

Blueprint for Breathing Easier



SOUTHEAST ENERGY STRATEGY FOR CLEAN AIR

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Our mission

Environmental Defense is dedicated to protecting the environmental rights of all people, including the right to clean air, clean water, healthy food and flourishing ecosystems. Guided by science, we work to create practical solutions that win lasting political, economic and social support because they are nonpartisan, cost-effective and fair.

Southern Alliance for Clean Energy Education Fund, through the involvement of citizens in the Southeast, works to ensure cleaner air, promote clean energy technologies, and advocate for sustainable energy policies that will protect our environment and human health.

Southern Environmental Law Center is a regional nonprofit organization working through legal advocacy and partnerships with more than 100 other organizations to protect and restore the quality of the land, air and water of the Southeast for future generations.

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Executive summary

Air quality in the Southeast is among the worst in the nation, threatening human health, the environment, and the long-term economic viability of this region. Many of the air pollution problems can be traced directly to electric generation, especially older, coal-fired power plants “grandfathered” out of Clean Air Act protections. As shown in the figure, electric generation generates 76% of the sulfur dioxide emissions in the Southeast, almost a third of the oxides of nitrogen and mercury, and half of the carbon dioxide, a greenhouse gas. The severity of the air quality problems in the Southeast provides this region the opportunity to lead the nation in developing an energy supply system that is reliable, economical, and environmentally superior to today’s polluting power plants.

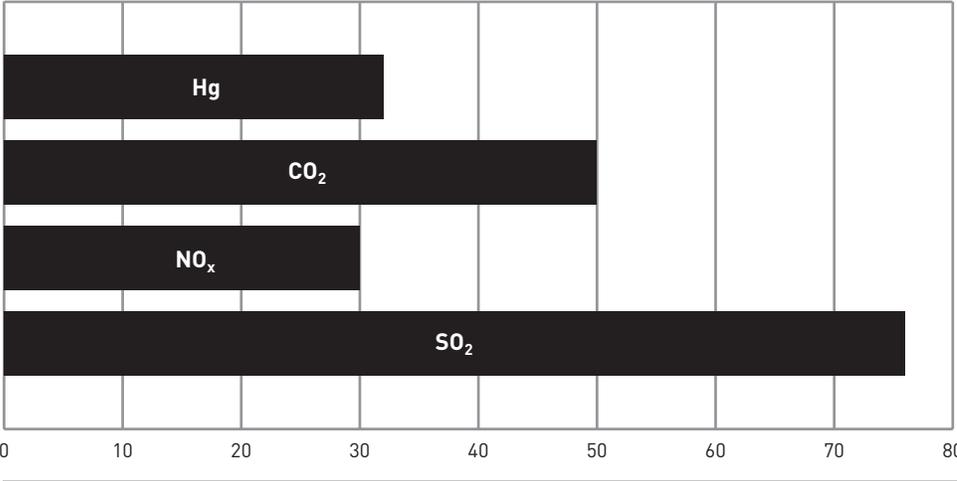
Many states in the Southeast are beginning to step up to the challenge. For example, the governors of North Carolina, Tennessee, and Georgia signed the “Southern Air Principles” on June 1, 2001, and the document was also signed by the Governor of South Carolina at a later date. The document acknowledges the need to integrate energy and air quality issues from coal-fired power plants. Other Southeastern states—Alabama, Florida, Kentucky, Mississippi, Virginia and West Virginia—also have opportunities and obligations to their citizens to integrate energy and air quality planning and policy.

Environmental Defense, the Southern Environmental Law Center, and the Southern Alliance for Clean Energy wrote this report to provide Southeastern governors, lawmakers, and regulators recommendations on the most important actions that they can take to ensure a healthy environment and cleaner energy supply.

State of air quality in the Southeast

Southeastern cities, counties, and states consistently rate poorly in terms of air quality. Emissions of sulfur dioxide (SO₂), oxides of nitrogen (NO_x), mercury (Hg),

The percent of pollutants in the Southeast attributable to electric generation



and carbon dioxide (CO₂) threaten public health, the environment, and the economic vitality of the region.

