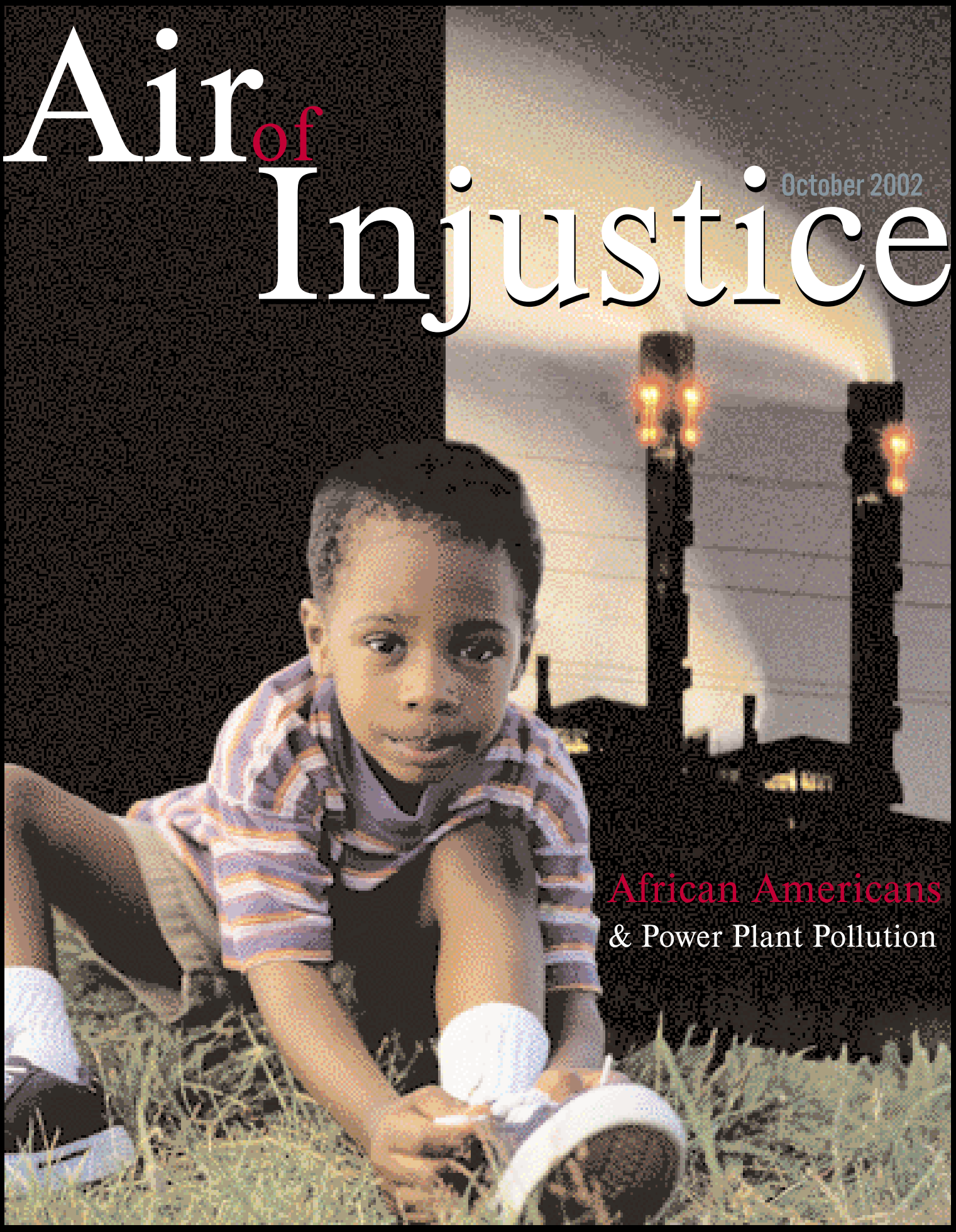
Air of Injustice

October 2002



African Americans & Power Plant Pollution

Black Leadership Forum • Clear The Air • Georgia Coalition for the Peoples' Agenda • The Southern Organizing Committee for Economic and Social Justice

Who We Are

The diverse groups who have collaborated on this report are active in the areas of public health, air quality and environmental justice. It is the aim of this report to educate and inspire action.

The Black Leadership Forum (BLF) acts as a clearinghouse for national African American leaders. The BLF brings together Black leaders to grapple with issues of the deepest significance to African Americans, particularly civil rights and major public policy issues. Since the summer of 2000, BLF has included Climate Change as a significant policy issue of concern to the African American leadership. Last year, Dr. Yvonne Scruggs-Leftwich attended the Climate Justice Summit and UN Climate Conference at The Hague and organized a delegation to the UN World Conference on Racism. BLF sponsored two international forums in Durban, South Africa – one addressing persistent racism in the United States and the other addressing air quality issues impacting the African American community, including climate change.

The Southern Organizing Committee for Economic and Social Justice (SOC) has served as the anchor for the African American environmental justice network. SOC was in the vanguard promoting community empowerment, capacity building and grassroots organizing, particularly in the South. Under the leadership of Connie Tucker, SOC has evolved as a multi-issue, multi-racial network of people working in their communities against racism, war, economic injustice and environmental destruction. Issues include air pollution, water pollution, waste disposal, facility siting, lead exposure, worker safety, housing, community organizing and environmental justice.

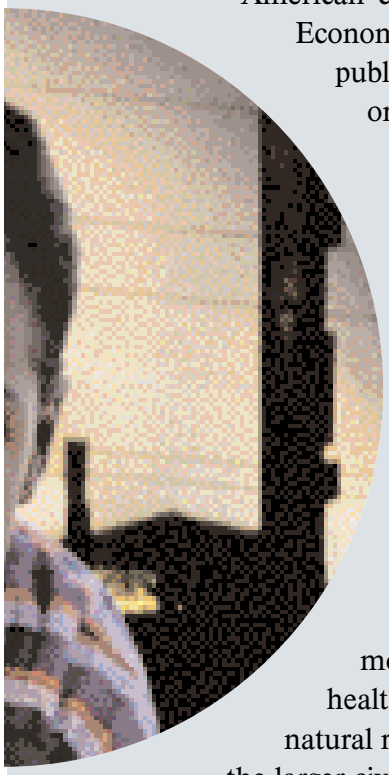
The Georgia Coalition for The Peoples' Agenda (GCPA) is an advocacy organization that includes all of the major Civil Rights/Human Rights/Peace & Justice organizations around the state of Georgia. Dr. Joseph E. Lowery is the convenor of this coalition. These organizations have been brought together to carry out the mission of the GCPA, which is to improve the quality of governance in Georgia, have a more informed electorate and have participatory and accountable elected officials.

Clear the Air is a joint project of three leading air quality groups: the Clean Air Task Force, National Environmental Trust and U.S. PIRG Education Fund. The Clean Air Task Force is a non-profit organization dedicated to restoring clean air and healthy environments through scientific research, public education and legal advocacy. The National Environmental Trust was established in 1994 as a non-profit, non-partisan organization dedicated to applying modern communications and public education techniques to environmental education and advocacy. The U.S. PIRG Education Fund is a nonprofit, nonpartisan organization that conducts independent research, and educates and organizes the public about a wide variety of environmental, consumer and government reform problems.

Foreword

At first glance, air pollution generally and power plant pollution specifically, would not seem to rank among the highest priorities for African Americans. However, African Americans are disproportionately affected by power plant emissions because we are concentrated in large urban centers, suffer higher rates of asthma and share a historical bond with the developing world where climate change threatens already weak and overburdened economies. From this perspective, power plant cleanup is elevated on the long list of social justice imperatives.

The Georgia Coalition for the Peoples' Agenda has played a critical role in bringing together three powerful networks to examine the impact of air pollution from coal-fired power plants upon the African American community. The Black Leadership Forum, the Southern Organizing Committee for Economic and Social Justice and Clear the Air share a keen interest in promoting responsible public policies protective of human health and the environment. Toward this end, these three organizations have come together in a collaborative effort to inform, educate and involve the African American community in the quest for comprehensive national solutions limiting excessive air emissions from power plants.



The African American community, including environmental justice advocates, is perceived as less influential when it comes to environmental issues. Mainstream organizations are often reluctant to collaborate, share, acknowledge and integrate the perspectives of People of Color. That all parties would benefit from such collaboration is clear. The current collaboration is unique and timely because it seeks to leverage the collective strength of three influential networks to build an equilateral triangle that includes traditional civil rights, environmental justice and mainstream environmental perspectives.

The environmental justice movement brings together all elements of the social justice movement, espousing a more holistic definition of environment that embraces public health, economic development, housing, energy and transportation as well as preservation of natural resources. Environment is defined as where we live, work, learn and play. As children of the larger civil rights movement, environmental justice advocates organize from the bottom up and seek to cultivate and empower community-based leadership. The African American community has a long history of struggle in pursuit of justice. Research, communication, technical expertise and strategic grassroots organizing fueled by moral imperative have resulted in the movement that transformed America.

With your support, we hope to demonstrate the efficacy of such collaboration in the effort to address air pollution from coal-fired power plants. Sincerely,

Dr. Joseph E. Lowery

Dr. Yvonne Scruggs-Leftwich

Ms. Connie Tucker

Ms. Angela Ledford

Executive Summary

This report chronicles how African Americans are affected by the air pollution emitted by our nation's biggest polluters: coal-fired power plants. These plants release millions of pounds of a wide variety of chemicals to the air, water and landfills. This report describes the relationship between power plant pollutants like sulfur dioxide, particulate matter, mercury, nitrogen oxides and carbon dioxide and environmental health issues that have the most impact on African Americans: pediatric asthma, infant death rates, emergency room visits and hospitalizations, fish contamination and climate change.

African Americans are at risk from power plant pollution.

- The air in our communities violates air quality standards. In 2002, 71% of African Americans live in counties that violate federal air pollution standards, compared to 58% of the white population.[1]
- Most African Americans live near a power plant. Sixty-eight percent of African Americans live within 30 miles of a coal-fired power plant – the distance within which the maximum effects of the smokestack plume are expected to occur. By comparison, about 56% of the white population live within 30 miles of a coal-fired power plant.[2]
- We are likely to live near a power plant waste site. African Americans account for 17% of the people living within five miles of a power plant waste site.
- Asthma attacks send African Americans to the emergency room at three times the rate (174.3 visits per 10,000 population) of whites (59.4 visits per 10,000 population).[3]
- African Americans are hospitalized for asthma at more than three times the rate of whites (35.6 admissions per 10,000 population vs. 10.6 admissions per 10,000 population).[3]
- The death rate from asthma for African Americans is twice that of whites (38.7 deaths per million population vs. 14.2 deaths per million population[3]. Studies in the U.S. have shown that emergency room visits increase when particulate matter and/or ozone levels are just slightly above national standards.[4,5]
- In a comparison of 86 cities in the U.S., researchers found that infants who lived in a highly polluted city during their first two months of life had a higher mortality rate than infants living in the city with the cleanest air.[6] High particulate matter levels markedly increased the risk of SIDS and respiratory mortality. As African Americans live in more polluted areas, this has a significant impact.
- One-third of African Americans are avid anglers, and we eat fish more often and in larger portions than whites. Consequently, we have higher exposure to mercury. In 1996, there were 1.8 million licensed African American anglers who spent over $813 million dollars on fishing trips and equipment.[7]
- The potential health impacts of climate change include increased prevalence of infectious disease such as Dengue fever and West Nile virus.[8] Since many African Americans lack health insurance and regular medical access, our community is particularly at risk.[9]
- A study of the 15 largest U.S. cities found that climate change would increase heat-related deaths by at least 90%.[10] Most African Americans live in inner cities,[11] which tend to be about 10 degrees warmer than their surrounding areas. Studies have shown that People of Color are twice as likely to die in a heat wave,[12] and suffer from more heat-related stress and illness.

- Global warming could enhance ozone formation, which could, in turn, exacerbate ozone-related health problems such as asthma attacks.[13]

Power plants are major sources of some of the most common and harmful pollutants.[14] Power plants emit 67% of the sulfur dioxide (SO_2) in the U.S., a noxious gas that irritates the lungs and worsens asthma, coughing, wheezing, shortness of breath and lung function in general. Power plants are also responsible for 23% of nitrogen oxides (NOx) emissions, which combine with other pollutants in the presence of sunlight to form ozone smog. Exposure to ozone can cause rapid, shallow breathing and related airway irritation, coughing, wheezing, shortness of breath and asthma attacks. Emergency room visits for asthmatic children are strongly linked to ozone levels. These pollutants also form tiny acidic particles (fine particulate matter) that are inhaled deep into the lungs, affecting both the respiratory and cardiovascular systems. Particulate matter levels in the air are strongly associated with asthma attacks.

Coal-fired power plants are the largest industrial emitters of mercury, producing over one-third of all mercury pollution in the U.S.[15] The problem is not inhalation of airborne mercury, but rather eating contaminated fish. When mercury-tainted fish are consumed by an expectant mother, the mercury passes through the placenta to the developing fetus. Infants appear normal during the first few months of life, but later display subtle health effects such as poor performance on neurobehavioral tests, particularly on tests of attention, fine motor function, language, visual-spatial abilities (e.g., drawing) and memory.[16]

Power plants account for 38% of the most prevalent greenhouse gas, carbon dioxide, emitted from fossil fuel use in the U.S.[17] Changes in the Earth's temperature and precipitation patterns are occurring due to the buildup of greenhouse gases in the atmosphere. Warming of the planet could induce crop failures, famines, flooding, and other environmental, economic and social problems.

Recommendations

New legislation must address emissions of the four key pollutants: nitrogen oxides, sulfur dioxide, mercury and carbon dioxide. Significant reductions of these pollutants, beyond cuts required by the existing Clean Air Act, are needed to minimize the environmental and public health impact of power plant emissions. Sulfur dioxide, nitrogen oxides and mercury emissions can all be reduced by 90% or more. Carbon dioxide emissions must be addressed as part of a comprehensive strategy given the threat posed by global warming.

We must also protect the existing New Source Review provision of the Clean Air Act. This provision requires industrial facilities to install modern pollution controls whenever a modification is made to their facility that substantially increases pollution. When Congress passed the Clean Air Act more than 30 years ago, it gave existing facilities a "grandfather" exemption. This loophole allowed old facilities to avoid modern pollution control standards on the theory that the old plants would "retire" and be replaced by new, cleaner technologies. If the plants did not retire but remained in operation, they would be required to install modern pollution equipment if they changed or upgraded the plant in any way that would significantly increase emissions. Consequently, the New Source Review program is the primary backstop against disaster for many communities that face an unrelenting increase in toxic emissions. Today, there are EPA enforcement actions pending against more than 50 power plants nationwide that impact major U.S. metropolitan areas.

We believe all coal-fired power plants, both new and old, must be made to comply with modern emission control standards. The Clean Air Act's 30-year loophole for old, dirty power plants must be finally closed.

Fighting Environmental Injustice

People of Color, including African Americans, approach environmental advocacy from a social justice framework. Unlike mainstream environmental groups that focus on public health, pollution abatement and wilderness and wildlife preservation, the environmental justice community is most concerned with human rights, issues of sovereignty and self-determination, access to natural resources and disproportionate impacts of environmental hazards. There is also a more pronounced concern with worker rights, health and safety issues.[18]

It is no coincidence that the term environmental justice was coined in the South, the birthplace of the Civil Rights Movement. Environmental racism emerged as a critical concern in Warren County, North Carolina in 1983 when protesters fought toxic dumping in this predominantly black and poor county. Dr. Joseph Lowery, then president of the Southern Christian Leadership Conference, was among those present to protest the dumping of PCBs in a local landfill.

A landmark environmental justice study conducted by the United Church of Christ titled *"Toxic Waste and Race"*[19] established that race was the most reliable predictor of proximity to hazardous waste sites in the United States – more reliable than poverty, land values and home ownership. Dr. Robert Bullard, director of Clark Atlanta University's Environmental Justice Resource Center, chronicles Environmental Justice in the 21st Century in his 2000 Directory of People of Color Groups. Bullard reminds us of the 1990 study *"Dumping in Dixie: Race, Class and Environmental Quality,"*[20] which chronicled the convergence of the social justice and environmental movements.

In 1991, the First National People of Color Environmental Leadership Summit galvanized Indigenous, Asian, Latin and African American activists around issues such as public health, worker safety, land use, transportation, housing, resource allocation and community empowerment. Dr. Bullard held a leadership role organizing the People of Color Summit II held in Washington, DC in October 2002. Air quality and power plant pollution specifically were significant topics for the Summit.

Other groups active in the struggle to protect public health and the environment by cleaning up power plant pollution are listed in the Appendix to this report. The list is by no means comprehensive, but is provided as a resource to enable groups and individuals to connect with others. A more comprehensive list can be found in the People of Color Environmental Groups Directory compiled by the Environmental Justice Resource Center (www.ejrc.cau.edu).

Power Plant Pollution: A Threat to African Americans

African Americans are more likely to suffer health effects from air pollution. The reason has much to do with where we live. African Americans are far more likely to live near power plants and power plant waste sites. Living near these sites increases our likelihood of exposure and health risk. Also, more than half of all African Americans live in areas with air quality that doesn't meet federal standards.

The facts are:

The air in our communities violates air quality standards. African Americans make up 13% of the U.S. population, yet are disproportionately represented in areas with poor air quality. In 2002, 71% of African Americans live in counties that violate federal air pollution standards, compared to 58% of the white population.[21] Figure 1 (*right, above*) presents the counties that are in "non-attainment" for federal air pollution standards and the percent of the county population represented by People of Color.

Most African Americans live near a power plant. Sixty-eight percent of African Americans live within 30 miles of a power plant – the distance within which the maximum effects of the smokestack plume are expected to occur. By comparison, about 56% of the white population live within 30 miles of a coal-fired power plant.[22] Figure 2 (right, below) shows the location of coal-fired power plants in the U.S. As shown, People of Color represent a significant portion of the people living in the county where the power plant is located.

Percent of Population in Non-attainment Areas Represented by People of Color.

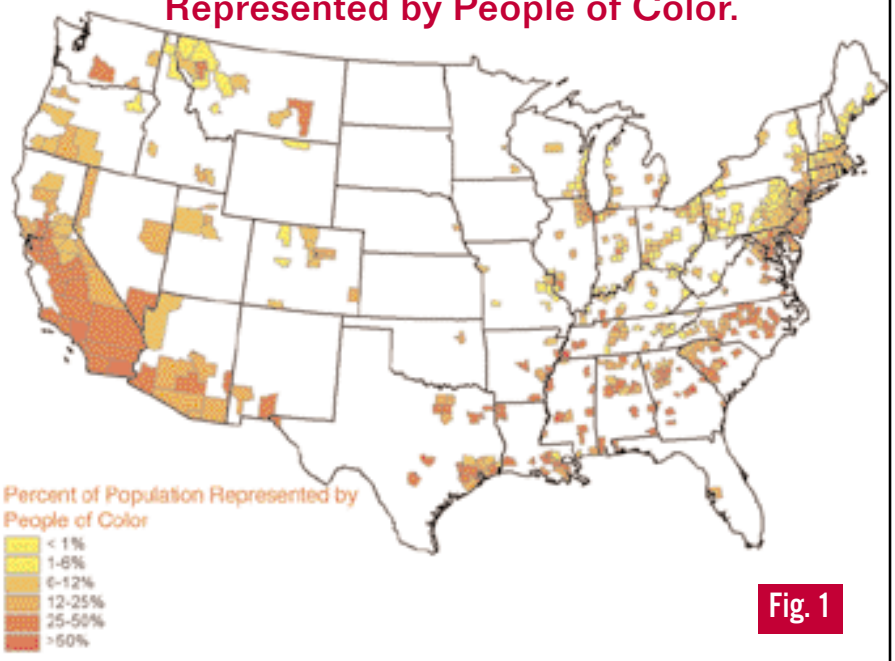


Fig. 1

Percent of Population in Counties with Coal-fired Utility Power Plants Represented by People of Color

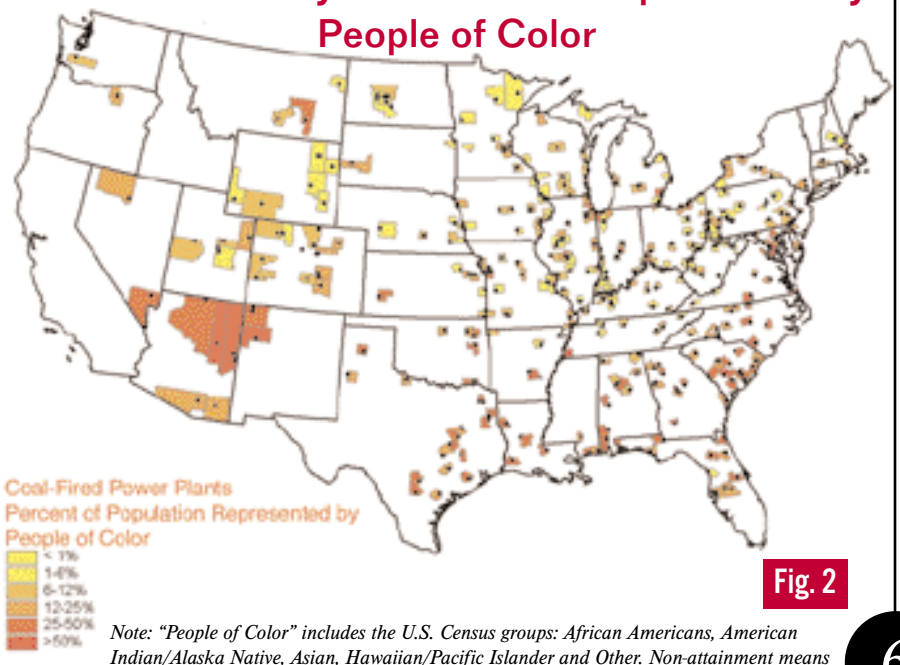


Fig. 2

Note: "People of Color" includes the U.S. Census groups: African Americans, American Indian/Alaska Native, Asian, Hawaiian/Pacific Islander and Other. Non-attainment means the area exceeds federal air pollution standards for one or more of the following pollutants: lead, carbon monoxide, sulfur dioxide, particulate matter (PM10), 1-hour ozone standard, 8-hour ozone standard and PM2.5. The 8-hour ozone and PM2.5 non-attainment areas are potential areas based on 1999-2000 monitoring data. Three years of monitoring data are needed to make a formal designation of non-attainment.

We are likely to live near a power plant waste site. We are disproportionately represented when it comes to living near a power plant waste site. African Americans account for 17% of the people living within 5 miles of a power plant waste site.

