other factors, we may be unable to comply with them. This could result in the Department being subject to administrative or judicial enforcement orders and fines and penalties.

The Environmental Management program has many responsibilities, one of which is storing securely more than 25 metric tons of plutonium to prevent theft, sabotage, or diversion. We take our traditional environmental and waste management responsibilities very seriously. But, certain nuclear materials we handle have the potential for much greater harm. A mistake in safeguarding this nuclear material could result in incalculable calamity on a global scale. Nonetheless, nearly fifty years of nuclear weapons production have left us with a massive environmental legacy which we have a moral and legal obligation to address.

#### **BACKGROUND ON THE ENVIRONMENTAL MANAGEMENT**

The Department's Office of Environmental Management manages the largest environmental stewardship program in the world -- with over 130 sites and facilities in over 30 states and one territory. When it was established in 1989, the program was called environmental restoration and waste management. Since then, however, the importance of other missions, such as nuclear materials and facilities stabilization and technology development have grown significantly. The number of sites and facilities under our management has also grown as more buildings are determined to be surplus. The nuclear weapons production complex alone is spread over thousands of square miles in 13 states. Nuclear weapons production operations were shut down in the late 1980's, leaving a legacy of thousands of contaminated areas and buildings, huge waste volumes, and a large amount of hazardous nuclear materials still in the pipeline of their production processes. The Environmental Management program's responsibility is to address the most immediate, urgent risks to

human health and the environment as well as manage the long-term contamination and safety threats.

The task of Environmental Management is a significant one. To illustrate the extent of this task here is a short list of the wide variety of threats and risks facing the Department:

- hundreds of large, underground high-level radioactive waste tanks, many of which have leaked, and some of which may pose danger of an explosion;
- thousands of metric tons of highly radioactive spent nuclear fuel in various types of storage, some corroding; and
- thousands of radioactively contaminated buildings that must be stabilized and eventually decontaminated.
- contaminated drinking water, soils, and surface water;
- worker exposure to radiation and chemicals;
- theft or diversion of nuclear weapons material (e.g., plutonium and highly enriched uranium);
- industrial and transportation accidents;

We simultaneously satisfy a wide variety of demands:

- compliance with state and federal laws and regulations;
- compliance with negotiated agreements stemming from those regulations or court orders;
- International Atomic Energy Agency nuclear nonproliferation safeguards requirements;
- Defense Nuclear Facilities Safety Board "Recommendations";
- Worker safety and health protection expectations derived from OSHA, nuclear industry, and Departmental practices;
- Short- and long-term technology development needs; and
- Worker and community development needs (e.g., training and land reuse);

The task ahead remains formidable. Yet, we are taking some tangible steps now to identify and mitigate the environmental and health risks at our sites.

In March the Department completed the 1995 Baseline Environmental Management Report which provides life-cycle cost estimates for completing the DOE environmental management mission. The Baseline Report, which was required by

the FY 1994 National Defense Authorization Act, includes descriptions of projects, activities, remedies, schedules, and estimated costs for addressing the environmental problems at DOE sites. In addition to a "Base Case" program estimate, alternative scenarios were developed by modifying the following variables: future land use, funding, technology development, and waste management complex configuration.

The "Base Case" total program cost ranges from \$200 billion to \$350 billion (constant 1995 dollars) depending on productivity assumptions. The Baseline Report analysis assumes program activities through the year 2070; however, ninety percent (90%) of estimated costs would be incurred during the first forty years. The Mid-Range Base Case estimate is \$230 billion, assuming 20% productivity improvement through 2000 and 1 percent annual improvement thereafter. This is the productivity goal we are working for in our current program planning, although, we need to achieve it long before the year 2000.

The first question the Baseline Report was designed to help address is, "What do we as a Nation want to buy?" Considering this question, the Baseline Report is a tool to help us make better informed policy decisions with increasingly scarce federal resources and competing requirements. The alternative cases developed and estimated in the Baseline Report begin to shed light on what those alternatives would mean in terms of future policy decisions and estimated costs. The results of this year's Baseline Report indicate that future land use and development of new technologies will have the greatest long-term impact on costs.

We have other efforts underway, in addition to the Baseline Report, to support making more informed policy decisions, as well as improve the productivity of the Environmental Management program. For example, our current technology development efforts help us to better understand, in a more cost-effective manner, the type and extent of the environmental and safety risks at our sites. This information is a necessary first step in the process of remediating problems, such as dealing with plutonium in various forms and spent nuclear fuel rods. Technology development also addresses the major ongoing concerns and lessons learned from the past five years of Environmental Management program activities and from experience in the implementation of Superfund. These types of problems include the lack or inadequacy of existing technologies to remedy fully many of our complex environmental problems, the significant cost of some of these technologies, the lack of data available to characterize fully the risks; and the lack of consensus on standards for remediation.

The Environmental Management program is a prominent part of the nation's science and technology development effort. As I mentioned, one of the challenges we face is the lack of available technologies for many of our contamination and/or waste management problems -- a "technology/application" gap, if you will. The Department's National Laboratory system is a critical tool in developing newer, more effective, and cheaper environmental technologies to allow us to efficiently carry out our environmental projects. The Task Force on Alternative Futures for the Department of Energy National Laboratories released its report earlier this year, and I am happy that Bob

Galvin and Henry Kendall are joining us today to discuss the task force's work. We agree with many of its findings and recommendations and have already begun to implement some of them. We have and will continue to use the laboratory system to the extent it can compete in producing useful results in a cost-effective manner, compared to other sources of research and technology.

### MAKING PROGRESS

I would now like to highlight some of the Environmental Management program's accomplishments. These results not only demonstrate significant progress, but also reflect a new way of doing business by addressing urgent risks first while simultaneously managing the long-term contamination and health risks present at our sites. For example, in the last year we have addressed urgent risks in the following areas:

- Completed safety improvements to a building and begun to stabilize inventories of pyrophoric plutonium contained inside it at the Rocky Flats Plant in Colorado in FY 1995. This material poses a fire hazard since, under certain conditions, plutonium ignites in air;
- Safely transferred 199 spent nuclear fuel elements to safer storage facilities in Idaho; and
- Returned 153 spent nuclear fuel elements containing weapons-grade uranium of United States origin from foreign research reactors. Accepting these fuel elements helps support the Nation's nuclear nonproliferation policy because they contain weapons-usable highly-enriched uranium;
- Began routine operation of a pump that has virtually eliminated the threat of explosion in a high-level waste tank at our Hanford site.

Since 1989, we have also reduced the backlog of accumulated waste and long-term contamination problems across the country. The Department's accomplishments include the following:

- Decommissioned approximately 100 facilities across the complex;
- Cleaned up 18 former nuclear weapons and industrial sites and 14 sites associated with uranium mining and milling;
- Remediated over nearly 5,000 public and private properties contaminated with uranium tailings;
- Treated 2.4 billion gallons of ground water and 1.8 billion gallons of surface water;
- Recycled 16 million pounds of scrap metal;
- Safely transported roughly one million tons of hazardous materials in 140,000 shipments; and

#### **CHANGING THE WAY WE DO BUSINESS**

These achievements demonstrate real progress in meeting our legal and moral obligations. However, inefficiencies still exist in our system, and there is room for more improvement. Given the downward trend in funding for the Department's Environmental Management program, we cannot afford to become complacent. To make up for this year's real budget reductions, and to continue to seize opportunities for increasing productivity, we must continue to be smarter about the way we operate through increasing efficiency and eliminating wasteful spending by hiring experienced federal project managers, streamlining our contractor workforce, reducing indirect and overhead labor costs, and reforming our contracts. For example:

- We have hired 1,200 experienced project managers, cost estimators, safety and health professionals, and environmental engineers to provide greater accountability and oversight at our sites. In return for additional staff, field office managers have committed to specific productivity savings.

- We are reducing the number of contractor employees by a total of about 17,500 -- about 34 percent -- from FY 1994 to FY 1996. We are downsizing our workforce in accordance with Section 3161 of the Defense Authorization Act of 1993 to mitigate adverse effects of such layoffs. The Rocky Flats Plant in Colorado and the Idaho National Engineering Laboratory are taking about 35 and 30 percent reductions of their total workforce, respectively; the Hanford Site in Washington and the Savannah River Site in South Carolina are reducing their workforce by 26 and 22 percent, respectively.
- We are recompeting and renegotiating our contracts to include greater incentives for outstanding performance and to ensure that the contractors -- not the taxpayers -- take on a larger share of the risks associated with doing business with the Department. A recently completed consolidation of our Idaho contract is projected to save \$500 million over the next five years.

By instituting these changes, we believe that our program will be able to meet its legal commitments during FY 1996, with a few exceptions. In cases where legal problems may occur we have already begun working with State regulators to resolve them within the FY 1996 request level.

Our program will continue to be driven by a results-oriented, risk-based approach that seeks to address the most urgent public health and safety problems first. However, after this fiscal year, even with the continued productivity savings that are expected, there will be a gap between available resources and requirements in the future. In order to continue to meet our obligations, we will need to address these outyear challenges with new analytical tools, renegotiation of some of our compliance agreements, and statutory changes.

To help shape a smarter, more productive program, we are responding to several Congressional requirements by developing analytical and informational tools:

- As already described, the Baseline Environmental Management Report was submitted to Congress on March 30, 1995. This is the Department's first attempt since 1988 to estimate the total life-cycle costs and schedules to complete its Environmental Management missions. It also examines the potential impacts on cost of several factors, including future land use, residual contamination standards, and technology development.
- A Risk Report requested by the Committees on Appropriations in DOE's FY 1994 Energy and Water Development appropriation will be submitted to Congress in June. Although the Environmental Management program is making progress we realize a better understanding of the risks and how those risks are reflected in our compliance agreements is needed. This report presents an evaluation of the risks to the environment, workers and the public posed by Departmental facilities that are currently subject to compliance agreements.
- The Environmental Management Annual Cost and Variance Report submitted to Congress in March describes progress by the program across the country at our sites, including cost and schedule performance information.

With these tools we expect to improve our ability to plan the long-term future of the program.

#### **COOPERATIVE EFFORTS TO INCREASE SUCCESS ARE NEEDED**

The managerial initiatives are both bold and necessary to increase productivity, and the analytical tools we are developing and using to plan for a better future will reduce costs. But even these initiatives are not sufficient to ensure success. We still face a real reduction in budget relative to scope of work this year, and even deeper reductions in later years. Therefore, another way in which we are ensuring that we continue to meet our legal obligations is by working with regulators to make appropriate changes to compliance agreements and asking for appropriate changes in

requirements that apply to the Department such as the Comprehensive Environmental Response, Compensation, and Liability Act or "Superfund" law.

Let me emphasize that the Department is committed to complying with the laws that apply to its sites and operations. If Congress appropriates the President's budget request the Environmental Management program will be in substantial compliance with its legal commitments in FY 1996. Indeed, we have made real improvement in meeting our legal milestones in the past two years. In FY 1993 75% of Environmental Management milestones were completed. For FY 1994 and FY 1995 we are on track to complete 88% of our milestones, and in FY 1996 we are projecting completing 95% -97% of our milestone commitments. Notwithstanding that improvement many of our compliance agreements were signed during a fiscal climate much different from the one we have today. Some of the future milestones and schedules for completion are currently unworkable. Recognizing this, it is a reasonable, and indeed sensible, thing to do to work cooperatively with the States, stakeholders, and EPA to renegotiate those agreements as appropriate to align them more with current fiscal reality. Also, our goal in renegotiating these agreements is to ensure that they will achieve the greatest risk reduction and risk prevention per dollar spent.

#### **Compliance Agreement Changes**

Changes are needed in our compliance agreements with regulators to address the systemic conditions that continue to hinder greater progress in the Environmental Management program. Given our future budget profile, it will be

necessary to renegotiate some of the milestones in our current agreements.

The Department will seek to accomplish the following in any new or renegotiated compliance agreements:

- Establish realistic timelines for milestones that are challenging but doable;
- Establish ultimate end-point target dates, with appropriate intermediate objectives;
- Limit the enforceable milestones included in the agreement to a maximum of a three year timeframe to reflect sound technical planning assumptions, but allow for annual appropriations adjustments; and
- Provide that any and all penalties for noncompliance would fund further risk reduction.

We will continue to seek appropriate changes to our compliance agreements to better reflect budget realities and be able to address changing conditions at the sites. The Hanford Tri-Party Agreement was the first agreement renegotiated by the Clinton Administration, resulting in more than \$1 billion in savings. A second portion of the agreement is now being renegotiated to focus appropriate efforts on those risks of greatest concern to our stakeholders and make the cleanup more cost-effective. We are working with the states to effectively renegotiate our compliance agreements where necessary. We anticipate that by the end of June we will have a better idea whether this process will work.

In addition, changes in our budget cycle and the methods for setting enforceable milestones may be needed. In discussions with states we have proposed would allow for shorter-term milestones in our compliance agreements based on the lessons-learned after operating for several years under the current regime of multi-year milestone schedules. I would like to see compliance agreements with three-year milestone time frames, subject to annual appropriations changes, with longer-term milestones included as guidelines rather than enforceable actions. We hope to be able to accomplish this approach without the need for legislation. However, legislation that allowed a three-year budgeting cycle that paralleled the agreements would be desirable to provide more budget predictability to site and project managers.

#### Legislative Changes

We currently recommend four areas of legislative change which we believe are vital this year in order to rationalize cleanups. First, the Superfund law needs changes to future take land use into consideration in cleanup actions and to establish universal standards for cleanup -- standards based on sensible levels of risk given different future land uses.

Second, we support many elements of recently proposed risk legislation, and are working with the Congress to develop a sound and effective approach for such a risk analysis program. The Department also supports the inclusion of risks to workers as part of this legislation. The Department defined and published a set of principles for using risk analysis in January 1995. The principles are designed to be a first cut for the Department at defining risk

analysis, its purposes, and the principles to be followed if it is to be done well and credibly.

Third, changes are needed to address the way budgets are allocated among our sites. For example, legislation to allow for site-based budgeting would help improve integration of operations at our sites, and allow them more flexibility in responding to changing environmental conditions and priorities. It would also allow a more tailored approach to risk reduction, letting the site managers and stakeholders determine what the greatest risks are at the individual site and how to prioritize activities based on cost-benefit analyses. We have proposed such a system on a pilot basis in our FY 1996 budget request at the Rocky Flats site.

Finally, we should take another look at whether Federal officials should be exposed to the risk of criminal liability if a violation of environmental requirements occurs because of funding constraints where a good faith effort has been made to comply with the law.

The outlook for the Environmental Management program depends on many things. I have described the managerial changes we are implementing to address the challenges we face given declining resources. I have also outlined the focus on urgent risk reduction in prioritizing a results-oriented program. However, the scope of the Environmental Management program demands a national debate to

help set priorities and directions for the future. Some of the issues that I believe we need to work on together include the following:

- We need to reconsider the pace and long-term schedule for the Environmental Management program. In 1989, the Administration committed to a 30-year program. Now, preliminary analysis indicates that such a schedule is neither feasible nor wise. We need to consider carefully how to pace different aspects of the program. Our near-term goals need to address our urgent risks such as the Hanford waste tanks, spent nuclear fuel, and stabilizing nuclear materials and facilities to reduce maintenance costs. In addition, we need to invest in new technologies so that we have more effective and less costly remedies in the future. We need to think carefully about the risks and benefits of each alternative before selecting a particular course. In fact, the decision will not be a single one, but will be thousands of individual decisions based on the best information we can obtain on risks, costs, and schedules.
- We lack a rational and timely process to allocate funds in the event of a shortfall. I know that the Federal Facilities Environmental Restoration Dialogue Committee -- the "Keystone" group in which the Department participated -- recommended in 1993 that a pro rata allocation be made among compliance-related budget areas for environmental restoration and related activities. First, environmental restoration activities are only one part of our budget and other activities such as waste management and facility stabilization need to be considered in the allocation of cuts. Also, although this process is appealingly simple, it does not take into consideration differences between sites such as efficiency, risk or opportunities to make progress.

With respect to the last point, we plan to take a step toward a more efficient budget allocation process this year. As stated in brief earlier, we proposed a pilot project at Rocky Flats to implement a site-based budget, rather than allocating funds through the traditional program organizational elements. The goal of this initiative is to provide sufficient flexibility to the site to ensure that funds are allocated to the highest priorities after the appropriation process is completed to address urgent risks or to make investments to reduce long-term maintenance costs. Site managers will be better able to work cooperatively with their local regulators and stakeholders

to develop priorities that make sense for the site. These changes allow site managers to be more responsive to changing needs or site conditions, and avoids the cumbersome budget reprogramming process currently used. If this pilot proposal is approved and successful in FY 1996 at Rocky Flats, I plan to expand this budget technique to all sites for FY 1997.

In addition, we are exploring other options with respect to budgeting and priority setting that could help reduce total program costs and better focus technical expertise. These options are at the early stages of development, but could have the potential to dramatically change and improve how we conduct business, how much it costs, and how long it takes.

## **II. ANALYSIS OF THE ENVIRONMENTAL MANAGEMENT BUDGET BY PROGRAM AREA**

The FY 1996 budget request is being proposed under three separate appropriations accounts: the Energy Supply and Research Development appropriation (roughly 10 percent of the budget request); the Defense Environmental Restoration and Waste Management appropriation portion of the Atomic Energy Defense Activities account (roughly 87 percent of the budget request); and the Uranium Enrichment Decontamination and Decommissioning (D&D) Fund appropriation (roughly 3 percent of the budget request).

The Department's FY 1996 budget request for the Environmental Management program totals \$6,591,741,000. This includes \$843,000,000 for new responsibilities primarily at three sites -- Mound, Pinellas, and Savannah River -- transferred to the Environmental Management account from the Defense

Programs account. Management responsibility for the Savannah River Site, Mound, and Pinellas was transferred to Environmental Management in January, 1995. Given a comparable work scope, this request represents a reduction of 4 percent from the FY 1995 baseline appropriation. The information on the FY 1996 budget request follows in Table 1.

**TABLE 1**  
**ENVIRONMENTAL MANAGEMENT**  
Fund Summary (in \$ Millions)

	FY 1995	FY 1996	Percent Change
<b>Waste Management</b>			
Defense	2,673.1	2,501.6	-6.4
Non-Defense	243.0	206.1	-15.2
Total	2,916.1	2,707.7	-7.1
<b>Corrective Activities</b>			
Defense	\$ 0.5	3.4	+580.0
Non-Defense	26.7	5.4	-79.8
Total	27.2	8.8	-67.6
<b>Environmental Restoration</b>			
Defense	1,379.9	1,576.0*	+14.2
Non-Defense	388.6	417.8	+7.5
Total	1,768.5	1,993.8	+12.7
Uranium D&D Fund Non-Defense	301.3	288.8	-4.1
<b>Nuclear Material and Facility Stabilization</b>			
Defense	765.5	1,596.0	+108.5
Non-Defense	73.4	83.7	+14.0
Total	838.9	1,679.7	+100.2
<b>Technology Development</b>			
Defense	417.4	390.5	-6.4
<b>Transportation Management</b>			
Defense	20.7	16.1	-22.2
<b>Compliance and Program Coordination</b>			
Defense	0	81.3	+100.0
<b>Analysis Education and Risk Management</b>			
Defense	84.9	157.0	+84.9
<b>Use of Prior Year Balances and Other Adjustments</b>			
Defense	-249.3	-313.9	+25.9
Non-Defense	-8.2	-23.1	+730.5
Total	-257.5	-337.0	+48.3
<b>Transfer Government Contribution to Uranium Enrichment D&amp;D from ER Defense/Foreign Fees</b>			
	-133.7	-395.0	+161.8

	FY 1995	FY 1996	Percent Change
<b>APPROPRIATION BREAKDOWN</b>			
Defense	5,092.7	6,008.0	+18.0
Energy Supply	723.5	689.9	-4.6
Uranium D&D Fund	167.6	-106.2	-163.4
<b>TOTAL** :</b>	<b>5,983.8</b>	<b>6,591.7</b>	<b>+10.2</b>

\* Includes \$350 million for Government contributions to the Uranium Enrichment D&D Fund. Actual change from 1995 to 1996 for the Defense budget is -2%.