PUBLIC HEALTH

- **Particulate matter, disease, and death.** Both SO₂ and NO_x pollution react in the atmosphere to form “particulate matter,” which settles deep in the lungs, causing sickness and even death over years of exposure. This power plant pollution causes an estimated 11,000 deaths in this region annually. Nine out of 20 states with the highest mortality rates caused by particulate matter from power plants are in the Southeastern United States.
- **Smog and asthma.** NO_x emissions react in the atmosphere in the presence of sunlight to form ozone, or smog, which triggers an estimated 1.7 million asthma attacks in the Southeast each year. New evidence shows that dirty air may even cause asthma. According to American Lung Association data, over 33 million people in the Southeast live in counties with unhealthy, smoggy air.
- **Mercury and fish contamination.** Airborne mercury falls into the region’s rivers and estuaries, contaminating freshwater and saltwater fish populations, with 32% of new mercury emissions coming from electricity generation. Mercury compounds bioaccumulate in the food chain, prompting Southeastern states to issue over 250 fish advisories to limit the consumption of king mackerel, bowfin, bass, and other species. Mercury contaminated fish poses the greatest risk to fetuses. A Centers for Disease Control and Prevention study found that 10% of women of childbearing age had mercury in their blood streams above the levels that the U.S. Environmental Protection Agency (EPA) considers safe.

VISIBILITY

Air pollution haze reduces the visibility range across the Southeast, but the loss in visibility is most obvious in the mountains. Visibility in the southern Appalachian Mountains has declined by an estimated 78% from natural levels. For example, natural visibility ranges are estimated to be 113 miles on an annual average day in the Smoky Mountains, but today air pollution haze has reduced visibility to an average of 25 miles. Summertime visibility averages only 16 miles, and on many days air pollution reduces the visibility range to less than five miles. Most of the loss in visibility can be traced back to emissions from coal-fired power plants.

ECOSYSTEMS

Air pollution causes acid rain and nitrogen deposition, which make vegetation more susceptible to disease and pests, contributing to stunted growth and significant declines in populations of dogwood, spruce, fir, beech, and other tree species. The rate of acid deposition in the southern Appalachians is among the highest in the country. Acid deposition also contaminates streams, harming fish. Because of acid conditions, 6% of Virginia’s mountain streams are incapable of supporting trout or other fish populations, and 50% of the streams have a reduced capacity to host fish populations. Atmospheric nitrogen also contributes to harmful levels of nutrient loading in sensitive coastal and estuarine water systems such as the Chesapeake Bay and the Tar-Pamlico watershed. The excess nitrogen

overstimulates algae growth, which depletes oxygen levels, causing fish kills and destroying ecologically and commercially valuable plants.

GLOBAL CLIMATE CHANGE

Carbon dioxide from power plants and other sources is one of the primary heat-trapping gases that contribute to global warming. Strong scientific evidence indicates that the temperature in the Southeast will rise 4.5 to 9.5 degrees over the next 100 years. A warming planet is expected to raise the sea level by 7.5 inches on the Atlantic coast by 2030, which could completely inundate the coastline of Southeastern states. In addition, global warming is expected to increase coastal flooding, increase ground-level ozone and the number of unhealthy air days, add to the incidence of mosquito-borne diseases, lower crop yields, damage ecosystems, and possibly lead to stronger and more frequent hurricanes.

ECONOMY

Dirty air threatens the vitality of the economy in the Southeast. Power plant air pollution is estimated to cost the Southeast over \$20 billion in morbidity and mortality costs annually. Reducing haze-causing air pollution in the Great Smoky Mountains and Shenandoah National Parks from coal-burning power plants could enhance tourism and bring well over \$300 million and about 5,000 new jobs to the local economy annually. Also, air pollution reduces crop and forest yields harming the agricultural economy as well.

Recommendations

The report highlights 11 recommendations that every Southeastern state should pursue to reduce excessive energy consumption and promote cleaner energy alternatives. These 11 recommendations address both emissions standards and energy use issues such as conservation, efficiency, and renewables.