Poverty and Uninsured Status by Race

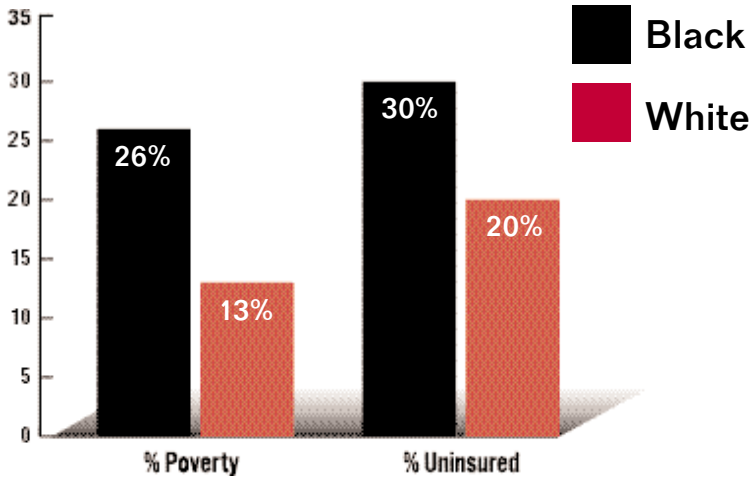


Figure 3 adapted from The Commonwealth Fund, Publication 524, Collins, K.S., K. Tenney and D.L. Hughes, 2002, "Quality of Health Care for African Americans."

New power plants are likely to be sited in our communities. For example, in Massachusetts, People of Color comprise 15% of the population but live in just 5% of the state's communities. These communities are home to a disproportionate 18% of all power plants. In addition, 23% of all proposed new power plants would be built in these communities. Likewise, while lower income communities (where half of all households earn less than $40,000) comprise 51% of all towns in the state, they are home to 66% of all active power plants and 63% of all proposed power plants.[23]

African Americans are more likely to live in poverty, which makes us even more vulnerable to the effects of air pollution. High poverty rates restrict housing options, and lack of health insurance limits access to quality health care, resulting in a more devastating impact on African American communities from air pollution.

Power Plants are the Biggest Industrial Source of Air Pollution in the United States

Exposure to pollution from power plants occurs from direct inhalation of air pollutants and from "indirect exposure." Indirect exposure is drinking water or eating meat, vegetables, dairy products or fish that have been contaminated by air emissions that have deposited to earth and accumulated in the food chain. Some power plant air toxics may be absorbed through the skin from direct contact with contaminated water or soil. Children can be exposed to power plant toxics by ingesting contaminated soil while playing.

Power plants are major sources of some of the most common and harmful pollutants:

- **Sulfur dioxide (SO_2).** On a national basis, power plants emit 67% of the SO_2.[24] The SO_2 gas emitted from power plants is a strong respiratory irritant that is inhaled by people living near the plant. In addition, SO_2 forms sulfate particles that mix with other particles to form fine particulate matter downwind of the plant. As a result, people living downwind of the plant can be affected too. Power

plants are responsible for about half of the fine particulate matter in the eastern part of the U.S. and contribute a significant portion in the West.

• **Nitrogen oxides (NOx).** Power plants are responsible for 23% of the nation's emissions of NOx.[25] NOx and hydrocarbons form ozone smog. While ozone in the upper levels of the atmosphere provides a layer of protection from ultraviolet radiation, ozone smog is a pollutant at ground level and is harmful to lungs. NOx also forms nitrate, which is a major constituent of fine particulate matter.

• **Mercury.** Power plants are the largest industrial source of mercury emissions, with 34% of the nation's total mercury emissions.[26] When mercury enters a water body, it can be converted to a more toxic form that is concentrated in fish. Fish consumption advisories in 44 states warn against eating certain types or size of fish because they are contaminated with mercury. Mercury is most dangerous for the developing brain and nervous system of the fetus.

• **Air toxics.** Coal-fired power plants are the largest source of hazardous air toxics, including mercury.

Health Effects of Power Plant Pollutants

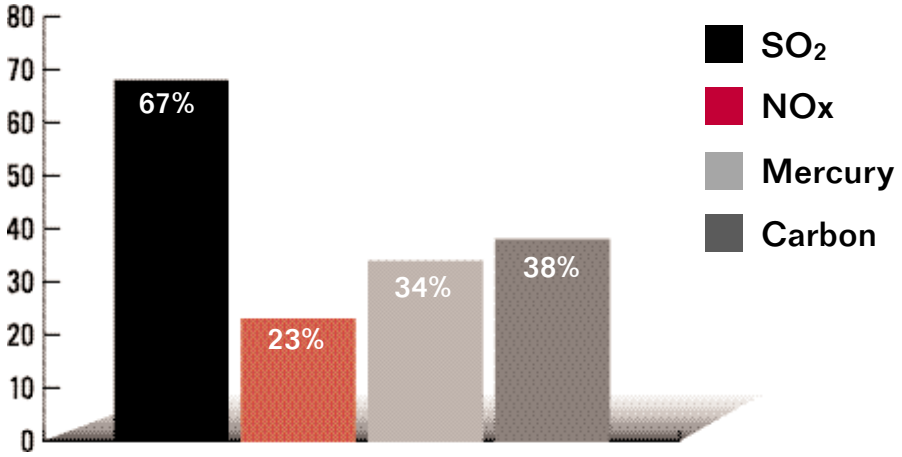
Pollutant	What is it?	How is it Produced?	Health Effects	Most Vulnerable Populations
Ozone	Ozone is a highly corrosive, invisible gas.	Ozone is formed when NOx reacts with other pollutants in the presence of sunlight.	Rapid shallow breathing, airway irritation, coughing, wheezing, shortness of breath. Associated with asthma attacks and related emergency room visits and hospitalizations, and possible slowed lung growth in children.	Children, the elderly, people with asthma or other respiratory disease. People who exercise outdoors.
Sulfur Dioxide (SO_2)	SO_2 is a highly corrosive, invisible gas that is formed in the gases when coal is burned. Sulfur occurs naturally in coal.	SO_2 is formed in the gases when coal is burned. SO_2 reacts in the air to form sulfuric acid and sulfates. Together with NOx, it forms acidic particles.	Coughing, wheezing, shortness of breath, nasal congestion and inflammation. Makes asthma worse. SO_2 gas can de-stabilize heart rhythms. Low birth weight, increased risk of infant death.	Children and adults with asthma or other respiratory disease.
Particulate Matter (PM)	A mixture of small solid particles (soot) and tiny acidic particles.	Formed by SO_2 and NOx in the atmosphere.	PM is inhaled deep into the lungs, affecting respiratory and cardio-vascular systems. Linked to asthma attacks, premature birth, infant death and adverse birth outcomes..	Elderly, children, people with asthma. African American children have higher rates of asthma, making them more susceptible.
Nitrogen Oxides (NOx)	A family of chemical compounds including nitrogen oxide, nitrogen dioxide.	NOx is formed when coal is burned. In the atmosphere can convert to nitrates and form fine acidic particles. Reacts in the presence of sunlight to form ozone smog.	NOx changes lung function, increases respiratory disease in children. Helps form ozone and acidic PM particles which are linked to respiratory and cardio-vascular disease, low birth weight and premature birth.	The elderly, children, people with asthma.
Mercury	A metal that occurs natu-rally in coal.	Mercury is released when coal is burned.	Developmental effects in babies that are born to mothers who ate contaminated fish while pregnant. Poor performance on tests of the nervous system and learning. In adults may affect blood pressure regulation and heart rate.	Fetuses and children are directly at risk. Pregnant women and women of child-bearing age need to avoid mercury exposure.
Carbon Dioxide	Coal has the highest carbon content of any fos-sil fuel.	Carbon dioxide is formed when coal is burned.	Health effects from the spread of infectious disease, higher ozone levels, increased heat-	All populations are vulnerable.

Emission tests at coal-fired power plants have detected 67 different air toxics.[27] Of these, 55 are known to be either neurotoxic (toxic to the nervous system) or developmental toxins (damaging to the human development process).[28] In addition, 24 have also been characterized as known, possible, or probable human carcinogens.[29] In just one year (1999), power plants released 78 million pounds of developmental and neurological toxins to the air and surface waters.

• **Greenhouse gases.** Power plants are at the center of the debate on climate change. When carbon dioxide and other greenhouse gases build up in the atmosphere, they trap heat, causing increased temperature and altered precipitation patterns (or climate change). Power plants release 38% of all of the carbon dioxide emitted from burning fossil fuels in the U.S.[30] As a result of human activities, global average surface temperatures may increase by 3 to 10 degrees (F) by the end of the century.[31] This increase in temperature is expected to spread infectious diseases, increase heat-related stress, and increase ozone smog (the formation of which is, in part, dependent on heat and sunlight).

• **Power plant wastes.** People living near power plants can also be exposed to contaminants in power plant wastes. Power plant waste is largely made up of ash and other unburned materials that are left after the coal is burned. Each year more than 100 million tons of waste are generated from burning coal and oil.[32] These wastes contain high levels of metals like mercury, arsenic, lead, chromium, and cadmium. Disposal of power plant waste in unlined lagoons and landfills can contaminate groundwater (a source of drinking water) as can mine filling (dumping large volumes of combustion waste in abandoned mines). Power plant wastes are sometimes applied to agricultural fields, a practice that can directly contaminate the soil and can contaminate nearby areas with windblown dust.

Percent Contribution of Coal-Fired Power Plants Emissions to National Total.



Air Pollution Makes Us Sick

The scientific evidence is mounting that African Americans are disproportionately affected by air pollution. The following sections describe the latest scientific research on how African Americans are sickened by air pollution.

Asthma. Asthma prevalence and death rates are increasing in the U.S. – especially among African Americans.

• Asthma attacks send African Americans to the emergency room at three times the rate (174.3 visits per 10,000 population) of whites (59.4 visits per 10,000 population).

- African Americans are hospitalized for asthma at more than three times the rate of whites (35.6 admissions per 10,000 population vs. 10.6 admissions per 10,000 population).

- The death rate from asthma for African Americans is twice that of whites (38.7 deaths per million population vs. 14.2 deaths per million population).

Why are so many African Americans suffering from asthma? Exposure to air pollution, access to health care and poverty all play a role. Fine particulate matter, SO_2 and ozone are all major power plant pollutants that have been strongly linked to increases in emergency room visits and hospitalizations for asthma attacks. The following studies have linked pollution levels with health effects in African Americans.

- In New York City, nonwhites were more adversely affected by air pollution as measured by the number of persons per day admitted to the hospital when ozone levels were high. The rate of hospitalization for nonwhites was twice that of whites. Those without health insurance were admitted to the hospital more than those with insurance, which may reflect the lack of access to preventative health care by the uninsured.[33]

- In an analysis of 5 power plants in the Washington, DC area, emissions of particulate matter and nitrate and sulfate fine particles were correlated with respiratory illnesses. These pollutants were estimated to trigger nearly 20,000 asthma attacks, almost 4,000 emergency room visits and nearly 300 hospitalizations. African Americans experience asthma at higher rates and are more likely to use the emergency room for primary health care needs than the population as a whole. Accordingly, the modeled result showed that while only 21% of the children in the studied population were African American, they accounted for 64% of the reduced pediatric asthma emergency room visits when the best available emissions controls were applied on the five power plants.[34]

- In Atlanta, Georgia, significantly more visits to the emergency room by asthmatic African American children were recorded following days that had higher ozone levels.[35] (see sidebar right)

Photo ©2002 David Bacon

Childhood Asthma and Ozone Pollution in Atlanta

A study of emergency room visits and their relationship to ozone air pollution levels was conducted in an indigent, predominantly African American population in Atlanta. In the summer of 1990, 609 visits to the hospital were made by children aged 1 to 16 for treatment of asthma or reactive airway disease. The number of visits for asthma was 37% higher on days following elevated ozone levels. The results of the study suggest that among African American children from low-income families, asthma may be exacerbated following periods of high ozone pollution.[36]

Atlanta, GA, Serious Ozone Non-attainment Area

• In the first study of its kind, researchers are evaluating how particulate matter exposure affects African American children with asthma. Results suggest even small increases in particulate matter may substantially increase asthma symptoms in these children. Results were examined relative to socioeconomic factors relating to access of medical care; relationships remained regardless of whether or not their families had contact with physician for asthma management, other than emergency room visits.[37]

Air pollution puts African American infants at risk.

Respiratory Distress Syndrome (RDS) and Sudden Infant Death Syndrome (SIDS) are life-threatening conditions for newborns. RDS occurs when a baby is born prematurely and the lungs are not fully developed. Medical advances have reduced the mortality rate of babies born with RDS, but even so, the mortality rate for African American babies is markedly higher than that of white babies. In 1998, the RDS mortality rate was 70.2 per 100,000 for blacks compared to 26.7 per 100,00 for whites – a difference of more than 163%.[38]

SIDS, often called crib death, is the third-ranking cause of infant death. The cause of SIDS is unknown but may be linked to a defect in the infant's breathing mechanism.[39] African American babies have a higher incidence of SIDS than white babies. In 1998, the SIDS rate for white babies was 57.7 per 100,000, while the rate for African American babies was almost three times higher at 149.2 per 100,000. Reasons for the higher rate are unknown but there is a correlation with premature birth.

Is there a link between air pollution and SIDS or RDS? New studies point in this direction. In a comparison of 86 cities in the U.S., researchers found that infants who lived in a highly polluted city during their first two months of life had a mortality rate 10% higher than infants living in the city with the cleanest air.[40]

Investigators in this study found that high particulate matter levels were associated with a 26% increased risk of SIDS and a 40% increased risk of respiratory mortality.

In a preliminary study extending this work, researchers recently estimated that 11% of the infant mortality in the U.S. is attributable to particulate matter, even at low to moderate levels.[41] A study in Mexico City has linked infant death with particulate matter.[42]

Mercury pollution affects African Americans.

Mercury contamination in fish across the United States is so pervasive that health departments in 44 states have issued fish consumption advisories.[43] Of these, 11 states have consumption advisories for every inland water body for at least one fish species; 6 states have consumption advisories for canned tuna, and 8 have

Health Effects of Mercury

Methylmercury interferes with the development and function of the central nervous system[52]. Prenatal exposure from maternal consumption of fish can cause later impairments in children. Infants appear normal during the first few months of life, but later display subtle health effects such as poor performance on neurobehavioral tests, particularly on tests of attention, fine motor function, language, visual-spatial abilities (e.g., drawing) and memory. These children will likely have to struggle to keep up in school and might require remedial classes or special education.[53]

Children and developing fetuses are most vulnerable to mercury exposure. Methylmercury in fish consumed by the mother passes through the placenta to the developing fetus. Mercury exposure prior to pregnancy is as critical as exposure during pregnancy because mercury is stored in tissues and is slowly excreted from the body. The first weeks of pregnancy also represent a critical time for fetal development.[54] Pregnant women and women of childbearing age (i.e., 15 to 44 years of age) are those who most need to avoid mercury exposure.[55]

statewide coastal marine advisories for king mackerel. The U.S. Food and Drug Administration has also issued a consumer advisory for pregnant women, women of childbearing age, nursing mothers and young children. These groups are advised not to eat swordfish, tilefish, shark and king mackerel because of high mercury levels.[44] In July 2002, an independent committee of food safety advisors convened by the FDA recommended that consumption advisories also be issued for canned tuna, however the FDA has yet to act.[45]

African Americans are avid fishermen. In fact, in 1996, there were 1.8 million licensed African American anglers who spent over $813 million dollars on fishing trips and equipment.[46] One-third of African Americans are active anglers and eat fish more often and eat larger portions of fish than whites[47,48]. Unfortunately, exposure to mercury is directly related to the amount and type of fish consumed, so all of these factors add up to higher mercury exposure and consequently higher risk of health effects.

Coal-fired power plants are the largest industrial emitters of mercury, producing over one third of all mercury pollution in the U.S.[49,50] The problem is not inhalation of airborne mercury, but rather eating contaminated fish. Airborne mercury eventually deposits in water bodies where it is converted to methylmercury and accumulates in fish tissue. As larger fish eat smaller ones, mercury concentrations increase in the bigger fish, a process known as bioaccumulation. Consequently, larger predator fish have higher mercury concentrations as a result of eating contaminated prey.[51]

The consumption of contaminated fish is a significant environmental justice issue. From the Great Lakes to the Southeast and California, the pattern is the same: African Americans are more likely to eat what they catch, eat more of it and be less aware of health advisories than their white counterparts.[56,57,58]

Greenhouse gases and climate change. Climate change disproportionately affects the health, economic and social well-being of African Americans.[59] Changes in the Earth's atmosphere are occurring due to the buildup of greenhouse gases in the atmosphere. Power plants account for 38% of the most prevalent greenhouse gas, carbon dioxide, emitted from fossil fuel use in the U.S. Warming of the planet, together with more drought conditions in some regions and flooding in other regions, could induce crop failures, famines, flooding and other environmental, economic and social problems.[60] The potential health impacts of climate change include increased prevalence of infectious disease such as Dengue fever and West Nile virus, more heat-related stress and illness, and higher levels of ozone smog.[61,62] Like other power plant-related health problems, the African American community is particularly vulnerable.

- **Infectious disease.** A warmer climate means that more areas of the U.S. will be hospitable to insects and the diseases they spread (like malaria, St. Louis encephalitis, Lyme disease and Dengue fever) and rodents (carriers of the hanta virus). Many of these disease cause flu-like symptoms and can be treated when caught early. However, these diseases can be fatal when not treated, and even with treatment, can be fatal in seniors and people with compromised immune systems. Since many African Americans lack health insurance and regular medical access, our community is particularly at risk.

• **Heat-related stress and illness.** A study of the 15 largest U.S. cities found that climate change would increase heat-related deaths by at least 90%.[63] Most African Americans live in inner cities,[64] which tend to be about 10 degrees warmer than surrounding areas. In fact, studies have shown that People of Color are twice as likely to die in a heat wave.[65]

• **Higher levels of ozone smog.** Global warming could enhance ozone formation, which could, in turn, exacerbate ozone-related health problems such as asthma attacks.[66]

In addition to health impacts, global warming will also hit our wallets and lifestyle. It will increase natural disasters such as hurricanes, flooding, landslides and wildfires that threaten our homes and lives. The uninsured will be hit the hardest, and the uninsured rate for African Americans is twice that of whites.[67] Climate change is expected to raise the price of necessities like energy. Also, African Americans suffer from the last-hired, first-fired syndrome. As global warming changes our economy (recent estimates show that it will cost the United States $30 billion per year), we will experience it first.

In January 2002, the Environmental Justice and Climate Change (EJCC) Initiative released a statement of solidarity and announced the creation of the EJCC Initiative. Twenty-eight U.S. environmental justice, climate justice, religious, policy and advocacy groups have unified behind this initiative that calls for the Bush Administration and Congress to act on climate change. This initiative marks the first time such groups have united to advance one agenda on climate change. The EJCC Initiative supports energy efficiency, renewable energy and conservation policies while seeking equitable measures to protect and assist the communities most affected by climate change. Appendix A, "*The Principles of a Just Climate Policy*," is a list of actions the EJCC Initiative is calling on our government to take.

Global Climate Change and Africa

The average surface temperature of the earth is projected to rise significantly due to human energy consumption, and it is further projected that the negative impacts of such warming will be most severe in Africa. The economies of Africa and other developing regions are highly dependent on farming and natural resources — the very sectors that are most at risk from global warming. This is despite the fact that Africa has among the lowest per capita energy consumption and emissions of greenhouse gases.

The resulting increased global temperatures will impact agricultural systems, leading to reduced agricultural productivity, especially in the tropics and sub-tropics where food insecurity and hunger are already prevalent. Sea level rise, another possible impact, will affect various coastal areas. These areas are often densely populated centers of economic activity magnifying the threat of serious disaster. More frequent dry periods are predicted for Southern and Eastern Africa, with significant climactic variations in other parts of the continent. Water shortages are expected in arid areas, while other regions are expected to experience an increase in extreme events such as flooding. The continued droughts in some areas such as East Africa and floods in Mozambique are a few examples. The economic and human cost of these recent events has proven to be very costly.[68]

What Should Be Done About Power Plants?

As this report has shown, air pollution from power plants imposes a serious public health and environmental burden on society. New, comprehensive federal legislation is needed to adequately address power plant pollution and ensure that U.S. energy policy better accounts for the public health and environmental costs associated with electricity production. New, tougher legislation will put us on track toward a more sustainable energy future. We must also enforce the law and clean up old, dirty power plants that have exploited a loophole in the existing Clean Air Act.

New legislation must address emissions of the four key pollutants: nitrogen oxides, sulfur dioxide, mercury and carbon dioxide. Significant reductions of these pollutants, beyond cuts required by the existing Clean Air Act, are needed to minimize the environmental and public health impact of power plant emissions. Sulfur dioxide, nitrogen oxides and mercury emissions can all be reduced by 90% or more. Carbon dioxide emissions must be addressed as part of a comprehensive strategy given the threat posed by global warming.

New legislation must:

- Be implemented by the end of the decade.
- Leave intact safeguards from power plant pollution guaranteed by the current Clean Air Act and remove exemptions for older power plants.
- Be stringent enough to protect human health and the environment.
- Include reductions in mercury to protect fetuses and newborns, and carbon dioxide emissions to combat climate change.

Early in 2002, President Bush announced his version of a power plant clean-up plan called the “Clear Skies Initiative”. This proposal, unfortunately, offers too little, too late. The “streamlining” of the existing Clean Air Act under this plan would actually result in more pollution being emitted than currently allowed. This is because weakening or eliminating existing portions of the Clean Air Act is integral to the Administration plan. In addition, the President’s plan would delay pollution reductions by up to a decade from when they would occur if the Clean Air Act were simply enforced as written. Unlike the other leading plans to clean up power plants, the Bush plan also doesn’t do anything to deal with emissions of carbon dioxide.

The Bush Administration has also announced far-reaching proposals to weaken the key “New Source Review” program, which applies to nearly 17,000 air-polluting industrial facilities throughout the country. These provisions kick in whenever industrial facilities make major modifications that substantially increase pollution, requiring installation of modern pollution controls.

However, when Congress passed the Clean Air Act more than 30 years ago, it gave existing facilities a “grandfather” exemption. This loophole allows older facilities to avoid modern pollution control

standards on the theory that the old plants will "retire" and be replaced by new cleaner technologies. If the plants do not retire but remain in operation, they are required to install modern pollution equipment if they change or upgrade the plant in any way that significantly increases emissions. Consequently, the New Source Review program is the primary backstop against disaster for many communities that face an unrelenting increase in toxic emissions.

If these proposals are adopted, it would have devastating public health and environmental impacts:

- Many facilities currently covered by New Source Review requirements are concentrated in heavily populated urban areas and disproportionately impact low-income and minority neighborhoods.