\*\* This includes \$843 million for newly transferred responsibilities. The base budget request without these new responsibilities is \$5.748 billion, a 4 percent reduction from last year's enacted amount.

The Environmental Management program's budget is broken down into four primary activity areas. These are the first four shown in Table 1. The program also has Transportation Management, Compliance and Program Coordination, and Analysis, Education and Risk programs. The Transportation Management program, comprising less than 1 percent of the total Environmental Management budget, is responsible for the safe, secure, and cost-effective transport of Departmental materials, including hazardous and radioactive substances. The program also assures that all Department shipments comply with applicable regulations and operating procedures and guidelines. The Office of Compliance and Program Coordination, which accounts for about 1 percent of the total program budget, provides independent monitoring and appraisal, programmatic guidance, integrated performance analysis and technical assistance for the Environmental Management program's environment, safety, and health, engineering, cost evaluation, technical operations, transportation management, emergency management and other functions. The program-wide perspective of this office provides line organizations with an understanding of their implementation of applicable regulatory and technical requirements. The Analysis, Education and Risk Management part of the budget, approximately 2 percent of the total program, includes transfers of some former Office of

Technology Development programs. Although a very small portion of the budget request, Analysis, Education and Risk Management supports essential activities such as analyzing current and long-term costs; formulating risk assessment and risk integration activities; developing policy; administering, formulating and executing the budget; conducting strategic, long-range planning; monitoring and evaluating contractor performance; conducting employee and public education programs; and providing links between the Department and other agencies, Congress, environmental and other stakeholder groups, and the private sector.

As we take on greater responsibility from other Departmental elements, we are requesting more funding for our Nuclear Materials and Facilities Stabilization program (formerly Facility Transition) which includes thousands of former Defense Program (DP) facilities that are no longer needed for nuclear weapons production. Significant funding is required to safely stabilize and maintain surplus nuclear weapons facilities while they await decontamination and decommissioning. Detailed breakouts of each of the four primary program areas appear below.

#### **WASTE MANAGEMENT**

**BUDGET REQUEST: \$2,716,551,000**  
**37.0% of the total program budget**

#### **Major Activities**

Waste management activities of the Environmental Management program comprise the largest portion -- over a third -- of the total budget request. (See Tables 2 and 3 for a breakdown of the Waste Management budget.) The program's activities include managing the treatment, storage and disposal of wastes, and working to minimize the amount of new wastes generated. The Department is faced with a variety of wastes, including high-level radioactive waste (such as the waste found in the Hanford tanks), transuranic waste, low-level

radioactive waste, hazardous waste, and mixed waste (both radioactive and hazardous). The Waste Management program is also responsible for managing the Department's spent nuclear fuel. Some 2,700 metric tons of highly radioactive spent fuel is stored at various sites around the country. Some of the fuel is corroding, and some has been in storage for as long as thirty years -- far longer than the planned storage time for this material.

In addition to maintaining safe storage the Department continues to operate treatment and disposal facilities while developing badly needed additional treatment and disposal capabilities. Examples of these projects include the Tank Waste Remediation System at Hanford, Washington; the Defense Waste Processing Facility and related high-level waste tank farm operations at the Savannah River Site, South Carolina; the West Valley Demonstration Project in New York; and the development of Site Treatment Plans with the 22 States where the Department stores or generates mixed waste.

Part of the waste management budget is funding for "corrective activities." In 1989, approximately 175 active and standby facilities were identified as being out of compliance with applicable local, state and federal regulations. Corrective activities are conducted to bring these facilities into compliance as rapidly as possible. This portion of the budget has declined dramatically since 1991, when the appropriation was nearly \$200 million, to this year's request of roughly \$9 million. This declining budget reflects the success of this program in bringing the Department's facilities into compliance with applicable environmental regulations. For FY 1996, only three projects under the Corrective Activities budget require funding for completion: the Hazardous Waste Treatment Facility at the Los Alamos National Laboratory, and two construction projects related to low-level radioactive waste at the Oak Ridge National Laboratory. Some of the environmental laws that the Department must

comply with include the Resource Conservation and Recovery Act, the Clean Air Act, the Safe Drinking Water Act, and the Toxic Substances Control Act. These are the same laws that the government expects private industries to comply with to protect human health and the environment. Unless and until Congress amends these laws, the Department has a legal and moral obligation to comply with these laws and to request adequate funding to do so. This basic principle is codified in Executive Order 12088.

**TABLE 2**  
**WASTE MANAGEMENT AND CORRECTIVE ACTIVITIES**  
 Defense Funding Summary  
 (Dollars in Thousands)

Activity	FY 1995	FY 1996
Program Management . . . . .	\$ 184,113	\$ 141,778
Facility Operations and Maintenance . . . . .	1,236,258	1,178,891
Former Defense Program Facilities . . . . .	62,060	171,085
New Facilities . . . . .	708,786	566,040
Defense Waste Processing Facility . . . . .	234,648	178,651
Hanford Waste Vitrification Plant . . . . .	442	0
Waste Isolation Pilot Plant . . . . .	174,323	172,700
Program Direction . . . . .	72,417	92,451
<b>TOTAL, Waste Management-Defense . . . . .</b>	<b>2,673,047</b>	<b>2,501,596</b>
<b>CORRECTIVE ACTIVITIES</b>		
<b>TOTAL, Corrective Activities-Defense . . . . .</b>	<b>\$ 512</b>	<b>\$ 3,406</b>
<b>TOTAL, Corrective Activities/Waste Management - Defense</b>	<b>\$2,673,559</b>	<b>\$2,505,002</b>

**TABLE 3**  
**WASTE MANAGEMENT AND CORRECTIVE ACTIVITIES**  
 Non-Defense Funding Summary  
 (Dollars in Thousands)

Activity	FY 1995	FY 1996
Program Management . . . . .	\$ 4,242	\$ 4,193
Facility Operations and Maintenance. . . . .	71,191	63,290
New Facilities. . . . .	34,979	10,562
West Valley Demonstration Project. . . . .	125,127	122,100
Low-Level Waste . . . . .	7,477	6,000
<b>TOTAL, Waste Management-Non-Defense. . . . .</b>	<b>\$243,016</b>	<b>\$206,145</b>
<b>TOTAL, Corrective Activities, Non-Defense. . . . .</b>	<b>\$ 26,700</b>	<b>\$ 5,404</b>
<b>TOTAL, Corrective Activities and Waste Management, Non-Defense. . . . .</b>	<b>\$269,716</b>	<b>\$211,549</b>
<b>GRAND TOTAL, Waste Management . . . . .</b>	<b>\$2,943,275</b>	<b>\$2,716,551</b>

## **Selected Accomplishments in Waste Management FY 1994**

### **In Idaho:**

- Treated 700,000 gallons of liquid high-level waste to convert into a more stable, dry calcine form at the New Waste Calcining Facility.

### **In Nevada:**

- Began shipments of low-level waste from Rocky Flats to the Nevada Test Site for disposal. Low-level waste has been accumulating at Rocky Flats since 1990 when the last shipments were made.

### **In New Mexico:**

- Began the retrieval of bermed transuranic waste at Los Alamos National Laboratory to place in a compliant above-ground configuration;

### **In Washington:**

- Reduced the volume of high-level waste in tanks at Hanford by 5.2 million gallons after treatment with the 242-A Evaporator system; and
- Completed the construction and began operating the Treated Effluent Disposal Facility at the Hanford site. This facility provides continuous treatment and disposal of liquid effluent from the 300 Area. All discharges of effluent to the 300 Area Process Trenches has ceased.

### **In New York:**

- Completed the transfer and neutralization of acid high-level waste at the West Valley site in preparation of vitrification.

### **In Tennessee:**

- At the Oak Ridge Reservation, we treated over 5 million pounds of mixed waste (both radioactive and hazardous) in 1994 at the Toxic Substances Control Act (TSCA) Incinerator, exceeding both the requirements of the Oak Ridge Federal Facilities Compliance Agreement and the performance in 1993 which was 3.6 million pounds. These wastes originated from operations at our sites in Oak Ridge, Tennessee; Portsmouth, Ohio; and Paducah, Kentucky.
- Also at Oak Ridge, we treated 40 million gallons of wastewater at the K-25 Gaseous Diffusion plant's Central Neutralization Facility. This facility treats wastewater from the TSCA incinerator that contains radioactive and/or hazardous constituents in accordance with the National Pollution

## **In South Carolina:**

- At the Savannah River site, newly constructed low-level radioactive waste vaults began accepting waste. These vaults provide improved containment and protection of the area's relatively shallow water table, and represent the evolution of low-level disposal away from engineered trenches;
- After the restart of an evaporator system at Savannah River, over 1 million gallons of high-level waste was processed to reduce volume and create additional storage space; and
- Commenced radioactive operations of the In-Tank Precipitation facility and completed washing of Sludge Batch #1 at the Extended Sludge Processing Facility to prepare feed for the DWPF.

## **Priorities and Challenges for FY 1996 in Waste Management**

- Begin operations at the Defense Waste Processing Facility at Savannah River and at the West Valley vitrification facility.
- Finalize the EPA compliance plan for the Waste Isolation Pilot Plant in New Mexico.
- Continue to safely manage and treat approximately 61 million gallons of high-level radioactive waste stored in 177 underground tanks at the Hanford Site in Washington.
- Continue to improve management and storage of all DOE spent nuclear fuel while implementing decisions of the complex-wide Spent Nuclear Fuel Environmental Impact Statement.
- Implement Site Treatment Plans for mixed waste under the Federal Facility Compliance Act, and plan for the storage and disposal of treated mixed low-level waste.

**ENVIRONMENTAL RESTORATION**  
**BUDGET REQUEST: \$1,993,731,000**  
**27% of the total program budget**

## **Major Activities**

The Office of Environmental Restoration is responsible for the assessment and remediation of facilities and land no longer used for nuclear weapons production, as well as other inactive sites. These sites range from contaminated buildings to abandoned or inactive waste disposal sites. It is

this portion of the overall Environmental Management program that is often described as the "cleanup" program.

Remedial action requirements are derived primarily from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA), and are carried out in compliance with the National Environmental Policy Act (NEPA).

The Formerly Utilized Sites Remedial Action Program (FUSRAP) and the Uranium Mill Tailings Remedial Action program (UMTRA) are also managed under the Environmental Restoration program.

We are continuing to move away from doing studies to engaging in actual cleanup. Almost 40 percent of the Environmental Restoration budget request for FY 1996 will fund remediation -- groundwater and soil restoration, and decontamination and decommissioning of facilities. A little over 15 percent of the budget request is for the Government Contribution to the Uranium Enrichment Decommissioning and Decontamination Fund, and a smaller portion is allocated for surveillance and maintenance activities, and landlord functions at the Fernald site and the Oak Ridge, Tennessee K-25 site. Most of the remaining budget is allocated to characterization and assessment of the nature and extent of environmental problems at our sites. In the coming years we will continue to devote even greater resources to environmental risk reduction and fewer resources to environmental assessments. (Information on the breakdown of the Environmental Restoration budget follows in Table 4.)

**TABLE 4**  
**ENVIRONMENTAL RESTORATION**  
**Funding Summary**  
**(Dollars in Thousands)**

SUBACTIVITY	FY 1995	FY 1996
<b>DEFENSE</b>		
Facilities and Sites . . . . .	\$1,379,924	\$1,575,973
Subtotal, Defense . . . . .	\$1,379,924	\$1,575,973
<b>NON-DEFENSE</b>		
Facilities and Sites . . . . .	219,380	244,758
Formerly Utilized Sites Remedial Action Project . . . . .	74,100	85,200
Uranium Mill Tailings Remedial Action Project . . . . .	88,117	80,000
Uranium Mill Tailings Groundwater Restoration Project. . . . .	7,000	7,800
Subtotal, Non-Defense. . . . .	\$ 388,597	\$ 417,758
Uranium Enrichment D&D Fund . . . . .	\$ 301,327	\$ 288,807
<b>TOTAL, ENVIRONMENTAL RESTORATION*</b>	<b>\$2,069,848</b>	<b>\$2,282,538</b>

\*This total includes \$288.8 million for the Uranium Enrichment D&D Fund. The total for Environmental Restoration programs without this fund is \$1,993,731,000.

By the end of FY 1996, we expect to have completed the remediation of almost 99 percent of the Uranium Mill Tailing Remedial Action (UMTRA) program's vicinity properties. As of now, we have cleaned up over 4,700 UMTRA vicinity properties, removing in excess of 2,400,000 cubic yards of contaminated materials.

The major activities of the Environmental Restoration program are as follows:

- At over 30 major DOE installations, safe management and remediation of contaminated sites, characterization, remedial action, decontamination and decommissioning, and closure activities.
- Formerly Utilized Sites Remedial Action Project (FUSRAP), which currently includes 41 former Manhattan Project or Atomic Energy Commission sites and five other sites added by Congress.

- Uranium Mill Tailings Remedial Action (UMTRA) Project, which conducts remediation of 24 inactive uranium mill tailings sites that provided uranium for past Manhattan Project and Atomic Energy Commission activities, as well as more than 5,000 associated vicinity properties.
- Uranium Mill Tailings Groundwater Compliance Project, which will restore, as necessary, the groundwater at the 24 UMTRA processing sites to ensure compliance with EPA standards.
- Uranium Enrichment Decontamination & Decommissioning (D&D) Fund, which provides for D&D, remedial actions, site-wide landlord requirements, and surveillance and maintenance efforts at the uranium enrichment facilities at Portsmouth, Ohio, and Paducah, Kentucky, and the inactive K-25 site at the Oak Ridge Reservation in Tennessee. This is also the source of funds for reimbursing a portion of the remedial action costs at active uranium and thorium mill sites as required by Title X of the Energy Policy Act of 1992.

### **Selected Accomplishments in Environmental Restoration**

- 18 out of 46 Formerly Utilized Site Remedial Action Program (FUSRAP) sites (about 35%) have been cleaned up;
- 14 out of 24 Uranium Mill Tailings Remedial Action Program (UMTRA) sites have been completed, nearly 60%. Over 27 million cubic yards of mill tailings have been removed and disposed;
- 119 remedial action projects have been completed, with an additional 111 underway;
- 16 million pounds of scrap metal have been recycled; and
- 2.4 billion gallons of ground water have been pumped and treated and 1.8 billion gallons of surface water have been treated to reduce contaminants.

### **Priorities and Challenges in Environmental Restoration**

In FY 1996, the Environmental Restoration program will:

- Complete 100 interim cleanup actions, such as early removals and expedited responses;
- Complete 20 remedial action projects;
- Complete 12 interim decommissioning and decontamination actions;
- Complete 6 UMTRA cleanups and begin cleanup at the final 2 sites; and
- Complete 2 FUSRAP cleanups.

## NUCLEAR MATERIAL AND FACILITY STABILIZATION

BUDGET REQUEST: \$1,679,711,000  
23% of the total program budget

### Major Activities

The mission of the Office of Nuclear Material and Facility Stabilization is to reduce the high-risk conditions associated with unstable excess nuclear and chemical materials left intact at former nuclear weapons production facilities and reduce the maintenance costs associated with stabilizing buildings awaiting decontamination or final disposition. More specifically, this involves the protection of workers and environment from exposure and contamination, stabilization of hazardous nuclear and chemical materials, deactivation of facilities to attain the lowest surveillance and maintenance costs, and disposition of facilities to the Office of Environmental Restoration for decontamination and decommissioning.

With the end of the Cold War, a large amount of extraordinarily hazardous nuclear materials and a large number of facilities have become surplus and require stabilization prior to decontamination and decommissioning. These facilities typically require extensive surveillance and maintenance, as well as associated "landlord" activities such as utilities and fire safety functions. The Department will continue to incur costs for these activities until the nuclear materials are stabilized and removed. Approximately 4500 facilities have already been transferred to the Environmental Management program for stabilization. Another 1,200 are expected between now and FY 1999. Nuclear materials will require a variety of chemical processing activities, repackaging operations, and performing surveillance, maintenance, and safeguards activities. Surplus facilities, once stabilized, will require decontamination and decommissioning (D&D).

In FY 1996, the Environmental Management program's responsibilities in the Nuclear Material and Facility Stabilization program area will double as the result of transferring the responsibility for Savannah River Site in South Carolina, the Mound Site in Ohio, and the Pinellas site in Florida from Defense Programs to the Environmental Management program, as well as approximately 18 high-risk facilities and 16 buildings supporting them at other sites in several states. These new responsibilities will include repair and operation of some facilities, stabilizing nuclear materials that pose a significant risk in their current form or location, producing radionuclides for Departmental missions, and developing new ways of operating complex facilities. This is the fastest growing program within the Office of Environmental Management. The carrying costs for these facilities are enormous and will continue to increase until the nuclear materials are stabilized and/or removed. The landlord responsibilities -- including fire safety, utilities, roadway maintenance, and security -- and surveillance and maintenance costs, for which the Office of Nuclear Material and Facility Stabilization is responsible, is in excess of \$1 billion. Landlord responsibilities represent about 70 percent of the Office's budget.

Our budget request for Nuclear Material and Facility Stabilization reflects the overall strategy of the Environmental Management program to stabilize nuclear materials and facilities, recognizing that we can not "cleanup" all of our facilities at once. Let me emphasize that this is one area in which inaction on our part could have serious near-term consequences on worker health and safety and the quality of the environment. Significant funding is needed to safely stabilize these facilities in order to reduce the cost and risks of maintaining the surplus facilities awaiting decontamination.

Our budget request for FY 1996 includes funding for four principal sites:

- Savannah River Site, South Carolina. As of January, 1995, the Environmental Management program became the primary site manager, or landlord, at Savannah River. The site budget request of \$685 million in FY 1996 is needed to safely conduct a range of operations. One urgent risk to workers at the site is the presence of nuclear materials in solution in the F-Canyon.
- Rocky Flats Plant, Colorado. \$393.8 million is allocated for the program's operations, including the stabilization of 100 kilograms of pyrophoric plutonium, thus reducing the risk of fire. Also, the stabilization of about 375 gallons of acidic weapons-grade uranium liquids is planned.
- Hanford, Washington. Safe stabilization of plutonium with minimal worker exposure at the Plutonium Finishing Plant is planned, as is the removal of the remaining radioactive and hazardous chemicals from the PUREX facility to place the facility in a safe and stable, low maintenance condition, and to reduce out-year surveillance and maintenance costs. The funding request for FY 1996 is \$286.1 million.
- Idaho National Engineering Laboratory. We are working to stabilize uranium and liquid acidic solutions to significantly reduce out-year maintenance costs and have requested \$162.1 million for FY 1996. Leakage from aging pipelines could result in unsafe and costly contamination.

