

## MEMORANDUM TO THE PRESIDENT

**From:** Aspen Institute Environmental Policy Forum  
Donald Kennedy and Roger W. Sant, Co-Chairs

**Subject:** A Global Environmental Agenda for the U.S.

The group of science, environment, and business leaders who produced and discussed these memoranda share a strong conviction that you and your administration face an array of historic and urgent challenges—the kind that, with bold leadership, can be turned into exceptional opportunities.

Many of the recommendations for specific areas involve policies and tools that will not slow the nation's economy and may even provide economic opportunities and help resolve real humanitarian concerns. This article presents a sketch of the broad outlines of the environmental problems confronting humanity and suggests some paths toward their resolution.

The first two challenges, emerging into the public consciousness only in recent decades, are rooted in the unprecedented pace of global change. The global economy is linking nations and people in new and different ways. But people are only beginning to realize the extent to which human actions are radically reshaping the global environment. Without awareness of the consequences of these actions, people have taken control of the planet.

The first change affects the atmosphere: By adding carbon dioxide and other greenhouse gases, people are altering the global climate at a pace that could threaten human livelihood within this century. The second set of changes is taking place on the land itself. Almost half of the world's land surface has been put to human service; people control half of its primary production and have com-

mandeered the natural cycles of nitrogen and other vital elements. Not only has this footprint been large, but humans have handled the land and oceans roughly, depleting their capital stocks of natural resources and threatening the greatest loss of species in 65 million years.

These vectors of change will converge on a more persistent, chronic challenge—the misery that is the regular lot of much of the human family. Eight hundred million of the world’s people are hungry, and hundreds of millions of children face uncertain futures because diarrhea, acute respiratory infections, and malaria threaten their health and well-being. These circumstances offer the grim prospect of becoming worse because they afflict some of the most rapidly growing parts of the developing world. The United States is a nation with a conscience, yet its performance in aiding development and supporting welfare improvement in these countries is inconsistent with its national beliefs.

It would be easy to conclude that the twin challenges of climate change and resource degradation, on one hand, and the continuing problems of global

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inequity and human deprivation, on the other, are too difficult to handle simultaneously. However, the opposite is true. Complex public policy choices inevitably involve tradeoffs, but done wisely and cost effectively, actions to address the climate and depletion problems can help ameliorate the adverse economic and social conditions around the world that

produce human suffering. Responding to the near-term challenges will help the United States deal with the chronic one: Benefits will come especially to the poor, hungry, and sick if the United States can succeed in its efforts to stabilize climate and restore environmental quality.

Indeed, part of the argument for action is that people in the developing world will take the brunt of the assault from global environmental change. To protect them will be in the best interests of the United States. The relief the United States can provide could dispel the need for repetitive, costly interventions of the kind undertaken in Somalia and Haiti and could mitigate many of the

increasing threats to global public health that could affect U.S. citizens. Possible improvements also carry the prospect of new markets and new opportunities for democracy around the world. Equally important is this reality for people in the United States: Continued deterioration of the health and welfare of people elsewhere, in this rapidly globalizing society, presents the caring citizenry of the United States with the unacceptable prospect of enduring moral agony.

What challenges face the United States? Climate change, loss of biodiversity and the human services that depend on natural ecosystems, and the depletion of such resource stocks as clean air, fresh water, and ocean fisheries. These relentless engines of change have three things in common. They are nonlinear, dynamic events that promise surprises. They are complex, with many interactions among them. And they are caused by human action. These commonalities indicate that they will be difficult to solve—and the potential roads to solution will wander between and among the categories. For example, climate change will affect every other issue: agricultural capacity, especially in the tropics; infectious disease, by altering the range and efficacy of important vectors of viruses; coastal marine ecosystems, by changing sea level. Deforestation influences climate. Hunger contributes to deforestation and overfishing. Population growth influences everything else. Consumption patterns and behavior determine how great that influence will be. And resource availability affects so many other conditions of life that it may become a source of civic instability and, sometimes, violent conflict.