- Power plant pollution is linked to asthma, lung disease and premature death. Even where power plants are located in rural areas, prevailing winds can carry the pollution to populated areas and jeopardize public health. According to the American Lung Association, "big cities on both coasts are among the 25 most ozone-polluted cities, including Los Angeles, Washington, and New York. But many big, medium and smaller-sized cities in between are also subjected to very dirty air. Many suffer from pollution blown in from other communities or large power plants outside their region."*(69)*

Since the 1970s, industry has relentlessly litigated and lobbied to avoid compliance with New Source Review, while Congress, the courts, and EPA have held firm. While lobbyists and lawyers have been working to gut the provision, the facilities they represent have been flagrantly breaking the law. In the 1990s, an EPA investigation found that hundreds of industrial facilities were illegally spewing excessive amounts of pollution into the air. Today, there are EPA enforcement actions pending against more than 50 power plants that impact major U.S. metropolitan areas. Not only would these existing cases be jeopardized by the Bush Administration's current proposals to dismantle the New Source Review program, but future cases against polluters would be harder to bring. That means more pollution and sickness in our communities.

We believe all coal-fired power plants, both new and old, must be made to comply with modern emission control standards. The Clean Air Act's 30-year loophole for old, dirty power plants must be finally closed.

Photo by Zachary Porter, Benjamin E. Mays Center – Georgia Kids Against Pollution.

Appendix A

The Environmental Justice Climate Change Initiative is a diverse group of 28 U.S. environmental justice, climate justice, religious, policy and advocacy groups that have unified in a call to action to the Bush Administration and Congress on climate change.

EJCC Principles of Just Climate Policy:

Climate change threatens to destroy our right to a mutually nurturing relationship with the earth. People of Color, Indigenous Peoples, and poor communities are the first to experience negative impacts such as heat death and illness, respiratory illness, infectious disease, and economic and cultural displacement. Climate policy must protect our most vulnerable communities. Here are ten actions that must be taken to protect us:

1. Stop Cooking the Planet. Global warming will accelerate unless we can slow the release of greenhouse gases into the atmosphere. To protect vulnerable Americans, alternatives must be found for human activities that cause global warming.

2. Protect and Empower Vulnerable Individuals and Communities. Low-income workers, People of Color and Indigenous Peoples will suffer the most from the effects of climate change. Opportunities must be provided for these people to adapt and thrive in a changing world.

3. Ensure a Just Transition for Workers and Communities. No group should have to shoulder the burden alone of transitioning from a fossil fuel-based economy to a renewable energy-based economy. A just transition would create opportunities for displaced workers and communities to participate in the new economic order through worker retraining, greater access to healthcare, and other means.

4. Demand Community Participation. At all levels and in all realms people must have a say in the decisions that affect their lives. Decision-makers must include communities in the policy process. Democracy and justice demand it.

5. Work Together: Global Problems Need Global Solutions. The causes and effects of climate change occur around the world. Individuals, communities, and nations must work together cooperatively to stop global warming.

6. Solve the Problem: The U.S. Must Lead. Countries that contribute the most to global warming should take the lead in solving the problem. The U.S. is 4% of the world's population but emits 25% of the world's greenhouse gases. All people are entitled to their fair share of the atmosphere.

7. Stop Exploring for Fossil Fuels. There are enough known fossil fuel reserves to last far into the future. Stop destroying unique cultures and valuable ecosystems: halt the exploration for fossil fuels and invest in renewable energy sources.

8. Monitor Domestic and International Carbon Markets. Ensure that carbon emissions and sinks markets are transparent and accountable, do not concentrate pollution in vulnerable communities, and avoid activities that harm the environment.

9. Take Action Today. No amount of action later can make up for lack of action today. Take precautionary measures to minimize harm to the global climate before it occurs.

10. Protect Future Generations. The greatest impacts of climate change will come in the future. Take into account the impacts on future generations in deciding policy today. Our children should have the opportunity for success through the sustainable use of resources.

The 28 organizations or individuals that have joined the EJCC Initiative include: Black Leadership Forum, Bunyan Bryant, Church Federation of Greater Indianapolis, The Church of the Brethren, Communities for a Better Environment, CorpWatch, Corporation for Enterprise Development, Council of Athabascan Tribal Government, Deep South Center for Environmental Justice at Xavier University, Eco Equity, Environmental Justice Resource Center at Clark Atlanta University, Georgia Coalition for a Peoples'

Agenda, Indigenous Environmental Network, Intertribal Council on Utility policy, Just Transition Alliance, National Black Environmental Justice Network, Kids Against Pollution, Native Village of Unalakleet, New York PIRG, North Baton Rouge Environmental Association, Redefining Progress, Southern Organizing Committee, Southwest Network for Economic and Environmental Justice, Southwest Public Worker's Union, United Church of Christ Justice and Witness Ministries, United Methodist Church, West County Toxics Coalition, West Harlem Environmental Action (WE ACT).

Appendix B

The following groups are active on air quality issues. The list is by no means comprehensive, instead it is provided as a resource to enable groups and individuals to connect with others active in the struggle to protect public health and the environment by cleaning up power plant pollution. A more comprehensive list can be found in the People of Color Environmental Groups Directory compiled by the Environmental Justice Resource Center.

Georgia Coalition for the Peoples' Agenda
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Black Leadership Forum, Inc.'s Task Force on Environmental and Climate Justice
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Yvonne Scruggs Leftwich

The Southern Organizing Committee for Economic and Social Justice (SOC)
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Atlanta, GA 30310
(404) 755-2855
Connie Tucker, Executive Director

Clear The Air
1200 18th Street, NW
Washington, DC 20036
(202) 887-1715
Dan Howells

African American Environmental Justice Action Network
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Tanisa Foxworth

National Black Environmental Justice Network (NBEJN)
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Damu Smith

Citizens for Environmental Justice
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Savannah, GA 31401
(912) 233-0907
Dr. Mildred McClain

Morehouse School of Medicine Prevention Research Center
720 Westview Drive, SW
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(404) 752-1500
Rev. Richard Bright

Environmental Justice Resource Center, Clark Atlanta University
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Atlanta, GA 30314
(404) 880-6911
Dr. Robert Bullard

Deep South Center for Environmental Justice
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P.O. Box 45-B
New Orleans, LA 70125
(504) 483-0734
Dr. Beverly Wright

Benjamin E. Mays National Educational Resource Center & Georgia Kids Against Pollution
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Illai Kenney (Middle School)
Anthony Dorsey (High School)
John Taylor, Advisor

West Harlem Environmental Action (WE ACT)
271 West 125th Street, Suite 211
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Cecil Corbin-Mark

Indigenous Environmental Network
P.O. Box 485
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(218) 751-4967
Tom Goldtooth

Southwest Network for Environmental and Economic Justice (SNEEJ)
P.O. Box 7399
Albuquerque, NM 87105
(505) 242-0416
Richard Moore

People Organized in Defense of Earth and its Resources (PODER)
55 N IH #205B
Austin, TX 78702
(512) 472-9921
Susana Almanza

Notes

1. U.S. EPA Green Book http://www.epa.gov/oar/oaqps/gbook/ Data compiled by MSB Energy Associates.

2. U.S. Census, 2000. Estimated using 1990 racial fractions and 2000 census. Data compiled by MSB Energy Associates.

3. Minority Lung Disease Data 2000. American Lung Association. October 2000. www.lungusa.org.

4. Tolbert, P., et al., 2000. Air quality and pediatric emergency room visits for asthma in Atlanta, Georgia, American Journal of Epidemiology. Vol. 151, No. 8, pp. 798-810.

5. White, M.C., et al., 1994. Exacerbation of childhood asthma and ozone pollution in Atlanta. Environmental Research, Vol. 65, pp. 56-68.

6. Woodruff, T., J. Grillo and K. Schoendorf, 1997. The relationship between selected causes of post-neonatal infant mortality and particulate air pollution in the United States. Environmental Health Perspectives, Vol. 105, pp. 608-612.

7. http://www.equi-sport.com/facts.html

8. IPCC, 2001. Climate Change 2001: Impacts, adaptation and vulnerability; Summary for Policymakers. http://www.ipcc.ch/pub/wg2SPMfinal.pdf

9. U.S. EPA, 2001. Global warming impacts summary . http://www.epa.gov/globalwarming/impacts/health/index.html

10. Kalkstein, L.S., 1992. Impacts of global warming on human health: heat stress-related mortality. In Global Climate Change: Implications, Challenges and Mitigation Measures, eds. S.K. Majumdar, L.S. Kalkstein, B. Yarnal, E.W. Miller and L.M. Rosenfield. Easton, PA. Pennsylvania Academy of Science.

11. McKinnon, J.and K. Humes, 2000. The Black Population in the Unites States: March 1999. U.S. Census Bureau. Current Population Reports, Series P20-530. U.S. Government Printing Office. Washington, DC.

12. Kalkstein, L.S., 1992. Impacts of global warming on human health: heat stress-related mortality. In Global Climate Change: Implications, Challenges and Mitigation Measures, eds. S.K. Majumdar, L.S. Kalkstein, B. Yarnal, E.W. Miller and L.M. Rosenfield. Easton, PA. Pennsylvania Academy of Science.

13. EPA states that “In much of the nation, a warming of 4 degrees (F) could increase ozone concentrations by about 5 percent.”. http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ImpactsHealth.html

Notes (cont.)

14. U.S. EPA, (2001) National Air Quality and Emissions Trends Report, 1999. EPA ASI/ROI-004, March 2001. www.epa.gov/airtrends/

15. U.S. EPA, 1997b. Mercury Study Report to Congress. Volume II: An Inventory of Anthropogenic Mercury Sources in the United States. December.

16. National Academy Press, 2000. Toxicological Effects of Methyl Mercury. Washington, D.C.

17. From EPA Emissions of Greenhouse Gases. Data compiled by MSB Energy Associates.

18. Taylor, Dorceta E., 2002. Race, Class, Gender, and American Environmentalism. USDA Forest Service, Pacific Northwest Research Station General Technical Report PNW-GTR-534 April.

19. United Church of Christ, 1987. Toxic Waste and Race.

20. Bullard, Robert D., 2000. Dumping in Dixie. Race, Class and Environmental Quality. 3rd Edition. Westview Press, Boulder Colorado.

21. U.S. EPA Green Book http://www.epa.gov/oar/oaqps/gbook/ Data compiled by MSB Energy Associates.

22. U.S. Census, 2000. Estimated using 1990 racial fractions and 2000 Census. Data compiled by MSB Energy Associates.

23. Faber, D.R. and Krieg, E.J., 2001. Unequal exposure to ecological hazards: environmental injustices in the Commonwealth of Massachusetts. A Report by the Philanthropy and Environmental Justice Research Project, Northeastern University.

24. U.S. EPA, 2001. National air quality and emissions trends report, 1999. EPA/454/R01-004, March 2001. http://www.epa.gov/airtrends/

25. U.S. EPA, 2001. National air quality and emissions trends report, 1999. EPA/454/R01-004, March 2001. http://www.epa.gov/airtrends/

26. U.S EPA, 1997. Mercury Study report to Congress. Volume II: An inventory of anthropogenic mercury emissions in the United States. December.

27. U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. EPA/453/R-98-004a.

28. National Environmental Trust (NET), et al. 2000. Polluting Our Future: Chemical Pollution in the U.S. that Affects Child Development and Learning. September. www.environet.org

29 U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. 453/R-98-004a.

30. From EPA Emissions of Greenhouse Gases. Data compiled by MSB Energy Associates.

31. National Research Council, 2001. Climate change science. National Academy Press, Washington D.C. ISBN 0-309-07574-2

32. U.S EPA, 1999. Report to Congress – Wastes from the combustion of fossil fuels. Vol. 2: Methods, findings and recommendations. March. EPA/530/R-99-010.

33. Gwynn, R.C. and G.D. Thurston, 2001. The burden of air pollution: impacts among racial minorities. Environmental Health Perspectives, Vol. 109, Sup. 4, pp. 501-506.

34. Levy, Jonathan I., Susan L. Greco, and John D. Spengler, 2002. "The Influence of Population Heterogeneity on Air Pollution Risk Assessment: A Case Study of Power Plants Near Washington, DC." Environmental Health Perspectives.

35. White, M.C., R.A. Etzel, W.D. Wilcox, and C. Lloyd, 1994. Exacerbations of Childhood Asthma and Ozone Pollution in Atlanta. Environmental Research, Vol. 65, pp. 56-68.

36. White, M.C., R.A. Etzel, W.D. Wilcox, and C. Lloyd, 1994. Exacerbations of Childhood Asthma and Ozone Pollution in Atlanta. Environmental Research, Vol. 65, pp. 56-68.

37. Ostro, B., M. Lipsett, J. Mann, H. Braxton-Owens, M. White, 2001. Air pollution and exacerbation of asthma in African-American children in Los Angeles. Epidemiology, Vol. 12, No. 2, pp. 200-208.

38. Minority Lung Disease Data 2000. American Lung Association. October 2000. www.lungusa.org

39. Minority Lung Disease Data 2000. American Lung Association. October 2000. www.lungusa.org

40. Woodruff, T., J. Grillo and K. Schoendorf, 1997. The relationship between selected causes of post-neonatal infant mortality and particulate air pollution in the United States. Environmental Health Perspectives, Vol. 105, pp. 608-612.

41. Kaiser, R., N. Kunzli, and J. Schwartz, 2001. The impact of PM10 on infant mortality in 8 U.S. cities. Abstract, American Thoracic, Abstract preview: ATS1P1_6266.

42. Loomis, D., Castillejos, M., Gold, D., McDonnell, W. and Borja-Aburto, V.,1999. Air pollution and infant mortality in Mexico City. Epidemiology. vol.

10, no. 2, p. 118-123.

43. http://www.epa.gov/ost/fish

44. FDA Consumer Advisory for Pregnant Women and Women of Childbearing Age who may become Pregnant about the Risks of Mercury in Fish. March 2001. http://www.cfsan.fda.gov/~dms/qa-pes1.html

45. See more at www.mercurypolicy.org

46. http://www.equi-sport.com/facts.html

47. Minority Anglers and Boaters: Attitudes and Participation in Fishing, Boating and resource Stewardship. Prepared for the Recreational Boating and Fishing Foundation, January 2002.

48.U.S. EPA, 1997b. Mercury Study Report to Congress. Volume VII: Characterization of Human and Wildlife Risks from Mercury Exposure in the United States. EPA-452/R-97-009.

49. U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. 453/R-98-004a.

50. U.S. EPA, 1997b. Mercury Study Report to Congress. Volume II: An Inventory of Anthropogenic Mercury Sources in the United States. December.

51. U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. 453/R-98-004a.

52. National Academy Press, 2000. Toxicological Effects of Methylmercury. Washington, D.C.

53. National Academy Press, 2000. Toxicological Effects of Methylmercury. Washington, D.C.

54. National Academy Press, 2000. Toxicological Effects of Methylmercury. Washington, D.C.

55. U.S. EPA, 1997b. Mercury Study Report to Congress, Volume VII: Characterization of Human and Wildlife Risks from Mercury Exposure in the United States. EPA-452/R-97-009

56. Tilden, J. et al., 1997. Health advisories for consumers of Great Lakes sport fish: is the message being received? Environ. Health Perspect. 105(12):1360-5.

57. Burger, J. et al., 1999. Factors in exposure assessment: ethnic and socioeconomic differences in fishing and consumption of fish caught along the Savannah River. Risk Analysis, Vol. 19, No.3, pp. 427-438.

58. Consumption of Contaminated Fish. Prepared by the Public and Environmental Health Advisory Board. Contra Costa Health Services, Martinez, California.

59. http://www.ejcc.org/releases/020128fact.html

60. Miller, A. and P. Brown, 2000. A fair climate for all. Redefining Progress, Oakland, California.

61. IPCC. 2001. Climate Change 2001: Impacts, adaptation and vulnerability; Summary for Policymakers. http://www.ipcc.ch/pub/wg2SPMfinal.pdf

62. U.S. EPA. 2001. Global warming impacts summary. http://www.epa.gov/globalwarming/impacts/health/index.html

63. Kalkstein, L.S., 1992. Impacts of global warming on human health: heat stress-related mortality. In Global Climate Change: Implications, Challenges and Mitigation Measures, eds. S.K. Majumdar, L.S. Kalkstein, B. Yarnal, E.W. Miller and L.M. Rosenfield. Easton, PA. Pennsylvania Academy of Science.

64. McKinnon, J.and K. Humes. 2000. The Black Population in the Unites States: March 1999. U.S. Census Bureau. Current Population Reports, Series P20-530. U.S. Government Printing Office. Washington, DC.

65. Kalkstein, L.S., 1992. Impacts of global warming on human health: heat stress-related mortality. In Global Climate Change: Implications, Challenges and Mitigation Measures, eds. S.K. Majumdar, L.S. Kalkstein, B. Yarnal, E.W. Miller and L.M. Rosenfield. Easton, PA. Pennsylvania Academy of Science.

66. EPA states that “In much of the nation, a warming of 4 degrees (F) could increase ozone concentrations by about 5 percent.”. http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ImpactsHealth.html

67. Miller, A. et al., 2001. What’s fair? Consumers and Climate Change. Redefining Progress. Oakland, California.

68. http://lion.meteo.go.ke/cna/impact/ccsd.html.

69. American Lung Association, “State of the Air 2002” available at www.lungusa.org.

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Air of Injustice

African Americans & Power Plant Pollution

Pollution from power plants is taking its toll on African Americans. Every year, power plants release millions of pounds of pollution to the air we breathe and the water we drink. Recently, several leading environmental justice organizations issued a report describing the relationship between power plant pollution and African Americans, highlighting the incidence of pediatric asthma, infant death rates, emergency room visits and hospitalizations, fish contamination and climate change. The full report, Air of Injustice, is available online at www.cleartheair.org.

African Americans are at risk from power plant pollution

- The air in our communities violates air quality standards. In 2002, 71% of African Americans live in counties that violate federal air pollution standards, compared to 58% of the white population.

- Most African Americans live near a power plant. Sixty-eight percent of African Americans live within 30 miles of a coal-fired power plant – the distance within which the maximum effects of the smokestack plume are expected to occur. By comparison, about 56% of the white population live within 30 miles of a coal-fired power plant.

- Asthma attacks send African Americans to the emergency room at three times the rate (174.3 visits per 10,000 population) of whites (59.4 visits per 10,000 population). African Americans are hospitalized for asthma at more than three times the rate of whites.

- The death rate from asthma for African Americans is twice that of whites (38.7 deaths per million population vs. 14.2 deaths per million population.

- In a comparison of 86 cities in the U.S., researchers found that infants who lived in a highly polluted city during their first two months of life had a higher mortality rate than infants living in the city with the cleanest air. High particulate matter levels markedly increased the risk of SIDS and respiratory mortality. This is significant because, as we have seen, African Americans live in more polluted areas.

- One-third of African Americans are avid anglers and we eat fish more often and eat larger portions of fish than whites. Consequently, we have higher exposure to mercury. In 1996, there were 1.8 million licensed African American anglers who spent over $813 million dollars on fishing trips and equipment.

- The potential health impacts of climate change include increased prevalence of infectious disease such as Dengue fever and West Nile virus. Since many African Americans lack health insurance and regular medical access, our community is particularly at risk.

- A study of the 15 largest U.S. cities found that climate change would increase heat-related deaths by at least 90%. Most African Americans live in inner cities, which tend to be about 10 degrees warmer than their surrounding areas. Studies have shown that People of Color are twice as likely to die in a heat wave, and suffer from more heat-related stress and illness.

• Global warming could enhance ozone formation, which could, in turn, exacerbate ozone-related health problems such as asthma attacks.

Power plants are major sources of some of the most common and harmful pollutants. Power plants emit 67% of the sulfur dioxide (SO_2) in the U.S., a noxious gas that irritates the lungs and worsens asthma, coughing, wheezing, shortness of breath and lung function in general. Power plants are also responsible for 23% of nitrogen oxides (NOx) emissions, that combine with other pollutants in the presence of sunlight to form ozone smog. Exposure to ozone can cause rapid, shallow breathing, coughing, wheezing, shortness of breath and asthma attacks. Emergency room visits for asthmatic children are strongly linked to ozone levels. These pollutants also form tiny acidic particles (fine particulate matter) that are inhaled deep into the lungs, affecting both the respiratory and cardiovascular systems. Particulate matter levels in the air are strongly associated with asthma attacks.

Coal-fired power plants are the largest industrial emitters of mercury, producing over one-third of all mercury pollution in the U.S. Inhaling airborne mercury is not the problem — eating contaminated fish is. When mercury-tainted fish are consumed by the mother, the mercury passes through the placenta to the developing fetus. Infants appear normal during the first few months of life, but later display subtle health effects such as poor performance on neurobehavioral tests, particularly on tests of attention, fine motor function, language, visual-spatial abilities (e.g., drawing) and memory.

Power plants account for 38% of the most prevalent greenhouse gas, carbon dioxide, emitted from fossil fuel use in the U.S. Changes in the Earth's temperature and precipitation patterns are occurring due to the buildup of greenhouse gases in the atmosphere. Warming of the planet could induce crop failures, famines, flooding, and other environmental, economic and social problems.

What Can You Do to Protect Your Children and Yourself?

The impacts of power plant pollution are serious, but there are things you can do to both minimize the risks and force the cleanup of the electric power industry:

- **Understand and follow the "Code Red" pollution alert system.**

During the summer, most communities issue air quality forecasts, similar to your local weather forecast. Following the guidance issued by your local government, your weather person or the Environmental Protection Agency will help protect you and your children from dangerous exposure to pollution on the worst days.

- **Don't eat Mercury-laden fish.**

Your state environmental agency should list the local fish that should be avoided due to mercury contamination. Your doctor's office may also have information. Women of child-bearing age and children should pay special attention to these fish consumption warnings.