- **Recommendation #1: Multi-pollutant reductions for power plants**
Southeastern states should adopt multi-pollutant emissions standards for power plants.
- **Recommendation #2: Encourage national power plant cleanup legislation**
Southeastern governors should send a letter to President George Bush to encourage strong national four-pollutant standards for power plants.
- **Recommendation #3: Greenhouse gas registry**
Southeastern states should create a greenhouse gas registry program so that power companies can receive credit for early reductions in carbon dioxide and other greenhouse gases.
- **Recommendation #4: Evaluate new power plant development**
Southeastern states should only consider new power development proposals after a comprehensive analysis of predicted supply and demand, net environmental impacts of new generation, and efficiency opportunities.
- **Recommendation #5: Public benefits fund**
Southeastern states should create public benefits funds to raise revenue for energy efficiency, renewable energy sources, green power programs, and development of clean technologies.

- **Recommendation #6: Market transformation**

Southeastern states should support market transformation incentives to encourage the increased supply and purchase of energy efficient products and services.

- **Recommendation #7: Efficiency leadership**

Southeastern states should develop energy conservation plans to promote energy efficiency and conservation in state buildings, and goals should be set to achieve phased reductions in energy consumption within specific timeframes (i.e. 10% reduction by 2004 and 20% reduction by 2010). Also, Southeastern state governments should purchase renewable energy for all buildings and assist in public education efforts to promote green power and efficiency.

- **Recommendation #8: Green power pricing to promote renewable energy sources**

Southeastern states should ensure that utilities sponsor green pricing programs so consumers can voluntarily purchase energy from clean sources.

- **Recommendation #9: Net metering**

Southeastern states should pass net metering legislation to allow small producers, including households, to supply locally generated excess power to the main energy grid.

- **Recommendation #10: Building codes**

Southeastern states should adopt the International Energy Code. All states should improve enforcement of the model codes in order to ensure implementation and use of energy efficient construction standards.

- **Recommendation #11: Renewable portfolio standards**

Southeastern states should explore mandating, through a renewable portfolio standard, that a certain percentage of a state's energy mix comes from premium renewable energy sources, energy efficiency, and conservation efforts.

Introduction

Air quality in the Southeast is the worst in the nation. Pollution from older, coal-fired power plants threatens human health, the environment and the economy. The Southeast has the highest residential energy consumption in the U.S., and most Southeastern states lag behind the rest of the country in spending on efficiency and conservation.

Clean air depends on strict pollution limits and smart energy use. While some clean air policies need to occur at the federal level, states also have the authority to make significant and potentially more rapid progress. Because of the severity of the air pollution problems in the Southeast, the region has an opportunity to lead the nation in developing a cleaner, more reliable and cost-effective energy supply. Cleaning up pollution also makes economic sense, through direct measurable benefits of cleaner, healthier air. At the same time, efficiency measures can reduce costs of electricity consumption.

Many states in the Southeast are beginning to step up to the challenge. On June 1, 2001, governors Donald Sundquist of Tennessee, Mike Easley of North Carolina, and Roy Barnes of Georgia signed the Southern Air Principles. The document was also signed by Jim Hodges, the Governor of South Carolina at a later date. In signing onto these principles, the governors acknowledged that “to ensure clean air and a reliable, affordable energy supply, we must develop new strategies to address issues such as regional haze and pollutants that threaten public health and the environment.”

The governors also committed to “develop and implement new strategies that will improve regional air quality, such as multi-pollutant regulatory strategies for reducing nitrogen oxides, sulfur dioxide and mercury.”

The full text of the Southern Air Principles is presented in the Appendix. The governors should be commended for their leadership and their willingness to collaborate, as there are environmental and economic benefits of working regionally to improve air quality. Other Southeastern states—Alabama, Florida, Kentucky, Mississippi, Virginia and West Virginia—also have opportunities and obligations to their citizens to integrate energy and air quality planning and policy. The commitment by the governors not only sets the course for the four signatory states, but it also provides an example for all Southeastern states.

Environmental Defense, the Southern Environmental Law Center, and the Southern Alliance for Clean Energy have written this report to provide Southeastern state governors, lawmakers, and regulators suggestions on the most important actions they can take to ensure a healthy environment and cleaner energy supply.

Our organizations intend for this report to facilitate a dialogue among the states, the environmental community, and other stakeholders as we work together to improve our air quality.