Nor is the process of change constant: it is accelerating. People in developed and developing countries alike confront a future in which world population growth (headed for 9 billion in mid-century) and economic development will combine to place exploding demands on land, water, and atmosphere. There is now a scientific consensus that the average temperature will continue to rise throughout this century and that it will have significant impacts on quality of life unless steps are taken now to retard greenhouse gas emissions—especially those from carbon dioxide—and to plan the means by which humans might soften our impact on Earth.

No one should believe that the problems are too many, too big, or too complex to solve. The United States has already largely overcome similar obstacles in meeting its domestic environmental challenges. In every U.S. city, air quality is now better than it was two decades ago. Water quality everywhere has improved.

The United States has gained substantial control over such environmental hazards as lead, second-hand smoke, and toxic wastes. The country has secured protection for many of its most valuable natural resources through the designation of public lands and through the commitments of U.S. citizens to private conservation efforts. In almost every one of these respects the United States is better off than at any time in the 20th century.

The United States's heavy economic dependence on energy supplied by carbon-dioxide yielding fossil fuels presents real concerns: The road to emissions reduction will have costs. Yet people in the United States have displayed, in abundance, their willingness to respond to circumstances of resource scarcity. In the oil shocks of the 1970s or faced with regional water shortage, U.S. citizens have engaged in conservation measures so successful that they exceeded the most optimistic predictions of most economists and other experts. The United States's capacity for technological innovation—the “Yankee ingenuity”—is undiminished. When the need is there, the United States has shown that it can accomplish difficult tasks.

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presidential administration will require partnerships with industry, citizen groups, and other domestic and international organizations. The problems are global, but they have strong domestic components. The extraordinary success of the U.S. economy has given the nation a special capacity and obligation to lead. That same success has also given it a major role in causing environmental problems, so the United States's capacity to lead will require taking steps domestically to reduce that contribution. The following recommendations, taken from discussions that ranged over the entire terrain covered in the various memoranda to the new presidential administration, deserve special emphasis.

In the climate change area, it is important to exert leadership to commit the United States to reduce the rate at which its activities emit carbon dioxide and other greenhouse gases. The final goal must be long-term stabilization of the atmospheric concentration of these gases. Even if it is premature to set a numerical target for that goal, immediate action is required to reduce the rate at which

the United States is adding to the problem. In the future, additional emissions limits and efforts at sequestration will be needed, in the United States and elsewhere, if the concentration of greenhouse gases is to remain at acceptable levels. The United States cannot hope to persuade others unless it, acknowledged world leader as well as champion emitter, begins today. Corporations in the United States and elsewhere are taking voluntary actions. These actions should be encouraged and rewarded. Technological innovation is at the core of the success of the 20th century and the promise of the 21st century. Research and development programs to encourage alternatives to carbon-based fuels should be expanded promptly, and eliminating regulatory, tax, and trade obstacles to innovation and the export of advanced technologies must be a high priority. In advance of a commitment to an international regime for emissions limitation, there is much the United States can do to show leadership—and starting early means getting it done at lower cost.

The loss of critical resources that support the living planet presents an equally urgent challenge. Natural ecosystems—those complex, diverse assemblies of living things—not only have great intrinsic value, but are also sources for an extraordinary range of human benefits. They supply a vast array of goods and services that people need as well as other satisfactions that are difficult to measure economically. Indirectly they support much of what humans do in self-interest: harvesting, irrigating, supplying clean water, and stabilizing the climate.