- **Get Involved Locally.**

In the end, you can only do so much to protect yourself from power plant pollution. Join the thousands of state and local organizations working to clean up pollution from local power plants. Contact:

The Black Leadership Forum, 1025 Vermont Ave., NW, Ste. 1066, Washington, DC 20005-4961, (202) 783-5599
The Georgia Coalition for the Peoples Agenda, 100 Auburn Avenue, Suite 102, Atlanta, GA 30303, (404) 653-1199
The Southern Organizing Committee for Economic and Social Justice, P.O. Box 10518, Atlanta, GA 30310. (404) 755-2855
Clear the Air, 1200 18th Street, NW, 5th Floor, Washington, DC 20036, (202) 887-1715

People of Color Living Within 30 Miles of a Specific Coal-Fired Power Plant

State	Power Plant Name	Number of People of Color Living within 30 Miles
AL	Barry	151,500
AL	Charles R Lowman	41,400
AL	Colbert	29,200
AL	E C Gaston	243,500
AL	Gadsden	55,100
AL	Gorgas	301,500
AL	Greene County	61,000
AL	James H Miller Jr	300,700
AL	Widows Creek	43,300
AR	Flint Creek	56,000
AR	Independence	10,000
AR	White Bluff	167,000
AZ	Apache Station	8,100
AZ	Cholla	23,300
AZ	Coronado	23,200
AZ	Irvington	193,200
AZ	Navajo	15,500
AZ	Springerville	13,800
CO	Arapahoe	398,900
CO	Cameo	9,200
CO	Cherokee	8,700
CO	Comanche	31,300
CO	Craig	1,100
CO	Hayden	1,400
CO	Martin Drake	82,100
CO	Nucla	3,500
CO	Pawnee	8,600
CO	Rawhide	23,300
CO	Ray D Nixon	104,500
CO	Valmont	299,900
CT	Bridgeport Harbor	507,100
DE	Edge Moor	1,150,800
DE	Indian River	70,900
FL	Big Bend	393,400
FL	C. D. Mcintosh, Jr.	203,000
FL	Crist	94,300
FL	Crystal River	19,800
FL	Deerhaven	87,300
FL	F J Gannon	394,400
FL	Lansing Smith	29,200
FL	Polk	163,000
FL	Scholz	65,700
FL	Seminole	66,500
FL	St. Johns River Power	283,500

FL	Stanton Energy Center	377,300
GA	Arkwright	183,300
GA	Bowen	244,700
GA	Hammond	370,200
GA	Harllee Branch	95,200
GA	Jack Mcdonough	1,367,800
GA	Kraft	165,300
GA	Mcintosh	175,000
GA	Mitchell	116,700
GA	Scherer	169,600
GA	Wansley	129,600
GA	Yates	203,300
IA	Ames	39,000
IA	Burlington	7,800
IA	Council Bluffs	94,500
IA	Dubuque	3,300
IA	Fair Station	39,200
IA	George Neal North	19,500
IA	George Neal South	19,600
IA	Lansing	3,000
IA	Louisa	22,300
IA	M L Kapp	39,800
IA	Muscatine Plant 1	34,700
IA	Ottumwa	3,000
IA	Prairie Creek	19,700
IA	Riverside	39,800
IA	Sixth Street	19,600
IA	Sutherland	7,900
IL	Baldwin	81,700
IL	Coffeen	9,200
IL	Crawford	2,604,100
IL	Dallman	27,400
IL	Duck Creek	38,200
IL	E D Edwards	41,000
IL	Fisk	2,562,100
IL	Havana	10,000
IL	Hennepin	10,300
IL	Hutsonville	12,000
IL	Joliet 29	1,078,700
IL	Joliet 9	1,123,500
IL	Joppa Steam	21,100
IL	Kincaid	32,800
IL	Lakeside	27,400
IL	Marion	23,000
IL	Meredosia	5,500
IL	Newton	2,900
IL	Powerton	41,700
IL	Vermilion	45,400
IL	Waukegan	842,900
IL	Will County	2,095,600

IL	Wood River	520,100
IN	A B Brown	26,600
IN	Bailly	699,100
IN	Cayuga	18,900
IN	Clifty Creek	14,500
IN	Dean H Mitchell	1,947,000
IN	Edwardsport	5,400
IN	Elmer W Stout	259,800
IN	F B Culley	29,900
IN	Frank E Ratts/Merom	12,200
IN	Gibson	16,000
IN	H T Pritchard	199,600
IN	Merom	5,500
IN	Michigan City	130,700
IN	Noblesville	265,300
IN	Petersburg	5,300
IN	R Gallagher	172,900
IN	R M Schahfer	99,000
IN	Rockport	25,000
IN	State Line	2,232,500
IN	Tanners Creek	245,400
IN	Wabash River	13,300
IN	Warrick	29,900
KS	Holcomb	15,300
KS	Jeffrey Energy Center	32,500
KS	LaCygne	4,800
KS	Lawrence EC	91,300
KS	Nearman Creek	307,000
KS	Quindaro	307,300
KS	Riverton	22,700
KS	Tecumseh EC	41,100
KY	Big Sandy	10,200
KY	Cane Run	176,400
KY	Cooper	3,800
KY	D B Wilson	13,000
KY	Dale	62,900
KY	E W Brown	69,700
KY	East Bend	242,400
KY	Elmer Smith	23,300
KY	Ghent	18,800
KY	Green River	14,900
KY	H L Spurlock	5,500
KY	HMP&L Station 2	32,700
KY	K C Coleman	10,300
KY	Mill Creek	181,500
KY	Paradise	12,600
KY	Pineville	5,400
KY	R A Reid	33,200
KY	R D Green	33,200
KY	Shawnee	21,200

KY	Trimble County	102,900
KY	Tyrone	102,700
LA	Big Cajun 2	232,200
LA	Dolet Hills	88,300
LA	R S Nelson Coal	58,800
LA	Rodemacher	62,100
MA	Brayton Point	210,300
MA	Mount Tom	145,600
MA	Salem Harbor	559,100
MA	Somerset	220,200
MD	Brandon Shores	1,406,300
MD	C P Crane	838,900
MD	Chalk Point	772,400
MD	Dickerson	734,500
MD	Herbert A Wagner	1,408,800
MD	Morgantown	317,700
MD	R P Smith	45,900
MI	B C Cobb	49,100
MI	Belle River	36,900
MI	Dan E Karn	58,900
MI	Eckert Station	72,400
MI	Erickson	71,600
MI	Harbor Beach	1,000
MI	J C Weadock	60,300
MI	J H Campbell	111,500
MI	J R Whiting	205,500
MI	James De Young	132,600
MI	Marysville	14,200
MI	Monroe	423,600
MI	Presque Isle	3,700
MI	River Rouge	1,172,400
MI	St Clair	39,800
MI	Trenton Channel	1,094,700
MN	Black Dog	345,300
MN	Clay Boswell	3,100
MN	High Bridge	346,400
MN	Hoot Lake	2,600
MN	King	272,300
MN	Riverside	347,400
MN	Sherburne Co	34,700
MN	Silver Lake	13,200
MN	Syl Laskin	2,400
MO	Asbury	12,000
MO	Blue Valley	297,400
MO	Columbia	33,400
MO	Iatan	77,500
MO	James River Power Stn	15,600
MO	Labadie	241,100
MO	Lake Road	17,500
MO	Meramec	514,400

MO	Montrose	3,400
MO	New Madrid	25,800
MO	Rush Island	94,200
MO	Sibley	262,400
MO	Sikeston	23,500
MO	Sioux	499,500
MO	Southwest Power Stn	15,900
MO	Thomas Hill	6,500
MS	Jack Watson	84,700
MS	R D Morrow	69,200
MS	Victor J Daniel Jr	167,800
MT	Colstrip	10,800
MT	Corette	13,900
MT	Lewis & Clark	4,600
NC	Asheville	40,900
NC	Belews Creek	297,800
NC	Buck	210,500
NC	Cape Fear	336,500
NC	Cliffside	128,000
NC	Dan River	191,700
NC	G G Allen	396,000
NC	L V Sutton	68,000
NC	Lee	180,100
NC	Marshall	287,300
NC	Mayo	118,700
NC	Riverbend	401,600
NC	Roxboro	126,600
NC	W H Weatherspoon	220,700
ND	Antelope Valley	1,200
ND	Coal Creek	1,600
ND	Coyote	1,100
ND	Heskett	3,900
ND	Leland Olds	1,400
ND	Milton R Young	4,200
ND	Stanton Station	1,800
NE	Gentleman	1,800
NE	Lon Wright	66,100
NE	Nebraska City	2,000
NE	North Omaha	95,300
NE	Platte	7,800
NE	Sheldon	21,900
NH	Merrimack	33,000
NH	Schiller	33,400
NJ	B L England	133,200
NJ	Deepwater	916,500
NJ	Hudson	5,946,000
NJ	Mercer	1,336,200
NM	Escalante	47,100
NM	Four Corners	51,200
NM	San Juan	53,800

NV	Mohave	16,500
NV	Reid Gardner	7,100
NV	Valmy	3,200
NY	C R Huntley	175,100
NY	Danskammer	220,800
NY	Dunkirk	22,200
NY	Goudey/Westover	20,900
NY	Greenidge	25,300
NY	Kintigh/Somerset	74,200
NY	Lovett	1,563,400
NY	Milliken/Cayuga	27,600
NY	Niagara Falls	162,200
NY	Rochester 7/Russell	150,200
OH	Ashtabula	13,900
OH	Avon Lake	464,900
OH	Bay Shore	132,200
OH	Cardinal	35,900
OH	Conesville	10,700
OH	Eastlake	450,800
OH	Gen J M Gavin	6,500
OH	Hamilton	330,800
OH	J M Stuart	4,800
OH	Killen Station	5,900
OH	Kyger Creek	6,800
OH	Lake Shore	516,200
OH	Miami Fort	255,900
OH	Muskingum River	11,200
OH	Niles	19,600
OH	O H Hutchings	265,100
OH	Picway	259,700
OH	R E Burger	11,800
OH	Richard Gorsuch	7,100
OH	W H Sammis	62,800
OH	W H Zimmer	208,100
OH	Walter C Beckjord	252,400
OK	GRDA	79,700
OK	Hugo	23,100
OK	Muskogee	58,700
OK	Northeastern	143,800
OK	Sooner	19,900
OR	Boardman	8,500
PA	Armstrong	15,500
PA	Bruce Mansfield	174,100
PA	Brunner Island	125,900
PA	Cheswick	214,500
PA	Conemaugh	16,600
PA	Cromby	1,247,200
PA	Eddystone	1,441,700
PA	Elrama	215,400
PA	Hatfield's Ferry	27,800

PA	Homer City	29,300
PA	Hunlock Power Sta	20,900
PA	Keystone	44,200
PA	Martins Creek	122,000
PA	Mitchell	213,600
PA	Montour	17,800
PA	New Castle	98,300
PA	Portland	155,700
PA	Seward	15,500
PA	Shawville	7,000
PA	Sunbury	25,000
PA	Titus	157,700
PA	Warren	8,600
SC	Canadys Steam	124,300
SC	Cope	108,300
SC	Cross	140,300
SC	Dolphus M Grainger	96,700
SC	H B Robinson	136,100
SC	Jefferies	178,500
SC	Mcmeekin	241,500
SC	Urquhart	206,500
SC	W S Lee	175,100
SC	Wateree	297,200
SC	Williams	196,600
SC	Winyah	86,300
SD	Big Stone	3,100
TN	Allen	540,300
TN	Bull Run	55,200
TN	Cumberland	52,100
TN	Gallatin	214,000
TN	John Sevier	15,700
TN	Johnsonville	11,800
TN	Kingston	33,100
TX	Big Brown	41,300
TX	Coleto Creek	35,700
TX	Fayette Power Project/Sam Seymour	28,000
TX	Gibbons Creek	65,600
TX	Harrington	46,500
TX	J K Spruce	423,600
TX	J T Deely	423,600
TX	Limestone	29,100
TX	Martin Lake	73,000
TX	Monticello	35,500
TX	Oklaunion	10,500
TX	Pirkey	91,400
TX	San Miguel	21,800
TX	Sandow	36,000
TX	TNP One	31,300
TX	Tolk	17,400
TX	W A Parish	1,075,200

TX	Welsh	35,500
UT	Bonanza	2,900
UT	Carbon	2,200
UT	Hunter	2,000
UT	Huntington	2,900
UT	Intermountain	2,000
VA	Bremo Bluff	68,000
VA	Chesapeake	547,300
VA	Chesterfield	356,600
VA	Clinch River	10,000
VA	Clover	58,500
VA	Glen Lyn	21,700
VA	Possum Point	959,900
VA	Potomac River	1,816,700
VA	Yorktown	429,600
WA	Centralia	36,800
WI	Alma	6,000
WI	Bay Front	3,500
WI	Blount Street	47,100
WI	Columbia	36,300
WI	Edgewater	11,900
WI	Genoa	7,100
WI	John P. Madgett	6,900
WI	Manitowoc	30,600
WI	Nelson Dewey	3,300
WI	Pleasant Prairie	335,300
WI	Port Washington	290,900
WI	Pulliam	29,300
WI	Rock River	73,500
WI	South Oak Creek	394,900
WI	Valley	352,100
WI	Weston	11,500
WV	Albright	12,400
WV	Fort Martin	18,400
WV	Harrison	11,300
WV	John E Amos	22,100
WV	Kammer	10,100
WV	Kanawha River	24,300
WV	Mitchell	9,900
WV	Mountaineer (1301)	7,000
WV	Mt Storm	3,200
WV	North Branch	5,900
WV	Phil Sporn	7,000
WV	Pleasants	5,100
WV	Rivesville	13,300
WV	Willow Island	5,100
WY	Dave Johnston	2,800
WY	Jim Bridger	2,000
WY	Laramie River	500
WY	Naughton	800

WY	Neil Simpson II	1,000
WY	Wyodak	900

AIR OF INJUSTICE

How Air Pollution Affects the Health of Hispanics and Latinos

July 2004 League of United Latin American Citizens.

League of United Latin American Citizens
2000 L Street, NW Suite 610
Washington, DC 20036
202 833-6130

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Foreword

State of New Mexico
Office of the Governor

Bill Richardson
Governor

June 2004

Estimado lector:

I am honored to present the foreword to this important report.

I share the environmental concern that members of Clear the Air and the League of United Latin American Citizens address every day.

This report confirms what many have feared: Hispanic communities disproportionately suffer health problems that result from living with pollution from power plants. Low-income and minority populations are subject to elevated environmental risks throughout the country, so this finding may not be surprising. But it is factual information that can provide a foundation for change.

Our nation needs to provide better protection for people who are affected by these environmental factors. And we need to require the implementation of clean new technologies that will prevent much of the pollution our communities experience today.

By doing so — by embracing new approaches and new technologies — we will pass on a safer, cleaner world to future generations. We will help address serious health problems facing people today. We will continue to strengthen the world's most dynamic economy.

Many in the Hispanic world come from families whose connections to land and water go back for generations and generations. Others have moved into the Hispanic community in recent years. Whoever is affected, and wherever they come from, it is critical for us to put clean air, clean water, and healthy land back at the top of the nation's list of priorities.

I welcome the information in this report. And I will help make sure that this information is part of the national policy dialogue.

Thank you for giving me the opportunity to participate in your important work.

Atentamente,

Bill Richardson
Governor of New Mexico

State Capitol • Room 400 • Santa Fe, New Mexico 87501 • 505-827-3000 • www.governor.state.nm.us

AIR OF INJUSTICE

How Air Pollution Affects the Health of Hispanics and Latinos

Executive Summary

Hispanic families suffer serious health effects caused by air pollution. Studies show that the very air breathed by Hispanic Americans is likely to be harmful to their health.[1] Latino children and adults living in polluted areas are more likely to suffer adverse health effects, such as asthma attacks. For many, the situation is worsened by a lack of health insurance and by language barriers.

Air pollution from power plant smokestacks, cars and trucks, construction equipment, and other sources includes fine particle "soot" pollution, ozone smog and dangerous air toxics such as mercury. The health effects of these pollutants include breathing problems, stunted lung growth, and babies that are born with low birth weight, among many other serious health effects. Air pollution is keeping children with asthma home from school, as the incidence of asthma in Latino families reaches epidemic proportions.

The air in Latino communities violates air quality standards. More than half of the U.S. population (55 percent) lives in areas with unhealthy levels of ozone or particle pollution.[2] Hispanics make up 13 percent of the U.S. population, yet in 2002 more than seven out of ten Hispanics (71 percent) lived in counties that violated federal air pollution standards for one or more pollutants.[3]

Hispanics are exposed to high levels of pollution. More than 13.5 million, or 35 percent of Hispanics, live in areas that violate the federal air pollution standard for particulate matter, known commonly as soot, which causes premature death and other serious health effects. More than 19 million, or 50 percent of Hispanics, live in areas that violate the federal air pollution standard for ozone, one of the major triggers for asthma attacks.

Thirty-nine percent of the Latino population lives within 30 miles of a power plant – the distance within which the maximum effects of fine particle soot from the smokestack plume are expected to occur.[4]

Hispanics living below the poverty level are more likely to be vulnerable to the effects of air pollution. High poverty rates restrict housing options for Latino families, and lack of health insurance limits access to quality health care. These economic factors exacerbate the impact air pollution has on low-income families. About 52 percent of Hispanics under the age of 65 do not have insurance and overall Hispanics account for an alarming one-quarter of the nation's 74

million uninsured people.[5] Poverty and uninsured rates are even higher for Spanish-speaking Hispanics.

Power plant emissions of mercury contaminate fish, posing a major health threat to the Latino community. 1.3 million Hispanics nationwide actively participate in fishing as a recreational, social, or family activity.[6] However, much of the Latino community is unaware that invisible toxic chemicals, such as mercury, PCBs and pesticides, might be present in the water that they fish in or in the fish that they eat. In a number of studies it has been shown that Latino sport and commercial anglers catch a variety of sportfish and consume fish more frequently, than white consumers. At the same time, Hispanics and other minorities are less likely than whites to be aware of fish consumption advisories.

Global warming could seriously affect the health, economic and social well being of Hispanics.[7] Warming of the planet together with more drought conditions in some regions and flooding in others could induce crop failures, famines, flooding and other environmental, economic and social problems.[8] At highest risk are communities that have the fewest technical and social resources.[9]

Hispanics are regularly excluded from federal research activities and data collection efforts. The exclusion of Hispanics from these critical national data systems means that environmental health issues affecting Hispanics are going undocumented. Although many Latino communities are in close proximity to power plants, they have the least amount of representation with the health researchers who inform our nation's policymakers.

The EPA must ensure environmental justice for Hispanics. In 1994, President Clinton issued Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-income Populations." The Executive Order directs federal agencies to pay attention to the environmental and human health conditions in minority and low-income populations with the goal of achieving environmental justice by making certain that such populations are not subjected to a disproportionately high level of environmental risk. However, the EPA has not identified populations addressed in the Executive Order, nor developed criteria for determining disproportionately impacted communities, thereby prohibiting the Agency from implementing the Executive Order as it was intended.

Recommendations

Though the nation's clean air laws have succeeded in reducing air pollution over the last few decades, more must be done.

Together, we in the Latino community should challenge our policymakers, media in both Spanish and English, and elected officials that serve us to recognize the significance of air pollution from power plants and other sources, the harm it is having on the health of our families, and to stand up and demand action to reduce air pollution.

This report demonstrates that, as a community, we must call upon our leaders to do the following:

- Strictly implement clean air laws. Aggressive enforcement is essential to protect our communities. Power plants and other pollution sources must reduce their emissions of smog- and soot-forming pollutants as quickly as possible in order to enable communities to meet national air quality standards. In addition, EPA must require all power plants to reduce their mercury emissions to the maximum extent possible using the latest technology by 2008 as required by current law.
- Close the Clean Air Act's 30 year-old loophole for old, dirty power plants and require all coal-fired power plants, both new and old, to comply with modern emission control standards.
- Require power plants to reduce their carbon dioxide pollution.
- Include Hispanics in health research that provides the basis for critical national data systems.
- Urge EPA to develop a comprehensive strategic plan to ensure appropriate training is provided, clearly define the mission of the Office of Environmental Justice, determine if adequate resources are being applied to environmental justice, and develop a systematic approach to gathering information related to environmental justice.

Our Shifting Borders

Changes in Hispanic/Latino Demographic Patterns and their Environmental Justice Implications

by Dr. Cecilio Ortiz-García

The confluence of social justice considerations and environmental concerns has brought home the realization that minority communities across the United States disproportionately bear the impact of environmental risks associated with a number of human activities. In fact this paradigm arguably has risen to a prominent place on the United States environmental policy agenda in the last 20 years. Riding on the coattails of the first and second waves of environmental concern in the United States and the Civil Rights Movement, this "third wave" of American environmentalism[10] has concentrated on:

- The relationship between the location of LULUs (Locally Undesirable Land Uses, including landfills, incinerators and other polluting industries) and the environmental health of minority populations,

- The exclusion of politically unorganized communities of color from the environmental policy process, and

- The exploration of a whole array of factors that make minority populations vulnerable to environmental injustices.

Analysis has expanded to show that minority communities often do not equally enjoy the benefits associated with environmental enforcement and are consistently left out of environmental decision making.

These developments in the area of environmental policy have fueled the growth of what is now called the Environmental Justice Movement (EJ). Over the years, EJ has entered the public policy arena at all levels of the governmental apparatus, raising awareness over the relationship between environmental policy and social justice issues.

In 1994, President Clinton issued Executive Order 12898 directing federal agencies to make EJ considerations a priority, and in 1995 the Environmental Protection Agency promulgated its Environmental Justice Strategy delineating the agency's EJ program. Moreover, EJ has opened the door for grassroots

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Dr. Ortiz-García is an Assistant Professor at University of Texas-Permian Basin, Odessa, Texas.

Factors such as access to education help determine where a population lives and works.

involvement by minority communities in the decision-making processes that bring about changes in the way we "socially construct" environmental policy.

Since the events surrounding the efforts to stop the site of a landfill in the mostly African American community of Warren County, North Carolina in the early 1980's, numerous case studies have been undertaken to analyze systematically both the dynamics, plight and grassroots efforts of politically, economically, and socially vulnerable minority populations to fight the unequal distribution of environmental goods and bads in their communities. Places such as Kettleman City in California,[11] Smeltertown in El Paso,[12] or Cataño in Puerto Rico[13] evoke memories of bitter fights with both industry and governmental agencies over community control of their environmental health and prosperity and, moreover, symbolize the efforts of minority communities to gain a place at the decision making table when it comes to environmental policy decisions being taken "in their own backyard."

Hispanics/Latinos in particular, present us with an opportunity to analyze the relationship between current demographic changes in this minority population, and the risk factors associated with the propensity for environmental justice issues to emerge in their communities. By analyzing data from the 2000 Census regarding the Hispanic/Latino population we see that, in fact, demographic boundaries of this "majority minority" need to be redrawn.

Hispanics/Latinos Shifting Demographics

Hispanics/Latinos are a people in motion.[14] The rapid growth of the Hispanic/Latino population has profound implications for the localities where it is concentrated. Because the Latino population is young, along with becoming the nation's largest ethnic minority group in the U.S., Hispanics/Latinos still denote signs of a very vulnerable population. It is widely known that access to a quality education is increasingly important for finding well paying and rewarding jobs in the current information/technology intensive economy. These factors also determine where families live and work. Jobs that require more education and pay more often bring with them less environmental risk at the workplace and can allow families the economic freedom to live in neighborhoods with fewer environmental problems.

