



Union of Concerned Scientists

STRATEGIC PLAN • 2011-2015

We wish to acknowledge and thank the UCS Board of Directors and UCS staff for their advice, guidance, and substantive contributions to the development of this strategic plan.

UCS Board of Directors: James J. McCarthy (chair), Peter A. Bradford, Thomas Eisner (emeritus), James A. Fay (emeritus), Richard L. Garwin, Kurt Gottfried (chair emeritus), Andrew Gunther, Geoffrey Heal, James S. Hoyte, Anne R. Kapuscinski, Jessica T. Mathews, Edward L. Miles, Mario J. Molina, Stuart L. Pimm, Louis Salkind, Adele Simmons, Nancy Stephens, Thomas H. Stone, and Ellyn R. Weiss.

CONTENTS

2	A Message from Our Chairman and President
4	Strategic Framework 2011–2015
7	I. Overview
8	II. Building on Our Successes
	III. What We Will Do: 2011–2015 Goals and Objectives
10	Goal 1: Ensure Robust Science Informs and Motivates Public Policy
12	Goal 2: Limit the Magnitude of Global Warming and Its Impacts on People and the Environment
15	Goal 3: Accelerate the Transition to a Sustainable, Clean-Energy Economy
18	Goal 4: Advance Sustainable Agriculture and Land Use
20	Goal 5: Reduce the Nuclear Threat Worldwide
	IV. How We Will Succeed: Organization-wide Priorities
22	Strategic Communications
22	Scientific and Technical Capacity
23	Collaboration
24	Operational Excellence
25	V. Conclusion

Providing Scientific Solutions in Difficult Times

This strategic plan is being launched at a particularly challenging time.

Our nation has not yet summoned the will to respond boldly to the increasingly grim prospect of global climate change. Precious time ticks away as immediate matters like unemployment, a stagnant economy, and a devastating oil spill in the Gulf demand attention. Even though clean-energy initiatives show promise as an emerging engine of economic growth, defenders of the fossil fuel status quo cynically attack the credibility of an enormous body of climate science and impugn the motives and integrity of climate researchers.

Our nation's military is fighting two wars abroad while the risk of terrorists acquiring a nuclear weapon or weapons-grade fissile material is greater today than ever before. Our government often seems too timid or too late in tackling large, complicated challenges.

It is against that backdrop that we developed this five-year plan. We sought counsel from our Board of Directors, our staff, our supporters, and many thoughtful leaders outside our organization on how we could be most effective. This process affirmed the importance of one of our hallmarks as an organization: our persistence and tenacity in combating some of the most intractable problems of our time, such as nuclear weapons and climate change. Our stakeholders commended our scientific approach, confirmed we are working on the right issues and problems, and helped identify strategies that will ensure significant progress.

Over the next five years, we will apply the best available science to better understand the multifaceted challenges facing us, their potential solutions, and the complicated choices and tradeoffs among policy pathways. We will identify and eliminate systemic obstacles to the progress we need, and address emerging dangers in ways that connect with people's lives—thus building support for strong and decisive action. And we will build on our existing work in important ways.

Specifically, we will:

- Expand our work safeguarding the integrity of science in federal policy making to encompass inappropriate corporate influence on government science
- Prioritize phasing out conventional coal-fired power plants to improve human health and reduce global warming emissions

- Clean up smog-forming pollution and global warming emissions from big-rig trucks and dirty fuels
- Apply our scientific expertise to better understand the complex challenges of sustainable land use in the agriculture, forestry, energy, and conservation sectors, and promote choices that will protect our water resources, climate, and the long-term health of our agricultural soils
- Underscore the growing risks of nuclear terrorism, as well as the urgency of reducing stockpiles of nuclear weapons

We will also hone *how* we conduct our work to better achieve our mission. We will amplify our work by engaging and expanding our networks of scientists, engineers, economists, and other experts, and bolster our relationships and engagement with the public health and medical communities. We will provide our staff with the tools they need to communicate more effectively with decision makers and the public. And, we will provide our members and supporters—the lifeblood of our organization—with the means to become more knowledgeable about our work and make meaningful contributions toward achieving our mission.

We are privileged to lead an organization that has a long record of advancing innovative solutions to some of the greatest challenges facing humankind, and we are confident that with the support of our dedicated members we will achieve the ambitious goals set forth in this plan. We are deeply grateful for the support of members who make this work possible as we all work toward a healthier and safer planet.

Please join us in turning this plan into reality.



Kevin Knobloch
President



Dr. James McCarthy
Chairman, Board of Directors



©Richard Howard

Our Mission

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices.

Our Approach

Independent Science

We conduct rigorous scientific and technical analysis

Practical Solutions

We develop feasible, timely, and cost-effective solutions

Compelling Communications

We frame our analysis to connect with people's lives and values

Effective Engagement

We mobilize citizens and scientists to drive changes in public policy, corporate practices, and consumer choices

Persuasive Advocacy

We influence decision makers to design and implement policies informed by independent science

Strategic Goals and Objectives

1. **Ensure robust science informs and motivates public policy**
 - Amplify the voices of scientists working for a better world
 - Use the best available science to inspire citizen action
 - Expose and reduce inappropriate corporate influence on the science used in federal decision making
 - Solidify reforms needed to prevent the abuse of science
 - Expand the community of experts working on technical policy issues
2. **Limit the magnitude of global warming and its impacts on people and the environment**
 - Focus attention on the facts and implications of climate science
 - Press for climate policies that deeply reduce heat-trapping gases
 - Champion international climate accords that reduce global carbon emissions
 - Ensure climate solutions are driven by the benefits of action and the costs of inaction
3. **Accelerate the transition to a sustainable, clean-energy economy**
 - Expand clean, cost-effective electricity options
 - Phase out conventional coal as a viable energy choice
4. **Advance sustainable agriculture and land use**
 - Increase use of sustainable, low-carbon fuels and block dirty fuels
 - Maximize fuel economy and reduce pollution from light- and heavy-duty vehicles, and speed the transition to a near-zero-emissions fleet
 - Promote energy choices that protect our water resources
 - Promote agricultural practices that reduce climate impacts
 - Define the appropriate role for genetically engineered crops in agriculture
 - Phase out the unnecessary use of antibiotics in animal agriculture
 - Promote land-use choices that address global warming and enhance sustainability
5. **Reduce the nuclear threat worldwide**
 - Limit the role of nuclear weapons in U.S. security policy and deeply cut nuclear arsenals here and abroad
 - Minimize the nuclear terrorism and proliferation risks of nuclear power
 - Prevent the deployment of weapons in space
 - Increase the safety of U.S. nuclear power plants and make them more secure against attack