Additional Nuclear Material and Facility Stabilization site responsibilities include high risk facilities at:

- Los Alamos National Laboratory, NM; ETEC, CA; Oak Ridge, TN; Mound near Dayton, OH; and Pinellas, FL.

Information on the Nuclear Material and Facility Stabilization budget follows in Table 5.

**TABLE 5**  
**NUCLEAR MATERIAL and FACILITY STABILIZATION**  
 Funding Summary  
 (Dollars in Thousands)

Activity	FY 1995	FY 1996
<b>DEFENSE</b>		
(1) Program Integration . . . . .	\$ 29,590	\$ 63,299
(2) Surveillance and Maintenance . . . . .	268,010	542,733
(3) Deactivation/Compliance . . . . .	124,868	208,719
(4) Landlord . . . . .	232,335	539,294
(5) Program Management . . . . .	53,940	144,681
(6) Program Direction . . . . .	56,774	97,302
<b>Total, Defense</b>	<b>765,517</b>	<b>\$1,596,028</b>
<b>NON-DEFENSE</b>		
Program Integration . . . . .	\$ 1,200	\$ 2,916
Surveillance and Maintenance . . . . .	54,313	40,217
Deactivation/Compliance . . . . .	17,823	40,550
<b>Subtotal, Non-Defense.</b>	<b>73,336</b>	<b>83,683</b>
<b>Total, Nuclear Materials/Fac. Stab.</b>	<b>\$838,853</b>	<b>\$1,679,711</b>

- (1) Program Integration refers to planning, site characterization, and other activities associated with assuming management responsibility for a site.
- (2) Surveillance and Maintenance refers to periodic inspection of items such as HEPA filters, tank levels, and waste drum conditions to ensure safe operations of the facilities.
- (3) Deactivation/Compliance refers to activities associated with the removal of hazardous and radioactive material, equipment, etc., to reduce the hazard classification of the facility.
- (4) Landlord refers to activities that cut across an entire site, such as medical and fire-fighting services, electricity, sewer, and water.
- (5) Program Management refers to contract support directly related to Nuclear Material and Facility Stabilization.
- (6) Program Direction refers to salaries and other direct costs of Federal employees.

## Selected Accomplishments of the Nuclear Material and Facility Stabilization Program

### At Rocky Flats, Colorado:

- Initiated shipment of low-level waste generated at Rocky Flats to the Nevada Test Site and continued shipments to Hanford;
- Completed renegotiation of interagency agreement with the State of Colorado and the Environmental Protection Agency; and
- Completed solidification of 375 bottles of dilute plutonium solutions.

### At Richland, Washington:

- Completed deactivation of the Uranium Tri-Oxide plant;
- Reduced the contaminated area of PUREX by 420,000 square feet, approximately 90 percent of the total area; and
- Remediated the plutonium bearing ductwork in support facility at the Plutonium Finishing Plant.

### At Idaho National Engineering Laboratory, Idaho

- Completed the uranium accountability at the Idaho Chemical Processing Plant's Buildings 601 and 602, part of the facility's uranium recovery line;
- Completed the deactivation of the second and third cycle extraction processes at the Idaho Chemical Processing Plant (ICPP); and
- Completed the deactivation of the ICPP denitrator process stabilizing 12,000 liters of liquid uranium inventories.

## Priorities and Challenges for Nuclear Material and Facility Stabilization

### At Rocky Flats, Colorado:

- Thermally stabilize 100 kilograms of pyrophoric plutonium oxides to eliminate the risk of fire;
- Convert 1,400 liters of nitrate solutions comprising 275 kilograms of 93.2% highly enriched uranium to a solid form; and
- Complete filtered venting of 2,000 drums containing plutonium materials to prevent explosion and possible failure of containment.

### At Richland, Washington:

- Complete 78% of the Plutonium-Uranium (PUREX) deactivation project;

- Disposition 947,000 liters of surplus uranium contaminated nitric acid; and
- Complete 75% defueling of the Fast Flux Test Facility (FFTF) reactor.

**At Idaho National Engineering Laboratory, Idaho:**

- Initiate deactivation of the Idaho Chemical Processing Plant dry end process including removal of up to 150 kilograms of uranium in graphite ash; and
- Complete definitive design for deactivation of calcine cell within the Old Waste Calcining Facility.

**At Savannah River, South Carolina:**

- Complete stabilization of 300,000 liters of plutonium 239 solutions in F Canyon; and
- Complete the stabilization of 1,600 liters of Pu-242 solutions and 16,000 corroding plutonium targets pending completion of the Interim Management of Nuclear Materials Environmental Impact Statement.

## TECHNOLOGY DEVELOPMENT

BUDGET REQUEST: \$390,510,000  
5.3% of the total program budget

### Major Activities

Developing new technologies to address the environmental challenges in the former nuclear weapons complex is an integral part of the Environmental Management program. This program also reflects our strategy of investing in technology development to develop long-term effective methods for addressing environmental challenges. The goals of our technology development program include reducing risks to people and the environment, reducing cleanup costs, and finding new technologies to environmental problems for which no solutions currently exist. The Environmental Management Technology Development program is an aggressive national program of applied research, development, demonstration, testing, and evaluation for environmental cleanup, waste management, and related technologies. Our strategy is to identify and develop technologies that can clean up the nuclear weapons complex, and manage the wastes more quickly, more safely and at a lower cost. In many cases, developing new technologies presents the best hope for ensuring a real reduction in risk to the environment and improved worker and public safety, especially given competing national priorities and limited funds. (The Technology Development budget follows in Table 6.)

TABLE 6

**TECHNOLOGY DEVELOPMENT**  
**Funding Summary**  
**(Dollars in Thousands)**

Subactivity	FY 1995	FY 1996
<b>DEFENSE</b>		
Treatment and Remediation Technology Systems	157,718	203,800
Innovative & Crosscutting Technology Program	80,229	80,200
Industry Programs	43,200	41,200
Technology Integration	9,789	17,040
Program Support	38,054	33,271
Program Direction	16,754	14,999
Education and Integrated Risk Management Initiative	38,752	0
Infrastructure Program	32,863	0
<b>Total, Technology Development</b>	<b>417,359*</b>	<b>390,510</b>

\*This includes Education and Risk Management Initiatives and Infrastructure Programs. These programs have been transferred to other Environmental Management organizations for FY 1996. The base budget for FY 1995 is \$336.5 million.

## **Selected Accomplishments in Technology Development**

### **In Texas:**

- The Expedited Site Characterization methodology saved \$3 million and 6 months in characterizing parts of the Pantex, Texas, site. It also provided a more comprehensive site analysis than would have been possible with baseline technologies.
- Five new applications of technologies developed saved over \$28 million and, in one case, decades of treatment. (See California example below.)
- Decisions have been signed with private industry for three remediation projects using new technologies: Minimum Additive Waste Stabilization (MAWS) at Fernald, Robotic Retrieval and Vitrification at Idaho, and MAWS at Savannah River. These applications will save over \$80 million over baseline technologies. In total, over \$115 million have been saved through the use of new or improved technologies.

### **In Tennessee:**

- We demonstrated a Laser-Induced Fluorescence (LIF) sensor system for the detection of uranium at the now closed K-25 gaseous diffusion uranium enrichment plant at the Oak Ridge site. This real-time sensor is capable of detecting uranium on surfaces through laser excitation of the oxide. Uranium was detected on the surfaces of gaseous diffusion chambers inside the building of K-25 as well as on the rooftops and vent stacks. For decontamination and decommissioning activities, where alpha particle detectors are currently being used to screen for uranium, the LIF system offers the potential of reducing first-order screening time to less than 10 percent of current requirements.

### **In California:**

- At Lawrence Livermore National Laboratory, we demonstrated the use of dynamic underground stripping, a system for thermal remediation of an underground gasoline spill. Underground imaging techniques were used to verify remediation efficiency and to detect the presence of free gasoline, if any. Over 30,280 liters of gasoline have been removed, at an estimated cost of \$65 per cubic meter, versus a typical pump and treat cost of about \$260 per cubic meter. The time for remediating with a pump-and-treat system is in terms of several decades, while the dynamic stripping is in terms of several months. The baseline technology, pump and treat, costs \$25 million and takes 30 years; dynamic stripping costs \$6 million and takes only 6 months -- saving \$19 million and decades. The University of California is seeking commercialization opportunities.

### **In South Carolina:**

- At the Savannah River Site, we successfully demonstrated in-situ air stripping. This new technology, which involves injection of air through underground horizontal wells to strip groundwater and soils of volatile organic chemicals, will be transferred to the Environmental Restoration program and to private industry for use.
- Also at Savannah River, Fiber Optic Chemical sensors have been used to allow on-the-spot monitoring of chlorine in waste streams and groundwater. This allows real-time analysis rather than normal week-long laboratory analysis. Non-exclusive licenses for Trichloroethylene sensors have been issued with Purus and Burge Instrument Company In New Mexico:

#### In New Mexico:

- The Long Range Alpha Detector was implemented at the Los Alamos National Laboratory. This instrument measures alpha radiation in air molecules in real-time and on large surface areas. Preliminary costs estimates indicate that LRAD saves from \$10 to \$20 thousand per site surveyed compared to conventional technologies. Up to 30 sites can be monitored in a day without disturbing soil or generating waste. This technology was transferred from Los Alamos to TMA/Eberline via a Cooperative Research and Development Agreement.
- The Magnetometer Towed Array measures magnetic forces, allowing buried hazardous wastes -- particularly ferrous metals -- to be located. Up to 15 acres a day can be surveyed, more than 7 times the capability of conventional technologies. It also costs about \$2000 per acre to use versus \$3500 to \$5000 with conventional methods. Sandia National Laboratory developed this technology, and transferred it to Geo-Centers, Inc.

#### Priorities and Challenges in Technology Development

Some major priorities and challenges for Technology Development include:

- Treat and dispose of mixed wastes. We are pursuing versatile treatment methods such as plasma, vitrification, molten metal and non-thermal techniques. These activities are being closely coordinated with the Waste Management program to meet Federal Facility Compliance Act requirements.
- Retrieve and process tank waste. We are initiating full-scale demonstrations on technology systems to safely retrieve and efficiently process high-level tank waste for permanent disposal. Tank structural analysis and waste content analysis methods are being developed.
- Remediate contaminated soils and groundwater. We have initiated full-scale demonstrations on technology systems to characterize, contain, and remediate contaminated plumes in soils and groundwater. In-situ treatment of Dense Non-Aqueous Phase Liquids (DNAPLs) is one example.

- Stabilize landfills. Containment and in-situ treatment methods for buried waste are being developed. In addition, the retrieval, characterization and treatment of landfill wastes are being pursued.
- Recycle materials from decontamination and decommissioning of facilities. We will conduct a full-scale demonstration for the development of facility decontamination and decommissioning technologies with emphasis on the recycling of materials.
- Transfer technologies to private industry. As part of the Secretary's emphasis on measuring results, we have committed to making a minimum of 24 technologies available for transfer to private industry and to federal facilities. By successfully transferring these technologies, the nation can achieve a return on the investment in technology development.

This concludes the description of our specific program areas. In the next section, I will describe our program's strategic goals and highlight the progress we have made.

### III. STRATEGIC GOALS: INITIATIVES AND PROGRESS

Over the past year, the Department has made significant progress in fulfilling its goals for improving the Environmental Management program. In 1993 I established six strategic goals to guide our efforts.

- (1) Manage and eliminate the urgent risks and threats in our system;
- (2) Provide a safe workplace that is free from fatalities and accidents, and that continuously reduces injuries and adverse health effects;
- (3) Change the system so that it is under control managerially and financially;
- (4) Become more outcome oriented and get more results on the ground in a timely fashion;
- (5) Focus the technology development program on DOE's major environmental management issues while involving the best talent in the DOE and the national (public and private) science and engineering communities; and
- (6) Develop strong partnerships between the Department and its stakeholders.

We are dedicated to meeting the strategic goals we have set for the Environmental Management program, despite fiscal constraints. In fact, focussing on these strategic goals and priorities is even more critical in the face of funding constraints. However, we must all do our jobs more efficiently and effectively to meet the increasing amount of work we face. I would like to highlight some of our recent achievements in these six areas.

#### REDUCING URGENT RISKS

Two of our most urgent safety concerns have been addressed. A unique mixing pump installed in the SY-101 high-level waste tank at Hanford has begun routine operation after previous experimental use. This pump has virtually eliminated the danger of an explosion in this tank. Also, the threat of fire

from unstable inventories of plutonium has been greatly reduced at Rocky Flats since beginning stabilization processes there.

In addition to these high-priority risks, our spent nuclear fuel management program continues to improve the storage conditions of this highly radioactive material. Nearly 200 spent fuel elements were recently transferred to safer storage conditions at our Idaho site, and we continue to upgrade the facilities that store this highly radioactive material.

We are committed to continued risk reduction. The Department has hundreds of high-level waste tanks, and some continue to pose some risk of explosion. Though the installation of the mixing pump in our most troublesome tank has been successful, we must continue to mitigate risks in the other storage tanks. Also, we have only begun to stabilize the plutonium inventory at Rocky Flats that poses a fire hazard. Some 100 additional kilograms need to be stabilized to eliminate the risk of a plutonium fire. We are committed to seeing this project through as quickly as possible. Furthermore, the continued improvement of our spent nuclear fuel storage facilities is a priority. We have made progress in this area, but more needs to be done. We are determined to see that these materials are stored in a safe, secure manner to enhance worker and public safety as well as support the Nation's nonproliferation goals.

As noted earlier in my testimony, the Department has published and adopted a series of risk principles to guide the setting of priorities for the Environmental Management program. These principles, which were developed as a result of efforts led by the Office of Science and Technology Policy, will be used across the federal government, including applying sound risk analysis

procedures to regulatory decision-making. As a regulated agency, not a regulator, the Department modified Administration's principles to apply more specifically to its programs and procedures, to accommodate our citizens' values, to address inter-generational issues, and to clarify the role of prevention programs and social and economic considerations in risk management.

#### PROTECTING WORKER'S HEALTH AND SAFETY

Far too often, worker protection and safety have taken a back seat in the Department's corporate culture. This is no longer the case. Our second strategic goal helps ensure that the people who carry out the heart of the work of our program are protected from the risks they may face. Through continuing vigilance and close cooperation with our contractors, last year the Department reduced the amount of work days lost due to injury by 12 percent.

We will continue to train thousands of workers through sponsorship of a Hazardous Waste Operations and Emergency Response (HAZWOPER) program in cooperation with the National Institute for Environmental Health Sciences. This training is essential for the safe conduct of operations within Departmental treatment, storage, and disposal facilities and hazardous waste sites, and is required by the Occupational Safety and Health Administration for workers who enter and work in these areas.

## GAINING FINANCIAL AND MANAGERIAL CONTROL

### Contract Reform

The Department's contracting system fulfilled the nation's Cold War priorities of designing, building, and testing nuclear weapons secretly and quickly.

When production was the primary mission, one large contractor was responsible for virtually all services at each site, and that contractor was protected from most financial risks by the terms of the contract.

While appropriate for Cold War production, these types of contracts are not the best way to reach the environmental quality objectives of the Department today. We will require contractors involved in environmental management activities to demonstrate sound business practices and assume greater financial responsibility for activities within their control.

Contract reform initiatives emphasize competition and the development of clear, objective performance criteria and measures. Performance-based incentives are focused on the accomplishment of the Department's strategic mission and reward contractors for fulfilling clear programmatic objectives. The Department has also begun to reallocate the financial and legal risks inherent in operating its sites in order to hold contractors more accountable.

Currently, nearly \$30 billion worth of contracts are being renegotiated and recompeted. A recent example of how the Department is changing its contracting arrangements is the consolidation of contracts at the Idaho National Engineering Laboratory. This consolidation is projected to save over \$500 million over the next five years. It is also notable in that the contractor assumes a greater and more appropriate share of the financial risk for inadequate performance.

This process is just getting underway, and will take time to complete. However, it is well worth the effort to create a contract regime that is better-suited to our mission and will save billions of dollars.

#### Improved Contract Management

Compared to other federal agencies, the Department of Energy has the highest ratio of contractors to federal employees. We cannot gain managerial control of this program until we have the personnel to help us do that. The Department has been working closely with the Congress and the Office of Management and Budget to allow for greater flexibility within the authorized budget to hire more federal workers to shift this ratio. New cost estimators and project managers have already been hired to improve the efficiency of projects and quickly identify cost needs and opportunities for savings. Overall, sixteen hundred new federal employees, including project managers and cost estimators, have been authorized for the program since FY 1994 and 1200 will be hired by March 1995. These new managers will primarily be located at our field sites, rather than in Washington, D.C.

As I mentioned before, we must downsize our contractor workforce substantially to bring workforce structure and size in line with new missions and management arrangements. These contractor workforce reductions are also necessary for improved productivity and cost savings.

#### New Initiatives for Budget Allocation

There are opportunities to better manage our money and achieve savings. Given the uncertainty of annual budgets, and the varying scope of work the program is responsible for, flexibility in budget allocation is essential to meet our program goals.

As I mentioned earlier, a new approach to budget allocation is proposed for this year. In FY 1996, at the Rocky Flats site, we are proposing a pilot budget process that will allocate funds to the site as a whole, rather than be divided along Environmental Management programmatic lines (such as environmental restoration, waste management, etc.). This will allow site managers to more quickly and effectively direct funds to the most urgent risks they face and to be responsive to changing conditions or new information about risks at the sites rather than having to go through the cumbersome exercise of reprogramming funds currently done at headquarters. Additionally, the site manager will be better able to engage regulators and other stakeholders to develop priorities that make sense for the site. It also increases the accountability of site managers to National Program Managers, to Congress, and to the regulators.

This pilot program holds much promise to reinvent budget allocation and improve risk management. Though only a preliminary program this year, we plan to expand the concept to all of our major sites in FY 1997 if it proves successful.

#### DEMONSTRATING TANGIBLE RESULTS

The Environmental Management program is committed to showing tangible progress in all of its activities. Already I have highlighted the achievements of the program since its inception, at particular sites, and by program area. The progress we have made is significant, but the challenges we face continue to mount. Thus, we must continue to set goals for progress in order to guide our efforts and address priorities. Let me share with you some of our immediate plans for the coming year.