Low educational attainment, exemplified most vividly by double-digit high school dropout rates, continue to mire the Hispanic/Latino population. Nationally in 2000, 28 percent of Hispanic/Latinos 16–24 years of age drop out of high school without earning a diploma or completing a GED, compared to only 13 percent of African Americans and seven percent of whites.[15] Similarly, Hispanics/Latinos continue to be underrepresented among bachelor degree recipients.[16] In 2000, only six percent of bachelor degrees were awarded to Hispanics/Latinos, despite the fact that they constitute more than 13 percent of the college age population.[17] Therefore a correlation is found between educational attainment and high poverty rates. In 1999 the earnings advantage of the male college graduate over his high school graduate and drop out counterparts were 68 and 147 percent respectively up from 29 and 57 percent in 1979.[18]

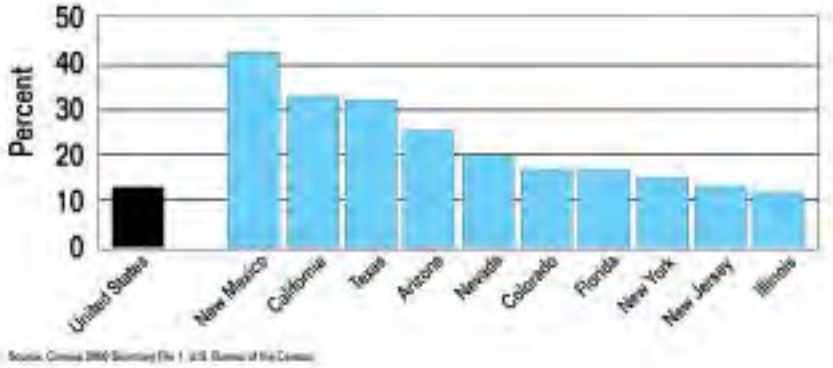
The largest Hispanic/Latino population in the United States according to the 2000 Census lives in "maritime ring" or "border" states (California, Texas, New York, Florida, Illinois, Arizona, New Jersey, Colorado and Washington). Recent census data has begun to present a different picture that points to a significant demographic shift in the population to places other than border or maritime ring states (see graph right).[19]

The states with the largest change in the number of Hispanic/Latino residents between 1990 and 2000 are shown right.

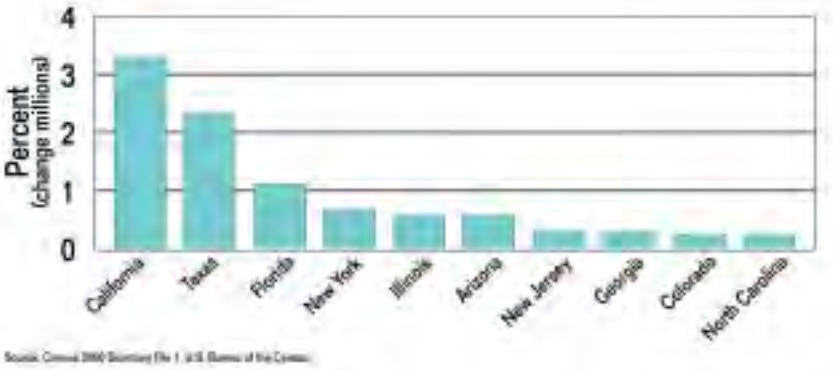
Two notable additions to this list, namely Georgia and North Carolina, begin to paint a picture of the changing Hispanic/Latino demographic landscape. Furthermore, the graph (right) shows the ten states (North Carolina, Arkansas, Georgia, Tennessee, Nevada, South Carolina, Alabama, Kentucky, Minnesota and Nebraska) with the highest changes in proportion of their Hispanic/Latino residents in that same decade, demonstrating the shifting nature of our borders.

These states are emerging as new "border states" where Hispanic/Latino populations are quickly adapting to existing social, economic, political and environmental conditions. But, are these new states equipped

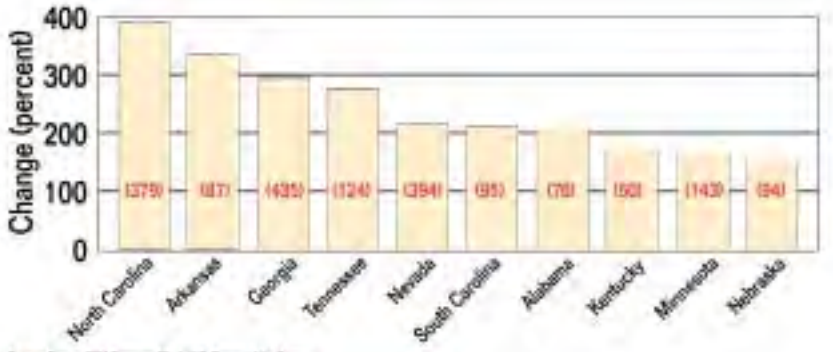
Percent of Population that is Hispanic/Latino: United States and Ten States with Largest Proportion of Hispanic/Latino Residents, 2000



Change in Number of Hispanic/Latino Residents between 1990 and 2000: Ten States with Largest Change



Change in Proportion of Hispanic/Latino Residents between 1990 and 2000; Ten States with Largest Change



with the institutional, technical, administrative and political capacity to deal with environmental justice issues that might affect these still vulnerable populations? If that capacity is not there, Hispanics/Latinos could find themselves on the short end of the stick in terms of suffering a disproportionate impact from environmental harms related to energy generation, agricultural activity, industrial processes, urbanization patterns, etc.

From this discussion the realization emerges that the same level of concern placed on the vulnerable condition of Hispanics/Latinos should be placed on the vulnerabilities of the environmental policy apparatus of these new Border States to enforce environmental justice directives and protect the environmental well-being of Hispanics/Latinos.

Hispanics Face Disproportionate Environmental Health Risks

Hispanics in the U.S. face a disproportionate risk of exposure to environmental hazards because of where they live and work and because of the types of occupations in which they are engaged. In 1990, the Science Advisory Board of the U.S. Environmental Protection Agency (EPA) determined the top environmental threats to human health. The top threats were identified as ambient (outdoor) air pollution, worker exposure to chemicals in industry and agriculture, indoor air pollution and contaminated drinking water. In terms of risk of exposure, Hispanics face significant threats to health from each of these four factors, and often fare the worst of any ethnic group.[20]

While this report focuses on power plant air pollution and its impact on the health of the Latino community, its purpose is also to raise awareness of significant related issues facing the Latino community. As each of these problems is entwined with another, so are the solutions.

The Latino community is threatened by:

• **Exposure to multiple environmental threats.** Occupational exposure to chemicals, indoor air pollution and contaminated drinking water put the Latino community at risk. These exposures, in combination with exposure to outdoor air pollution, make Hispanics overall more susceptible to health risks.

• **Poverty.** More than 20 percent of Hispanics (including 30 percent of Latino children) are living in poverty. This level of poverty affects housing choices and whether families are able to afford medical insurance. In general, this community has limited access to health care; Hispanics with limited English proficiency are among the most underserved.

• **Lack of information.** Surprisingly, little is known about the impacts of environmental pollution on Hispanics. The Latino community is essentially excluded from federal research and data collection activities because the methods used to collect the information do not adequately sample Latino subgroups.

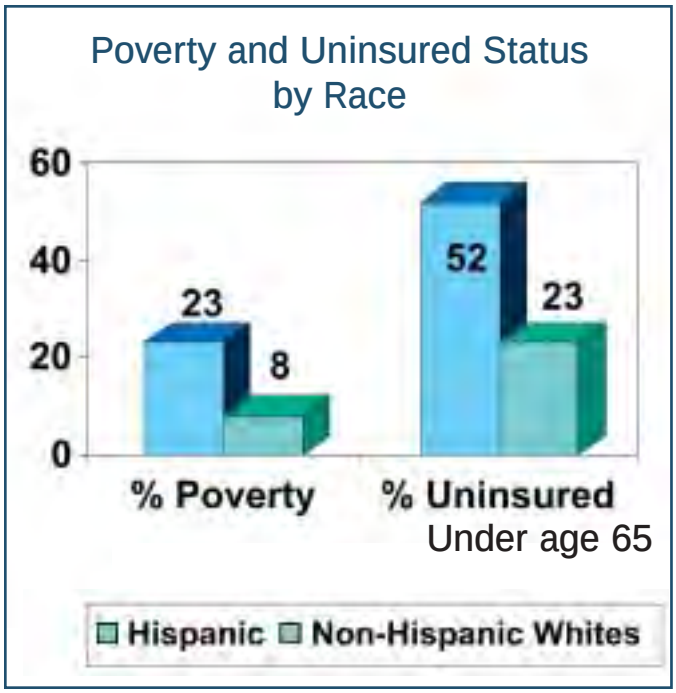
Hispanics are disproportionately suffering from the health effects caused by air pollution, such as asthma. Much of the reason is due to a lack of insurance because of low socio-economic status, combined with barriers to health care that include a lack of linguistically and culturally responsible medical facilities. Approximately 20 percent of Hispanics who forego health care do so because of language issues. Those with limited English proficiency are among the most underserved, making them the most susceptible to health complications from the power plant-produced pollutants.

A March 2003 report released by the Robert Wood Johnson Foundation found that 18.5 million or 52 percent of all Hispanics under the age

Lack of Data Collection Means Impacts on Latino Health Go Largely Undocumented[21]

A number of national health data collection systems exist to assess the health of the U.S. population. Policymakers use the collected information to respond to health and environmental problems. Unfortunately, Hispanics are regularly excluded from federal research activities and data collection efforts. The methods used to collect the data neither require the identification of different ethnic groups nor collect enough data on Hispanics so that the information can be broken out into different ethnic subgroups. Field researchers, not trained interpreters, typically conduct interviews. According to the General Accounting Office, no existing database currently provides accurate, complete and available information on the entire Latino population, including subgroups, residing in the U.S.[22]

The U.S. Department of Health and Human Services has 21 national data collection systems. Seventeen of the 21 do not collect enough data on Hispanics for the information to be broken out by subgroup. Six do not collect any data on Hispanics. Only one, the National Vital Statistics System, collects data for all Latino subpopulations. The exclusion of Hispanics from these critical national data systems means that environmental health issues affecting Hispanics are undocumented. Many Latino communities live in close proximity to power plants and in turn have the least amount of representation with the health researchers who inform our local and national policymakers.



of 65 did not have health insurance coverage in 2001–2002.[23] Hispanics represent 25 percent of the total number of uninsured people in the country, a disproportionate number when compared with the total percentage of the Latino population, which stands at 13 percent.[24]

Latino Families Face Health Problems from Air Pollution

The Latino community is an ethnically diverse population, representing approximately 17 different groups. According to the 2000 U.S. census, 66.1 percent of Hispanics residing in the U.S. are of Mexican descent, 14.5 percent are from Central and South America, nine percent from Puerto Rico, four percent from Cuba and over six percent of other Latino origins.[25] These distinctive subgroups are important because there is considerable variability within the Latino population in terms of where people live, their income and even their susceptibility to disease, among other factors.

Power plants populate the eastern seaboard, where they can be found in or next to every single major metropolitan city. In the Midwest, dozens of these coal-burning power plants are located in the middle of heavily Latino communities. The same is true for power plants in the Southwest — specifically in Arizona, New Mexico and Colorado.

The air in Latino communities violates air quality standards. More than half of the U.S. population (55 percent) lives in areas with unhealthy levels of ozone or particle pollution.[26] Hispanics make up 13 percent of the U.S. population. In 2002, 71 percent of Hispanics lived in counties that violated federal air pollution standards for one or more pollutants.[27] The map on the opposite page presents the counties that are in "non-attainment" for federal air pollution standards and the percent of the county population represented by Hispanics.

Latinos are exposed to high levels of particulate matter pollution. More than 13.5 million Latinos, or 35 percent of the Latino population, live in areas that violate the federal air pollution standard for particulate matter (either PM_{10} or $PM_{2.5}$).[28]

Latinos are exposed to high levels of ozone pollution. More than 19 million Hispanics, or 50 percent of the Latino population, live in areas that violate the federal air pollution standard for ozone.[29]

Smog, Asthma, and Hispanics

Pollution from power plants, cars and trucks, construction equipment, and other sources form particulate matter, ozone smog and air toxics. Some particulate matter is emitted directly as soot; however, the most dangerous particles are formed when the sulfur dioxide gas from power plants and other sources is transformed into tiny acidic sulfate particles in the atmosphere. All of these pollutants have been associated in some way with respiratory hospitalizations, lost school days due to asthma attacks, low birth weight, stunted lung growth and even infant death. In particular, the incidence of asthma in the Latino community is reaching epidemic proportions.

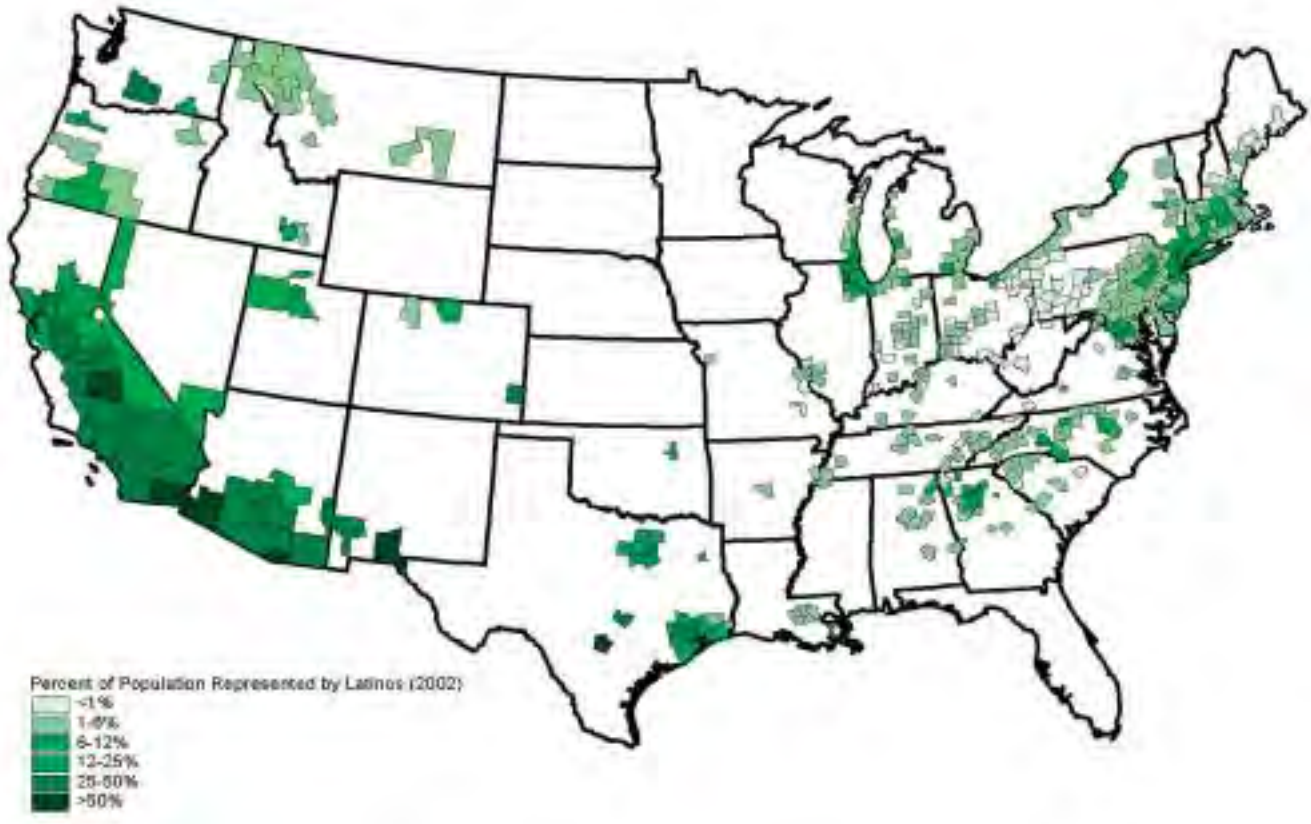
Asthma is the most common chronic disease among children.[30] Between 1980 and 1994, the prevalence of asthma increased 74 percent among children five to 14 years of age.[31]

The incidence of asthma in children of Latino mothers is two-and-a-half times that of non-Latino white children.[32] A recent study found that Hispanic, African-American, and Asian/Pacific Islander mothers experienced higher levels of air pollution and were over twice as likely to live in the most polluted counties compared to white mothers.[33]

The highest rates of asthma in the U.S. have been reported among inner city Puerto Ricans. As many as 20 percent of Puerto Rican children aged six months to 11-years-old are afflicted – a greater percentage of children than any other ethnic group.[34] In Chicago, a health survey of six communities found that 34 percent of Puerto Rican children (aged 0 –12) had been diagnosed with asthma compared to 20 percent of non-Hispanic white children in the same communities.[35]

The age-adjusted asthma mortality rate for Hispanics between 1990 and 1995 was 15.3 per million people. Puerto Ricans had the highest mortality rate from asthma of any ethnic group (40.9 deaths per million people). Mexican-Americans had the lowest mortality rate among the Latino groups (9.2 deaths per million people).[36]

Percent of Population in Non-Attainment Areas Represented by Latinos



Hispanics includes the diverse community of Mexicans, Puerto Ricans, Cubans, Central and South Americans.

Non-attainment means the area exceeds federal air pollution standards for one or more of the following pollutants: lead, carbon monoxide, SO2, particulate matter (PM10), 1-hour ozone standard, 8-hour ozone standard and PM2.5. Based on August 2003 U.S. EPA Green Book and Fall 2003 determination of 2000-2002 values for 8-hour ozone standard and PM2.5.

Asthma rates in minority children overall are doubling every ten years. The New York Department of Health reports levels of asthma of up to 30 percent in minority populations of children.[37]

When ozone levels were high, the rate of hospitalization for African Americans and Latinos was twice that of whites over the time period studied. Latinos and African Americans without health insurance were admitted to the hospital more than those with insurance, which reflects the lack of access to preventative health care by the uninsured.

Air Pollution and Children

Emergency room visits for asthmatic children are strongly linked to ozone levels. Especially during the summer months, daily hospital admissions and emergency room visits increase as ozone levels increase. These trends have been shown in the U.S., Mexico and Canada.[38, 39]

While scientists have documented that children are generally more susceptible to ozone pollution than adults, asthmatic children are more vulnerable and some subgroups of asthmatic children appear to have heightened susceptibility. A recent study suggests that asthmatic children born preterm and/or with low birth weights are at greater risk from ozone exposures.[40,41] Affluence may play a role as well; children in homes without air conditioners suffered higher exposures than those in homes with them because air conditioners are effective in reducing indoor ozone levels.[42]

A growing body of evidence supports the potential association between ozone and premature death in adults.[43] A Mexico City study links exposure to ozone and nitrogen oxides to infant death.[44] The study also found that the relationship between air pollution and infant death was even stronger when particulate matter levels were considered in the analysis.

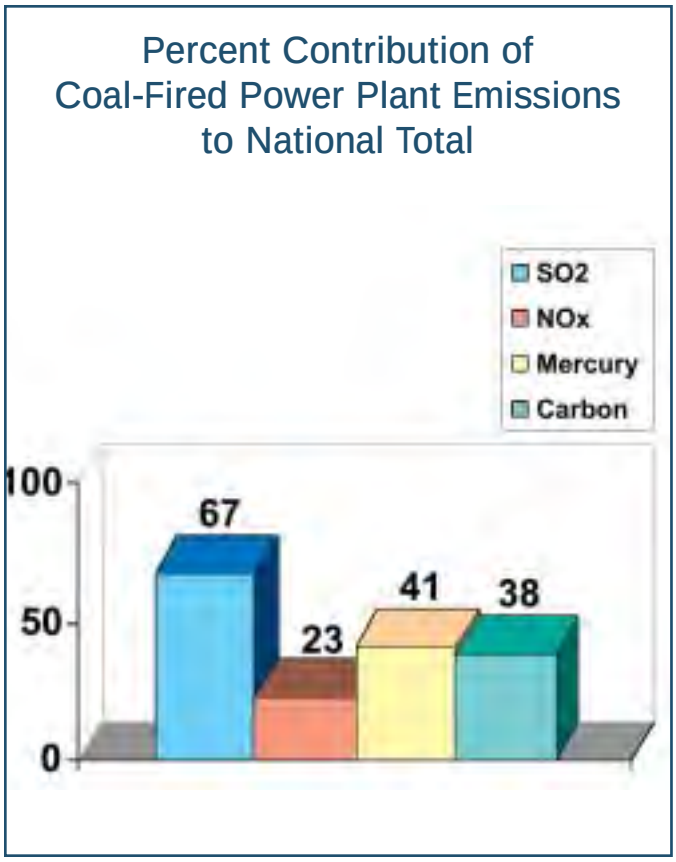
The children's health study in California suggests that particulate matter may slow lung function growth in children. Children examined in a dozen communities near Los Angeles experienced a three to five percent relative reduction in lung function growth between the most polluted and least polluted cities as a result of exposure to particulate matter.[45] When children moved to communities with cleaner air, lung function growth rates increased.[46]

Power Plants: The Biggest Industrial Source of Dangerous Air Pollution

Exposure to pollution from power plants occurs in two main ways: direct and indirect. Direct exposure means actual inhalation of air pollutants. Indirect exposure includes eating food or drinking water that has been contaminated by air emissions deposited on the earth and accumulated in the food chain. Some power plant air toxics may be absorbed through the

Health Effects of Power Plant Pollutants

Pollutant	What is it?	How is it produced?	Health effects	Most vulnerable populations
Ozone	Ozone is a highly corrosive, invisible gas.	Ozone is formed when nitrogen oxides (NO_x) react with other pollutants in the presence of sunlight.	Rapid shallow breathing, airway irritation, coughing, wheezing, shortness of breath. Makes asthma worse. May be related to premature birth, cardiac birth defects, low birth weight and stunted lung growth.	Children, elderly, people with asthma or other respiratory disease. People who exercise outdoors.
Sulfur Dioxide (SO2)	SO_2 is a highly corrosive, invisible gas. Sulfur occurs naturally in coal.	SO_2 is formed in the gases when coal is burned. SO_2 reacts in the air to form sulfuric acid, sulfates, and in combination with NO_x, acidic particles.	Coughing, wheezing, shortness of breath, nasal congestion and inflammation. Makes asthma worse. SO_2 gas can de-stabilize heart rhythms. Low birth weight, increased risk of infant death.	Children and adults with asthma or other respiratory disease.
Particulate Matter (PM)	A mixture of small solid particles (soot) and tiny sulfuric acid droplets. Small particles are complex and harmful mixtures of sulfur, nitrogen, carbon, acids, metals and airborne toxics.	Directly emitted from coal burning. Formed from SO_2 and NO_x in the atmosphere.	PM crosses from the lung into the blood stream resulting in inflammation of the cardiac system, a root cause of cardiac disease including heart attack and stroke leading to premature death. PM exposure is also linked to low birth weight, premature birth, chronic airway obstruction and remodeling, and sudden infant death.	Elderly, children, people with asthma.
Nitrogen Oxides (NOx)	A family of chemical compounds including nitrogen oxide and nitrogen dioxide. Nitrogen occurs naturally in coal.	NO_x is formed when coal is burned. In the atmosphere can convert to nitrates and form fine acidic particles. Reacts in the presence of sunlight to form ozone smog.	NO_x decreases lung function and is associated with respiratory disease in children. Converts to ozone and acidic PM particles in the atmosphere.	Elderly, children, people with asthma.
Mercury	A metal that occurs naturally in coal.	Mercury is released when coal is burned.	Developmental effects in babies that are born to mothers who ate contaminated fish while pregnant. Poor performance on tests of the nervous system and learning. In adults may affect blood pressure regulation and heart rate.	Fetuses and children are directly at risk. Pregnant women, children and women of childbearing age need to avoid mercury exposure.
Carbon Dioxide	Coal has the highest carbon content of any fossil fuel.	Carbon dioxide is formed when coal is burned.	Indirect health effects may be associated with climate change including the spread of infectious disease, higher atmospheric ozone levels and increased heat and cold-related illnesses.	People of Color, children, people with asthma.



skin from direct contact with contaminated water or soil. Children can be exposed to power plant toxics by ingesting contaminated soil while playing.