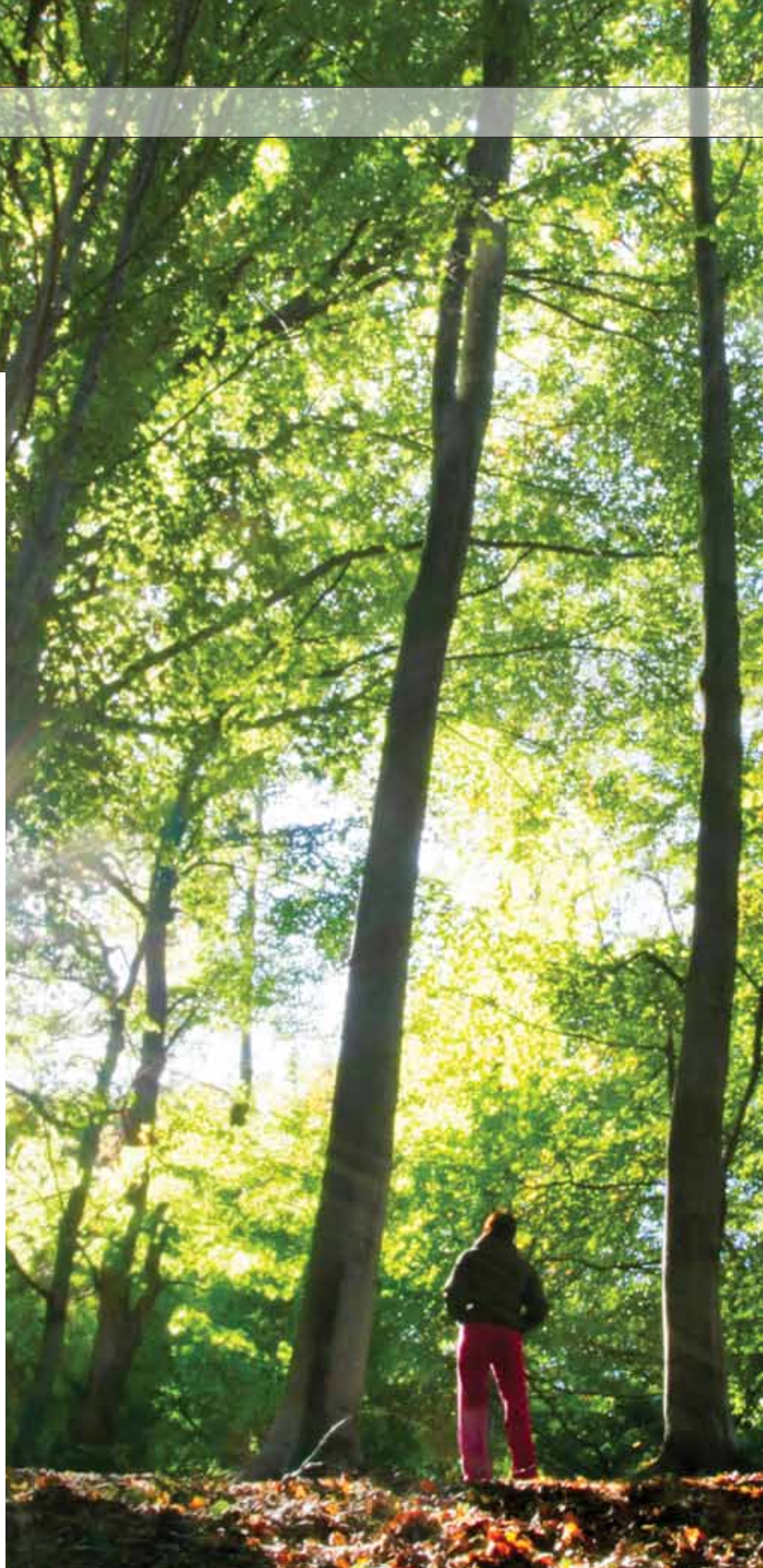
Organization-wide Priorities

- 1. Strategic Communications**

Clearly connect our work with people's values and daily lives to motivate them to take action on priority issues
- 2. Scientific and Technical Capacity**

Enhance our relationships with the science, engineering, economics, and public health/medical communities; recruit and retain top scientific talent for both our staff and Board of Directors
- 3. Collaboration**

Strengthen our partnerships with existing allies and constituencies; seek new partnerships with diverse communities that can help achieve commonly shared goals
- 4. Operational Excellence**
 - Innovation
 - Project management and accountability
 - Investing in our people
 - Financial sustainability





Major Successes over the Last Five Years

Climate & Energy

- Provided the scientific rationale for a strong U.S. **emissions reduction target** (at least 80 percent by 2050) that is now widely accepted in climate policy proposals
- Played a lead role in passing **landmark climate legislation** in California (AB 32)
- Worked with allies to develop a **regional cap-and-trade program** in the Northeast
- Continued to build strong state mandates supporting renewable energy, with a total of 29 states enacting **renewable energy standards**

Transportation

- Drove passage of the most significant **increase in federal fuel economy standards** in more than 30 years
- Helped design and win adoption of the first-ever state and federal **global warming emissions standards** for vehicles
- Helped design and pass **low-carbon fuel standards** in California—the nation's first

Agriculture

- Persuaded the Food and Drug Administration (FDA) to address the **overuse of antibiotics** in livestock production
- Blocked **FDA approval** of the widespread use of a valuable human antibiotic in cattle

Nuclear Weapons

- Helped end unnecessary and unsafe **nuclear weapons programs** (the nuclear bunker-buster and the Reliable Replacement Warhead)
- Helped terminate the GNEP program for domestic **reprocessing of spent nuclear fuel**, which creates material that can be used to build nuclear weapons

Scientific Integrity

- Mobilized the scientific community to defend and restore the **integrity of science** in federal agencies despite a hostile political environment
- Informed and helped shape the Obama administration's approach to the **proper use of science**

Our History

The Union of Concerned Scientists (UCS) was founded in 1969 by Massachusetts Institute of Technology scientists and graduate students protesting the U.S. government's militarization of scientific research. The organization's founders believed the public interest would be better served by scientific research directed toward solving pressing environmental and social problems rather than developing weapons of mass destruction.

Though UCS initially focused on defense-related research, nuclear weapons, and nuclear power, over the past four decades we gradually broadened our work to encompass other critical issues that have a strong science component: global warming, clean energy and transportation, sustainable agriculture, and the integrity of scientific research used to inform government decision making. Our influence on the public debate has also grown, based on our reputation for rigorous, independent analysis and our ability to mobilize scientists. By combining their voices with those of economists, educators, businesspeople, and other concerned citizens, UCS has achieved significant victories that have had a substantial impact on society (see the box to the left).