Some of the key outcomes of the Environmental Management program planned for FY 1996 include:

- Complete the stabilization of the current plutonium oxide inventories at Rocky Flats, eliminating the risk of a plutonium fire;
- Transfer over 500 additional spent fuel elements to safer storage conditions in Idaho and Washington, thus protecting workers and the public from these highly radioactive substances;
- Demonstrate 50 new or improved environmental cleanup and/or characterization technologies to help reduce costs and increase the effectiveness of our work;
- Complete 100 interim environmental restoration actions, 20 larger-scale cleanups, 12 interim decommissioning and decontamination actions, and complete 2 more Formerly Utilized Sites Remedial Action Program (FUSRAP) projects;
- Begin operation of the Defense Waste Processing Facility in South Carolina and the vitrification plant at West Valley, New York, to convert liquid high-level waste into stable glass logs; and
- Finalize the Waste Isolation Pilot Plant compliance application for EPA approval, an important milestone for the Department's transuranic waste repository program.

It is my sincere hope and intention that, given adequate resources for our program, I can report back to you next year, as I am this year, and tell you that all of these things, and more, have been achieved.

#### DEVELOPING MORE EFFECTIVE TECHNOLOGIES

Beginning in 1993, the Environmental Management program established the goal of "focusing" technology development efforts on our most critical needs to assist in the missions of environmental quality. Five "focus areas" were created in 1994 to guide this effort. This "focusing" has been achieved and we are now engaged in developing and implementing new technologies and methods of environmental characterization and remediation to get results. Considering initial analysis that points to the Environmental Management program requiring several decades -- or more -- to complete its work, the need for basic research is also clear.

The five focus areas, and some examples of progress, include the following:

- Mixed waste characterization, treatment, and disposal. Our Idaho National Engineering Laboratory leads the programs to address treatment, destruction, and disposal of mixed wastes. Two of these, vitrification of mixed waste sludge and the encapsulation of nitrate salt waste in polyethylene, have been demonstrated in pilot projects. These activities will be closely coordinated with the Office of Waste Management to meet Federal Facility Compliance Act requirements.
- Radioactive tank waste remediation. Led by our Richland, Washington office, this program addresses the urgent problems associated with the storage of millions of gallons of high-level radioactive waste. Characterization, leak detection, retrieval and processing of the tank wastes for final disposition are key areas of this effort. By June of 1997, the goal is to demonstrate the ability to retrieve and treat liquid tank waste to comply with the Hanford Tri-Party Agreement.
- Contaminant plume containment and remediation. Over 600 billion gallons of ground water and 200 million cubic yards of soil are contaminated with radioactive and hazardous materials. Our Savannah River Site in South Carolina heads up this focus area. The goal of this focus area is to prevent further spread of contaminants and remediate the ground water and soil contamination.
- Landfill stabilization. Also coordinated by the Savannah River Site, this focus area is aimed at remediating landfills and contaminated soils associated with over 3 million cubic meters of radioactive and hazardous buried waste, and other types of landfilled waste.
- Facility transitioning, decommissioning final disposition. The Department is responsible for deactivating and dispositioning 1200 facilities across the nation. The vast majority of surplus facilities are expected to be transferred to the Environmental Management program. The Morgantown Environmental Technology Center in West Virginia leads in the development of methods to decontaminate structures at lower cost to the taxpayer.

For FY 1996, our Technology Development program plans to demonstrate 50 new or improved environmental technologies. Furthermore, 24 technologies will be transferred or made available for transfer to our operating programs, other federal facilities, and the private sector.

Last year, we announced a new approach to managing our environmental research and technology development activities. The goal of this new approach is to

conduct a research and technology development program that involves the best talent in the Department and the national science communities to focus on developing environmental surveillance and remediation technologies to efficiently clean up our sites.

Key features of this new approach include teaming up with our Waste Management, Environmental Restoration, and Nuclear Materials and Facilities Stabilization programs to identify, develop and field test needed technologies for these programs; continuing to use a life-cycle approach to technology development; involving high-level management across the Department; focusing technology development activities on solutions to major environmental management problems; focusing all available resources in national laboratories more effectively; involving industry in developing and implementing solutions including both technology transfer into the Department and technology transfer from DOE to the private sector; strengthening basic research by involving academia and other research organizations to stimulate technological breakthroughs; enhancing mechanisms for regulator and stakeholder involvement; and applying business principles such as avoiding unnecessary costs, getting a return on investment, and quickly transferring technologies to the marketplace.

We are involved in a number of efforts to develop new technologies. First, of course, are the variety of efforts at the national laboratories. These institutions have some of the best technical talent and facilities in the world, and are now available for conversion from their previous defense missions. However, we will continue to seek the most cost-effective source of research and development rather than rely solely on an internal, Departmental system. Second, we are participating on a Federal Advisory Committee to

Develop On-Site Innovative Technologies (DOIT) with several western governors, senior representatives from the Department of Defense and Interior, the Environmental Protection Agency, and ex-officio members of the Western Governors Association and the Office of Management and Budget.

#### PUBLIC PARTICIPATION AND ACCOUNTABILITY

Our nation's nuclear weapons operations were conducted in secrecy over a period of fifty years, which while necessary during the Cold War, resulted in distrust of the Department's ability to restore, stabilize, and clean up the environmental legacy left behind. Secretary O'Leary's openness initiative beginning in December 1993 recognized the credibility problems the Department faced and its impact on our ability to do our job. We have learned that building trust is essential to the success of the Environmental Management program -- for negotiating agreements, obtaining permits, and achieving public consensus. Following the Secretary's initiatives on openness and involving the public in our decision-making, I established the Office of Public Accountability in 1993. This office is responsible for ensuring that all Environmental Management offices conduct substantive, cooperative planning with all our stakeholders in the development and implementation of budgets and policies. This mechanism allows the people who live and work in and around our sites to understand what we are doing and why, and affords them the opportunity to engage in the process. Our personnel in the field are receiving training on public participation, and in a short time, this office has taken major strides to actively involve the public in meaningful ways:

- We are continuing with an aggressive schedule that follows the recommendations of the Keystone process to involve stakeholders in key decisions through site-specific advisory boards (SSABs) at our major sites. We currently have SSABs in place at Fernald, Hanford, Rocky Flats, Idaho, Nevada, and the Savannah River Site. Three additional SSABs are in the final stages of forming.

- Through the State and Tribal Government Working Group (STGWG), the Department provides a forum for six tribes and 17 states to share their concerns with us and provide input to the various sites around the country.
- The Environmental Management Advisory Board (EMAB) involves representatives from labor, the U.S. Environmental Protection Agency, tribes, states, and citizen groups in a variety of issues facing the Environmental Management program. The EMAB was recently reconstituted, and now has 28 members.
- We are also committed, in accordance with Executive Order 12898 on environmental justice, to working with those individuals and groups around our sites who may consider themselves to be disenfranchised. For example, we are working to ensure that the Native American communities around our sites are responsibly included in all of our regulatory negotiations.

#### IV. CONCLUSION -- REMAINING CHALLENGES BEFORE US

The Department of Energy has undergone significant changes and faced difficult challenges over the past few years. Since the end of the Cold War, the Department's primary mission has changed from that of producing nuclear weapons to addressing the consequences of a half-century of nuclear weapons production, testing, and research. We are applying our technical and scientific expertise on other endeavors to expand our knowledge and support the national economy. The Secretary has led the momentous effort in making our Department more open to facilitate meaningful public awareness and participation in national policy decisions. These institutional and fundamental cultural changes within the Department cannot happen overnight. We believe that we are on the right track and have been effective in making fundamental changes in the way the Department does business.

The Environmental Management program has been integrally involved with these Departmental changes. Openness, focus on a new mission, new motivations, and accountability are characteristics that the Environmental Management program

has attempted to develop, and will continue to nurture. Coupled with our strategic goals, the Environmental Management program is dedicated to meeting its responsibilities in reducing risks, creating a safe work environment, and protecting public safety.

Our proposed FY 1996 budget for the Environmental Management Program is a declining budget given an equal work scope but it will still allow us to fulfill legal and moral commitments while simultaneously streamlining our program. This streamlining, however, has limits beyond which further cuts in funding will trade off savings against safety. We are engaged in a daunting effort to redirect the national commitment from production of nuclear weapons for our national security strategy to resolving the resulting widespread environmental and safety problems at thousands of contaminated sites across the country. We have an obligation to do no less and we are dedicated to producing meaningful results.

Thank you.

*1/19/95*  
*1/19/95*  
*Tues. 6/19/95 1.30p*  
*Environ - Climate*  
*Change*

**From:** Michael A. Toman (TOMAN\_M)  
**To:** STIGLITZ\_J  
**Date:** Monday, June 19, 1995 8:17 pm  
**Subject:** climate change deputies mtg

McGinty, Gibbons, Wirth, Cutter, Claussen are meeting tomorrow (Tues) at 1.30 to go over a number of issues from a broader policy/politics/message perspective: CarTalk, New CAFE standards for trucks, the "gap" in meeting the existing 2000 goals for emission stabilization, budget, and the longer-term (post Berlin) issues. I would say that the last issue is the most important, though you may have some thoughts on the others. My understanding is that your schedule is pretty tough tomorrow PM. What do you want to do? If you don't want to go, do you want me to cover? What role should Sally play? I will leave some info with Lisa re: the meeting.

**CC:** BRANCH\_L

~~SECRET~~

*CCM*

**NATIONAL SECURITY COUNCIL  
Global Environmental Affairs Directorate**

**Phone: (202) 456-9141**

**Fax: (202) 456-9140**

**TO:** Jack Gibbon  
Tim Wirth  
Katie McGinty  
Bo Cutter  
Joe Stiglitz

**FROM:** Eileen Claussen

**DATE:** June 19, 1995

**No. of Pages** 5 (including cover sheet)

---

**MESSAGE:** For our meeting tomorrow.

CLIMATE CHANGE: NEXT STEPS NEGOTIATIONS

ISSUE:

What posture should the United States adopt with regard to forthcoming negotiations of a protocol under the climate convention?

ESSENTIAL FACTORS:

The United States agreed in Berlin to a negotiating process that will lead to a protocol/another legal instrument in 1997.

Since then, a number of items have become clearer. First, the gap between our commitment to return U.S. greenhouse gas emissions to 1990 levels by 2000 and results under current programs is about as large as the initial gap we faced two years ago when the action plan was developed (i.e., plus or minus 100 million metric tons), while our ability to close the gap has significantly diminished. Second, the 104th Congress has slashed FY 95 funding for our voluntary programs and will likely dismantle them altogether in FY 96. This could put us further behind by as much as 60-70 MMT. Third, the 104th Congress is likely to cut the Administration's funding request for the Global Environment Facility by more than 50 percent and our ability to support developing country efforts to deal with climate change will be seriously retarded in other areas as well. Fourth, the 104th Congress is threatening to e... funding for many global change research programs as well... funding for various U.N. activities related to climate change, including funding for the climate convention.

Under these circumstances, the Administration will be hard pressed to deliver on existing commitments, much less enter into a new round of negotiations aimed at further commitments in the post 2000 period.

Before embarking on these negotiations, we must consider carefully the options before us.

OPTION #1 - Withdraw

Indicate to our Annex I partners that we are not prepared to enter into negotiations on next steps at this time since we have no way of delivering on the kinds of commitments they will seek; lay the blame clearly on Congress.

OPTION #2 - Advance

Engage actively in negotiations of next steps because the threat to the global environment from climate change is simply too serious to ignore; be prepared to consider approaches such as caps/trading and coordinated fiscal instruments (e.g.

-2-

carbon/energy taxes), recognizing from the outset that Congress and many parts of industry will howl; either forward such a protocol to Congress for it to reject or defer transmitting it until a more receptive Congress emerges.

OPTION #3 - Muddle Through

Engage in negotiations but reject far-reaching commitments; seek to argue the Europeans back to reality and cajole the Congress/industry to support a modest result.

PROS AND CONS

Option #1

Pro:

- Accurately reflects current domestic situation in which Congress will not deliver on Administration commitments
- Avoids having the Administration slammed from left and right for the next two years
- Avoids downstream accusations of bad faith
- Lays blame for inaction where it belongs and could ultimately force a change in Congressional attitudes

Con:

- Totally inconsistent with Administration belief in the need for action to counter the serious climate change threat
- Allows Congress to dictate Administration policy
- Administration, not the Congress, might be blamed by U.S. NGOs and other governments
- Would destroy momentum of Berlin Mandate and cripple international efforts to deal with climate change

Option #2

Pro:

- Buys important time if the threat of climate change ultimately materializes as many fear and sends a clear signal to U.S. industry and the rest of the world

-3-

- Takes the moral "high road," clearly signalling the Administration's belief in the problem and resolve to deal with it seriously
- Would be warmly endorsed by environmental NGOs and other governments
- Would lay blame for any failure to act on the protocol negotiated clearly on Congress

Con:

- Would assure "holy war" between the Administration and Congress and invite further Congressional efforts to cut funding/programs and otherwise make political hay out of the climate issue
- Would likely alienate a large segment of the U.S. private sector
- Would open the Administration to charges of environmental extremism that might resonate with voters
- Could backfire on Administration if public chose to blame Administration for going too far rather than Congress for not going far enough

Option #3

Pro:

- Avoids extreme decisions on climate change with their potential for serious political fallout
- Could take advantage of the known fears of some foreign governments and their private sectors with far-reaching actions and might avoid having the United States shoulder the entire blame for modest results
- Could enlist support from Congressional and industry moderates for important, but modest results
- Would be perceived as a sober approach and avoid public backlash against the Administration

Con:

- Would likely do little to advance meaningful solutions to the threat of climate change

-4-

- Risks criticism from the left (environmental NGOs and advanced European countries) for not doing enough and from the right (Congressional and industry conservatives) for going too far
- Provides no guarantee that ultimate agreements reached will reflect U.S. concerns and avoid anti-competitive results nor that Congress or the U.S. private sector will ultimately endorse the results
- Potentially subjects the Administration to two years of difficult negotiations and bad press when the Administration's ability to deliver is essentially controlled by Congress

# Withdrawal/Redaction Marker

## Clinton Library

DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
001. memo	To Joseph Stiglitz from John Shlaes, re: Meeting with representatives of the Global Climate Coalition [PII] [partial] (1 page)	09/21/1994	b(6)

### COLLECTION:

Clinton Presidential Records  
Council of Economic Advisers  
Stiglitz, Joseph  
OA/Box Number: 9554

### FOLDER TITLE:

Environment - Climate Change [Folder 1]

2017-1095-F

bg241

### RESTRICTION CODES

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

- P1 National Security Classified Information [(a)(1) of the PRA]
- P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
- P3 Release would violate a Federal statute [(a)(3) of the PRA]
- P4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
- P5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
- P6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Personal record misfile defined in accordance with 44 U.S.C. 2201(3).

RR. Document will be reviewed upon request.

Freedom of Information Act - [5 U.S.C. 552(b)]

- b(1) National security classified information [(b)(1) of the FOIA]
- b(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
- b(3) Release would violate a Federal statute [(b)(3) of the FOIA]
- b(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
- b(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
- b(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
- b(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
- b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]



Wed, 9/21/94, 3 pm

## GLOBAL CLIMATE COALITION

cc: AK  
SK  
MTA

### MEMORANDUM

**DATE:** September 21, 1994  
**TO:** Joseph Stiglitz  
**FROM:** John Shlaes  
**SUBJECT:** Meeting with representatives of the Global Climate Coalition

---

Following is a list of GCC representatives who will be attending the meeting at 3:00 p.m. today in Room 324, Old Executive Office Building:

<u>Name</u>	<u>Company</u>	<u>Birth Date</u>
John Shlaes	Global Climate Coalition	
Richard Briggs	Association of American Railroads	
Raymond Harry	Southern Company	
Russel Jones	American Petroleum Institute	
Robert McFadden	American Automobile Manufacturers Association	(b)(6)
Paul Cicio	Dow Chemical	
Harry Foster	General Motors	
Constance Holmes	National Coal Association	

[001]

If you require any further information, please do not hesitate to contact us.

Wed, 9/21/94, 3-4P  
R.324



# GLOBAL CLIMATE COALITION

w/AK, Tomar

cc: SK

August 8, 1994

Mr. Joseph Stiglitz  
Member  
Council of Economic Advisors  
Room 3145  
Old Executive Office Building  
Washington, D.C. 20500

Per Alan, CEC would like to meet approx. & recommends that you do. Should I set up a mtg? CEC would like to meet ASAR.  Yes  No

Dear Joseph:

As you know, the climate issue and implementation of the climate convention is critical to U.S. industry.

The Global Climate Coalition has been actively involved in deliberations on this issue for the last several years both here at home and overseas. We recognize it is an important issue to the future of U.S. competitiveness, and that the U.S. will be involved in continuing negotiations on the Climate Convention for some years to come.

As the U.S. and other countries approach the upcoming August meetings in Geneva, and are confronted with March's Conference of Parties, we feel that a meeting could be quite useful to members of the Coalition and will give us the opportunity to exchange views on an important issue to industry. We would intend to bring with us senior Board Members of the Global Climate Coalition. 5 or 6

We look forward to the opportunity to meet with you.

Sincerely,

*John Shlaes*  
John Shlaes  
Executive Director

*per. sec. New ds with  
637-3164*

CC: Allen Krupnick

*9/1 reserved copy via Liz*

PRESS OFFICE: (202) 628-3622



# BACKGROUND

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1331 PENNSYLVANIA AVE. NW • SUITE 1500 - NORTH TOWER • WASHINGTON, DC 20004-1703

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## Global Climate Coalition An Overview

### What It Is:

The Global Climate Coalition (GCC) is an organization of business trade associations and private companies established in 1989 to coordinate business participation in the scientific and policy debate on the global climate change issue.

GCC is dedicated to: 1) promoting scientific research on global climate change, 2) analyzing economic and social impacts of policy options, 3) creating an understanding of the global dimensions of the issue to ensure that solutions are addressed equitably by all nations, 4) encouraging transfer of technology to developing nations, and 5) promoting a voluntary commitment among members to "Guiding Principles for Business" that benefit the environment, are consistent with good business practices and are technically and economically feasible.

### What It Does:

GCC is the leading voice for industry on the global climate change issue, and represents its members before government agencies, Congress, the media and the general public. The coalition contributes to a balanced debate on global climate change by sponsoring independent research and studies that examine the potential impacts of proposed global climate change policies on the economy. Through educational materials and programs, GCC supports an informed press and public, and an open scientific dialogue.

### Where does GCC Stand?

GCC does not disagree with the presumption that there is a natural "greenhouse effect" which protects the Earth from the freezing rigors of space. In addition, GCC agrees that the amount of so-called greenhouse gases in the Earth's atmosphere are increasing. It is an open question however, whether manmade contributions of greenhouse gases have contributed, or will ever contribute to an "enhanced greenhouse effect," which could result in a potentially harmful increase in global surface air temperatures.

There is considerable uncertainty within the scientific community about fundamental questions relating to this issue. Predictions about anthropogenic global warming are based on computer models designed to simulate atmospheric chemistry. GCC agrees with a growing number of scientists who point out that these climate models (which have been used to frame the debate) can neither confirm that global warming is occurring now or predict future climate changes. While some minor climate changes have suggested, it has yet to be determined whether these are the result of natural forces (like solar flares), human activity, natural long-term climate cycles or a combination of all of these factors.