Power plants are major sources of some of the most common and harmful pollutants:

Sulfur dioxide (SO_2). On a national basis, power plants emit 68 percent of SO_2.[47] The SO_2 gas emitted from power plants is a strong respiratory irritant that is inhaled by people living near the plant. In addition, SO_2 forms sulfate particles that mix with other particles to form "fine particulate matter" downwind of the plant, which can have serious health impacts even at great distances from the source. Power plants are responsible for about half of the fine particulate matter in the eastern part of the U.S. and contribute a significant portion in the West.

Nitrogen oxides (NO_x). Power plants are responsible for 23 percent of the nation's emissions of NO_x.[48] NO_x and hydrocarbons react in sunlight to form ozone smog. While ozone in the upper levels of the atmosphere provides a protective layer from ultraviolet radiation, ozone smog is a pollutant at ground level and is harmful to lungs. NO_x also forms nitrate, which is a major constituent of fine particulate matter.

Mercury. Power plants are the largest industrial source of mercury emissions, emitting 41 percent of the nation's total mercury emissions.[49] When mercury enters a water body, it can be converted to a more toxic form that is concentrated in fish. Fish consumption advisories in 43 states warn against eating certain types or sizes of fish to protect against mercury exposure. Mercury is most dangerous for the developing brain and nervous system of the fetus.

Air toxics. Coal-fired power plants are the largest source of hazardous air toxics, including mercury. Emission tests at coal-fired power plants have detected 67 different air toxics.[50] Of these, 55 are known to be either neurotoxic (toxic to the nervous system) or developmental toxins (poisonous to the human development process).[51] In addition, 24 have been characterized as known, possible, or probable human carcinogens.[52] In just one year (1999), power plants released 78 million pounds of developmental and neurological toxins to the air and surface waters.[53] Currently, power plants are not required to limit their toxic air emissions.

Greenhouse gases. When carbon dioxide and other greenhouse gases build up in the atmosphere, they trap heat, causing increased temperature and altered precipitation patterns (or global warming). Power plants release 38 percent of all of the carbon dioxide emitted from burning fossil fuels in the U.S.[54] As a result of human activities, global average surface temperatures may increase by three to ten degrees (F) by the end of the century.[55] This increase in temperature is predicted to speed the spread of infectious diseases, increase heat and cold-related stress, and, under many conditions, increase ozone smog (the formation of which depends, in part, on heat and sunlight).

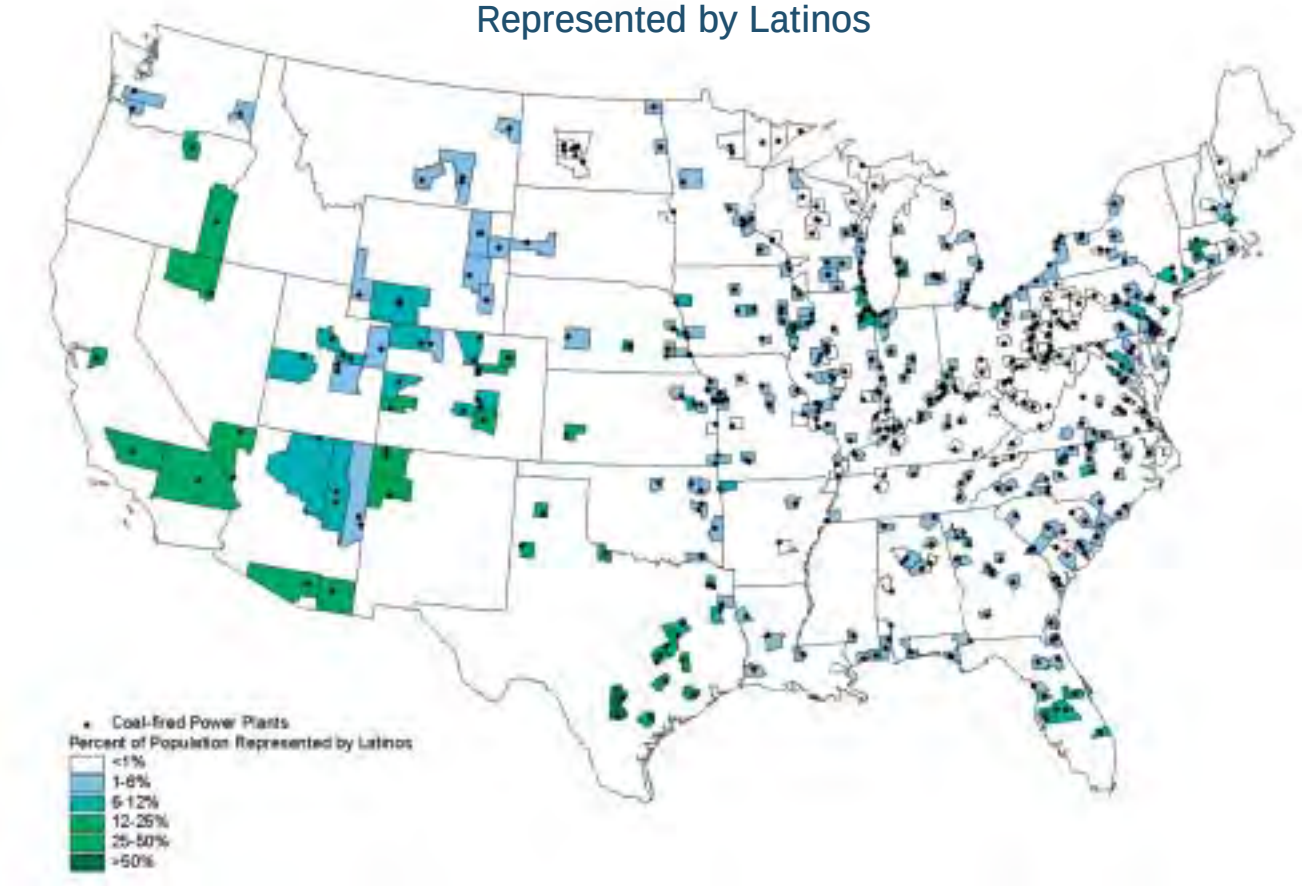
Mercury Pollution Affects Hispanic Americans

In 2001, there were 1.3 million licensed Latino anglers.[56] Together, these fishermen spent more than $695 million on fishing trips and equipment.[57] However, much of the Latino community is unaware that invisible toxic chemicals, such as mercury, PCBs and pesticides, might be present in the water that they fish in or in the fish that they eat.

Coal-fired power plants are the largest unregulated industrial source of mercury, producing more than 40 percent of all mercury pollution in the U.S.[58] Airborne mercury eventually deposits in water bodies, where it is converted to methylmercury and accumulates in fish tissue. As larger fish eat smaller ones, mercury concentrations increase in the bigger fish, a process known as bioaccumulation. Consequently, larger predator fish have higher mercury concentrations as a result of eating contaminated prey.[59]

Mercury contamination in fish across the U.S. is so widespread that health departments in 43 states have issued fish consumption advisories.[60] Of these, 19 states have consumption advisories for every inland water body for at least one fish species; ten states have consumption advisories for canned tuna, and eight have statewide coastal marine advi-

Percent of Population in Counties with Coal-Fired Power Plants Represented by Latinos



This shows the percent of population represented by Latinos in counties containing a coal-fired power plant. As you can see this is particularly true in NM, AZ, CA, CO, FL, Boston, Chicago, Tampa. Nearly every power plant has Latino neighbors. In the green areas, Latinos are heavily over represented.

sories for king mackerel. The U.S. Food and Drug Administration (FDA) also has issued a consumer advisory for pregnant women, women of childbearing age, nursing mothers and young children. These groups are advised not to eat swordfish, tilefish, shark and king mackerel because of high mercury levels.[61] In July 2002, an independent committee of food safety advisors convened by FDA recommended that consumption advisories also be issued for canned tuna. In March 2004, the FDA issued a new advisory adding canned albacore tuna to the list of fish that should not be eaten more than once a week by sensitive populations. Canned "chunk light" tuna was added to the list of fish that should not be eaten more than twice a week by these populations.[62] However, the Special Supplemental Nutrition Program for Women, Infants and Children, which provides food assistance to low-income women, infants, and children who are at nutritional risk, provides canned tuna fish in their food packages.

Research suggests that Latino anglers tend to believe that consuming fish poses few risks, unless the fish are visibly sick or there are obvious sources of water pollution. According to one study, which specifically evaluated Latino anglers, participants were not aware that toxic chemicals – such as mercury, PCBs and pesticides – might be present in the fish, let alone that those chemicals could affect their health.[63]

A number of studies show that Latino anglers eat a variety of sport-fish and eat fish more frequently than white consumers.[64] At the same time, Hispanics and other minorities are less likely than whites to be aware of fish consumption advisories.[65] State-sponsored advisories are minimally effective because of their limited distribution and complex wording. Advisories are often distributed with fishing licenses, which not all anglers obtain. In one study, only 30 percent of Latino anglers were licensed, and the state agencies made little effort to share advisory information with unlicensed anglers.[66] Also, advisories are usually written in English, which Spanish-speaking anglers may not be able to translate. Thus, Latino anglers and their families may unknowingly consume contaminated fish.

Health Effects of Mercury

Methylmercury interferes with the development and function of the central nervous system. Pre-natal exposure from maternal consumption of fish can cause later impairments in children. Infants may appear normal during the first few months of life but later display subtle health effects, such as poor performance on neurobehavioral tests, particularly on tests of attention, fine motor function, language, visual-spatial abilities (e.g., drawing) and memory. These children will likely have to struggle to keep up in school and might require remedial classes or special education.[67]

Children and developing fetuses are most vulnerable to mercury exposure. Fish tainted by methylmercury consumed by the mother passes through the placenta to the developing fetus. Mercury exposure prior to pregnancy is as critical as exposure during pregnancy because mercury is stored in tissues and is slowly excreted from the body. The first weeks of pregnancy also represent a critical time for fetal development. Nursing mothers, pregnant women, women of childbearing age (i.e., 15 to 44 years of age) and children should avoid mercury exposure.[68]

Greenhouse Gases and Global Warming

Global warming could seriously affect the health,

economic and social well being of Hispanics.[69] Changes in the Earth's atmosphere are occurring due to the buildup of greenhouse gases. As shown below, power plants account for nearly 50 percent of carbon emissions emitted from fossil fuel use in the U.S.

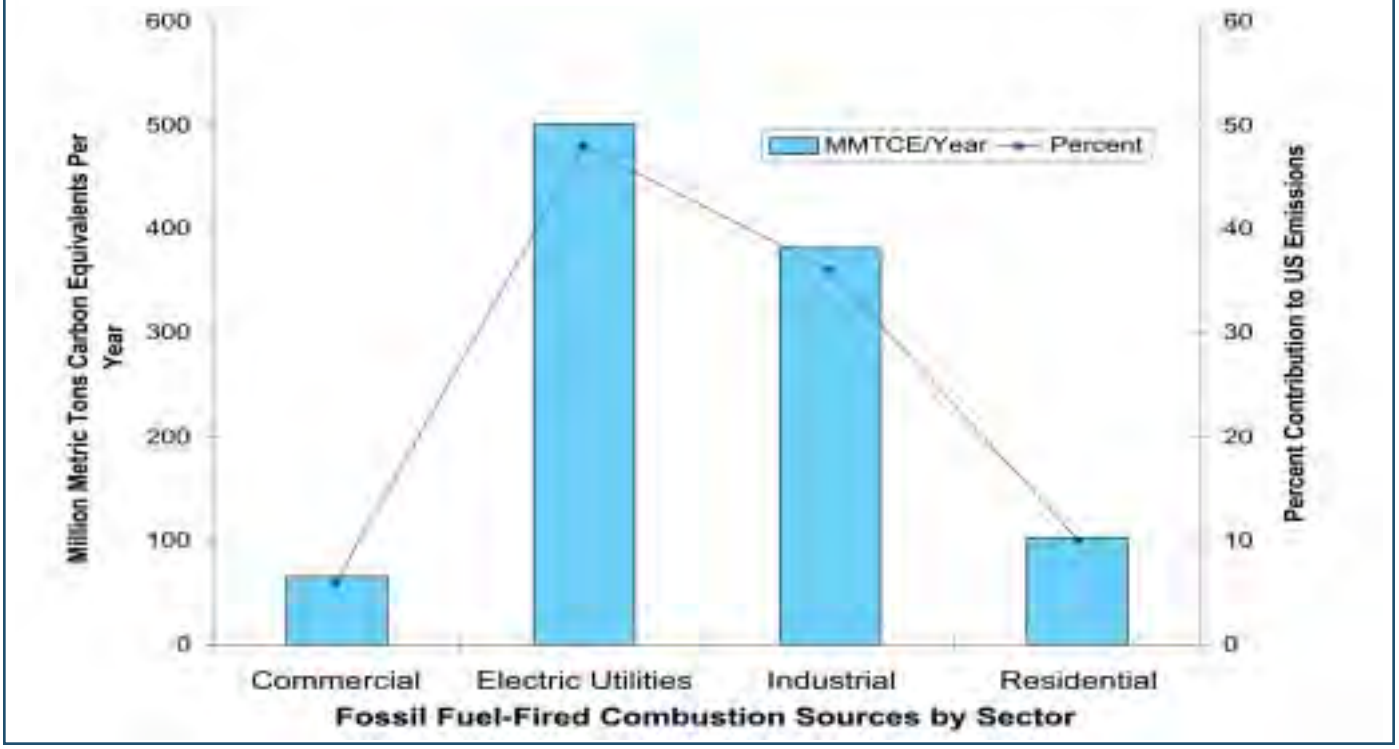
Warming of the planet together with more drought conditions in some regions and flooding in others could induce crop failures, famines, flooding and other environmental, economic and social problems.[70] At highest risk are communities that are the most exposed and have the fewest technical and social resources. Other consequences of climate change include:

Higher Levels of Ozone Smog. Global warming could enhance ozone formation, which could, in turn, exacerbate ozone-related health problems such as asthma attacks.[71]

More Natural Disasters. A warming climate has adverse affects on seasonal river flows, flood levels, droughts, fisheries, food security/supply, and loss of biodiversity. If global warming trends continue, floods and droughts will become more persistent. The number of tropical hurricanes is expected to rise, increasing risks to humans, property and ecosystems from heavy rain, flooding, storm surges and high winds. The health impacts of these natural disasters include physical injury; poorer nutritional status (particularly among children); increases in respiratory and diarrheal diseases due to overcrowding of survivors and limited access to potable water; increased risk of water-related diseases due to disruption of water supply or sewage systems; and release of chemicals or waste from storage sites into flood waters.[72]

El Niño and La Niña (weather events resulting from changes in ocean circulation) are projected to occur more frequently due to global warming. La Niña is mostly responsible for heavy precipitation and flooding, particularly in Columbia. In contrast, some areas including Southern Brazil experience severe droughts during La Niña events. If El Niño events increase, so will forest decay, resulting in the release of large amounts of carbon that will add to CO_2 accumulation. El Niño events in the past have also spawned widespread and severe fires. Since these events are projected to increase

Contribution of Power Plants to U.S. Carbon Emissions



with global warming, more catastrophic fires may occur, especially when combined with an increase in forest flammability from logging.

Increases in Infectious Disease. A warmer climate means that more areas of the U.S. will be hospitable to insects and the diseases they spread (like malaria, St. Louis encephalitis, Lyme disease, and Dengue fever) and rodents (carriers of the hanta virus). The map below shows areas of the U.S. that may see increases in the incidence of Dengue fever cases. Many of these diseases cause flu-like symptoms and can be treated when caught early. El Niño and La Niña events also influence the spread of diseases by increasing the habitat range of vectors like mosquitoes. For example, vector-borne diseases are expected to increase, at higher elevations, in particular diseases such as malaria and dengue fever in Brazil, Peru, Bolivia, Argentina, and Venezuela.

At the World Climate Change Conference in Moscow in September 2003, scientists said that nearly 160,000 people die each year from side effects of global warming ranging from malaria to malnutrition. The scientists from the World Health Organization and the London School of Hygiene and Tropical Medicine predicted that this number could double by 2020 and that children would be the hardest hit. In addition, most deaths would be in developing nations in Africa, Latin America and Southeast Asia, which would be hardest hit by the spread of malnutrition, diarrhea and malaria in the wake of warmer temperatures, floods and droughts.[73]

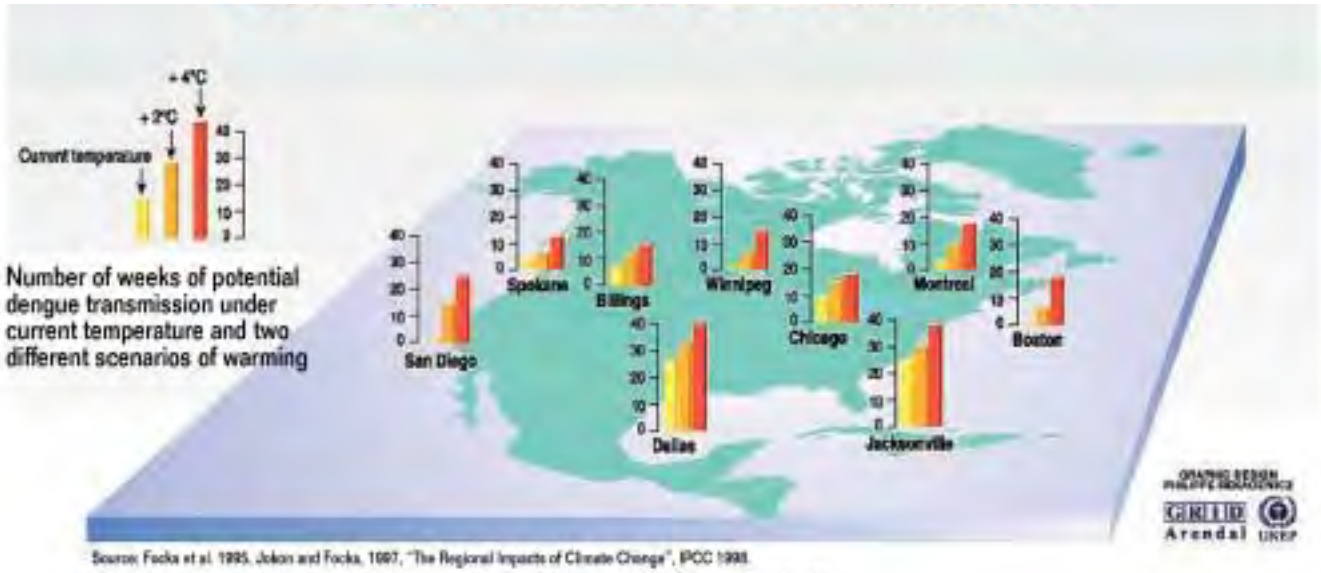
Global Warming Impact on Latinos

At highest risk from global warming are communities that are the most exposed and have the fewest technical and social resources.[74] The poverty rate of Latinos[75] certainly suggests that many in the Latino community are particularly vulnerable to exposure and consequent health problems.

Latino families rank among the poorest of American families. In 1999, one out of five Latino families was poor (20.2 percent) while the poverty rate of white non-Latino families was 5.5 percent.

A significant proportion of Latino children is poor. About three in ten (30 percent) Latino

Potential Dengue Transmission in Case of Temperature Rise



Source: Focks et al. 1995, Jetten and Focks, 1997, "The Regional Impacts of Climate Change", IPCC 1998.

Note: Presence of dengue virus mosquito vector and exposed human populations are required for disease transmission.

children lived in poverty compared with 9.4 percent of white non-Latino children.

Puerto Ricans have the highest poverty rate of all Latinos. In 1998, 31 percent of Puerto Ricans lived in poverty, followed by Mexicans (27 percent), Central and South Americans (20 percent) and Cubans (14 percent).

These high poverty rates indicate that such communities and families are more likely to have poor access to health insurance and medical care. As noted above, the potential health impacts of climate change include increased prevalence of infectious disease such as Dengue fever and West Nile virus, more heat-related stress and illness, and more asthma attacks from higher levels of ozone smog.[76, 77] These diseases can be fatal when not treated, particularly for seniors and people with compromised immune systems. Unfortunately, individuals without health insurance will be hit the hardest; the uninsured rate for English-speaking Latinos is one and a half that of whites.[78] For Spanish-speaking Latinos, the uninsured rate is nearly four times greater than that of whites.[79]

Global Warming Impacts on Latin America

Power plants operating today are the number one industrial source of several major air pollutants, including carbon dioxide which is a major cause of global warming. The Intergovernmental Panel on Climate Change (IPCC) special report on regional impacts of climate change has also predicted specific impacts of global warming on South America.[80]

Mexico will have warmer and drier conditions – a shift in weather patterns which is expected to add further hardship to an agricultural economy already stressed by low and variable rainfall.

A case study in Belize, looking at a range of temperature and precipitation changes on maize, red kidney beans, and rice production, concluded that Belizean farmers might well see their livelihoods destroyed as a result of reduced rainfall and increased temperatures.

Under current climate conditions in Latin America, banana crops are already adversely affected by flooding. Increases in storm frequency and heavy precipitation could add additional stress and lead to lower crop yields.

Modeling studies of wheat, maize, barley, soybeans, potatoes, and grapes in Uruguay, Argentina, Brazil, Mexico and Chile show crop yields declining in nine of 12 studies, as a result of increased temperature and changes to water regimes. The most at-risk farmers would be low-income farmers who may suffer serious financial loss from even small changes in crop yield and productivity.

Increased temperatures, ultraviolet radiation, sea-level rise and changes in pest ecology may threaten Argentina, in particular.

Hispanics are demanding greater progress on air pollution to improve the quality of life for our families and communities.