Our Mission and Approach

MISSION

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices.

APPROACH

UCS seeks to influence some of the most critical issues facing our world today through:

- **Independent science.** We conduct rigorous scientific and technical analysis.
- **Practical solutions.** We develop feasible, timely, and cost-effective solutions.
- **Compelling communications.** We frame our analysis to connect with people's lives and values.
- **Effective engagement.** We mobilize citizens and scientists to drive changes in public policy, corporate practices, and consumer choices.
- **Persuasive advocacy.** We influence decision makers to design and implement policies informed by independent science.

II. BUILDING ON OUR SUCCESSES

Achieving our vision of a cleaner, safer, and healthier world requires a long-term commitment that will stretch beyond this five-year period. Indeed, the dramatic changes we seek cannot be realized with a single decision, and cannot be secured this year or next. But UCS places a high value on persistence and perseverance, so we will tenaciously pursue progress on difficult challenges such as nuclear weapons and global warming for as long as it takes. We will also be innovative, creative, and nimble—open to whatever new or evolving strategies and approaches could prove effective in driving transformative change.

With these traditions in mind, we will increase our emphasis on several key issues over the next five years:

- **Defending climate science.** We will build on our efforts to focus the national climate debate on the facts and implications of global warming, and work with scientists, institutions, and our allies to strengthen public confidence in climate science.
- **Reducing inappropriate corporate influence on science used in federal decision making.** We will expand our work on scientific integrity to expose undue corporate influence in federal agencies and seek reforms to address it.
- **Promoting sustainable land use.** Competition for land—for agriculture, forestry, energy, conservation, and other purposes—has emerged as a critical factor in evaluating strategies for reducing global warming emissions. We will draw on our scientific and economic expertise in forest, fuel, and agricultural policies to promote a positive vision of U.S. land-use priorities that best meet the climate challenge.
- **Promoting energy choices that protect our water resources.** Coal, nuclear, and certain renewable power sources require large amounts of water to generate electricity. As



©iStockphoto.com/Pedro Castellano

global warming increases the strain on water resources, we will bring this problem to the attention of the public and policy makers, and mobilize scientists and citizens to support low-water and low-carbon energy choices.

- **Phasing out conventional coal.** We will highlight the negative socioeconomic and environmental impacts of coal power, conduct analyses of the true costs of coal over its full life cycle (from mining to burning to disposing of coal ash), and pursue strategic partnerships with public health groups and communities vulnerable to coal pollution.
- **Promoting sustainable agriculture as a climate solution.** We will help decision makers and the public understand the scientific links between agriculture and global warming, focusing on the climate impacts of meat production, comparative benefits of different cropping and animal feed systems, appropriate roles for genetically modified crops, and opportunities for reducing heat-trapping nitrogen pollution from fertilizers.
- **Reducing emissions from passenger vehicles, heavy-duty trucks, and transportation fuels.** Building on our success in securing new light-duty vehicle emissions standards, we will take the next logical step by extending our efforts to heavy-duty trucks, which are currently unregulated and produce 20 percent of the transportation sector's global warming emissions. We will provide the analytical basis for tougher, long-term standards that require automakers to develop and deploy new technologies that will protect human health and the environment. We will also educate policy makers and the public about the need to pursue sustainable, low-carbon fuels while steering clear of risky, high-carbon fuels derived from coal, tar sands, and oil shale.
- **Preventing nuclear terrorism.** We will build on our work in this area by conducting technical analyses and educating policy makers about the national security risks posed by the reprocessing of spent reactor fuel, which creates weapon-usable material attractive to terrorists.

Additionally, we will help ensure the success of these efforts by enhancing *how* we conduct our work:

- **Strategic communications.** We will maximize the impact of our scientific and technical expertise by investing in resources that help us leverage new online channels and build on our success with mainstream media. We will also clearly connect our work with people's values and daily lives in order to motivate action on priority issues. And we will ensure that our staff members and our network of scientific experts have the tools and training they need to be effective communicators.
- **Scientific and technical capacity.** To expand our reach and effectiveness, we will enhance our relationships with the science, engineering, economics, and public health/medical communities. We will also continue to recruit and retain top scientific talent for both our staff and Board of Directors.

GOAL 1

Ensure Robust Science Informs and Motivates Public Policy

1.1 Amplify the voices of scientists working for a better world

1.2 Use the best available science to inspire citizen action

1.3 Expose and reduce inappropriate corporate influence on the science used in federal decision making

1.4 Solidify reforms needed to prevent the abuse of science

1.5 Expand the community of experts working on technical policy issues

Goal 1: Ensure Robust Science Informs and Motivates Public Policy

We have identified three fundamental principles that inform the approach we take to achieving this goal:

- First, the public policies UCS advocates must be grounded in the best available scientific analysis.
- Second, we must connect scientific knowledge and science-based solutions with people’s lives and values, to engage and motivate them to push for changes in public policies, corporate practices, and consumer behavior.
- Third, we must help the scientific community play an active and influential role in shaping policy.

Objective 1.1: Amplify the voices of scientists working for a better world

Although science is rarely the only factor in public policy decisions, it plays an essential role in the process and can help avoid disastrous consequences. Scientists and technical experts must often speak out to ensure the relevant science is considered, and occasionally fight back against attempts to censor, distort, or manipulate science.

UCS will tap its connections in the science, engineering, economics, and public health/medical communities to amplify the voices of experts in policy discussions and the media. We will train and deploy these experts to enhance their ability to engage in the policy process, communicate with the public, and respond rapidly to breaking news or policy debates on scientific issues. We will also convene and partner with these experts to produce policy-relevant research and analysis or to provide peer review of UCS analysis.

Objective 1.2: Use the best available science to inspire citizen action

We cannot expect decision makers to seek out peer-reviewed science to inform their decisions. Instead, we must proactively provide them with the policy-relevant research they need, and we must engage the public in the debate as well. To this end, UCS will ensure peer-reviewed research and analysis is presented in a form accessible to non-experts, explain how this information affects their daily lives, and inspire them to take action.

Objective 1.3: Expose and reduce inappropriate corporate influence on the science used in federal decision making

Corporate interests often influence the way governments use science in legislative and regulatory decisions. This influence is too often inappropriate, resulting in conflicts of interest such as undisclosed corporate funding of research used by the government, pressure on policy makers who receive financial support from corporations, and the “revolving door” through which government and private-sector employees pass.

We will expand our efforts in monitoring the scientific integrity of federal policy making to encompass inappropriate corporate influence. We intend to expose corporate interference in government science, hold private-sector officials and public decision

makers accountable for their actions, develop methods to ensure transparency in such matters, highlight corporate “best practices” related to the use of science in policy making, and motivate the public to become engaged on this issue.