GCC supports a coordinated international research program, the continuation of U.S. climate research efforts (\$1.4 billion requested for FY 1993), in addition to independent and industry sponsored research. GCC also supports activities to reduce greenhouse gas emissions that make sense in their own right, thus continuing sound business practices that will lead to more efficient use of energy.

GCC believes that there are trade-offs associated with many of the regulatory schemes to control greenhouse gas emissions. Some of these proposals would impose a direct tax on businesses and consumers through energy or environmental fees while other proposals would impose a hidden tax through other indirect, control measures. These trade-offs would include higher energy and product costs to American consumers, higher operating costs for industry and a potential negative impact on employment. Importantly, many of these proposals would create a competitive advantage for our international trading partners at the expense of U.S. jobs and economic growth.

#### **Who are GCC Members?**

The current membership of GCC represents a broad cross-section of U.S. business organizations and companies representing a range of industrial sectors, including: oil, coal, paper, automobile manufacturing, railroads, chemical manufacturing, and utilities.

#### **How is GCC Structured?**

The GCC Board of Directors serves as the organization's governing body. The Operating Committee oversees the functional implementation of GCC activities, and John Shlaes, Executive Director, has oversight of day-to-day operations. To address specific aspects of the global climate change issue and to evaluate policy options, GCC utilizes twelve committees, including Science and Technology, Technology Cooperation, Economic Analysis, Industry Initiatives, and International, to name a few.

#### **For More Information:**

Global Climate Coalition  
1331 Pennsylvania Ave., NW  
Suite 1500 - North Lobby  
Washington, DC 20004

Press Office  
Phone: (202) 628-3622/Fax:(202) 639-8685  
Executive Director  
Phone: (202) 637-3158/ Fax:(202) 638-1043



# GLOBAL CLIMATE COALITION

## GCC BOARD OF DIRECTORS

Aluminum Association, Inc.	Dave Parker
American Automobile Manufacturers Association	Andrew Card
American Electric Power Service	Dale Heydlauff
American Forest & Paper Institute	Red Cavaney
American Iron & Steel Institute	Andrew Sharkey
American Mining Congress	Jack A. Knebel
American Petroleum Institute	Charles DiBona
American Portland Cement Alliance	Richard Creighton
Association of American Railroads	Richard Briggs
Atlantic Richfield Company	William Leake
Chemical Manufacturers Association	Fred Webber
Chevron	R.L. Hartung
Cincinnati Gas & Electric	Thomas Chaney
Council of Industrial Boiler Owners	William B. Marx
CSX Corporation	Woodruff M. Price
Dow Chemical USA	R.W. Jewell
Drummond Company, Inc.	Bruce Windham
Duke Power	Roy Hamme
Edison Electric Institute	Thomas Kuhn
ELCON	John Hughes
Exxon	Gerald Graves
Illinois Power	Jesse Price
Kaiser Aluminum & Chemical Corporation	Robert E. Cole
Mobil Corporation	James Taylor
National Association of Manufacturers	Jerry Jasinowski
National Coal Association	Richard Lawson
National Lime Association	Tom Potter
NRECA	Robert Bergland
Phillips Petroleum Company	J. Bryan Whitworth
Process Gas Consumers	Glen Howard
Southern Company Services	John Richardson
Texaco, Inc.	J. Donald Annett
U.S. Chamber of Commerce	Jeffrey Joseph
Union Electric Company	Joseph Burke
 GCC Executive Director	 John Shlaes

**From:** Sally M. Kane (KANE\_S)  
**To:** BRANCH\_L  
**Date:** Tuesday, September 6, 1994 5:49 pm  
**Subject:** JES Mtg w/GCC Reps on 9/21 -Reply

yes, I am interested.

**From:** Lisa D. Branch (BRANCH\_L)  
**To:** kane\_s  
**Date:** Thursday, September 1, 1994 5:01 pm  
**Subject:** JES Mtg w/GCC Reps on 9/21

Joe is meeting with senior Board members (5 or 6) of the Global Climate Coalition on Wed, 9/21, fm 3-4, in his ofc. Alan K. and Mike Toman will also attend this mtg. Are you're interested in sitting in on the mtg? Topic: climate issue & the implementation of the climate convention.

Let me know ASAP. (I may move the mtg to the conference rm later, if gets too big.)



*Copy to Bergin sent 8/22*

# GLOBAL CLIMATE COALITION

Thursday, August 11, 1994

Mr. Joseph Stiglitz  
Member  
Council of Economic Advisors  
O.E.O.B.  
Room 3145  
Washington DC, 20500

*Joe. Reminder, please  
also, this group  
strongly wants to meet  
w/you (see details of  
S/Coalition). They want  
to meet ASAP. Should I set  
up a meeting?  
Yes  No*

Dear Mr. Stiglitz:

As you know, the Global Climate Coalition and its members continue to follow closely initiatives by the U.S. and other countries on climate change issues. We feel it is important to provide industry's views on these matters. We were pleased to have the opportunity yesterday to submit to the State Department our comments on the U.S. Climate Action Report Draft of August 3, 1994, a copy of which you will find attached. Additionally, we are providing you with the GCC's views on Joint Implementation and Additionality and several key issues to be considered at INC-10, which we hope you will consider as the U.S. develops its climate policy and its positions in the international climate negotiations.

If you have any questions, please do not hesitate to contact us.

Sincerely,

*[Handwritten signature]*  
John Shlaes  
Executive Director

*[Handwritten initials]*

*Should we do  
anything else?*

Attachments:

- Recommendations of The Global Climate Coalition on The U.S. Climate Action Report
- GCC Comments on The Issues of Joint Implementation & Adequacy
- GCC Comments on Additional Issues for Consideration at INC-10:
  - Comments on the Report on Implementation (AC/AC237/48)
  - Comments on the Rules of Procedure (AC/AC237/58)
  - Comments on the First Review of Commitments (AC/AC237/63)
  - Comments on Subsidiary Bodies (AC/AC237/64)

*17 J. 1. 17 WK of 8/22*



# GLOBAL CLIMATE COALITION

August 8, 1994

*cc: SK*

Mr. Joseph Stiglitz  
Member  
Council of Economic Advisors  
Room 3145  
Old Executive Office Building  
Washington, D.C. 20500

*Per Alan, CFC says  
would like to meet after  
he recommends that you  
do. Should I set up a  
mtg? CFC would like to  
meet ASAP? lb  
Yes \_\_\_\_\_ No \_\_\_\_\_*

Dear Joseph:

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The Global Climate Coalition has been actively involved in deliberations on this issue for the last several years both here at home and overseas. We recognize it is an important issue to the future of U.S. competitiveness, and that the U.S. will be involved in continuing negotiations on the Climate Convention for some years to come.

As the U.S. and other countries approach the upcoming August meetings in Geneva, and are confronted with March's Conference of Parties, we feel that a meeting could be quite useful to members of the Coalition and will give us the opportunity to exchange views on an important issue to industry. We would intend to bring with us senior Board Members of the Global Climate Coalition.

We look forward to the opportunity to meet with you.

Sincerely,

*John Shlaes*  
John Shlaes  
Executive Director

CC: Allen Krupnick



PRESS OFFICE: (202) 628-3622

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1331 Pennsylvania Ave., NW  
Suite 1500 - North Lobby  
Washington, DC 20004

#### Press Office

Phone: (202) 628-3622/Fax:(202) 639-8685

#### Executive Director

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# GLOBAL CLIMATE COALITION

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Chemical Manufacturers Association	Fred Webber
Chevron	R.L. Hartung
Cincinnati Gas & Electric	Thomas Chaney
Council of Industrial Boiler Owners	William B. Marx
CSX Corporation	Woodruff M. Price
Dow Chemical USA	R.W. Jewell
Drummond Company, Inc.	Bruce Windham
Duke Power	Roy Hamme
Edison Electric Institute	Thomas Kuhn
ELCON	John Hughes
Exxon	Gerald Graves
Illinois Power	Jesse Price
Kaiser Aluminum & Chemical Corporation	Robert E. Cole
Mobil Corporation	James Taylor
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Texaco, Inc.	J. Donald Annett
U.S. Chamber of Commerce	Jeffrey Joseph
Union Electric Company	Joseph Burke
 GCC Executive Director	 John Shlaes

# ***GLOBAL CLIMATE COALITION***

## **Comments on:**

- \* The Draft U.S. Climate Action Report (August 10, 1994)
- \* Issues of Joint Implementation & Additionality (August 11, 1994)
- \* Additional Issues For Consideration at INC-10 (August 11, 1994):
  - The Report on Implementation (A/AC237/48)
  - The Rules of Procedure (A/AC237/58)
  - The First Review of Commitments (A/AC237/63)
  - Subsidiary Bodies (A/AC237/64)

**August 12, 1994**



# GLOBAL CLIMATE COALITION

Thursday, August 11, 1994

Mr. Joseph Stiglitz  
Member  
Council of Economic Advisors  
O.E.O.B.  
Room 3145  
Washington DC, 20500

Dear Mr. Stiglitz:

As you know, the Global Climate Coalition and its members continue to follow closely initiatives by the U.S. and other countries on climate change issues. We feel it is important to provide industry's views on these matters. We were pleased to have the opportunity yesterday to submit to the State Department our comments on the U.S. Climate Action Report Draft of August 3, 1994, a copy of which you will find attached. Additionally, we are providing you with the GCC's views on Joint Implementation and Additionality and several key issues to be considered at INC-10, which we hope you will consider as the U.S. develops its climate policy and its positions in the international climate negotiations.

If you have any questions, please do not hesitate to contact us.

Sincerely,

John Shlaes  
Executive Director

Attachments:

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**RECOMMENDATIONS OF THE  
GLOBAL CLIMATE COALITION**

on the

**U.S. CLIMATE ACTION REPORT**

**August 10, 1994**

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## GLOBAL CLIMATE COALITION

### POSITION STATEMENT ON DRAFT U.S. CLIMATE ACTION REPORT

#### INTRODUCTION

The Global Climate Coalition appreciates the opportunity to comment on portions of the draft U.S. Climate Action Report. We assume that given the short review period, additional more complete drafts will be provided for public review before the final versions are submitted to the INC. The following comments reflect the GCC's response to the draft given the seven-day lead time. We look forward to commenting on the next draft, including the missing Introduction and Executive Summary.

In March of 1993 the Global Climate Coalition provided the Administration with a detailed comprehensive analysis of the Administration's proposed U.S. Climate Action Report. (Ref. 3) The issues raised in that submission still reflect the basis for the Global Climate Coalition's position. We are pleased that the Administration has adopted voluntary actions as the basis and core of the U.S. Plan. However, we still have a number of concerns which are reflected in the following comments.

It is becoming more and more apparent that developing countries will play a key role in the climate change issue. Four-fifths of the world's people live in developing countries and most of the population, economic and energy demand growth—and the resulting emissions—are projected to occur there. Furthermore, these countries now emit the largest share of global greenhouse gas emissions, and according to the 1992 supplementary report of the Intergovernmental Panel on Climate Change, their share of emissions will rise to 68 percent of the total energy related CO<sup>2</sup> emissions by 2025. For this reason, to the extent that actions may be required, measures to facilitate developing country participation in climate change activities will become a growing necessity. The Global Climate Coalition is convinced that technology development, technology transfer and joint implementation which focus on promoting collaboration with developing countries and countries whose economies are in transition are central to achieving the Framework Convention's goal of stabilizing greenhouse gas emission. The U.S. and others should make every effort to expand the number of developing countries that are parties to the Convention.

The business and industrial community is ideally placed to provide the technologies and management practices required to enable these countries to enlarge and diversity less polluting energy sources, as well as acquire energy efficiency technologies for more efficient power plants, transportation systems, lighting, refrigeration, air conditioning, building design, and the

like. The Global Climate Coalition believes that by providing essential technologies and creating job opportunities, technology transfer programs can be extremely helpful in addressing environmental challenges and meeting the economic needs of developing countries and those countries with economies in transition. And because it will open additional markets for U.S. goods and services abroad, these programs will also benefit the United States.

The Global Climate Coalition believes the United States must promote efforts to implement the many provisions outlined in the Framework Convention on Climate Change before recommending additional mandates beyond those now in the Convention. The current knowledge of climate change science and our understanding of its effects, which will require years of additional research before we can more fully understand the impact of man-made emissions on the climate, do not justify new commitments at this time. Therefore, a sensible and cost-effective approach for the U.S. to promote global action, as detailed in the Convention, would be to encourage technology transfer and voluntary business/government partnerships.

## EXECUTIVE SUMMARY

### **Post-2000 Actions:**

Additional post-2000 commitments should not be made because the state of the science does not justify them and because current actions will have substantial post-2000 effects.

The discussion of the inadequacy of the U.S. actions to meet the ultimate objectives of the Framework Convention in the post-2000 period is not required or appropriate in the initial submission to the Conference of the Parties, is highly inaccurate and should be deleted. The actions described in the draft report, including mitigation, adaptations, scientific research and technology development and transfer will have substantial impact in the post-2000 period. The fact that many of the impacts cannot be forecast at this time should not be used as a basis for stating that they are non-existent or inadequate. Many of the measures in the Plan were developed only within the past 18 months, and have not yet been substantially implemented. The state of the science does not justify adopting any additional commitments or actions at this time. The science remains highly uncertain; the next scientific assessment of the IPCC will not be available until 1995.

The implementation and success of the mitigation, research, and technology cooperation actions already underway will need to be evaluated and then to serve as the basis of later decisions. Thus new actions are not now justified, and there is even less justification for seeking new commitments at this time.

## **1990 Baseline:**

The 1990 greenhouse gas emissions baseline should not now be changed by using the new and unvalidated data. Furthermore it will take time to gauge the impacts of current and additional actions being undertaken by industry, government and others.

Since it is the position of the Administration that Articles 4.2 (a) and (b) of the Convention do not address adequately the objective of the Convention because it does not address post-2000 action, the Climate Action Report would logically and appropriately discuss action put into place prior to 2000. The discussion of post-2000 commitments should be left to other fora. As noted in the transmittal letter to the draft Report, there is a serious internal inconsistency in the greenhouse gas emissions data for 1990. The data in the inventory chapter are new and have not previously been available for public review and validation. The presentation of the data in the inventory chapter does not provide adequate supporting detail to permit a careful evaluation. If the new inventory data are adopted, with no other corresponding changes in the modelling and forecasts contained in the mitigation chapter, it would imply that the draft plan falls short of the goal established by the President for bringing projected emissions in the year 2000 to 1990 levels. This is a serious issue to be bringing to the attention of the interested parties at this late stage of the process for completing the U.S. Climate Action Report. Until the proposed new data can be subjected to a peer review, it should not be included in the U.S. Climate Action Plan. This action can be taken without prejudice to the ultimate outcome, because the Framework Convention provides ample flexibility for the Annex I Countries to revise and update their submissions to the Contractual Parties.

## **International Actions and Joint Implementation:**

Joint Implementation, the private sector role in foreign investments and expanding the participation of developing countries in the Convention are all vital to U.S. progress and leadership.

The United States needs to adopt more of a leadership role in seeking international action on climate change. Developing countries will account for an increasing share of global greenhouse gas emissions (as much as 70% by 2025). The draft Report should address this issue in greater depth.

U.S. policies to promote market reforms will encourage more efficient economic development with greater sensitivity to environmental concerns. U.S. private industry has played and will continue to play a major role in investments in environmentally-oriented economic development. Yet U.S. private sector efforts are not discussed in any degree in the Report. The Administration's proposals for Joint Implementation are only a first step and can and should be expanded.

## **National Circumstances and Historical Trends:**

U.S. is and has been a leader in improving energy efficiencies and thereby reducing greenhouse gas emissions substantially below levels they would otherwise reach. This progress occurred even though U.S. resources, industry, climate, geography and other circumstances are markedly different than other countries.

This provides an overview discussion of national circumstances that affect greenhouse gas emissions and climate policies. However, more discussion is needed about the capital stock of physical infrastructure, its normal cycles of replacement, and the implications for climate change mitigation and adaptation actions. As a related issue, more discussion should be added to the Report on the actions that have been taken to date to curb greenhouse gas emissions through improved energy efficiency and similar actions, especially in the two decades before 1990. The U.S. has been the leader among the developed countries in a number of areas of energy efficiency improvement. These actions should be noted in the Report, in order to better represent the leadership position taken by the U.S. In particular, U.S. industry has been a world leader in improving energy efficiency and reducing greenhouse gas emissions, especially in energy intensive industries. These improvements are independent of structural shifts in the U.S. economy.

## **State of the Science:**

There are substantial uncertainties in the science of global climate change which must be resolved before any further commitments to "aims" occur.

The scientific understanding of global climate change is highly uncertain. Nonetheless the draft Report includes a number of references to the potential adverse impacts of global climate change that represent worst-case views and are not properly qualified. Examples include: the discussions of sea level rise and wetland migration and of forest migration. A number of specific instances are discussed in the detailed comments.

## **Adaptation:**

Adaptation strategies should be an important part of the overall U.S. approach to global climate change.

The draft Report discusses the importance of actions and the need to begin plans for and facilitate adaptation. It also notes that in many resource areas there currently exist a variety of management problems to which possible climate change may add, and where the U.S. is already quite experienced in management efforts to respond to change. The discussion of impacts generally is biased

toward the worst case outcomes. The Discussion should be changed to recognize that cloud cover and precipitation may well increase, that plants will be beneficially affected by CO<sub>2</sub> fertilization, and that sea level change may be zero or modest if snowfall increases ice accumulations in some regions. It should be clearly stated that the assessment of impacts depends on general circulation models which all acknowledge are rudimentary at best. The results can vary drastically depending on such areas of uncertainty as how to specify cloud behavior.

#### **Research and Public Education:**

Scientific research to resolve the substantial uncertainties regarding climate change; dissemination of the results globally, energy technology development to facilitate reduced emissions, and better understanding of the economic impacts of climate change are critical elements of the U.S. Action Plan.

The plan describes a robust plan of scientific research to improve our understanding of global climate change. In view of the current large uncertainties, and the potentially significant consequences of both climate change and mitigation and adaption efforts, such a research program is necessary and should continue to be accorded a high priority. However, greater emphasis needs to be placed upon economics research and technology development. Investments in economics research will enable policymakers to fashion more cost-effective strategies over time and to avoid seriously adverse effects on the U.S. and world economy and their economic growth. The development of new technology options is absolutely essential as a longer term component of strategy for the Plan.

#### **Long Term Approach and Technology Development:**

The U.S. actions underway already will have substantial post-2000 impacts and we should continue on the path of voluntary greenhouse gas emission reductions that make economic sense in their own right. More industry access to and government coordination of the Administration's recent technology initiatives would improve their potential for emissions reductions.

The U.S. Action Plan should be described as a comprehensive long-term approach including immediate mitigation, scientific research, technology research, technology transfer and cooperation, and adaptation. The Plan should not be seen as a short-term effort to meet the year 2000 goal. Pending more definite scientific information the Plan should consist of prudent cost-effective efforts to limit the growth of greenhouse gas emissions and enhance greenhouse sinks and reservoirs. Minimizing the discussion of technology development undercuts this view and encourages people to focus on immediate, short-term considerations.