The United States should move toward a strategy that emphasizes the conservation of these systems on land and in the sea. In the short term, the U.S. president can set an example by establishing aggressive domestic goals for reducing the number of plant and animal species at risk of extinction. At longer range, it is important to develop and implement ways to evaluate the vulnerability of existing regions and to set priorities for their conservation. Attention to land-use development patterns, especially those that fragment forests, wetlands, grasslands, and managed forest and agricultural lands, can help reduce biodiversity loss and the disintegration of intact ecosystems. Establishment of significant new protected zones in the ocean and in terrestrial environments is an important mechanism for sustaining the health of more extended ecosystems. A longer range domestic objective should aim at maintaining the health of representative examples of all globally outstanding U.S. ecoregions. Biological diversity is an attribute of great human value, and extinction is an irreversible endpoint.

Resource depletion—the exhaustion of capital stocks of natural endowments that all people need—is a central element of the human condition in the world’s poorest countries. Water deprivation is a fact of life in many places. Loss of soil fertility has stalled agricultural growth in parts of the developing world. Infectious disease, brought on by poor water quality and ecological change, is the major cause of deaths worldwide. Deforestation affects water quality at great distances and impacts soil quality.

There are known solutions for many of these problems. Vaccine development and the export of modern sanitation technology represent major opportunities for improving public health. These efforts will become more critical as climate change alters the distribution of vectors for infectious disease and as new agents emerge—threatening not only distant populations but, because people are as globalized as economies, U.S. citizens as well. Support for international agricultural research and for the maintenance of public-sector banks of genetic resources is essential to meet the needs of a growing population.

These steps will require partnerships with international organizations. The United States’s limited financial support of these organizations and the skeptical view some U.S. citizens have taken of their ability to perform has damaged the nation’s capacity to form successful partnerships. It is important that the new administration select a small number of the most promising organizations and that it lead an effort to improve their performance and to rally their support by the industrial democracies. They offer research programs that are desperately needed in the developing world and also the regimes required to resolve the allocation of common-pool resources.

With respect to population and consumption, the United States can function as a source of help and as a model. It is necessary to continue work on the central problems of population growth abroad by eliminating poverty, providing economic opportunity, extending family planning services, and supporting the education and improved status of women. These and other international efforts will succeed or fail depending on how U.S. involvement is perceived by other countries. Presently the country’s allocation to overseas development assistance falls far short of what other industrial democracies deliver. Your leadership in contin-

uing to improve the U.S. contribution to aid for environmental objectives and to meet basic human needs will be critical during the next four years.

Much can be done to reduce the human footprint on the planet. The United States can offer tax breaks and other incentives for industry to adopt life-cycle analysis, employ take-back strategies, improve carbon efficiency, and practice sustainable design and production techniques. Decision makers can consider policy changes that will tax pollution and consumption rather than productive work, savings, and investment. When the government regulates, it can improve its own efforts to set clear environmental priorities, ensuring that private and public funds are wisely aimed at the most important and cost-effective targets.

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The U.S. economic system still suffers from misplaced incentives and dysfunctional subsidies—many of them discouraging to wise environmental management in the United States and other nations. It is possible, though at some political cost, to eliminate these. The new presidential administration needs to lead a national examination of this problem followed by actions to get the prices right. Markets can help to achieve this goal, and market-based solutions are often preferable to “command and control” regulatory systems. But markets work well to protect environmental quality only when the information is available and accurate and the economic signals reflect the full external costs of activity. Steps like these, taken in the nation with the world's largest, most successful, most market-oriented, and most consumptive economy, can provide a model for what is possible elsewhere.

Many of our recommendations, delivered in the memoranda that follows, deal with specific aspects of the problem. They are the meat of the advice because in the complex and vital domain of environmental quality, simple, global solutions are hard to come by. We urge you to transmit these to your administration with an unmistakable call to action.

Some of the major themes that warrant your personal attention are highlighted here in the hope that they might provide some thematic guidance for your administration's actions. No single factor will more vitally affect the

United States's ability to meet these global challenges than presidential leadership. So it is essential to lead—in educating the public about the critical challenges it faces and in charting a course of action that will help preserve and enhance the life of all peoples and the planet that sustains them.