Objective 1.4: Solidify reforms needed to prevent the abuse of science

From 2004 to 2010, UCS made significant strides in ensuring the honest and proper use of science in federal policy making, but we need to cement reforms to prevent future abuses. These reforms must protect government scientists, increase transparency in federal agencies, improve the regulatory system, strengthen scientific advice to government agencies, and ensure enforcement of current laws.

We will meet this objective by working with—and publicly pressuring—Congress and the administration to create systemic change, passing the needed legislative reforms and ensuring that new legislation on such complex issues as food safety or climate change is based on rigorous science. We will also work to ensure that Congress and the media provide effective oversight of the executive branch, and that politically motivated interference in federal science is both minimal and visible.

Objective 1.5: Expand the community of experts working on technical policy issues

Though independent scientific and technical analysis is vital to informed policy making, attracting and engaging scientists and other experts in the policy process is a challenge. Fortunately, through the UCS Science Network and our annual Summer Symposium for global security experts, we have more than 20 years of experience in engaging independent experts, motivating their involvement in public policy, and developing their capacity to engage effectively on science-based policy issues.

We will expand our expert networks over the next five years, with a special emphasis on increasing the participation of economists, health professionals, engineers, and energy experts. We will also substantially expand our engagement with young scientists in order to build the next generation of science policy leaders. On the international front, we will continue our highly successful annual Summer Symposium, which has created an international community of scientists (representing nearly 30 countries) who work on nuclear arms control, helping them conduct technical analysis to inform their countries’ security policies. And we will continue our engagement with scientists in China, which has helped us educate U.S. decision makers, journalists, and citizens about China’s technical capabilities and intentions.



©iStockphoto.com/DNV159

GOAL 2

Limit the Magnitude of Global Warming and Its Impacts on People and the Environment

2.1 Focus attention on the facts and implications of climate science

2.2 Press for climate policies that deeply reduce heat-trapping gases

2.3 Champion international climate accords that reduce global carbon emissions

2.4 Ensure climate solutions are driven by the benefits of action and the costs of inaction

Goal 2: Limit the Magnitude of Global Warming and Its Impacts on People and the Environment

Climate change is the defining issue of the twenty-first century, with potentially catastrophic consequences for human health, the environment, and the security of our world. We already see evidence of a warming world in our daily lives: earlier springs, hotter summers, and more extreme weather.

The best available science tells us that we have an increasingly narrow window of opportunity to keep temperatures from rising more than two degrees Fahrenheit above today's average temperature—the level at which we can reasonably expect to limit devastating climate change. Visionary policies and an informed, engaged citizenry are needed to pull our society back from the brink of a dangerously warming world. Science and economics show us the grave environmental and economic risks we face; they also point the way to practical solutions for curbing global warming and protecting the health and welfare of our planet and its peoples.

Over the next five years, UCS will develop and promote binding, science-based legislation to drive down heat-trapping emissions across the U.S. economy. Our robust scientific and economic analysis will help guide policy makers and the public toward courageous and far-sighted emissions reduction targets.

Objective 2.1: Focus attention on the facts and implications of climate science

The scientific evidence for human-caused climate change is irrefutable. Yet powerful vested interests have sought to delay needed action by subverting reputable science and attacking the credibility of scientists and scientific institutions. These attacks are not only dishonest but also reckless—they threaten our health, safety, and well-being. Every day that climate action is delayed increases the risk of floods, droughts, extreme weather, and other dangers to individuals and communities around the globe. We must therefore act swiftly to drive down heat-trapping emissions, and our solutions must be driven by an honest assessment of the best available science.

To meet this challenge, UCS will work to reframe the national climate narrative around the facts and implications of climate change. We will support leading scientists and institutions in defending the integrity of their work, and by connecting scientists with the media and key policy makers, we will focus the public's attention on what is known with high confidence and why it demands urgent action. In so doing, we will strengthen the public's confidence in climate science and the economic and technological feasibility—indeed, desirability—of policies designed to cut emissions.

Objective 2.2: Press for climate policies that deeply reduce heat-trapping gases

The science is clear: without decisive action, the risks of catastrophic climate change are unacceptably high. Sea-level rise, more intense droughts, floods, and heat waves pose severe threats to human health and well-being in the United States and throughout the world. Citizens, businesses, and policy makers still have an opportunity to protect the

security of our communities and country by pushing for robust national policies that begin reducing U.S. emissions of heat-trapping gases immediately.

UCS will use the best available scientific and economic analysis to create the necessary momentum for such policies, to craft effective legislation, to advance creative administrative policies, and to realize the full promise of these measures with skillful implementation. We will focus our efforts wherever we see the best opportunities to drive down emissions—whether in state capitols, corporate boardrooms, or Washington, DC.

Objective 2.3: Champion international climate accords that reduce global carbon emissions

Climate change is a global crisis that demands a global solution. The United States must not only play a vital role in reducing its own emissions, but also work with other nations to shape and implement a comprehensive, robust international climate accord. Developed nations (e.g., the United States, Japan, members of the European Union) and major emerging economies (e.g., China, India, Brazil) must all be part of a fair and ambitious framework.

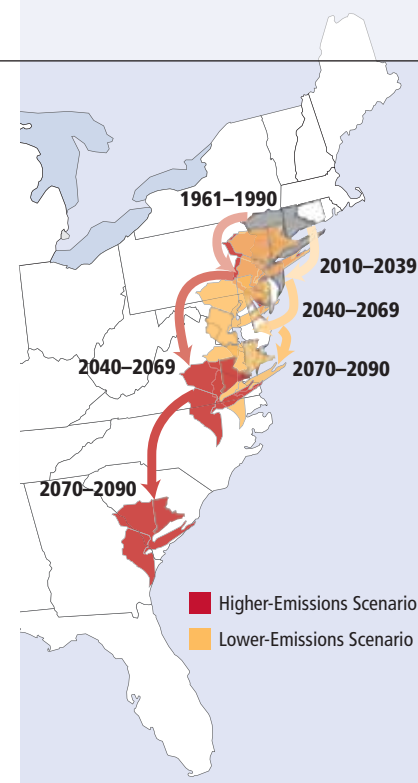
UCS recognizes that U.S. commitments influence global standards, and global standards influence domestic policies. Over the next five years, we will help bridge these spheres and improve the chances for robust international agreements by increasing awareness and understanding of U.S. policy among international negotiators and policy makers, and vice versa.