## Chapter 2. National Circumstances

### General Comments:

- **Historical Improvements, in Particular Industrial Energy Efficiency Improvements, Have Been Substantial.** The draft discusses the national circumstances of the U.S. and how they affect energy consumption. Historical trends in energy consumption and actions to save energy especially during the two decades before 1990 are explained, except for industrial energy efficiency improvements. Thus, the following points from recent studies (Refs. 1 and 2) should be added:
  - ■ In comparison with other industrialized countries, the U.S. uses energy differently, not less efficiently.
  - ■ Higher levels of manufacturing energy intensity appear to be due to differences in industry structure, use of raw materials, lower levels of capital investment and other factors. Limited data on unit energy efficiency, energy required per physical unit of output, in manufacturing suggest that there may not be a significant difference among countries in unit efficiency, relative to these other factors.
  - ■ Looking at historical trends, the U.S. generally has made a greater improvement than other industrial nations in energy performance over the past two decades.
- **Capital Stock and Availability Constraints.** The discussion of energy consumption would be greatly improved if it added an explanation regarding constraints on existing capital stock and limited availability of investment capital. These factors limit the Nation's ability to quickly reduce energy use and emissions.
  - ■ Much of the existing U.S. capital stock was developed in an environment of cheap, abundant energy well before greenhouse gas emissions was raised as an international issue.
  - ■ Housing stock is very long-lived. Its location determines the need for transportation services. The existing transportation infrastructure is also long-lived and determines the modes of transportation which are available. Much of the commercial and industrial capital stock is also long lived.
  - ■ Turning over these stocks to reduce greenhouse gas emissions would take a relatively long time, because any given year's availability of investment capital is small relative to the size of the capital stocks. U.S. investment levels in terms of percentage of GDP have been consistently lower than most of its industrial competitors.

- ■ Mandatory replacement of capital while it is still economically viable would impose real costs on society, which could be very substantial.

Specific Comments:

■ **Industrial Energy Efficiency Improvements.** The discussion of industrial energy use is overly focused on changes in energy intensity and structural shifts in the product mix. U.S. industry has increased its output substantially over the period 1972-1991 without increasing energy use. It has been able to achieve this with levels of investment to GDP that are lower than its competitors, while meeting increasingly stringent environmental requirements. This has been documented in several studies prepared for the GCC. (Refs. 1 and 2) Some industrial sectors-such as the most energy-intensive industries-have made very substantial increases in output while significantly reducing energy use. e.g.

- ■ The energy intensity of U.S. manufacturing, measured as energy consumed per dollar of value-added, has declined by 50 percent from 1974 to 1988. By comparison, Germany (the former Western Sector) declined by 33% and Japan declined 49%.

- ■ When the data are adjusted to eliminate the effects of any structural shifts (e.g., shifts from energy intensive to light manufacturing), the U.S. and Japan were about equal in energy intensity reductions. The U.S. achieved a 32 percent reduction, while Germany declined by 23 percent and Japan declined by 34 percent.

■ **High Energy Use Per Capita.** [Page 2-6.] The relative energy use per capita of the U.S. compared to Europe is attributed to lower urban population densities. In fact, per capita energy use is affected by many factors. The sentence in the draft should read: "The relatively low densities in the U.S. increase the use of energy for transportation."

■ **Auto Fuel Efficiency.** The transportation policy section indicates that large increases in vehicle miles traveled have offset gains in fuel efficiency. Figure 2-12 shows that auto fuel consumption declined from 1973 to 1990, with added passenger miles only partially offsetting gains in MPG. The analysis by the EOP Group for the GGC (Ref. 2) shows that the U.S. has made 100% improvement in new automobile fuel efficiency, more than the other major industrialized countries.

■ **Vehicle Emissions.** Since laws, regulations and governmentally inspired programs exist to reduce emissions of NOX and VOCs by automobiles and other sources, it is not appropriate to state in the Government and Market Economy section that vehicle owners bear only part of the costs of emissions while other society members and the environment bear the rest. Vehicle owners bear the greatest percentage of costs associated with emission reductions.

- **Pollution Control Expenditures Do Not Move with the Economy.** Because compliance with environmental regulations is independent of the state of the economy and because most environmental expenditures are not associated with the construction of new sources, these expenditures do not "to a large extent...move with the economy" and this portion of the Composition and Growth section should be changed.

### Chapter 3. Greenhouse Gas Emissions Inventory

#### General Comment:

- The draft analyzes United States greenhouse gas emissions and their major sources. The data which it presents is new and has not been available for public discussion. Its use would change the whole tenor of the Report, showing that U.S. actions fall short of meeting the year 2000 goal. The Report should be changed so that the Plan's actions do meet the goal emissions by using the earlier estimates in Chapter 4 instead of new, unvalidated estimates.

#### Specific Comments:

- **Pre-1990 Emissions Reductions Ignored.** A more complete picture would be presented if pre-1990 numbers were also given to establish trends and show that the United States did not only begin efforts to reduce emissions in 1990, as the following demonstrates:
  - ■ The average reduction in carbon dioxide emissions intensity for seven major manufacturing industries was a total of 29.8 percent between 1974 and 1988. These seven industries accounted for 36% of 1991 value added and 73% of energy used in manufacturing. If the seven manufacturing industries had not both improved their energy efficiency and reduced their carbon dioxide emissions intensity, then total carbon dioxide emissions for the seven would have increased by 96.3 million metric tons of carbon. Instead, the combined total of carbon dioxide emissions for the seven manufacturing industries declined by 30.1 million metric tons. (Ref. 1)
- **A Stable 1990 Estimate Is Needed.** As introductory comments indicates the U.S. draft includes contradictory 1990 base estimates for individual gases, and for total greenhouse gas emissions, with one set in Chapter 3 and a differing set in Chapter 4: Mitigation: The Action Plan. In order to avoid confusion, it is important that we make the best estimates we can and then stick with them.
- **Pre-Industrial Concentration Levels Are Only Estimated.** Several references are made

This focus, however, does not reflect the long-term nature of the Convention's commitment by developed nations to adopt policies and measures to limit man-made emissions of greenhouse gases. The commitment does not stop in the year 2000. As a result, the U.S. does not get the credit it should for its ongoing, comprehensive, long-term programs to identify and develop new low-emission technologies and practices, accelerate their domestic adoption, and adapt and transfer them to developing economies. A revised description of the Plan would include the following elements:

- ■ Explicit description of the current status of implementation and expected future results from actions such as the Energy Policy Act. Different parts of such actions have different lead times and different rates at which results are achieved. The United States will not get the credit which it should get for taking major actions unless these timings and rates are understood in context.
- ■ Future reductions from current actions. For example, future emissions reductions from the Climate Challenge and Climate Wise programs are not estimated and projected. While they are characterized as major new initiatives, the U.S. gets no credit because the focus is narrowed to 2000 only.
- **Government Funding and Coordination.** Many of these actions are highly dependent on adequacy of both government agency funding and coordination among the government agencies involved. These factors should be explicitly recognized as sources of significant uncertainty. Actions taken to avoid these problems should be described.

Specific Comments:

- **Use of Administration Baseline Minimizes U.S. Credit.** The Plan's reductions in U.S. emissions are counted from an Administration Baseline that includes the results of all legislation already in effect and of all federal programs funded as of the date of Plan issuance. This means that any results from recent legislation are not reflected as achievements of the U.S. climate change effort even though they may have been enacted as a part of that effort. The discussion should show those results so that credit is given. There is no indication that the other Annex I countries are using a similar restrictive approach. As a result, the U.S. Plan tends to underemphasize actions already underway relative to the other Annex I countries.
- **Modify HFC and PFC Control Strategies.** HFCs and PFCs should be decoupled because they are completely different in source and effect. Voluntary partnership efforts should be used in lieu of regulation.
- **Remove Reference to "Net" in Emissions Reductions.** On June 1, 1994, the U.S. State Department published in the Federal Register the guidelines for the U.S. Joint Implementation Initiative. An important issue in the guidelines was not limiting the

to percentage increases that "have" taken place since 1800. The text should state that these are estimates since no actual measurement data is available.

## Chapter 4. Mitigation — The Action Plan

### General Comments:

- This Chapter gives a clear and detailed account of the mitigation plan's approach, the plan development process, the plan's actions both by greenhouse gas and by the source sector of the emissions, and the estimated effects of the actions in the year 2000. The intent of the following comments is to suggest further possible improvements including increased emphasis on the advantages of the voluntary approach, reasons for diverse actions; a need to characterize the plan as comprehensive and long-term; and the importance of deleting "net" in reference to "emissions reductions" in the joint implementation section.
- **Emphasize the Advantages of a Voluntary Approach.** The text should, as it does, stress the advantages of voluntary programs to facilitate rapid and significant action, building on private sector initiatives already undertaken. Related points that should be added include:
  - ■ **Cost-effectiveness.** Voluntary actions are most cost-effective since they involve low government costs; they provide information and technical assistance; and they usually have a positive return to the participants.
  - ■ **Large Potential for Reductions.** Studies suggest that the potential for energy savings and emissions reductions may be very large and very widespread.
  - ■ **Avoid Regulatory Inefficiencies.** Voluntary actions can be sought widely in a wide range of U.S. economic activity without the loss of jobs, productivity, or economic efficiency. Broad, mandated regulatory programs would curtail economic activity.
- **Reasons for Many Diverse Actions.** The draft also correctly emphasizes the portfolio approach where actions that fall short are likely to be balanced by others that produce more than expected. It should be added that diversified actions are needed because there is no "magic bullet".
- **Plan Should Be Described as Comprehensive and Long-Term.** The draft focuses primarily on short-term (year 2000) results of the selected actions and includes, only peripherally, current actions which may be productive in the long term (after 2000).

concept to "net" emissions. (Ref. 4) This will allow a project to be evaluated on the basis of greenhouse gases that it reduces, avoids or sequesters. The reference to "net" as modifying "emissions reductions throughout the Joint Implementation section is inappropriate. While net reductions of greenhouse gases are relevant as they relate to a Party to the Convention, they are not appropriate for the entities conducting projects in the pilot program. Each joint implementation project must be considered on its own merits and not with regard to its relationship to the cumulative emissions of any parties to the Convention. Since one of the principal benefits of a joint implementation project is its potential for cost-effective emission reductions, the appropriate measure of a project is the "savings" in emissions that it reduces, avoids or stores. The term "net" should be removed where it appears in the Joint Implementation section.

## Chapter 5. Impacts and Adaptation

### General Comments:

- **Adaptation Actions Are Important.** The draft is a good discussion of the importance of adaptation actions and the need to begin thinking about how to plan for and facilitate adaptation. It recognizes that natural ecosystems may be sensitive to certain potential changes in climate and that we know little or nothing about how we might intervene in response. It recognizes that while in many other resource areas there currently exists a variety of management problems to which potential climate change may add, we are already quite experienced in management efforts to cope with change.
- **Uncertainties Not Adequately Described.** The draft has a tendency to describe the more adverse potential changes without reminding the reader that due to the high uncertainties associated with climate change, the actual outcome may be even positive or much less adverse. The text needs to explicitly remind the reader that the major difficulty in trying to plan and prepare for adaptation actions is the great uncertainty in the current state of the science regarding possible global impacts.
- **Global Climate Change Will Increase Yields.** U.S. agriculture vulnerabilities are overstated and forest mitigation impacts are exaggerated. Recent studies confirm global climate change will likely increase, not decrease, agricultural yields.
- **Discussion Is Biased Toward Worst Case Outcomes.** The discussion of impacts stresses the worst case outcomes without balancing them with more favorable outcomes that may be just as likely. The draft should be revised to include recognition that:
  - ■ Cloud cover and precipitation may increase;

confirm that global climate change will likely increase, not decrease, agricultural yields.

- **Forest Migration Impacts Are Exaggerated.** The draft raises the specter of massive forestry losses by first assuming an extremely pessimistic temperature-rainfall outcome, followed by a list of pessimistic forestry yields. Less pessimistic combinations are more likely and the radical yield losses are far less likely to occur. Recent studies have shown far greater adaptation and shifts in species rather than loss in total forestry yields as a result of climate change. Finally, the Report ignores the widely recognized uncertainties associated with the impacts of predicted shifts in forestry output because of seasonal and diurnal changes in temperature range on forestry yields, which are maximized over a 50-100-year period.
- **Impacts on Ecosystems of Climate Change Are Unknown.** Since ecosystems are always changing and the science of global climate change is still uncertain, this Report should have more qualifications regarding the extent and possibility of adverse impacts on ecosystems.

## Chapter 6. Research and Public Education

### General Comments:

- **Substantial Scientific Uncertainties Still Exist.** All scientists do not agree that "continuing emissions" are expected to lead to "significant global warming and rising sea levels." Thus the U.S. should support research on the basic climate change science, research and development of technologies to mitigate climate change, as well as more analysis of the economic impacts of climate change on human activities.
- **Research in Basic Science Questions.** The draft seems to reflect a broad discussion of the U.S. Global Change Research Program. The U.S. should actively continue to carry out its program of research into basic science questions about climate change, its likely characteristics, and its potential impacts. The uncertainties about any important questions in all three of these areas are very great. Sound decisions about policy and actions cannot be made without a good understanding of what we know, the uncertainties associated with what we know, and what we don't know.
- **Economics Relating to Climate Change Are not Given Adequate Attention.** This area of research has been greatly neglected in the U.S. government's efforts. Understanding the economic impacts of climate change on human activities and on valued assets such as natural systems is key to understanding the benefits from mitigation and adaptation actions. Understanding the economics and cost-effectiveness of mitigation and adaptation activities is key to understanding the implications from possible responses to climate

- ■ Plant growth may increase due to CO<sup>2</sup> fertilization;
- ■ Sea level may change very modestly or even decrease if increased precipitation increases ice volume in Greenland and the Antarctic; and
- ■ Estimated impacts are the result of general circulation models that are still considered primitive and that depend on specifications of often poorly understood small-scale phenomenon that may or may not produce realistic results. Model outputs, for example, are known to vary drastically depending on alternative specifications of cloud behavior.

Specific Comments:

- **Chapter's First Sentence Should Not Go Beyond IPCC Assessments.** Conclusions about the science of climate change, particularly to the extent they rely on the use of global circulation models which most experts agree have substantial uncertainties, should not go beyond the IPCC assessments. The reference to the "bulk of scientific evidence" suggests a level of certainty that does not yet exist and should be changed.
- **Probability of Increased Hurricanes Not Validated.** The discussion of Coastal Systems states that they would be highly vulnerable to "the increased occurrence of hurricanes." While some experts have suggested such an increase as a possible effect of climate change, there does not seem to be general agreement that hurricanes are likely to increase.
- **Relative Rates of Sea Level Rise and Wetlands Migration Are Not Known.** The draft provides that "the possible rate of sea level rise predicted by some climate models is more rapid than the natural rate of wetland migration". What such a statement really means is not clear. "Some climate models" is undefined. It would be more useful to make a comparison using the IPCC consensus on likely sea level rise, with appropriate characterization of the uncertainties surrounding that consensus level. It also seems clear from later in the discussion that the natural ability of wetlands to migrate is not understood satisfactorily, nor do we know much, if anything, about effects of potential adaptation actions in response to sea level rise.
- **The Vulnerability of U.S. Agriculture Is Overstated.** The discussion of agriculture generally suggests that the net effect on American agriculture will be adverse. In fact, agriculture will not be adversely impacted: it will most likely experience a net benefit. Pursuant to the 1990 Farm Bill, Cornell University held a comprehensive program of renowned agriculture and climate experts on the impacts of climate change on agriculture. The results of that study are clear: agriculture would actually benefit, economically and environmentally, from all but the most dire predictions of climate change. These conclusions, as well as those of several other studies on agriculture,

change. A greater share of the government's funding for climate change research should go into these critical areas.

- **The Role of Technology Research and Development Needs to Be Expanded.** The discussion in the section Research on Mitigating Climate Change is inadequate in several respects:
  - ■ The United States supports a substantial volume of research in this area. Neither this draft nor previous documents have adequately described the U.S. Plan as a comprehensive, long-term effort.
  - ■ That U.S. effort includes scientific research to understand climate change and potential responses, immediate emissions reduction actions, research and development to provide the technology and practices needed for the long term, and cooperation with developing countries to adapt and transfer technology to them.
  - ■ Without vigorous technology research, the emissions from developing countries' economic growth and population pressures will inevitably overwhelm any emissions reduction actions of the industrial countries and, further, will make these actions excessively expensive.
  - ■ The U.S. does not give itself appropriate credit for its efforts, because it has not adequately described those efforts as a comprehensive program designed to address the long-term global nature of the climate change problem.
  - ■ The U.S. encourages others to view climate change as a problem which must be addressed by immediate, short-term mitigation actions. It neglects its own role as pointed out clearly in this Plan of technology research as a necessary part of any serious response to climate change. Short-term actions, beyond a certain economic point, become increasingly costly and increase the risk that the necessary long-term actions will not be undertaken within an appropriate time and at an appropriate scale.

Specific Comments:

- **All Scientists Do Not Agree.** [Page 6-5, first sentence.] This sentence is too broad, especially since there is no definition of what is meant by "continuing....emissions" or "significant global warming," and many experts do not agree that there will be a sea level rise.
- **Only Ozone Depleting Gases Have Been Shown to Have Influenced Global Environment.** [Page 6-6, first sentence in Atmospheric Constituents section.] This sentence's reference

to "observations of increasing concentration of all greenhouse gases" showing "that human activities are significantly influencing the global environment" is a premature conclusion except as to ozone depleting gases like CFCs.

- **Sea Levels May Not Rise.** [Page 6-11, last paragraph, Regional Efforts section.] The assertion that sea levels "could rise" needs to be balanced by recognition that there may be no sea level rise due to increased snow fall at high latitudes causing more, not less, Greenland and Antarctic ice, especially since most of the warming will be at night.

## Chapter 7. International Activities

### General Comments:

- The Chapter's strong support for international cooperation and extensive detailing of U.S. Government projects is recognized and positive. However it is strongly recommended that joint implementation initiatives and overseas private sector development be emphasized.
- **More Discussion of Joint Implementation Initiative Is Needed.** This Chapter calls for a more extensive discussion of the Joint Implementation Initiative. It is a critically important factor in any U.S. Action Plan. Although the Mitigation Chapter has some discussion about the Initiative, its importance justifies more discussion in this Chapter.
- **Provide More Private Sector Project Development.** This Chapter fails to recognize and emphasize the important role of the U.S. private sector in international activities. As noted in Chapter 2, the U.S. is best characterized as a mixed economy. Yet Chapter 7 focuses only on government-sponsored activities. Thus the Chapter needs much more discussion of the substantial number of projects that will improve energy demand and supply efficiency being developed in other countries by U.S. private sector firms, independent of the identified bilateral and multilateral programs discussed. These projects range from ones without any U.S. Government or multilateral development bank assistance, to those promoted during trade missions, to those which purchase insurance from OPIC, to those which receive Ex-Im Bank financing, and still others. This point is important because most energy related investment in developing countries will be made by private investors, foreign and local, including multinational banks, insurance companies and other sources of private capital.
- **More Recognition of the Importance of Market Reforms in Other Countries Is Desirable.** The Chapter needs to give greater recognition to the importance of local private investment and use of market forces in developing countries and the need for a range of actions which will encourage such investment. Aggressive U.S. investment is likely to result in a more efficient energy demand and supply.