Case Study

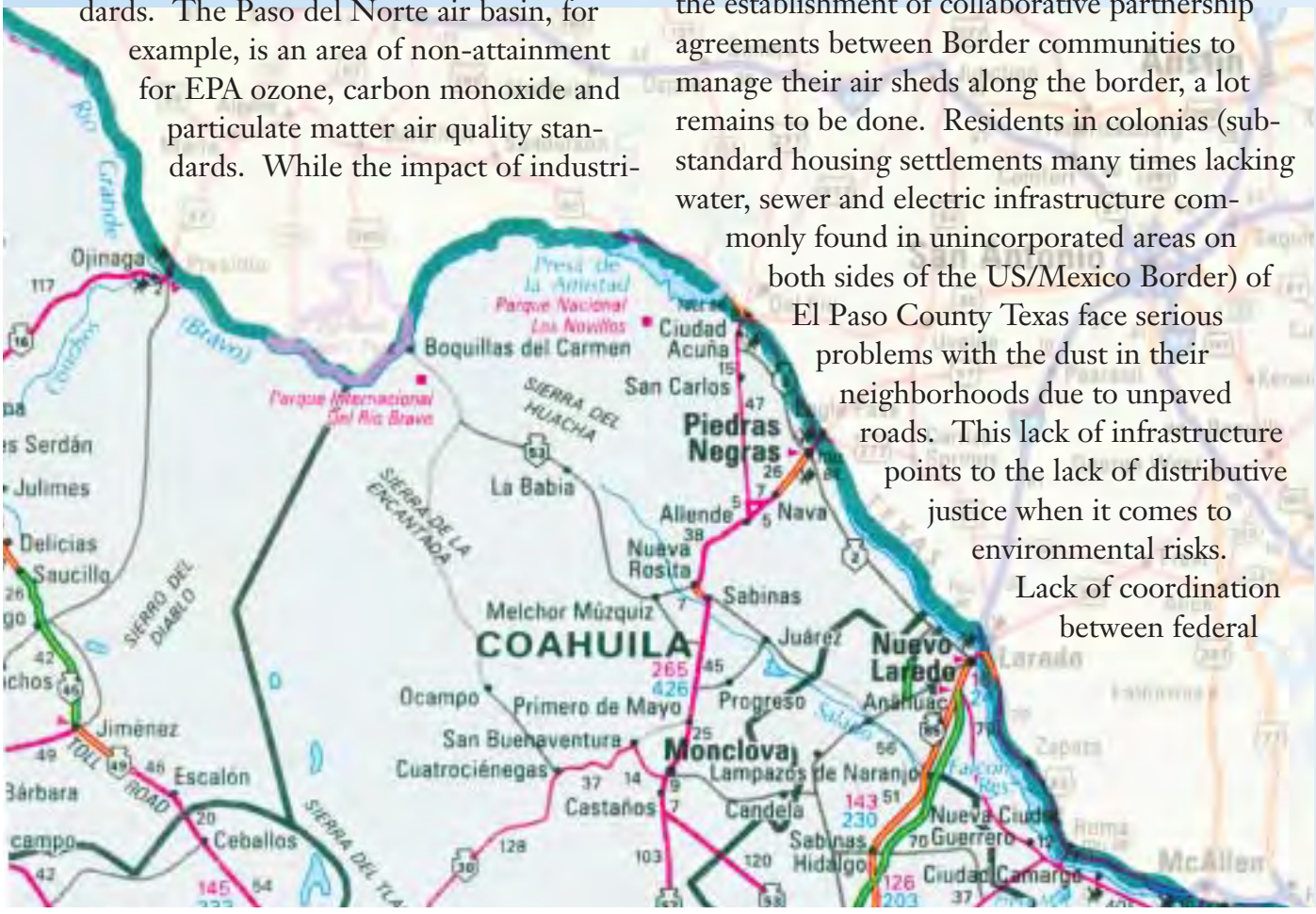
U.S./Mexico Border Air Quality

by Dr. Cecilio Ortiz-García

Assistant Professor at University of Texas-Permian Basin, Odessa, Texas.

The U.S./Mexico border faces a number of environmental challenges of significant magnitude. Air quality issues, in transnational settings such as this one, represent some of the most complex environmental issues involving climate, geography, economics, politics and environmental justice, just to name a few. Large numbers of border residents reside in areas of non-attainment under both Mexican and American environmental air quality standards. The Paso del Norte air basin, for example, is an area of non-attainment for EPA ozone, carbon monoxide and particulate matter air quality standards. While the impact of industrial emissions associated with the Maquiladora industry (US multinational companies that set subsidiary operations in Mexico) are significant other sources also contribute to poor air quality at the U.S./Mexico border (i.e., unpaved roads, idling lines of cars and diesel trucks sitting for hours at a time at the international bridges, the burning of debris including tires in the brick-making process in Ciudad Juarez).

While significant progress has been made in the establishment of collaborative partnership agreements between Border communities to manage their air sheds along the border, a lot remains to be done. Residents in colonias (sub-standard housing settlements many times lacking water, sewer and electric infrastructure commonly found in unincorporated areas on both sides of the US/Mexico Border) of El Paso County Texas face serious problems with the dust in their neighborhoods due to unpaved roads. This lack of infrastructure points to the lack of distributive justice when it comes to environmental risks. Lack of coordination between federal



agencies at the international bridges when it comes to the flow of goods and humans is a factor in the amount of border traffic. In fact, research shows the international bridges are hot spots for the accumulation of "bad ozone" affecting the border population.[81]

The industrial activity and population boom the border has seen in the past 20 years is rapidly outstripping the electrical generation capacity of the area. It is estimated that between 2001 and 2011 the border will need an additional generating capacity of approximately 60,000 megawatts for ten Mexican and U.S. states that comprise the border.[82] While a number of NGO's and other policy actors continue to press for the use of renewable energy sources as part of the mix of energy sources, reality suggests most of this electricity will be generated by the fossil fuels utilized by thermoelectric plants. Conservative estimates suggest that this increase in emissions from thermoelectric plants will dump 56,000 additional tons of NO_X, 83,000 additional tons of SO_2, and 144,000 additional tons of CO_2 a year on an air basin already at risk.[83] The consequences and impact on human health, the environment and other natural resources such as water sources could be disastrous.

Despite this bleak picture, binational institutions are reaching out in a more formal fashion to address these issues. In 1993, leaders in El Paso-Juarez region along the Texas-Mexico border, with help from the Environmental Defense Fund, established the Paso del Norte Air Quality Task Force to inform the international community about air quality problems and to initiate joint pollution reduction projects. The task force's binational activities included working with Juarez officials to improve Mexican vehicle inspection and maintenance programs and to set up emission diagnostic centers and training programs for mechanics to help them comply with Mexican environmental laws. Mexican instructors were trained at University of Texas-El Paso and Colorado State University and, in turn, trained more inspectors in Mexico.

The task force also has worked with federal agencies to speed up the use of alternative fuel vehicles and address traffic congestion at border crossings. The task force further recommended the creation of an International Air Quality Management District to provide a method to conduct local activities including data collection, pollution prevention, public education, technology transfers, and the development of cross-border pollution control strategies.[84] Much more needs to be done to address the air quality issues affecting the very vulnerable minority populations at the U.S./Mexico border. This is truly an issue of justice.

Case Study

Hispanics Fighting Power Plant Pollution in Illinois

As Hispanic residents of Chicago, Gladys and Miguel Martinez understand the effects of power plant pollution firsthand. Highlighted in an article in the Chicago Reader they explained that all three of their children suffer from asthma and occasional pneumonia. For a time, Michael, their four-year-old was going to the emergency room twice a week.[85]

Their case is not unique for residents living near power plants. Research by the Harvard School of Public Health showed that the Fisk and Crawford power plants, located in predominantly Latino neighborhoods of Chicago, cause 40 premature deaths, 2800 asthma attacks, and 550 emergency room visits *every year*.[86]

In response to these challenges, several communities have been active in trying to draw attention to and reduce the pollution emitted from these power plants. The Little Village Environmental Justice Organization, located in the Latino neighborhood of Little Village, has been organizing against Chicago's power plant pollution for years. Several Latino groups have staged demonstrations against the adjacent Crawford plant, which continues to operate with old, out-of-date pollution control equipment. One demonstration took place in front of Mayor Richard Daley's office.

In February of 2002, The Little Village Environmental Justice Organization joined with other community groups to pass a referendum in two predominantly Latino Chicago precincts supporting a proposed city ordinance that calls for reductions in emissions of sulfur dioxide, nitrogen oxides, mercury, and carbon dioxide from these Chicago power plants. While the resolution is currently stalled in the City Council, it has sent a message to all lawmakers that local residents will not tolerate the injustice of power plant pollution.[87]

Hispanics now compose 13 percent of the total U.S. population, and this number is growing quickly. As new Latino communities emerge, many of them will be forced to confront the health effects caused by pollution from power plants. The activism in Chicago is not unique. Many communities are beginning to mobilize against the threat toxic emitting power plants have to their livelihood and, in the future, many more are likely to join the fight.

Case Study

The Urban Forest of the New Millennium

Hispanics Preserving the "Lungs of San Juan"[89]

by Dr. Cecilio Ortiz-García

Assistant Professor at University of Texas-Permian Basin, Odessa, Texas.

"The day will arrive in which the politicians will do the just thing for our people out of political necessity."

— César Chávez

"La tierra de Borínquen donde he nacido yo, es un jardin florido de mágico primor. Un cielo siempre nítido le sirve de docel, y dan arrullos plácidos las olas a sus pies…"

— "La Borinqueña,"
M. Fernandez Juncos

The words of César Chávez show the realistic understanding of the "political rationality" that many times dominates the decision-making framework of our institutions of government under a pluralistic liberal democracy. Alternatively, the lyrics of Puerto Rico's "national anthem" present us with an exemplary metaphor to symbolize what the relationship between public administration and the "island" ecological environment should be. The words in Fernandez Juncos' version of "La Borinqueña," speak about an island characterized by "gardens" of magical beauty, set upon a background of clear blue skies and cradled by the placid lullaby of the deep blue seas surrounding her. Politicians, public administrators and particularly those involved in environmental policymaking; as operating arms of the state, and guardians of the public interest, have a particular duty to act as stewards of the environment. In particular reference to the above captioned lyrics, Puerto Rican public administrators dealing with environmental policy in the island need to act as "gardeners" of the alluded "garden of magical beauty"; always vigilant of the invading forces that might threaten its livelihood and survival.

But what happens when the same institution entrusted with protection of this garden are consistently found to be its worst enemy? Such is the case in Puerto Rico where according to the EPA Toxic Releases Inventory for the year 2000, four of the top five facilities in Puerto Rico with the highest amount of chemical releases into the

Case Study (cont.)

local environment were all power generation plants operated by the Puerto Rico Electric Power Authority (PREPA). The EPA suggests that that year as much as 10.4 million pounds of toxic releases could be attributed to PREPA's power generating plants. Puerto Rico's programs of economic development, which at one time afforded the island accolades as "America's Showcase in the Caribbean" for most of the '50's and '60's with Operation Bootstrap, continue to demand the need for major infrastructure investments that are now tolling a hefty price on the island's environment. This put public administrators and policymakers dealing with environmental protection on the island in the precarious position of having to face the quintessential environment vs. development paradox.

These infrastructure investments started to threaten the very life of the last forest areas inside the city of San Juan. Lately, there has been an emphasis on the importance urban vegetation can have directly and indirectly on local air quality. From temperature reduction to removal of air pollutants and the reduction building energy use, thus reducing emissions from power plants are some of the natural benefits of urban forests in metropolitan areas such as the city of San Juan. A 400-acre wooded area adjoining the University of Puerto Rico's Botanical Gardens became the target for destruction of an infrastructure project in the island. The Department of Transportation and Public Works eyed part of the forest for a section of Route 66 between the towns of Rio Piedras and Rio Grande. In addition, 17 construction permits had been issued by the planning board for sites within the forest's perimeters. The forest became the center of a debate between Senate President Charlie Rodriguez and Governor Pedro Rosello, who have different ideas about how the land should be used. A bill co-authored by Rodriguez designated the area for conservation as the Urban Forest of the New Millennium but was effectively killed by Rosello describing it as "having deficiencies."

An unlikely mixture of policy actors came to the rescue of the "lungs of San Juan." Professor Jose Molinelli, Department Chair of Environmental Sciences at the University of Puerto Rico, became the forest's staunchest supporter. Before the conservation bill was re-written, Molinelli made his case to legislators using aerial photographs, maps and hydrological charts that outline the forest's perimeters and the encroaching developments that surround it. He took over the media in educating the public about the natural air filtering effects of the forest and many of its other attributes. Furthermore, he joined forces with the U.S. Forest Service to develop a tree inventory of the forest. By utilizing his students in collaboration with Forest Service personnel, the university professor played a leading role in the development of scientific evidence about the ecological importance of the forest, and gained political momentum to present that evidence to the governor.

Ultimately politicians did what they did because it was politically expedient to do so, echoing the words of César Chávez captioned at the beginning of this segment. Puerto Rican civil society showed the potential of becoming an effective policy entrepreneur in the area of environmental protection by coming to the rescue of the urban forest. By developing linkages with intermediary sectors of society such as academia, these groups are opening their own space for effective policymaking increasing their level of protest and contestation against state projects considered harmful to the "garden" so emulated by Fernandez Juncos, and precious to all Puerto Ricans.

A National Solution to Power Plant Pollution

As this report has shown, air pollution from power plants and other sources imposes a serious public health and environmental burden on the Latino community and society at large. The nation's clean air laws have succeeded in reducing air pollution over the last few decades, but much more must be done.

Early in 2002, President Bush announced his version of a power plant clean-up plan called the "Clear Skies Initiative." This proposal, unfortunately, offers too little, too late. The "streamlining" of the existing Clean Air Act under this plan would result in more pollution being emitted than the Clean Air Act currently allows. In addition to weakening or eliminating portions of the Clean Air Act, the President's plan would delay pollution reductions by up to a decade from when they would occur if the Clean Air Act were simply enforced as written. Unlike other proposed plans to cleanup power plants, the Bush plan also fails to address emissions of carbon dioxide.

Enforce the Law, Don't Weaken It

Because the President's air pollution plan has garnered little support in Congress, the Administration is now seeking to implement "Clear Skies" through the regulatory process, essentially bypassing Congress. The Administration has:

- Finalized regulations which allow old, dirty power plants to avoid installing modern pollution controls when making life-prolonging modifications;

- Proposed weak regulations that would delay and dilute much needed reductions in toxic mercury pollution; and

- Proposed regulations governing transported air pollution that contain unnecessary delays and weak emission standards.

Each action is a rollback of the Clean Air Act.

First Step Backward: The Bush administration allows old, dirty power plants to stay dirty

On New Years Eve 2002 and Labor Day 2003, the Bush administration finalized two sets of regulations that essentially made obsolete a key provision of the Clean Air Act known as New Source Review. New Source Review is a provision designed to protect the health and welfare of local communities surrounding nearly 17,000 industrial facilities throughout the country, including power plants. These provisions kick in whenever industrial facilities make major modifications that substantially increase pollution, requiring installation of modern pollution controls.

When Congress passed the Clean Air Act more than 30 years ago, it gave existing facilities a "grandfather" exemption. This loophole allows older facilities to avoid modern pollution control standards on the theory that the old plants will "retire" and be replaced by new cleaner technologies. If the plants do not retire but remain in operation, they are required to install modern pollution equipment if they change or upgrade the plant in any way that significantly increases emissions. Consequently, the New Source Review pro-

gram is the primary backstop against disaster for many communities that face an unrelenting increase in toxic emissions.

The Bush administration's attempt to dramatically weaken this critical component of the Clean Air Act suffered a major setback recently when the U.S. Court of Appeals ruled that power plants and other industrial polluters cannot take advantage of these new regulatory loopholes. The court will continue to stay the effect of the loopholes pending litigation over its legality.

Second Step Backward: Mercury safeguards are delayed for more than a decade

The Bush administration also issued a mercury proposal that sets aside more than a decade of work to curb toxic mercury emissions from the largest unregulated source of mercury pollution, the electric power industry. In amending the Clean Air Act in 1990, Congress included mercury on a list of 188 hazardous air pollutants (HAPs) for which EPA was to identify sources and impose the most stringent control standards possible, known as Maximum Achievable Control Technology (MACT) standards.

In order to justify such stringent controls, EPA was required to undertake two studies of mercury emissions and other HAPs from power plants before deciding whether to impose MACT standards. After lengthy delay, EPA submitted the required reports to Congress in 1997 and 1998, and, on December 20, 2000, issued a formal finding that regulation of mercury from utilities is appropriate and necessary, thereby setting into motion the development of strong mercury standards.

However, in the summer of 2003, the Bush administration abandoned the consensus building process that EPA had set up to design the mercury regulations. Instead, the Administration began developing proposals that mirrored the President's Clear Skies proposal. The proposed regulations put forth in December 2003 allow for more than 600 percent more mercury pollution for the next decade than what EPA said was possible just two years ago.[88]

Third Step Backward: Lenient fine particulate rule means Americans will breathe unhealthy air for years to come

Finally, the Bush administration has proposed regulations dealing with fine particle pollution that fall far short of what is necessary to both protect public health and the environment. The reductions announced in EPA's fine particle transport rule also known as the CAIR proposal, are virtually identical to those envisioned in the President's air pollution initiative. EPA promises a six million ton reduction in sulfur dioxide, leaving unabated more than 3.2 million tons per year of emissions in the eastern U.S. This is in contrast to EPA's original Clear Skies "Straw proposal," which allowed only two million tons of sulfur dioxide to be emitted in the entire nation (At the request of the White House in 2001, EPA began to develop three-pollutant legislation that would couple nationwide caps on nitrogen oxides, sulfur dioxide, and mercury with the repeal most of the Clean Air Act requirements relating to power plant emissions). The Straw proposal would have coupled nationwide caps on nitrogen oxides, sulfur dioxide, and mercury with the repeal of all or most of the Clean Air Act requirements relating to power plant emissions. The additional sulfur dioxide will, by 2020, lead to an additional 4,000 avoidable deaths per year, and $34 billion per year in avoidable health damages.[89]

The Federal Environmental Policy Framework for Environmental Justice

As previously mentioned in this report, in 1994, President Clinton issued Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-income

Populations," to ensure such populations are not subjected to a disproportionately high level of environmental risk. In 1995, the EPA promulgated its Environmental Justice Strategy delineating the agency's EJ program. Executive Order 12898 and the EPA's Environmental Justice Implementation strategy have formally recognized EJ as a legitimate public issue and pushed it onto the federal government's agenda.

The Executive Order focuses federal agencies attention on the environmental and human health conditions in minority and low-income populations with the goal of achieving environmental justice. However, an evaluation report by the Office of Inspector General (OIG) found the EPA has not fully implemented Executive Order 12898 nor consistently integrated environmental justice into its day-to-day operations.

The EPA has not identified minority and low-income, nor identified populations addressed in the Executive Order, and has neither defined nor developed criteria for determining disproportionately impacted communities. Moreover, in 2001, the Agency restated its commitment to environmental justice in a manner that does not emphasize minority and low-income populations, contrary to the intent of the Executive Order.

The EPA responded to the OIG's report by stating that it does not take into account the inclusion of the minority and low-income population because it is attempting to provide environmental justice for everyone. However, the OIG reminded the EPA that while providing adequate environmental justice to the entire population is commendable, doing so had already been EPA's mission prior to implementation of the Executive Order and it was not the intent of the Executive Order to simply reiterate that mission.

The OIG further found that although the Agency has been actively involved in implementing Executive Order 12898 for ten years, it "has not developed a clear vision or a comprehensive strategic plan, and has not established values, goals, expectations, and performance measurements." In the absence of environmental justice definitions, criteria, or standards from the Agency, many regional and program offices have taken steps, individually, to implement environmental justice policies. This has resulted in inconsistent approaches by the regional offices. Thus, the OIG found that "the implementation of environmental justice actions is dependent not only on minority and income status but on the EPA region in which the person resides." In fact, the OIG's comparison of how environmental justice protocols used by three different regions would apply to the same city showed a wide disparity in protected populations.

The OIG concluded that the Agency is bound by the requirements of Executive Order 12898 and does not have the authority to reinterpret the order. The OIG recommended that EPA should affirm that Executive Order 12898 applies specifically to minority and low-income populations that are disproportionately impacted. The OIG found that after ten years, there is an urgent need for the Agency to standardize environmental justice definitions, goals, and measurements for the consistent implementation and integration of environmental justice at EPA.[90]

Despite this spotty policy picture, it's important to note that simply because groups are vulnerable does not mean they have remained passive or inactive. Several policy actors within civil society pursuing EJ concerns have emerged as significant stakeholders in these heavily contested policy arenas. Against considerable odds these community-based, non-governmental organizations continue to contest state and private actions threatening the environment "in their backyard." In majority-minority communities such as the U.S./Mexico border and Puerto Rico, grassroots organizations have skillfully utilized identity politics to rack up

Air of Injustice Report	Executive Order Language
• The air in Latino communities violates air quality standards. Hispanics make up 13 percent of the U.S. population, yet in 2002 more than seven out of ten Hispanics (71 percent) lived in counties that violated federal air pollution standards for one or more pollutants. That's compared to 58 percent of the white population. • Nearly every power plant has Latino neighbors. Thirty-nine percent of the Latino population lives within 30 miles of a power plant – the distance within which the maximum effects of SO2 from the smokestack plume are expected to occur. • More than 20 percent of Hispanics (including 30 percent of Latino children) are living in poverty.	1–101. Agency Responsibilities. Each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Marian islands.
• Exposure to multiple environmental threats. Occupational exposure to chemicals, indoor air pollution and contaminated drinking water put the Latino community at risk, making Hispanics overall more susceptible to health risks. The incidence of asthma in children of Latino mothers is two-and-a-half times that of non-Latino white children. In New York City, Latinos and African Americans are more adversely affected by air pollution as measured by the number of persons per day admitted to the hospital when ozone levels were high. The rate of hospitalization for these groups was twice that of whites over the time period studied.	1–103. Development of Agency Strategies. (a) Each Federal agency shall develop an agency-wide environmental justice strategy whenever practicable and appropriate, that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. [T]hat should be revised to, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations:
• The Hispanic community is essentially excluded from federal research and data collection activities. The methods used to collect the information do not adequately sample Latino subgroups. The methods used to collect the data neither require the identification of different ethnic groups, nor collect enough data on Hispanics so that the information can be broken out into different ethnic subgroups. According to the General Accounting Office, no existing database currently provides accurate, complete and available information on the entire Latino population, including subgroups, residing in the U.S.	Sec. 3 -3. Research, Data Collection, and Analysis 3–301. (a) Environmental human health research... shall include diverse segments of the population in epidemiological and clinical studies, including segments at high risk from environmental hazards, such as minority populations, low-income populations and workers who may be exposed to, substantial environmental hazards. 3–302. (a) each federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. (b)... each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action.
• Latino families love to go fishing. 1.3 million Hispanics nationwide actively participate in fishing as a recreational, social, or family activity In a number of studies it has been shown that Latino sport and commercial anglers catch a variety of sport-fish and consume fish more frequently than white consumers.[93]	Sec. 4–4. Subsistence Consumption Of Fish And Wildlife. 4–401. Consumption Patterns. Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence.
Lack of information. However, much of the Latino community is unaware that invisible toxic chemicals, such as mercury, PCBs and pesticides, might be present in the water that they fish in, or even in the fish that they eat. Also, advisories are usually written in English, which Spanish-speaking anglers may not be able to translate. Thus, Latino anglers and their families may unknowingly consume contaminated fish. Studies have shown that Hispanics and other minorities are less likely than whites to be aware of fish consumption advisories.	4–402. Guidance. Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or wildlife. Agencies shall consider such guidance in developing their policies and rules. Sec. 5–5. Public Participation and Access to Information (b) Each Federal agency may, whenever practicable and appropriate, translate crucial public documents, notices, and hearings relating to human health or the environment for limited English speaking populations. (c) Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public.

some victories in recent years. Despite this, the highly technical and scientific nature of environmental issues consistently requires experts to legitimize community action from a scientific standpoint. It is in this light that the participation of multiple coalitions of policy actors such as academics, activists, and environmental policy issue networks becomes pivotal in winning EJ battles. The environmental future of these shifting borders, and the Hispanic/Latino communities that are making these states home, will depend in no small part on the effectiveness of environmental justice programs and policies that can provide healthy environments for these communities.