We will also leverage our expertise in tropical forests to reduce deforestation worldwide. Limiting heat-trapping emissions in this way is both cost-effective and ecologically responsible. Any future climate treaty must therefore include a provision for “REDD+” (reducing emissions from deforestation and degradation, plus sustainable forest management and restoration) that rewards tropical countries doing their part to protect shrinking forests and promote new growth. UCS will provide science-based leadership for initiatives aimed at reducing deforestation by half by 2020 and ending global warming pollution from the destruction of tropical forests by 2030.

Objective 2.4: Ensure climate solutions are driven by the benefits of action and the costs of inaction

Even as we work to ensure that the scientific basis for swift climate action is clear, we must also address economic concerns about such action. A full accounting of the costs and benefits of climate action—or inaction—is vitally needed, especially in light of the current global financial crisis, increased political partisanship, and the struggle of businesses and consumers to understand the impacts of their day-to-day consumption, production, and investment decisions in a carbon-regulated world.

Over the next five years, UCS will continue to enhance its economic expertise, enabling us to promote climate solutions that are scientifically and economically sound—solutions that create jobs and save money while driving down emissions. This work, which builds on our 2009 report *Climate 2030: A National Blueprint for a Clean Energy Economy*, will emphasize the inescapable conclusion that doing nothing to stop global warming is the costliest choice available to us.



Migrating Climates

Late-century summers in the New York City tri-state area could feel like South Carolina summers today if we do nothing to curb global warming emissions.



Regional Strategy

Our Philosophy

UCS is a national organization with headquarters in Cambridge, MA, and offices in Washington, DC, Berkeley, CA, and Chicago, IL. We have long believed the best way to reach our goals is by combining federal, regional, and state engagement. Over the next five years, we will continue to strengthen our offices in California and the Midwest (and our partnerships with local allies) while retaining the geographic flexibility to make strategic investments as new opportunities to achieve positive change arise.

Priorities in California and Other Western States

California, with its large population and markets, can drive nationwide progress in legislation, industry practices, and consumer behavior. UCS has worked with California officials over the past 20 years to achieve policy breakthroughs on climate change and air quality. Over the next five years, we will continue to help California and other western states move toward a clean-energy economy by:

- advocating a pioneering global warming emissions cap, renewable energy, and clean-vehicle policies that can serve as models for the rest of the country;
- expanding our engagement with in-state UCS members, activists, scientific and technical communities, labor groups, and businesses; and
- guarding against special-interest threats to environmental protections and state authority.

Priorities in the Midwest

UCS established its Midwest office in 2008 because the region has the potential to reduce its heat-trapping emissions so substantially that it could lead the nation in producing sustainable, clean energy. To that end, we have advanced an innovative regional cap-and-trade program and promoted state-level biofuels and clean-energy policies. Over the next five years, UCS will engage midwestern citizens, scientists, and other partners in our efforts to:

- highlight both the impacts of global warming and the achievable solutions;
- broaden and deepen effective climate action in the region;
- drive farsighted clean-energy policies; and
- shut down unsustainable coal-fired power plants.

Goal 3: Accelerate the Transition to a Sustainable, Clean-Energy Economy

A sustainable, clean-energy economy would transform Americans' way of life for the better, by lessening the impacts of global warming, reducing our oil dependence, conserving our natural resources for future generations, improving our health and security, and providing new jobs. But neither our decision makers nor the American public have yet to show the collective will needed to overcome the roadblocks standing between us and the long-term prosperity of our economy and planet. UCS offers a combination of technical expertise, citizen engagement, and advocacy skills that will be vital in building support for this transformation, starting with bringing cleaner and more energy-efficient technologies and policies to the electricity and transportation sectors.

In Climate 2030: A National Blueprint for a Clean Energy Economy, UCS identified actions that would reduce our dependence on oil and other petroleum products 30 percent (from its 2005 level) by 2025, and our reliance on coal 80 percent by 2030. During the next five years, UCS will help put the United States on this path, strategically focusing on our areas of strength (renewable energy, vehicle technology and fuels) while relying on others to take the lead on other important solutions. For example, we will factor the potential gains of energy efficiency into our analyses—and advocate its inclusion in climate and energy policy—but look to other organizations that already have expertise in energy efficiency to make the more detailed case.

Objective 3.1: Expand clean, cost-effective electricity options

The electricity that powers our homes and businesses is responsible for more than 40 percent of U.S. carbon dioxide emissions. Fortunately, advances in clean energy can provide us with plentiful and affordable sources of electricity, while slowing the pace of climate change. We just need policies and incentives that promote the development and use of renewable resources such as wind, solar, and sustainable biomass, and other energy-efficient alternatives to polluting fossil fuels.

UCS will continue to lead the way in advocating well-designed renewable electricity standards (which require electricity providers to increase their use of renewable resources), building on the 29 states that have already deployed such standards and are now enjoying the benefits. We will also promote a price on carbon emissions and the use of whole-cost accounting so our energy choices reflect their full range of health and environmental risks, impacts, and tradeoffs. In this way, we will help policy makers direct investment toward technologies that minimize long-term costs.

To ensure these decisions are made with the most accurate information available, UCS will promote an economically level playing field for all energy technologies. No mature technology—including nuclear power and fossil fuels—should receive public subsidies that unfairly skew decisions about risk and affordability. We will also develop expertise that will enable us to place U.S. energy policy in the context of international trends and developments.

GOAL 3

Accelerate the Transition to a Sustainable, Clean-Energy Economy

3.1 Expand clean, cost-effective electricity options

3.2 Phase out conventional coal as a viable energy choice

3.3 Increase use of sustainable, low-carbon fuels and block dirty fuels

3.4 Maximize fuel economy and reduce pollution from light- and heavy-duty vehicles, and speed the transition to a near-zero-emissions fleet

3.5 Promote energy choices that protect our water resources

III. WHAT WE WILL DO: 2011–2015 GOALS AND OBJECTIVES

Based on our independent expertise on these issues, we are well positioned to motivate industry, the environmental community, decision makers, and the public to forge economically sound, scientifically based solutions. With decisive action, we can increase our use of renewable electricity to 50 percent of the national total by 2050, while boosting the economy and protecting our environment.

Objective 3.2: Phase out conventional coal as a viable energy choice

Each year, more than 500 coal-fired power plants in the United States emit more carbon dioxide than all modes of surface transportation combined. The burning of coal is our country's biggest contributor to global warming, and according to one recent study more than 24,000 people die from coal-related pollution every year. Coal power pollutes streams and rivers, devastates mountain ecosystems, and contributes to mercury poisoning, birth defects, and respiratory disease—yet these environmental and human costs are seldom factored into our energy decisions. We need policies that take these unacceptably high costs into account and recognize renewable energy as a safe and profitable alternative.