Specific Comments:

- **Provide Additional Reference to Joint Implementation Initiative and Private Efforts.** [Page 7-3, International Activities.] Two new sentences should be added to the conclusion of the first paragraph. "In addition, U.S. companies are currently developing projects which employ the latest technology and new energy demand and supply projects. The U.S. Initiative on Joint Implementation offers potential for expanding these activities."
- **Eliminate Reference to "Sustainable Development."** [Page 7-4, second paragraph, first sentence.] "Sustainable development" has no commonly agreed upon definition. The reference in Chapter 7 could be viewed as a limitation on the U.S. commitment to facilitating the transfer of efficient technology. The last part of the sentence, "that can help developing countries achieve sustainable development" should be deleted so that the sentence will read, "The United States is committed to facilitating the commercial transfer of energy-efficient and renewable-energy technologies." While the principle of "sustainable development" is a good one, specific definitions of criteria need to be fully developed before it can be effectively implemented.
- **Expand Discussion of Private Sector Efforts.** [Page 7-5, first paragraph.] Either here, or in a totally new section, there should be reference to the significant and useful U.S. Government encouragement of private sector companies' efforts to develop efficient energy demand and supply projects in foreign countries, independent of the private company involvement in the bilateral and multilateral programs. This encouragement ranges from special recognition and involvement of companies in Presidential or White House initiatives; to promoting U.S. exports of energy efficient products or technologies by U.S. Governmental agencies, trade missions and expositions; to providing insurance through OPIC; to providing export financing through the Ex-Im Bank. Since most energy related investment in developing countries will be made by private investors (foreign and local), including by multinational banks, insurance companies and other sources of private capital, and are likely to be efficient and to reduce emissions, U.S. Government efforts should encourage private sector investment.
- **Add Joint Implementation Initiative and Privatization Discussion.** [Page 7-5, first paragraph.] Because of its unusual importance, a sentence should be added to reflect the U.S. support for the Joint Implementation Initiative and privatization efforts in various countries. "These efforts lay the foundation for the Joint Implementation Initiative by demonstrating beneficial projects and results and encourage the continued efforts of privatization of energy supply systems."

- **Expand Joint Implementation Initiative Paragraph.** [Page 7-7, Joint Implementation paragraph.] Additional sentences should be added to the conclusion of the paragraph to further support the importance of the Initiative. "Joint Implementation will create additional examples of projects that create substantial emissions reductions. These examples will serve as further models for projects not formally in the Initiative and thus have a "multiplier effect" on the environment. This is a further reason that the U.S. will be pressing at COP 1 for reasonable criteria applicable to joint implementation projects. If the criteria are too stringent or costly, industry will not participate. This would not be in the interest of the U.S. or developing countries nor would it serve to reduce greenhouse gas emissions on a cost-effective basis."
  
- **Expand Trade Facilitation Introduction to Recognize Administration Efforts.** [Page 7-21.] The opening paragraphs, "Information Sharing and Trade Facilitation," do not support the Administration's efforts to promote U.S. exports of efficient energy demand and supply technologies. These paragraphs only refer to information sharing and omit important efforts and initiatives. The following should be added after the third paragraph: "The U.S. Government encourages private sector exports of efficient energy demand and supply technologies, including renewable energy technologies, through many means which include: special representation by U.S. Government officials, public recognition, expositions, trade offices in foreign countries, insurance, export finance, and direct finance. These programs are coordinated and expanded through interagency committees promotion and support of exports."
  
- **Expand Substantially Discussion of For-Profit Sector Activities.** [Page 7-29, Nongovernmental Efforts.] This paragraph is inadequate to convey the significance of NGO activities—environmental or industry. This paragraph should be expanded into several paragraphs.
  - ■ Information regarding scope and range of specific projects underway;
  
  - ■ The role of lending institutions such as banks and insurance companies in financing overseas projects; because of their long-term perspective they are likely to insist on the use of energy efficient, and thus, emissions reducing, technologies;
  
  - ■ Overseas projects of U.S. private sector firms are likely to approximate energy efficiencies of equivalent projects in the U.S. Most U.S. firms investing overseas deploy technology that is consistent with U.S. standards in order to maintain competitiveness and to avoid conflicts with host governments concerned about the use of technology that is not current; and
  
  - ■ Information about the scope and range of efforts by U.S. environmental organizations and other not-for-profit organizations.

## Chapter 8. The Future

### General Comments:

- **Post-2000 Actions Such as Establishment of "Aims" Need Not and Should Not Be Addressed at This Time.** Post 2000 commitments other than those already made need not and should not be addressed in this current report or at the COP because so many other issues involving the implementation of the Convention, the criteria for establishment of joint implementation and the participation of developing countries, should first be resolved. Furthermore, the next Intergovernmental Panel on Climate Change (IPCC) regular assessment on the state of the science will not be completed until the fourth quarter of 1995. This may reduce the uncertainty of key elements of the science of climate change. Since the 1992 IPCC Special Assessment, much of the scientific information and observations that have become available would not support increased concern over the possibility of man-induced climate change nor would they justify renegotiating the commitments of the developed country parties to the Convention. Furthermore, no assessment has been done of the long term effects of current actions, including actions of mitigation, technology research, and technology transfer.
- **It is Not Necessary or Desirable for the U.S. to Agree to or Propose Additional Measures or "Aims."** The implication that the U.S. will agree to or propose additional measures such as mandatory targets and timetables or common regulatory or financial measures to reduce emissions is inappropriate. Such measures cannot be justified on the basis of (a) the current state of science; (b) the programs in the Action Plan which will have enormous positive impact post 2000; or (c) the current inadequate participation in the IPCC of the developing nations whose greenhouse gas emissions will far surpass those from the U.S. and the rest of the developed world in the post-2000 time frame.
- **The Current U.S. Plan Already Includes Substantial Post-2000 Actions.** The current Plan already will have substantial post-2000 impacts. Some of these impacts, such as the effects of current technology research programs, cannot be forecast at this time. Other actions identified in the Plan that likely will continue into the post-2000 time frame include: industry voluntary initiatives, efforts to better understand the basic science of climate change; development of cost-effective joint implementation and technology transfer projects to developing countries, which will help reduce these countries' greenhouse gas emissions.

### Specific Comments:

- **Greater Recognition Needed for Efforts Underway.** [Page 8-4, second column, first full paragraph.] The very substantial efforts that have been initiated and are well underway should be given greater recognition by changing the sentence to read "However, in spite

of these very significant efforts, it is impossible, to predict precisely the future effect of the U.S. programs."

- **Recognition of Efforts Underway and Uncertainties in Projections Needed.** [Page 8-7, Adjustment, first paragraph.] Further recognition of the substantial emission reduction efforts underway and uncertainties in projections of emissions should be incorporated in this paragraph by inserting the following sentence between the first and second sentences: "In light of the initiatives begun in the last 12 months, the substantial progress of the Plan, and the uncertainties in projections of emissions, it is premature to conclude the Action Plan's initiatives will not be successful and that major policy or program changes are required now for the United States."
- **It Is Premature to Assert Current Measures Unlikely to Be Sufficient.** [Page 8-8, second sentence.] It is premature to state that the current set of measures are "unlikely to be sufficient in the longer term": the sentence should be modified to read "However, the current set of measures are dependent on a wide range of factors and it is unclear at this time what the long-term impacts will be..."
- **Justification Does Not Exist to Commit to Additional Measures.** [Page 8-8, first paragraph.] The sentence beginning "The United States recognizes...." should either be eliminated because it is premature to commit to additional measures as stated above, or the statement should be changed to emphasize "evaluation" rather than commitment to new policies. Modified, the sentence would read: "The United States recognizes the need to evaluate additional measures which may be needed to combat the longer trend of rising emissions."
- **Premature to Promote Market Transition Away From Activities, Fuels and Technologies Generating Large Emissions.** [Page 8-8, first paragraph, penultimate sentence.] This sentence promoting "market transition away from activities, fuels and technologies that generates large emissions of greenhouse gases" is not justified by the state of the science.
- **Additional Reference to Technology Development regarding Coal and Petroleum Is Necessary.** [Page 8-8, last full paragraph.] To be comprehensive, the following sentence should be added: "Continued development of technologies that will increase efficiency in the combustion of coal and petroleum would also lead to reduced emissions."
- **More Cost Benefit and Economic Analysis Should Be Supported.** [Page 8-10, penultimate sentence.] The use of cost benefit analysis by the long-run strategy working group is desirable. However, before any recommendations are developed, the economic impact of those recommendations on the U.S. economy, jobs, international trade and competitiveness must be determined both for the economy as a whole and in its major relevant sectors.

- **Re: International Process.** Although the U.S. has argued that actions called for by the Convention are not adequate for the post-2000 period, the focus of the U.S. Government at INC 10 and INC 11 leading up to COP 1 should be on the following issues: (a) implementing actions rather than "aims"; (b) preparation of a plan to implement the Convention on a global basis; (c) the efficacy of actions being taken by the OECD countries; (d) improvement of understanding of the science; (e) establishment of reasonable criteria for joint implementation projects; and (f) detailed economic analyses of the issue. Pursuit of these factors would involve measures outlined in the FCCC.

## References

1. Global Climate Coalition. Energy Efficiency in U.S. Industry: Accomplishments and Outlook. Prepared by the EOP Group, Inc. Washington: Global Climate Coalition, October 1993.
2. Global Climate Coalition. Leadership in Energy Efficiency: A Comparison of the U.S. versus the Other Major Industrialized Countries. Prepared by the EOP Group, Inc. Washington: Global Climate Coalition, March 1993.
3. Global Climate Coalition. Position Statement and Recommendations on the U.S. National Action Plan for Global Climate Change. Prepared by EOP Group, Inc. Washington: Global Climate Coalition, March 1993.
4. Global Climate Coalition. Comments, February 25, 1994, on Groundrule for U.S. Initiative on Joint Implementation, 58 Fed. Reg. 66057-59, Dec. 17, 1993.



United States Department of State

Washington, D.C. 20520

August 3, 1994

Dear Colleague:

Attached please find a copy of the draft U.S. Climate Action Report. The revised, final version of this document will constitute the U.S. national submission under the U.N. Framework Convention on Climate Change. The United States is required to make this submission by September 21, 1994.

Please note, this draft is still incomplete:

- additional sections, specifically the introduction and the executive summary, are being prepared;
- some chapters will be significantly refined in the revised, final version;
- the data in the emissions inventory chapter and those in the mitigation chapter differ and we are currently reconciling them (the values in the mitigation chapter were prepared using an emissions inventory developed more than two years ago, while the material in the inventory chapter itself is entirely new); and
- final graphics and layout are still being completed.

Despite the extremely tight production schedule for this document, we believe it vital to incorporate public review and comment at this stage. For this reason we are providing copies of this draft today, August 3, and request that any comments be forwarded no later than August 10, 1994, to:

Daniel A. Reifsnnyder, Director  
Office of Global Change, Department of State, Room 4333  
2201 C Street, Washington, D.C. 20520-7818  
tel (202) 647-4069; fax (202) 647-0191

We anticipate that notice of availability of the final document will be published in the Federal Register shortly after it is submitted in September, with provision for a formal period of public review and comment thereafter.

Sincerely,

Rafe Pomerance  
Deputy Assistant Secretary for  
Environment and Development

**GLOBAL CLIMATE COALITION COMMENTS**  
**on the**  
**ISSUES OF JOINT IMPLEMENTATION & ADEQUACY**

**August 11, 1994**

## Comments On

### Joint Implementation and Additionality

The Clinton Administration has taken significant steps in defining the criteria that will enable the private sector to support greenhouse gas reduction projects overseas. While these steps are to be commended, questions remain.

The issue arises in the concept of "joint implementation," a phrase born in the Framework Convention on Climate Change signed at the Rio Earth Summit and included in the Administration's Climate Change Action Plan published last October. Simply stated, joint implementation (JI) is a concept that would recognize a given party for actions taken to reduce greenhouse gas emissions in another country. This could include everything from providing more efficient technology to planting forests or introducing new energy-related management techniques.

**GCC Supports JI:** The Global Climate Coalition enthusiastically supports JI. The proposed program's approach of working through voluntary business/government partnerships is fully responsive to the requirements of the Framework Convention and wholly consistent with the way business and industry can work most effectively abroad.

Joint implementation programs focus on promoting collaboration with developing countries and countries whose economies are in transition is central to achieving the Framework Convention's goal of stabilizing greenhouse gas emissions. While developed countries emit the largest share of greenhouse gas emissions today, the overall level of greenhouse gas emissions from developing countries and countries whose economies are in transition is rising most rapidly. They emit a far greater volume of greenhouse gases for each unit of their GDP than the United States. Four-fifths of the world's people live in developing countries and most of the population, economic and energy demand expansion--and the resulting emissions--are projected to occur there, as their population is expected to represent 90 percent of the world's population growth in the coming decades. The 1992 supplementary report of the Intergovernmental Panel on Climate Change Indicated that 68 percent of the total energy related CO<sub>2</sub> emissions will come from non-OECD (Organization of Economic Cooperation and Development) countries by 2025. The Department of Energy's Energy Information Agency reported recently in its publication Energy Use and Carbon Emissions: Some International Comparisons that since 1970 CO<sub>2</sub> emissions have grown by 82% in developing countries compared to a 28% growth in developed countries. For this reason, to the extent that actions may be required, measures to facilitate developing country participation in climate change activities will become a growing necessity.

**Industry Can Contribute to JI:** The Global Climate Coalition believes that by providing essential technologies and creating job opportunities the Joint Implementation initiative can be extremely helpful in addressing environmental challenges and meeting the economic needs of developing countries and those countries with economies in transition. And because it will open additional markets for U.S. goods and services abroad, the initiative will also benefit the United States. The business and industrial community is ideally placed to provide the technologies and management practices required to enable the developing countries and those countries with economies in transition to enlarge and diversify less polluting energy sources. It is equally well situated to help these countries acquire energy efficiency technologies for more efficient power plants, transportation systems, lighting, refrigeration, air conditioning, building design, and the like.

The business partnerships employed to shape this technology and management cooperation would also develop a long-term relationship to help needy countries to adapt, improve and upgrade technologies and introduce new management systems. It would employ local people and train them; it would adapt and orient the technology and practices to meet local conditions and the needs of the people and markets in these countries.

**Promotion of JI is Essential:** Because the mutual benefits of such cooperation is so clear, the Global Climate Coalition believes the current effort to assess programs and procedures for joint implementation through pilot programs will help define efficient, effective means to implement the concept nationally and internationally. GCC strongly encourages the U.S. Government to maintain its lead in this effort.

**The Guidelines for Joint Implementation:** On June 1, the U.S. State Department published in the Federal Register the guidelines for the U.S. initiative on Joint Implementation (USJI) as contained in President Clinton's Climate Change Action Plan. The guidelines essentially set out the groundrules for implementing USJI, and they will surely have an important influence on how the United States Government promotes the joint implementation concept internationally. GCC and a number of its member organizations submitted extensive comments last February after initial draft guidelines were published.

The State Department and other involved federal agencies worked hard to develop a broad and comprehensive plan. A JI pilot program represents a new concept in international structures and relationships; it is not a simple task. It would mark a substantially increased involvement of private industry in helping to carry out an intergovernmental program.

The GCC is pleased to note that several key concerns were addressed in the guidelines that appear to make the pilot program more workable, including the creation of a governmental secretariat/special staff to help administer the USJI and serve as a focal point to assist in managing the program. Another important issue was not limiting the concept to "net" emissions. This will allow projects to be evaluated on the basis of greenhouse gases that it reduces, avoids or sequesters.

GCC comments requesting more complete definitions or clarifications of procedures were left for the Evaluation Panel to be set up under the USJI program. How these procedures are eventually defined could have an important impact on industry's ability to contribute to the program.

**Concerns About the New Criterion on Additionality:** The GCC has strong concerns about the concept of "additionality," which was added to the USJI final groundrules and therefore was not subject to public comment. The program criterion says that: "To be included in the USJI, the Evaluation Panel must find that a project submission involves specific measures to reduce or sequester greenhouse gas emissions initiated as the result of the U.S. Initiative on Joint Implementation, or in reasonable anticipation thereof." The State Department explained that the criterion is designed to promote "additionality--that is, actions above and beyond those that would have been taken otherwise."

In further clarification the State Department acknowledges that "most projects will be implemented for multiple reasons", but less clearly it goes on to say, "At the same time, the integrity of the pilot program would be undermined if participants were able simply to repackage activities that would otherwise have been undertaken and submit them for inclusion under the USJI."

GCC is concerned with how this term will ultimately be defined and how it might affect industry's ability to contribute to the USJI program. Our initial fear is that overly stringent application of the criteria would make it difficult for firms to take active part for it might unduly restrict the number and types of projects and activities that would qualify for the program, and it could introduce unnecessary subjective judgements on the reasons for the projects proposed.

As the Department acknowledges in its explanation of the guidelines, business firms and others will undertake projects that reduce or sequester greenhouse gas emissions for a number of reasons. Underlying each business venture will be the desire for profitability. Few will initiate projects related to joint implementation purely for the purpose of reducing greenhouse gas emissions, although this consideration could be sufficient to tilt the balance in favor of an otherwise marginally economic venture.

GCC believes that joint implementation projects that achieve emission reductions should be considered, approved and given appropriate "credit", and that seeking to establish whether a proposed project would be undertaken purely in response to the U.S. Initiative on Joint Implementation is much less relevant to achieving the goals of the program.

GCC understands the purpose of the program to be to encourage as many participants as possible in their regular activities to join in reducing greenhouse gas emissions; subjective debates over the grounds for undertaking a greenhouse gas reducing project can defeat the purpose of this worthwhile purpose. GCC believes that projects which achieve emissions reductions should be provided appropriate recognition regardless of the motivation for making the investment.

**Multiple Values of JI:** Joint implementation is encouragingly consistent with the worldwide trend toward the use of free markets and market-oriented mechanisms for addressing environmental concerns and promoting technology cooperation between developed and developing worlds. Properly administered it can help potential partners to identify new markets and strong overseas collaborators, promote the exchange of technology and information, reduce costs, bring sound rates of return on investments and offer opportunities to diversify and obtain other commercial benefits. At the same time, it can provide cost-effective greenhouse gas emission reductions in other countries.

GCC believes strongly that the Joint Implementation Program should be defined and administered so as to encourage as many collaborative activities as possible that make economic sense and reduce greenhouse gas emissions. This will benefit world business and industry and help protect the global environment.

This, we believe, is the spirit of the President's Climate Change Action Plan, and a spirit and vision American business and industry will support with enthusiasm.