Air Pollution, Hispanics and Executive Order 12898

As illustrated opposite, the findings in this report should trigger an investigation by the EPA as mandated by E.O. 12898, as the language in E.O. 12898 clearly mandates the EPA take action to achieve environmental justice for low-income and minority populations.

Recommendations

Together, we in the Latino community should challenge our policymakers, media in both Spanish and English, and elected officials that serve us to recognize the significance of air pollution from power plants and other sources, the harm it is having on the health of our families, and to stand up and demand action to reduce air pollution.

This report demonstrates that, as a community, we must call upon our leaders to do the following:

• Strict implementation of clean air laws. Aggressive enforcement is essential to protect our communities. Power plants and other pollution sources must be required to reduce their

smog- and soot-forming pollution to enable communities to meet national air quality standards as quickly as possible. In addition, EPA must require all power plants to reduce their mercury emissions to the maximum extent possible using the latest technology by 2008 as required by current law.

• Close the Clean Air Act's 30 year-old loophole for old, dirty power plants and require all coal-fired power plants, both new and old, to comply with modern emission control standards.

• For the future economic and public health of our community, the government must take steps to address the threat of global warming by requiring power plants to reduce their carbon dioxide pollution.

• Hispanics must be included in health research that provides the basis for critical national data systems.

• The EPA must develop a comprehensive strategic plan, ensure appropriate training is provided, clearly define the mission of the Office of Environmental Justice, determine if adequate resources are being applied to environmental justice, and develop a systematic approach to gathering information related to environmental justice.

ENDNOTES

1. The terms Latino and Hispanic are used interchangeably throughout this report. As defined by the U.S. Census, origin can be viewed as the heritage, nationality group, lineage, or country of birth of a person or a person's parents or ancestors before their arrival to the United States. People who identify their origin as Spanish, Hispanic, or Latino may be of any race.
2. American Lung Association, *State of the Air: 2004,* May 2004.
3. U.S. EPA Green Book http://www.epa.gov/oar/oaqps/gbook/ Data compiled by MSB Energy Associates.
4. U.S. Census, 2000. Estimated using 1990 racial fractions and 2000 census. Data compiled by MSB Energy Associates.
5. The Robert Wood Foundation, 2003. Going without health insurance: nearly one in three non-elderly Americans. Prepared by Families USA for Cover the Uninsured Week. March.
6. http://federalaid.fws.gov/surveys/surveys.html
7. http://www.ejcc.org/releases/020128fact.html
8. Miller, A. and P. Brown, 2000. A fair climate for all. Redefining Progress, Oakland, California.
9. Noji, E., 1997. The nature of disaster: general characteristics and public health effects. In: Noji. E. ed. The Public Health Consequences of Disasters. New York, NY: Oxford University press, 1997:3–20 as cited in Patz, J.A. and K. Mahmooda, 2002. Global climate change and human health: challenges for future practitioners. JAMA, May 1, 2002 287 (17) p.2283.
10. Tesh, Sylvia N. and Williams, Bruce A. (1996); "Identity Politics, Disinterested Politics and Environmental Justice"; Polity, volume XVIII, number 3
11. See David E. Camacho, Editor, "Environmental Injustices, Political Struggles: Race Class and the Environment." Duke University Press; 1998 and Cole, Luke W. and Foster Sheila R., "From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement." New York University Press; 2001
12. See Romero, Mary "The Death of Smeltertown," in Bixler-Márquez, Ortega, Solorzano Torres, and La Farelle (1999) "Chicano Studies: Survey and Analysis", Revised Printing, 1999
13. See Concepcion, Carmen M., "Environmental Policy and Industrialization: The Politics of Regulation in Puerto Rico". Ph.D. diss., University of California, Berkeley, 1990 and "Industrial development, pollution and public health: A historical examination of environmental struggles in Cataño, Puerto Rico," (2004) Paper to be presented at the Public Health and the Environment Conference, Washington D.C., American Public Health Association
14. Suro, Roberto, (1998) Strangers Among Us: Latino Lives in a Changing America, Vintage Books, New York
15. Zurita, Martha (2004) "Latino Population in Illinois and Metropolitan Chicago: Young and Growing Fast"*;* Latino Research @ ND, volume 1, number 1, University of Notre Dame
16. Ibid.
17. Ibid.
18. Ibid.
19. "A Demographic and Health Snapshot of the U.S./Latino Population," (2002), Department of Health and Human Services, Centers for Disease Control and Prevention, Washington D.C.
20. Metzger, R. Delgado, J.L., Herrel, R., 1994. Environmental health and Hispanic children. Presented at the symposium on Preventing Child Exposures to Environmental Hazards: Research and Policy Issues. March 18–19, Washington D.C.
21. Metzger, R. Delgado, J.L., Herrel, R., 1994. Environmental health and Hispanic children. Presented at the symposium on Preventing Child Exposures to Environmental Hazards: Research and Policy Issues. March 18–19, Washington D.C.
22. Metzger, R. Delgado, J.L., Herrel, R., 1994. Environmental health and Hispanic children. Presented at the symposium on Preventing Child Exposures to Environmental Hazards: Research and Policy Issues. March 18–19, Washington D.C.
23. The Robert Wood Foundation, 2003. Going without health insurance: nearly one in three non-elderly Americans. Prepared by Families USA for Cover the Uninsured Week. March.
24. The Robert Wood Foundation, 2003. Going without health insurance: nearly one in three non-elderly Americans. Prepared by Families USA for Cover the Uninsured Week. March.
25. Therrien, M. and R. Ramirez, 2000. The Hispanic population in the United States: March 2000. Current Population Reports, P20–535, U.S. Census Bureau, Washington D.C.
26. American Lung Association, *State of the Air: 2004,* May 2004.
27. U.S. EPA Green Book
http://www.epa.gov/oar/oaqps/gbook/ Data compiled by MSB Energy Associates.
28. U.S. Census, 2002 and U.S. EPA Green Book
http://www.epa.gov/oar/oaqps/gbook/ Data compiled by MSB Energy Associates.
29. U.S. Census, 2002 and August 2003 U.S. EPA Green Book
http://www.epa.gov/oar/oaqps/gbook/ Data compiled by MSB Energy Associates.
30. Rob McConnell et al, "Asthma in Exercising Children Exposed to Ozone: A Cohort Study," Lancet, 359, 386–391, 2 February 2002.
31. Centers for Disease Control and Prevention, National Center for Environmental Health, Asthma's Impact on Children and Adolescents,
www.cdc.gov/nceh/airpollution/astham/children.htm.
32. Rubin, R.W.,2000. Lovelace Respiratory Research Institute Examines High Rate of Respiratory Illnesses in Hispanics.
http://www.naaonline.org/Newsletter/general%20interest.htm
33. Woodruff, T. J., Parker, J.D., Kyle, A. D., and K. Schoendorf, 2003. Disparities in Exposure to Air Pollution During Pregnancy. 111 Environmental Health Perspectives 7. June.
34. Rubin, R.W., 2000. Lovelace Respiratory Research Institute Examines High Rate of Respiratory Illnesses in Hispanics.
http://www.naaonline.org/Newsletter/general%20interest.htm
35. Whitman, S., C. Williams, Shah Ami M. Sinai Health System's Community Health Survey: Report 1. Chicago, Illinois: Sinai Health System, 2004.
http://www.sinaiorg/urban/originalresearch/rwj/index.asp
36. Rubin, R.W., 2000. Lovelace Respiratory Research

Institute Examines High Rate of Respiratory Illnesses in Hispanics. http://www.naaonline.org/Newsletter/general%20interest.htm
37. Rubin, R.W., 2000. Lovelace Respiratory Research Institute Examines High Rate of Respiratory Illnesses in Hispanics. http://www.naaonline.org/Newsletter/general%20interest.htm
38. Thurston, G.D. and Ito, K. 1999. Epidemiological studies of ozone exposure effects. *In Air Pollution and Health,* Stephen T. Holgate et. al., Ed., Academic Press, London.
39. Burnett, R., et. al. 2001. Association between ozone and hospitalization for acute respiratory diseases in children less than 2 years of age. American Journal of Epidemiology, vol. 153, no. 5, p. 444–452.
40. Mortimer, K.M., Tager, I.B., Dockery, D.W. Neas, L.M., Redline S. 2000. The effect of ozone on inner city children with asthma. Identification of susceptible subgroups. American Journal of Respiratory and Critical Care Medicine, vol. 162, p. 1838–1845.
41. The average ozone daily level during the study was 48 ppb.
42. Mortimer, K.M., Tager, I.B., Dockery, D.W. Neas, L.M., Redline S. 2000. The effect of ozone on inner city children with asthma. Identification of susceptible subgroups. American Journal of Respiratory and Critical Care Medicine, vol. 162, page 1843.
43. Thurston, G.D. and Ito, K. 1999. Epidemiological studies of ozone exposure effects. IN Air Pollution and Health, Stephen T. Holgate et. al., Ed., Academic Press, London
44. Loomis, D., Castillejos, M., Gold, D., McDonnell, W. and Borja-Aburto, V.1999. Air pollution and infant mortality in Mexico City. Epidemiology. vol. 10, no. 2, p. 118–123.
45. Gauderman, W.J., McConnell, R., Gilliland, F., London, S., Thomas, D., Avol, E., Vora, H., Berhane, K., Rappaport, E., Lurmann, F., Margolis, H.G., and Peters, J. 2000. Association between air pollution and lung function growth in Southern California children. American Journal of Respiratory and Critical Care Medicine, vol. 162, no. 4, pp. 1–8.
46. Avol, E.L., Guaderman, W.J., Tan S.M., London, S.J., and Peters, J.M. (2001). Respiratory effects of relocating to areas of differing air pollution levels. American Journal of Respiratory and Critical Care Medicine v. 164 p. 2067–2072.
47. U.S. EPA, 2001. National air quality and emissions trends report, 1999. EPA/454/R01–004, March 2001. http://www.epa.gov/airtrends/
48. U.S. EPA, 2001. National air quality and emissions trends report, 1999. EPA/454/R01–004, March 2001. http://www.epa.gov/airtrends/
49. U.S. EPA, Office of Air Quality Planning and Standards. 1999 National Emissions Inventory for Hazardous Air Pollutants. http://www.wpa.gov/ttn/chief/net/1999inventory.html#fian13haps.
50. U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. EPA/453/R-98–004a.
51. National Environmental Trust (NET), et al. 2000. Polluting Our Future: Chemical Pollution in the U.S. that Affects Child Development and Learning. September. www.environet.org
52. U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. 453/R-98–004a.
53. National Environmental Trust (NET), et al. 2000. Polluting Our Future: Chemical Pollution in the U.S. that Affects Child Development and Learning. September. www.environet.org
54. From EPA Emissions of Greenhouse Gases. Data compiled by MSB Energy Associates.
55. National Research Council, 2001. Climate change science. National Academy Press, Washington D.C. ISBN 0–309–07574–2
56. http://federalaid.fws.gov/surveys/surveys.html
57. Minority Boater and Anglers: Attitudes and Participation in Fishing, Boating and Resource Stewardship. Prepared for the Recreational Boating and Fishing Foundation. January 2002. Roper number; CNT547.
58. U.S. EPA, Office of Air Quality Planning and Standards. 1999 National Emissions Inventory for Hazardous Air Pollutants. http://www.wpa.gov/ttn/chief/net/1999inventory.html#fian13haps.
59. U.S. EPA, 1998. Study of hazardous air pollutant emissions from electric utility steam generating units – final report to Congress. February. 453/R-98–004a.
60. http://www.epa.gov/ost/fish
61. FDA Consumer Advisory for Pregnant Women and Women of Childbearing Age who may become Pregnant about the Risks of Mercury in Fish. March 2001. http://www.cfsan.fda.gov/~dms/qa-pes1.html
62. What you need to know about mercury in fish and shellfish. Food and Drug Administration, March 19, 2004. http://www.cfsan.fda.gov/~dms/admehg3.html
63. Beehler, G.P., McGuinness, B.M., Vena, J.E., 2003. Characterizing Latino anglers' environmental risk perceptions, sport fish consumption and advisory awareness. Medical Anthropology Quarterly 17(1)99–116.
64. West, P.C. et al., 1992. Minority Anglers and Toxic Fish Consumption: Evidence from a Statewide Survey of Michigan. In Race and the Incidence of Environmental Hazards: A Time for Discourse. Bunyan Bryant and Paul Mohai, eds. Pp. 100–113. Boulder:Westview Press *as cited in* Beehler, G.P., McGuinness, B.M., Vena, J.E., 2003. Characterizing Latino anglers' environmental risk perceptions, sport fish consumption and advisory awareness. Medical Anthropology Quarterly 17(1)99–116.
65. Beehler, G.P., McGuinness, B.M., Vena, J.E., 2003. Characterizing Latino anglers' environmental risk perceptions, sport fish consumption and advisory awareness. Medical Anthropology Quarterly 17(1)99–116.
66. Beehler, G.P., McGuinness, B.M., Vena, J.E., 2003. Characterizing Latino anglers' environmental risk perceptions, sport fish consumption and advisory awareness. Medical Anthropology Quarterly 17(1)99–116.
67. National Academy Press, 2000. Toxicological Effects of Methylmercury. Washington, D.C.
68. U.S. EPA, 1997b. Mercury Study Report to Congress, Volume VII: Characterization of Human and Wildlife Risks from Mercury Exposure in the United States. EPA-452/R-97–009

69. http://www.ejcc.org/releases/020128fact.html
70. Miller, A. and P. Brown, 2000. A fair climate for all. Redefining Progress, Oakland, California.
71. EPA states that "In much of the nation, a warming of 4 degrees (F) could increase ozone concentrations by about 5 percent." http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ImpactsHealth.html
72. McMichael, A.J. et al., 1996. Climate change and human health: an assessment prepared by a task group on behalf of the World Health Organization, the World Meteorological Organization and the United Nations Environment Programme. Geneva, Switzerland *as cited in* Patz, J.A. and K. Mahmooda, 2002. Global climate change and human health: challenges for future practitioners. JAMA, May 1, 2002 287 (17) p.2283.
73. Reuters, 2003, Alister Doyle. Thousands dying yearly from global warming. September 30, 2003.
74. Noji, E., 1997. The nature of disaster: general characteristics and public health effects. In: Noji. E. ed. The Public Health Consequences of Disasters. New York, NY: Oxford University press, 1997:3–20 as cited in Patz, J.A. and K. Mahmooda, 2002. Global climate change and human health: challenges for future practitioners. JAMA, May 1, 2002 287 (17) p.2283.
75. National Council of La Raza, Census Information Center. Hispanic Poverty Fact Sheet. November 2000.
76. IPCC. 2001. Climate Change 2001: Impacts, adaptation and vulnerability; Summary for Policymakers. http://www.ipcc.ch/pub/wg2SPMfinal.pdf
77. U.S. EPA. 2001. Global warming impacts summary . http://www.epa.gov/globalwarming/impacts/health/index.html
78. The Robert Wood Foundation, 2003. Going without health insurance: nearly one in three non-elderly Americans. Prepared by Families USA for Cover the Uninsured Week. March.
79. Doty, M.M., 2003. Hispanic patients' double burden: lack of health insurance and limited English. The Commonwealth Fund. February.
80. Intergovernmental Panel on Climate Change, 1998. The Regional Impacts of Climate Change. http://www.grida.no/climate/ipcc/regional/index.htm
81. Staudt, Kathleen and Coronado, Irasema (2004) "Fronteras No Más: Towards Social Justice at the U.S.-Mexico Border", Palgrave/Macmillan, New York
82. Staudt, Kathleen and Coronado, Irasema (2004) "Fronteras No Más: Towards Social Justice at the U.S.-Mexico Border", Palgrave/Macmillan, New York
83. Ibid.
84. North American Institute, "Managing Air Quality In The Paso del Norte Region", by Peter M. Emerson, Carlos F. Angulo, Christine L. Shaver, and Carlos A. Rincon (Santa Fe, New Mexico, October 1, 1996), p. 13.
85. Lydersen, Kari, "Something in the Air" from the Reader, March 28, 2003.
86. Harvard School of Public Health "Estimated Public Health Impacts of Criteria Pollutant Air Emissions from Nine Fossil Fueled Power Plants in Illinois" December 2000. As summarized in Risk in Perspective, April 2001.
87. Lydersen, Kari, "Something in the Air" from the Reader, March 28, 2003
88. U.S. EPA presentation to Edison Electric Institute. December 4, 2001.
89. Clear the Air, 2004. "Dirty Air, Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants.
90. Office of Inspector General Evaluation Report "EPA Needs to Consistently Implement the Intent of the Executive Order on Environmental Justice." March 1, 2004.

LULAC – A Proud History

Founded in 1928, LULAC is the oldest Latino civil rights organization. Over the last 70 years, LULAC has continued to grow and work hard to bring about many of the positive social, economic and political changes that Hispanic Americans enjoy today. No other Hispanic civil rights organization, with an all volunteer membership base can match LULAC's record of achievements and services to Hispanic Americans.

Today, LULAC represents not only Mexicans Americans from the Southwest, it also represents Hispanics in most of the United States, including Puerto Rico and Guam. Membership has expanded to include all men and women of Hispanic origin.

LULAC is the cornerstone of some of the most successful Hispanic national organizations. LULAC formed The American GI Forum (AGIF) to address the rights of Hispanic veterans. The Mexican American Legal Defense and Education Fund (MALDEF) as the legal arm of the Hispanic community. SER - Jobs for Progress, Inc., has trained, and retrained, and found jobs for thousands of Hispanic Americans. In addition, LULAC has developed thousands of low income housing units through the Southwest.

LULAC has become an important influence in national policy making with a permanent national office in Washington, D. C. While the many successes of LULAC should be celebrated, its work is far from over.

LULAC continues to work for the betterment of Hispanic Americans. It continues to fight discrimination, poverty, educational inequalities, disparities in political representation, the Hispanic student high dropout rate, immigration issues, language issues, Hispanic health issues, etc. LULAC will forever address those issues that impact the lives and future of all Hispanic Americans. It will continue to work to assure that future Hispanic American generations receive all the constitutional rights inherit by them as citizens of the United States of North America.

LULAC has fought for voting rights and full access to the political process, and equal educational opportunity for Hispanic children. The struggle has been long and difficult, but LULAC's record of activism continues to this day. LULAC councils across the nation continue to hold voter registration drives and citizenship awareness sessions, sponsor health fairs and tutorial programs, and raise scholarship money for the LULAC National Scholarship Fund. This fund, in conjunction with the LNESC (LULAC National Educational Service Centers), has assisted almost 10 percent of the 2.1 million students who have gone to college.

People of Color in Non-Attainment Counties

State	Number of Non-Attainment Counties	Total County Population '2000	Number of People of Color in County	Percent of County Population Represented by People of Color
Alabama	15	2,439,402	803,099	32.9%
Alaska	3	373,834	98,417	26.3%
Arizona	9	4,626,698	1,075,781	23.3%
Arkansas	6	565,891	192,579	34.0%
California	40	32,384,107	13,305,455	41.1%
Colorado	11	2,711,007	495,915	18.3%
Connecticut	8	3,405,565	625,210	18.4%
Delaware	3	783,600	198,827	25.4%
District of Columbia	1	572,059	395,958	69.2%
Florida	3	2,214,840	459,818	20.8%
Georgia	25	4,978,671	1,997,097	40.1%
Idaho	5	434,613	31,112	7.2%
Illinois	14	9,046,248	2,984,149	33.0%
Indiana	20	3,530,044	639,272	18.1%
Kentucky	25	2,186,904	295,877	13.5%
Louisiana	15	2,072,037	688,378	33.2%
Maine	8	833,500	25,680	3.1%
Maryland	14	4,723,384	1,806,464	38.2%
Massachusetts	14	6,349,097	981,811	15.5%
Michigan	10	3,983,381	1,248,573	31.3%
Minnesota	2	635,312	127,651	20.1%
Mississippi	12	1,075,750	399,175	37.1%
Missouri	10	2,240,352	474,858	21.2%
Montana	10	535,258	42,076	7.9%
Nebraska	1	463,585	88,268	19.0%
Nevada	5	1,818,148	469,787	25.8%
New Hampshire	5	980,483	41,888	4.3%
New Jersey	21	8,414,350	2,309,645	27.4%
New Mexico	2	205,684	63,747	31.0%
New York	23	15,042,311	5,673,608	37.7%
North Carolina	32	4,740,467	1,390,963	29.3%
Ohio	31	8,573,528	1,578,119	18.4%

Oklahoma	1	563,299	140,718	25.0%
Oregon	8	1,022,895	119,255	11.7%
Pennsylvania	42	10,688,789	1,732,006	16.2%
Rhode Island	5	1,048,319	157,128	15.0%
South Carolina	16	2,114,486	575,905	27.2%
Tennessee	20	3,600,926	951,932	26.4%
Texas	22	12,937,649	4,352,344	33.6%
Utah	4	1,504,191	179,468	11.9%
Virginia	24	3,224,802	983,295	30.5%
Washington	3	695,700	120,680	17.3%
West Virginia	9	636,261	39,894	6.3%
Wisconsin	13	2,434,992	429,951	17.7%
Wyoming	1	26,560	1,095	4.1%

People of Color includes the U.S. census groups: African Americans, American Indian/Alaskan Native, Asian, Hawaiian/Pacific Islander and Other Non-attainment means the county exceeds federal air pollution standards for 1 or more of the following pollutants: Lead, Carbon Monoxide, Sulfur dioxide, Particulate Matter (PM10), 1-hour ozone standard, PM 2.5 and 8-hour ozone standard and PM 2.5. The 8-hour ozone and PM 2.5 non-attainment areas are potential areas based on 1999-2000 monitoring data. Three years of monitoring data are needed for a formal attainment determination.