Over the next five years, UCS will highlight the negative health, economic, and environmental consequences of coal while advocating clean-energy solutions. We will promote full life-cycle analysis of coal to highlight its true costs and will demonstrate that new coal plants represent a poor financial investment. At the same time, we will highlight coal's health impacts and pursue strategic partnerships with public health and medical organizations and groups representing communities vulnerable to conventional coal pollution. We will also monitor advanced coal technologies such as carbon capture and storage to assess their viability and separate fact from spin.

Objective 3.3: Increase use of sustainable, low-carbon fuels and block dirty fuels

Our transportation sector's addiction to oil contributes to many environmental and economic problems, including global warming, poor air quality, ecosystem degradation, water scarcity, and dependence on countries hostile to the United States. Because alternative fuels can also contribute to some of these problems, we need performance standards to level the playing field for all transportation fuels and promote a clean, renewable domestic fuels industry.

UCS will work through state and federal legislative and regulatory processes to ensure the full life-cycle emissions of a fuel are accounted for by decision makers and understood by consumers. We will also promote policies that create fair incentives for production of the cleanest biofuels. Our analysis will evaluate the implications of different biofuel options on water use. And we will translate our technical expertise into action by educating policy makers and the public about the dangers of high-carbon fuels derived from coal, tar sands, and oil shale, and by mobilizing the scientific community and the general public to advocate practical fuel policies grounded in independent science.

Objective 3.4: Maximize fuel economy and reduce pollution from light- and heavy-duty vehicles, and speed the transition to a near-zero-emissions fleet

The transportation sector is responsible for more than 30 percent of U.S. heat-trapping



©iStockphoto.com/Edward Shaw

emissions. To achieve a clean-energy economy that safeguards jobs, public health, and energy security, we must reduce the emissions and increase the fuel economy of our cars and trucks. UCS is a national leader in this field, most recently working with the Obama administration to enact standards that will cut car and light-truck emissions 25 percent by 2016 while boosting fuel efficiency.

Over the next five years, we will work with federal agencies and regulators in California (which has set an example for the nation with its zero-emissions-vehicle program) to implement the current standards effectively while developing next-generation standards that will achieve additional long-term emissions reductions and further lessen our dependence on oil. To complement our work on light-duty vehicles, we will extend our efforts to heavy-duty trucks, which are currently unregulated despite producing 20 percent of the transportation sector's global warming emissions. In California, we will also promote and defend regulations that reduce emissions of harmful soot and smog-forming pollutants from diesel vehicles.

Our blend of best-in-class analysis and engagement with policy makers, industry, experts, and consumers position us as a national leader in the policies and technologies that can move the United States toward a zero-emissions vehicle fleet.

Objective 3.5: Promote energy choices that protect our water resources

Our lives and livelihoods depend on access to clean, plentiful water, yet growing energy demands and rising temperatures have put power generation and water supplies on a collision course. Many of our energy choices—fossil fuels, nuclear power, and certain renewable resources—consume large amounts of water, and as global warming puts additional stress on water supplies, we risk diminishing the availability of water for millions of Americans.

Key decision makers and much of the public are largely unaware of this growing problem. UCS will therefore act to protect vulnerable populations, ecosystems, and regions by mobilizing citizens and policy makers around the water implications of energy use, promoting an energy future that preserves our water supplies, and advancing policies and practices that both cut carbon emissions and ensure the resilience of our water and energy resources. While this work will have implications for individuals and communities around the country, we will focus our multidisciplinary expertise on low-carbon, sustainable energy choices in regions where water resources face the greatest risks.

GOAL 4

Advance Sustainable Agriculture and Land Use

- 4.1 Promote agricultural practices that reduce climate impacts
- 4.2 Define the appropriate role for genetically engineered crops in agriculture
- 4.3 Phase out the unnecessary use of antibiotics in animal agriculture
- 4.4 Promote land-use choices that address global warming and enhance sustainability

Goal 4: Advance Sustainable Agriculture and Land Use

Competition for land—for agriculture, forestry, energy, development, and conservation—has emerged as a critical factor in many of the issues we face today. To manage our land responsibly, we must reduce deforestation, assess the impact of our energy choices, set appropriate priorities, and develop practical approaches to land use and agriculture that protect ecosystem services such as clean water and flood control while providing sufficient food for ourselves and future generations.

Our agricultural system currently ignores the environmental impact of its heavy use of pesticides, fossil-fuel-based fertilizers, and antibiotics. It also undervalues the production of healthy food—contributing to obesity and other diet-related diseases—and impoverishes farmers and rural communities. In contrast, a sustainable agricultural system would protect and promote the land’s capacity to provide food well into the future, level the playing field so innovative producers can thrive, offer consumers a meaningful selection of healthy foods, and provide incentives to producers who reduce their environmental footprint.

Objective 4.1: Promote agricultural practices that reduce climate impacts

Agriculture is a major consumer of energy, a contributor of global warming emissions, and an under-utilized but potentially valuable means for storing carbon. Forward-thinking, science-based farm policies can help the United States meet the threat of climate change while improving the health of consumers and the environment.

Over the next five years, UCS will help decision makers and the public understand the scientific links between agriculture and global warming. We will focus our analysis on the climate impacts of meat production, the comparative benefits of different cropping and animal feed systems, the appropriate role for genetically engineered crops as a climate solution, and ways to reduce heat-trapping nitrogen pollution by limiting our use of artificial fertilizers. We will give priority to resilient systems that are based on a rich diversity of crops and animals and can reliably provide healthy food in a rapidly changing climate.



©iStockphoto.com/AVTG

Along with these efforts, we will develop new communication tools and engage new allies to educate and build support among lawmakers, scientists, and the general public for essential agricultural reforms in the 2012 farm bill and comprehensive climate legislation. An effective response to global warming today can enhance the sustainability, safety, and productivity of our food system for decades to come.

Objective 4.2: Define the appropriate role for genetically engineered crops in agriculture

Rapid advances in biotechnology are challenging the existing regulatory system with complex new products. The 20-year-old biotechnology regulatory framework must therefore be strengthened and its multiple loopholes closed. UCS will propose a modern-day framework for regulating new biotechnology products, and work with our allies and government agencies to develop comprehensive science-based policies that safeguard human health and the environment. We will also produce cutting-edge analysis comparing the risks and benefits of genetic engineering with alternative solutions for problems like droughts and diminishing yields, and mobilize citizens to call for safer food choices.