**GLOBAL CLIMATE COALITION COMMENTS**

**on the**

**REPORT ON IMPLEMENTATION**

**A/AC237/48**

**August 11, 1994**

Comments On  
Report on Implementation

A/AC237/48

The Global Climate Coalition (GCC) believes the intent of Article 7.2(f) of the Framework Convention can best be met by having the Subsidiary Body for Implementation (SBI) prepare and issue a Report on Implementation (ROI) following the first meeting of the Conference of Parties. National action plans, as well as efforts by other countries to implement the Framework Convention, should make up the bulk of this largely technical report. Moreover, the ROI should be a public document rather than a negotiated document for it should provide all Convention parties, the general public and the media transparent access to information on how each country is progressing in its efforts to implement the Framework Convention.

1. **The Report on Implementation should be prepared after COP-1**--The Global Climate Coalition agrees with the interim secretariat that Annex I National Action Plans will contain the bulk of any information communicated in the first Report on Implementation. While some of those plans will be available later this year, the secretariat does not have the human resources or time needed to prepare an effective report before COP-1. Moreover, a hastily prepared document would not serve well the needs of COP-1. Given the already crowded agenda for the first conference of parties, any draft report on implementation would have to be substantially amended at COP-1 to reflect decisions taken by conference members.
2. **The Subsidiary Body for Implementation should prepare the document**--The Subsidiary Body for Implementation (SBI) is best suited to prepare the Report on Implementation. Once national action plans have been submitted and the Conference of Parties has met, SBI members should work with in country government officials and NGOs to prepare a factual summary of Annex I national action plans and efforts by other parties to limit greenhouse gas emissions.
3. **The Document should be public and transparent**--The Report on Implementation should be a public, not a negotiated, document. The first review should be completed and released by late 1995. It should report each country's emission goals, progress to date and the impact these voluntary efforts are having on the various economic sectors. The biennial release of similar data would provide the public, the media and other parties to the Convention timely, transparent access to the data needed to measure the progress of Convention implementation.
4. **Final recommendation to COP-1**--The GCC encourages the Committee to adopt the above steps at INC-10 as a final recommendation to COP-1.

**GLOBAL CLIMATE COALITION COMMENTS**

**on the**

**RULES OF PROCEDURE**

**A/AC237/58**

**August 11, 1994**

Comments on

Draft Rules of Procedure on the Conference of the Parties and  
on the Subsidiary Bodies Established by the Convention

A/AC.237/58 and A/AC.237/WG.II/L.8

Rule 27, paragraph 5(a) states that "In the case of a subsidiary body that is open-ended, one quarter of the Parties shall constitute a quorum,..."

Rule 27, paragraph 5(b) states, in brackets, that "Decisions of subsidiary bodies shall be taken by a majority of the Parties present and voting.... "

**Comment:** Taken together this would mean -%"-hat it is possible that decisions by the Subsidiary Bodies called out in the Convention could be made by 13.5% of the Parties. This could place the U.S., and even all the OECD countries, at a disadvantage since they are so outnumbered by the non-OECD countries. The quorum requirements should be the same as for the Conference of Parties (COP) as spelled out in Rule 31 (one third of the Parties to the Convention be present to open or permit debate and two thirds present for any decision to be taken). Likewise decisions on matters of substance should be taken by a two-thirds vote of the Parties present and voting as stated in Rule 42 for the COP.

Rule 30, Paragraph 2 states that "Meetings of the subsidiary bodies shall be held in private unless the Conference of the Parties decides otherwise."

**Comment:** The footnote to Rule 30 states that "private" meetings would be interpreted as permitting duly accredited observers to participate. This should be added to the text of paragraph 2 or paragraph 2 should be changed to mirror Rule 30, paragraph 1 which states that meetings of the COP shall be held in "public". Nongovernmental bodies must be allowed to participate in the meetings of the Subsidiary Bodies to the same extent as allowed under Rule 7 for the COP.

Rule 42, Paragraph 1 states, in brackets, that decisions by COP shall be taken "in the case of the adoption of a proposed protocol., by a three-fourths majority vote... "

**Comment:** This bracketed text should be supported. Again, since the U.S and the OECD will be so outnumbered by the non-OECD nations, this should be an exception to the two thirds majority vote rule for other matters of substance in Rule 42. Protocols may commit Parties to far reaching actions with the same force and effect as amendments to a treaty, and therefore should be subject to the same three-fourths approval requirement as set forth for amendments in Article 15 of the Convention.

Rule 7, paragraphs 1 & 2 state that non-governmental bodies qualified in matters covered by the Convention may be represented at a session of the COP as an observer unless one third of the Parties present object [paragraph 1], and such observers may "upon invitation of the President, participate without the right to vote," unless one third of the Parties present object [paragraph 2).

**Comment:** The clause "upon invitation of the President" should be deleted from paragraph 2. This gives too much power to the President to arbitrarily pick and choose among NGOs regarding participation, and it is unnecessary since by definition in paragraph 1 they are "qualified in matters covered by the Convention" and their participation can be rejected by one third of the Parties.

Rule 36 states that normally proposals and amendments shall be introduced in writing and circulated to the delegations and that as a general rule "no proposal" shall be discussed or put to a vote unless copies have been circulated not later than the day preceding the meeting. However, the President may permit discussion and consideration of "amendments to proposals" or procedural motions even though they have "not been circulated" or are circulated only on the same day.

**Comment:** Amendments to proposals should receive the same "general rule" of day before circulation as proposals since they can be just as critical to Parties interests as the base proposals themselves. It is particularly important that "voting" on amendments come only after introduction the preceding day. This can be easily done by inserting the words "or amendments to proposals" in the second sentence in between the words "proposal" and "shall" and deleting the words "and consideration" in the third sentence. There should be a separate sentence allowing procedural motions to be discussed and voted on the same day as introduced.

**GLOBAL CLIMATE COALITION COMMENTS**

**on the**

**FIRST REVIEW OF COMMITMENTS**

**A/AC237/63**

**August 11, 1994**

Comments on  
First Review of Communications  
From Parties to the Framework Convention on Climate Change  
on Commitments

A/AC.237/63 (15 July 1994 draft)

**I. Convention Mandate**

Article 4.2(b) states that each Annex I Party shall communicate, within six months of the entry into force of the Convention for that Party, and periodically thereafter, detailed information on its policies and measures on limiting greenhouse gas (GHG) emissions and enhancing GHG sinks; and that such information shall be reviewed by the First Conference of the Parties (CoP-1).

Article 4.2(d) states that the First Conference of the Parties shall review the adequacy of Article 4.2 (a) and (b); and that a second review of adequacy shall occur not later than 31 December 1998.

Article 4.1(j) states that Parties shall communicate to the Conference of Parties information related to implementation, in accordance with Article 12.

Article 12.2 (a) & (b) states that Annex I parties shall communicate information concerning implementation of their commitments under 4.2 (a) & (b) and their projected effects on GHG emissions during the period referred to in Article 4.2(a).

Article 10.2 empowers the Subsidiary Body on Implementation with the authority to "consider" information communicated under Article 12.1 & 12.2

Article 9.2(b) empowers the Subsidiary Body on Scientific and Technological Advice to prepare assessments on the effects of measures taken in implementation of the Convention.

**II. Current Status**

The Convention officially came into force on March 21, 1994, six months after 50 nations had ratified it on December 21, 1993. By September 21, 1994, the first communications of the following 16 of the total 36 Annex I parties are due: United States, Canada, Australia, Japan, Iceland, Sweden, Norway, New Zealand, United Kingdom, Germany, Switzerland, Netherlands, Denmark, Portugal, Spain, European Union. During INC-9 in February, Canada and the U.K. submitted their official communications.

Eleven of the 36 Annex I parties are countries-in-transition (CITs), i.e., former Soviet Bloc; and one nation (Turkey) has not yet signed or ratified the Convention.

### **III. U.S. Position**

At INC-9, the U.S. intervention proposed that each Annex I communication be reviewed by a team composed of technical experts from developed and developing country Parties, the Secretariat, NGOS, consultants and private sector organizations; and that this review include country visits to resolve uncertainties posed by the written document. These reports would be submitted to the Subsidiary Body for Scientific and Technological Assessment (SUBSTA) to "develop an evaluation of the Parties aggregate efforts to meet their communication obligations."

Due to time constraints, a formal review by SUBSTA is not possible before CoP-1. The U.S., therefore, proposed that an 'ad hoc' body be created to review the first national communications for the purpose of providing input to CoP-1 in its review of adequacy of commitments; and that the assessment of the "aggregate efforts" be deferred until the first formal meeting of the SUBSTA, which should occur within a few months after CoP-1; and, that shortly thereafter CoP-2 should be held "to aggressively develop next steps" in implementing the Convention.

Only two other parties (New Zealand and Canada) have submitted comments on this issue. Canada states that the first review of communications and the review of adequacy are properly, in the first instance, the responsibility of the, respectively, the SUBIM and the SUBSTA. Since these are not yet functioning special interim arrangement are needed to prepare for CoP-1. Canada proposes as "proxies", INC Working Group 1 for SUBSTA and INC Working Group 2 for SUBIM. Canada and New Zealand argue in favor of the Secretariat performing a limited 'compilation and synthesis' type of review as the "first review".

### **IV. INC Secretariat Proposal**

The Secretariat says that it is not possible to do, in time for CoP-1, an expert review of individual national communications or a full aggregate review of all communications, but it is possible for it to do a "compilation and synthesis" review in time for INC-11 if sufficient guidance setting the parameters of this review is given by INC-10. Draft parameters and a budget are proposed.

### **V. OECD Proposal**

In June, the OECD held workshops in Paris to develop a proposal to submit to INC-10 providing for an initial "synthesis" report of all communications received to be followed by assessments of individual national communications after CoP-1. A proposal for country visits was very controversial and was limited to a 'trial basis'.

## **VI. Comments and Recommendations**

1. It is recognized, by the Parties and the INC Secretariat alike, that it is not possible to do the type of review of first communications called for in the Convention in time for CoP-1.
2. It is also agreed that the Convention makes the first review of communications an integral and essential part of the review of the adequacy of commitments.
3. The various "interim" proposals do not rise to the level of meeting the requirements of the Convention with respect to the process necessary for an adequate review of "first communications" or of "adequacy". The proposal to use INC Working Groups as interim "proxies" for Subsidiary Bodies would be inappropriate as the latter are to be composed of government "experts" which the Working Groups are not.
4. Moreover, even if there were adequate time and resources, communications from many of the Annex I parties would likely still be missing.
5. It is, therefore, essential that CoP-1 defer a decision on the review of adequacy and instead establish a process that will include provision for an adequate first review of communications.
6. CoP-1 should establish the rules of procedure and other organizational mandates and arrangements to permit the prompt activation of the Subsidiary Bodies, and set a date for their first meeting at a time no later than six months after CoP-1. This schedule would permit the review of first communications to command the attention of CoP-2 in 1996 with much greater assurance of a credible and useful outcome.
7. CoP-1 should also direct the Secretariat to coordinate the selection of technical review panels to prepare reports on the national communications, individually and in the aggregate, to be submitted to the appropriate Subsidiary Bodies in advance of their first meeting. These technical panels should include governmental experts from Annex I and non-Annex I parties and non-governmental experts from the private sector (including environmentalist and business groups).
8. The credibility, transparency and comparability of the data and information contained in the communications of Parties is a critical element in the "review of adequacy" process and the viability of the Convention. The launch of this effort should not be abbreviated or short-changed and the quality of the effort put at risk for the sake of appearing to meet arbitrary deadlines. If that were to be the case, the true "momentum" of the Convention could be seriously jeopardized, and with it the prospects for the participation of developing nations.

**GLOBAL CLIMATE COALITION COMMENTS**

**on**

**SUBSIDIARY BODIES**

**A/AC/237/64**

**August 11, 1994**

## Comments on

### The Roles of Subsidiary Bodies Under the Framework Convention

A/AC237/64

A clear distinction must be made between the role of the IPCC and the role of the Subsidiary Bodies, especially the Subsidiary Body for Scientific and Technical Advice (SUBSTA). There should be no doubt that the IPCC will remain an independent scientific body even after the completion of the 1995 Second Assessment on Climate Change.

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 and has gained a depth of experience in the science of climate change. Over time, the IPCC has implemented procedures which incorporate the broadest possible peer review and critique. These rules are aimed at assuring objectivity, balance and transparency. Unless the SUBSTA is prepared to adopt these rules, including the opportunity for peer review, the independent IPCC should be maintained and its relationship with the SUBSTA (and in turn with the COP) be clearly defined.

Further, the IPCC is an established scientific body whose members include representatives of most nations within the United Nations. Conversely, "voting" membership in the subsidiary bodies is limited to the parties of the convention. The two are not necessarily identical. The work and analysis conducted by the IPCC may be representative of a much wider set of input than the analysis completed by the SUBSTA.

The SUBSTA should not be put in a position of "choosing" or "recommending" preferred technologies but rather should only prepare data bases on ALL technologies.

The Secretariats note mentions that the SUBSTA could "Lay the groundwork ... with initial emphasis on identifying, promoting access to, and disseminating information on state of the art technologies and know-how..." (Paragraph 14 (d)). It should not be the role of the SUBSTA - or an body under the convention - to "pick and choose" among the many commercial technologies available or to limit access to information on these. The SUBSTA cannot act in place of the market, or attempt to influence the commercial market for technologies. The SUBSTA's role should be limited to preparing a data base of all known technologies (possibly in conjunction with the IEA) and to make this data base available to all parties to the convention.

The meetings of the subsidiary bodies should be held at a time and in locations to ensure the broadest participation including the participation of NGO'S. Where appropriate the subsidiary body should invite the participation of relevant non-government expertise.

Financial resources will limit the attendance of many representatives of less wealthy countries unless these meetings are 1) held on a limited basis and 2) on a coordinated time schedule that would maximize participation in task forces, work groups, etc. The secretariat suggests many "open ended" working groups. The secretariat also suggests that meetings be held where Parties are represented by permanent missions. We suggest that both would be counter productive. Many open ended groups; would eliminate fullest participation from experts from the less wealthy countries. Representatives of permanent missions seldom would have the expertise to contribute constructively to the technical discussions of the subsidiary bodies. The subsidiary bodies should meet in conjunction with the COP with possibly one interim meeting each year.

The meetings of all subsidiary bodies should be open to participation of NGO's in a manner similar to that allowed by the IPCC and the INC. Further, the subsidiary bodies should invite, where appropriate, the active participation by experts from the non-government sector.



# BACKGROUND

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## Global Climate Coalition An Overview

### What It Is:

The Global Climate Coalition (GCC) is an organization of business trade associations and private companies established in 1989 to coordinate business participation in the scientific and policy debate on the global climate change issue.

GCC is dedicated to: 1) promoting scientific research on global climate change, 2) analyzing economic and social impacts of policy options, 3) creating an understanding of the global dimensions of the issue to ensure that solutions are addressed equitably by all nations, 4) encouraging transfer of technology to developing nations, and 5) promoting a voluntary commitment among members to "Guiding Principles for Business" that benefit the environment, are consistent with good business practices and are technically and economically feasible.

### What it Does:

GCC is the leading voice for industry on the global climate change issue, and represents its members before government agencies, Congress, the media and the general public. The coalition contributes to a balanced debate on global climate change by sponsoring independent research and studies that examine the potential impacts of proposed global climate change policies on the economy. Through educational materials and programs, GCC supports an informed press and public, and an open scientific dialogue.

### Where does GCC Stand?

GCC does not disagree with the presumption that there is a natural "greenhouse effect" which protects the Earth from the freezing rigors of space. In addition, GCC agrees that the amount of so-called greenhouse gases in the Earth's atmosphere are increasing. It is an open question however, whether manmade contributions of greenhouse gases have contributed, or will ever contribute to an "enhanced greenhouse effect," which could result in a potentially harmful increase in global surface air temperatures.

There is considerable uncertainty within the scientific community about fundamental questions relating to this issue. Predictions about anthropogenic global warming are based on computer models designed to simulate atmospheric chemistry. GCC agrees with a growing number of scientists who point out that these climate models (which have been used to frame the debate) can neither confirm that global warming is occurring now or predict future climate changes. While some minor climate changes have suggested, it has yet to be determined whether these are the result of natural forces (like solar flares), human activity, natural long-term climate cycles or a combination of all of these factors.



GCC supports a coordinated international research program, the continuation of U.S. climate research efforts (\$1.4 billion requested for FY 1993), in addition to independent and industry sponsored research. GCC also supports activities to reduce greenhouse gas emissions that make sense in their own right, thus continuing sound business practices that will lead to more efficient use of energy.

GCC believes that there are trade-offs associated with many of the regulatory schemes to control greenhouse gas emissions. Some of these proposals would impose a direct tax on businesses and consumers through energy or environmental fees while other proposals would impose a hidden tax through other indirect, control measures. These trade-offs would include higher energy and product costs to American consumers, higher operating costs for industry and a potential negative impact on employment. Importantly, many of these proposals would create a competitive advantage for our international trading partners at the expense of U.S. jobs and economic growth.

#### **Who are GCC Members?**

The current membership of GCC represents a broad cross-section of U.S. business organizations and companies representing a range of industrial sectors, including: oil, coal, paper, automobile manufacturing, railroads, chemical manufacturing, and utilities.

#### **How is GCC Structured?**

The GCC Board of Directors serves as the organization's governing body. The Operating Committee oversees the functional implementation of GCC activities, and John Shlaes, Executive Director, has oversight of day-to-day operations. To address specific aspects of the global climate change issue and to evaluate policy options, GCC utilizes twelve committees, including Science and Technology, Technology Cooperation, Economic Analysis, Industry Initiatives, and International, to name a few.

#### **For More Information:**

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# GLOBAL CLIMATE COALITION

## GLOBAL CLIMATE COALITION MEMBERSHIP

### Board Membership

Aluminum Association, Inc.  
American Automobile Manufacturers Association  
American Electric Power Service Corporation  
American Forest & Paper Institute  
American Iron & Steel Institute  
American Mining Congress  
American Petroleum Institute  
American Portland Cement Alliance  
Association of American Railroads  
Atlantic Richfield Company  
Chemical Manufacturers Association  
Chevron  
Cincinnati Gas & Electric Company  
Council of Industrial Boiler Owners  
CSX Transportation, Inc.  
Dow Chemical Company  
Drummond Company  
Duke Power Company  
Edison Electric Institute  
ELCON  
Exxon  
Illinois Power Company  
Kaiser Aluminum & Chemical Corp.  
Mobil Corporation  
National Association of Manufacturers  
National Coal Association  
National Lime Association  
National Rural Electric Cooperative Association  
Phillips Petroleum Company  
Process Gas Consumers  
The Southern Company  
Texaco, Inc.  
U.S. Chamber of Commerce  
Union Electric Company

### General Membership

American Commercial Barge Line Co.  
Amoco Corporation  
Arizona Public Service Company  
Association of International Automobile Manufacturers  
BP America, Inc.  
Burlington Northern Railroad  
CONRAIL  
Consumers Power  
Du Pont Company  
Duquesne Light Company  
Eastman Kodak  
Goodyear Tire & Rubber Co.  
LTV Steel Company, Inc.  
Norfolk Southern  
Northern Indiana Public Service Co.  
Ohio Edison  
Pennsylvania Power & Light Company  
Railway Progress Institute  
Shell Oil Company  
Union Carbide  
Union Pacific Railroad