Objective 4.3: Phase out the unnecessary use of antibiotics in animal agriculture

The overuse of antibiotics in farm animals is directly linked to the evolution of more severe pathogens and the decreasing effectiveness of commonly used antibiotics in human medicine. The Centers for Disease Control lists antibiotic resistance as a top public health concern, yet the pharmaceutical industry's pipeline of new antibiotic drug classes is nearly empty. To avoid increased human suffering and higher medical costs, UCS will work with Congress and the Food and Drug Administration over the next five years to marshal support for science-based policies (most notably the Preservation of Antibiotics for Medical Treatment Act) that curb nonessential and unsafe antibiotic use in agriculture. Our ability to bring farmers, scientists, doctors, and public health experts together on this issue will be an indispensable counterweight to the powerful corporate lobbies that oppose such policies.

Objective 4.4: Promote land-use choices that address global warming and enhance sustainability

How we use our land resources affects the communities we live in, the food we eat, and the energy sources that power our economy. Land-use choices also have the potential to greatly slow global warming—or make it much worse. In particular, deforestation generates as much heat-trapping emissions as the entire transportation sector worldwide. Yet our understanding of the scientific and economic implications of land-use choices is limited, and decision makers rarely consider the full costs and benefits of such choices. To address climate change effectively while maintaining the rich diversity of our ecosystems, we must enact land-use policies and practices based on the best available science.

Over the next five years, UCS will build on our scientific and economic expertise in this area, analyze the land-use implications of (and tradeoffs among) U.S. forest, fuel, and agricultural policies, and advance solutions that promote sustainability, carbon storage, and lower carbon emissions. We will work with international partners to advocate and secure funding for domestic and international agreements that reduce deforestation, promote forest preservation, and increase carbon sequestration.

GOAL 5

Reduce the Nuclear Threat Worldwide

5.1 Limit the role of nuclear weapons in U.S. security policy and deeply cut nuclear arsenals here and abroad

5.2 Minimize the nuclear terrorism and proliferation risks of nuclear power

5.3 Prevent the deployment of weapons in space

5.4 Increase the safety of U.S. nuclear power plants and make them more secure against attack

Goal 5: Reduce the Nuclear Threat Worldwide

Since our founding, UCS has worked to reduce some of the most dangerous security threats facing the world, beginning with the nuclear arms race during the cold war. Today, our work to reduce the nuclear threat worldwide falls into four main categories: U.S. nuclear weapons policy, nuclear proliferation and terrorism, space security, and the safety and security of U.S. nuclear power.

Objective 5.1: Limit the role of nuclear weapons in U.S. security policy and deeply cut nuclear arsenals here and abroad

UCS remains committed to deep, irreversible reductions in nuclear arsenals worldwide, and to the eventual global prohibition of nuclear weapons. We focus on the United States because changes in U.S. policy are necessary to prevent further proliferation in the long run, and because the United States can lead the effort to prohibit nuclear weapons.

We will continue to promote arms control agreements and other legal frameworks (e.g., the Comprehensive Nuclear Test Ban Treaty, New START) that increase transparency and predictability among nations. We will also continue to press the administration to adopt a “sole-purpose” policy that would officially recognize deterrence as the only purpose for U.S. nuclear weapons, and to eliminate the option of launching nuclear weapons in minutes (which puts the United States at risk of launching accidental or unauthorized attacks). Now that the 2010 U.S. Nuclear Posture Review has ruled out building new nuclear weapons but allows extensive modifications, we will educate policy makers and the public about the reliability, safety, and security of existing weapons, and act as a watchdog for ongoing weapons-modernization programs. Although the U.S. missile defense program is a lower priority for our technical work, we will monitor it as a potential barrier to securing deep reductions in nuclear arsenals here and abroad.

Objective 5.2: Minimize the nuclear terrorism and proliferation risks of nuclear power

The 2010 U.S. Nuclear Posture Review states that the possibility of a terrorist organization obtaining a nuclear weapon is “today’s most immediate and extreme danger.” Over the next five years, UCS will continue its work to reduce this threat by focusing attention on the security threat associated with the often-ignored civil use of plutonium. We will stress that the danger of nuclear terrorism is heightened by the reprocessing of spent reactor fuel, the storage of the resulting plutonium, and the production and use of plutonium-based reactor fuels. Because few organizations conduct technical analyses of plutonium-related issues, UCS has a unique opportunity to educate policy makers about the risks of reprocessing, its drawbacks as a waste management strategy, and the benefits of securing military and civil stocks of plutonium.

We will also seek to stop the global use of highly enriched uranium in reactors used for research, power generation, and medical isotope production—any of which could be targeted by terrorists or nations looking to seize materials that can be used in weapons of mass destruction.



©Shutterstock.com/John Wellwerth

Objective 5.3: Prevent the deployment of weapons in space

A primary motivation for our work to keep weapons out of space is to avoid a new strategic competition between the United States, Russia, and China that could complicate efforts to reduce nuclear arsenals. We also seek to prevent new military uses of space from spurring arms races or creating or exacerbating conflicts between nations.

While we work to limit the threat of anti-satellite and space-based weapons, we will also promote international discussions to increase transparency on space policy, agree on rules of behavior and the means for coordinating space activities, and create systems for resolving conflicts. Our technical and policy contributions in this area are widely recognized, and we will press the administration to take the steps outlined in our 2010 report *Securing the Skies*.

Objective 5.4: Increase the safety of U.S. nuclear power plants and make them more secure against attack

UCS will build on our historic oversight of nuclear reactor safety to ensure that existing and future U.S. nuclear power plants will be less vulnerable to accidents and terrorist attacks than they are today. The problems stem from a combination of factors—lax oversight by the Nuclear Regulatory Commission (NRC) coupled with poor management by many plant owners—that make nuclear power more expensive, less safe, and less secure than it could be.

Opportunities for meaningful change within the NRC are greater now than they have been for some time, so we will use this opportunity to push the agency to become a more effective regulator. We will also educate the media about plant security issues, assist local communities when safety concerns arise at individual plants, and work with members of Congress to improve oversight of the NRC.

Strategic Communications

Essential as it is, our scientific analysis alone cannot drive change. Effective and compelling communications help inspire our members and fellow citizens, inform our political leaders, and provide us with an essential lever for achieving our ambitious goal: solutions that protect the health and safety of our world and the future generations who will occupy it. Over the next five years, we will strengthen our strategic communications with these three strategies:

- **Connect our work with people's values and daily lives.** Facts alone will not solve our pressing environmental and security problems. Connecting the facts to the values we all share—protecting human health, creating a sustainable and prosperous future, reducing threats to our security—informs specific solutions and motivates citizen action. UCS will therefore prioritize those issues and approaches that reflect our core values (as expressed in the UCS mission statement) and provide an opportunity to connect our scientific and technical analysis to people's experiences and aspirations.
- **Adapt to a dynamic communications landscape.** UCS has built a successful communications effort around traditional media (print, radio, and television) and email communications. However, there has been a dramatic shift away from print media to the more dispersed online and broadcast/cable media. While this shift presents a challenge, it is also an opportunity to reach broader audiences and connect in more direct and personalized ways with key opinion leaders and constituents. UCS will therefore adapt its approaches to become more adept at online communications, more timely in our communications, and more effective in navigating an increasingly polarized environment while maintaining the credibility of the organization.
- **Shape a strategic communications culture.** To communicate effectively in a rapidly changing world, we must continue to develop the communications skills of our staff. We will create an organization-wide culture in which all staff members consider communication central to their work, and become passionate and effective communicators of science for the public good.

Scientific and Technical Capacity

Our signature approach to developing practical solutions to complex issues rests on a foundation of rigorous scientific and technical analysis. To maintain this edge, we must continually enhance our relationships and networks in the science, engineering, health, and economics communities, and ensure that our staff, Board of Directors, National Advisory Board, and key partners all represent the best expertise in their respective fields.

Over the next five years, we will launch and enhance several initiatives designed to increase our scientific and technical capacity, including the expansion of our online science and expert networks and the launch of our Kendall Science Fellows Program, which will bring mid-career and post-doctoral scientists to UCS for one or two years to work on emerging issues. We will also increase support for the professional development of our scientific and technical staff, and continue to invest in our Young Scientist Outreach initiative, which nurtures the next generation of scientists who could become leading advocates on our issues. And, as always, we will recruit top scientific talent to our team.

Collaboration

While we have significant strengths as a science-based advocacy organization, we know we cannot address the complex problems facing our planet by ourselves. Scientists, citizens, governments, businesses, and other nonprofit organizations are indispensable allies, so UCS has always sought collaboration with those who share our goals, focus on achievable results, and complement our own expertise. Over the next five years, our collaborative work will take three distinct approaches:

- **Partner with allies.** Our scientific credibility allows us to serve as an honest broker within the environmental, security, science, and policy communities. We will deepen our existing partnerships with nonprofit organizations and forge new alliances with groups that could benefit from our expertise and help inspire and mobilize a much larger public audience on our issues.
- **Convene experts.** As our issues and solutions have increasingly bridged scientific disciplines, we have expanded our engagement beyond the physical science and engineering communities to include economists and public health/medical experts. We will strengthen our ability to convene experts across a wide spectrum of sciences, with a special focus on articulating and disseminating the human health impacts of the critical issues we address.
- **Work with diverse communities.** The problems we strive to solve often have disproportionate impacts on racial minorities and other disenfranchised communities, and we cannot achieve the progress needed without their leadership and collaboration. We will seek to increase our organizational effectiveness by developing partnerships with key individuals and organizations that represent diverse backgrounds.

©iStockphoto.com/Joshua Hodge Photography



Operational Excellence

Achieving our ambitious goals for the next five years will require us to invest adequate resources in the following organizational capabilities:

- **Innovation.** As we work toward achieving our strategic goals, we must remain nimble as an organization, continuously seeking and developing innovative approaches and solutions to the issues we undertake. While innovation has always been a hallmark of our work, we will deliberately encourage innovation throughout the organization by dedicating staff time to identify and review promising ideas and incorporate them into our work plans. We will also obtain new ideas and viewpoints from scientists who rotate onto our staff via the Kendall Science Fellows Program.
- **Project management and accountability.** We will provide staff members at all levels and across all programs and departments a set of standard practices, tools, and expectations intended to help us do our jobs more effectively and meet all our commitments to partners and stakeholders. Our project management process will help staff better scope and plan projects, track their progress, deliver results, and share practices that should be adopted across the organization.
- **Investing in our people.** Our ability to achieve success depends on our greatest asset: our staff. So it is our top priority to hire, train, and retain highly qualified and hard-working scientists, engineers, economists, policy analysts, lobbyists, communications and outreach specialists, information technologists, finance professionals, administrators, fund-raisers, and managers. We will manage our compensation and benefits to attract diverse team members, and provide an inclusive, collaborative, and supportive work environment to retain them.
- **Financial sustainability.** Given the current global financial outlook, sound fiscal management is needed now perhaps more than ever. UCS will ensure it has the financial flexibility to adapt to changing conditions by maintaining and expanding an already broad and diversified base of support that encompasses membership, major gifts, foundation grants, and planned giving. Responsible management of our assets will be critical to achieving our goals regardless of the economic environment in which we must operate.

V. CONCLUSION

For more than 40 years, UCS has played a significant role in shaping the debate around—and driving progress on—critical security, environmental, and scientific issues. By basing our advocacy on the core belief that solutions to serious problems must be scientifically and economically sound, and responsive to commonly held aspirations, we have helped to:

- reduce the threat of nuclear weapons and nuclear power;
- build greater awareness of and action on global warming;
- improve the safety of our food system;
- advance a clean-energy economy; and
- restore the integrity of science in federal policy making and the voice of scientists in an informed democracy.

Yet to meet the grave and complex challenges now before us, UCS must become even more focused, efficient, and effective, while looking to each of our allies—citizens and scientists as well as nonprofit organizations and businesses—to add their voices to ours. This strategic plan aims to accelerate the process of collective action.

In these pages, we have sought to clearly delineate our priorities not only for our own internal purposes, but also for our partners and supporters. We welcome questions and suggestions regarding our strategic goals and objectives for the next five years and how we can best accomplish them. We hope that, in so doing, this plan helps spur even greater action to meet the toughest challenges of our time.

For the support you have already given us, and the successes you have made possible, we thank you. Now we ask you to look to the future; reaffirm your commitment to a cleaner, safer, and healthier world; and work with us to achieve practical solutions based on independent science.

©iStockphoto.com/AndreyAtykov





Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions



National Headquarters

Two Brattle Square
Cambridge, MA 02138-3780
Phone: (617) 547-5552
Fax: (617) 864-9405

Washington, DC, Office

1825 K St. NW, Ste. 800
Washington, DC 20006-1232
Phone: (202) 223-6133
Fax: (202) 223-6162

West Coast Office

2397 Shattuck Ave., Ste. 203
Berkeley, CA 94704-1567
Phone: (510) 843-1872
Fax: (510) 843-3785

Midwest Office

One N. LaSalle St., Ste. 1904
Chicago, IL 60602-4064
Phone: (312) 578-1750
Fax: (312) 578-1751

Email

ucs@ucsusa.org

Web

www.ucsusa.org

Cover photos, left to right: ©iStockphoto.com/Andrejs Zemdega,
©iStockphoto.com/gerenme, ©iStockphoto.com/Tomas Bercic

© October 2010 Union of Concerned Scientists



Printed on 100% post-consumer
paper, process chlorine-free, with
vegetable-based inks