State of air quality in the Southeast

Although federal standards have required reductions in SO₂ (Title IV of the Clean Air Act) and summertime NO_x emissions (NO_x State Implementation Plan Call), air quality in the Southeast remains poor. Current requirements do not fully protect public health and the environment. The smokestack pollutants of greatest immediate concern in the Southeast are NO_x, SO₂, mercury, and CO₂. The effects of these pollutants are summarized in Table 1, and each of the major effects is briefly described. The percent contribution of these pollutants attributable to electric generation is presented in Table 3, Sources of Southeast air pollution.

Public health

- **Particulate matter.** SO₂ and NO_x pollutants react in the atmosphere to form tiny particles called fine particulate matter. This pollution is breathed deeply into the lungs where it clogs the body's air intakes or is absorbed into the bloodstream. Major epidemiological studies have associated even moderate concentrations of fine particles with a variety of serious health effects, including hospitalization and death. As shown in Table 2, nine out of 20 states with the highest mortality rates caused by particulate matter are in the Southeastern United States.¹ On a per capita basis, the statistic is even more bleak as eight of the top ten states are in the Southeast.²

TABLE 1

Smokestack pollutants of greatest immediate concern

Smokestack pollutant	Product of conversion	Major effects
Nitrogen oxides (NO _x)	<ul style="list-style-type: none"> • Ozone • Particulate matter • Acid deposition 	<ul style="list-style-type: none"> • Public health concerns • Acidification of terrestrial and aquatic ecosystems • Eutrophication of coastal waters • Haze (reduced visibility) • Economic harm
Sulfur dioxide (SO ₂)	<ul style="list-style-type: none"> • Particulate matter • Acid deposition 	<ul style="list-style-type: none"> • Public health concerns • Acidification of terrestrial and aquatic ecosystems • Haze (reduced visibility) • Economic harm
Mercury	<ul style="list-style-type: none"> • Methylmercury 	<ul style="list-style-type: none"> • Public health concerns • Toxic contamination of fish species • Economic harm
Carbon dioxide (CO ₂)		<ul style="list-style-type: none"> • Climate change/global warming • Economic harm

TABLE 2

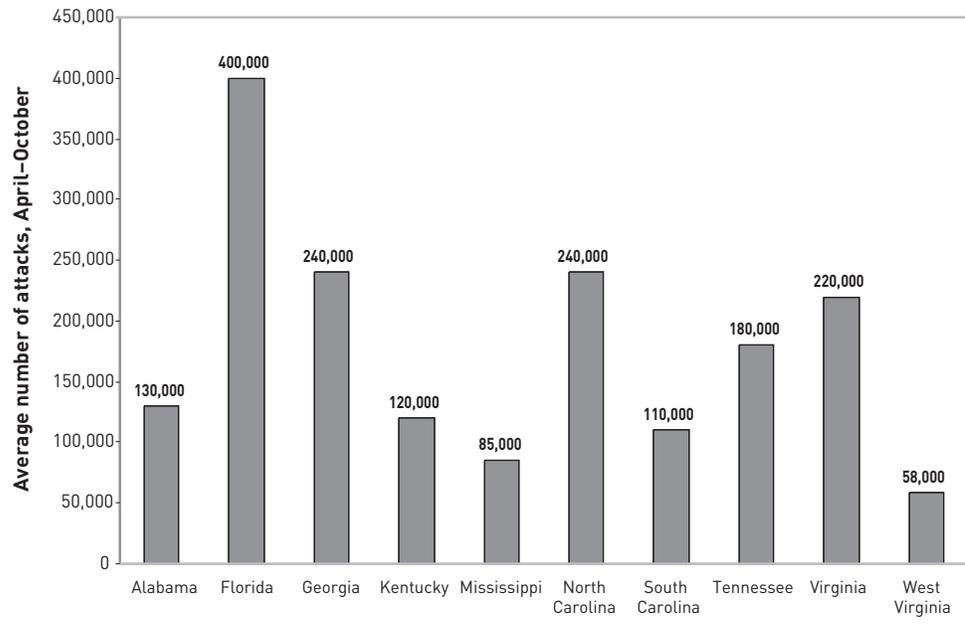
Annual mortality attributed to particulate matter from power plants

Pennsylvania	.2250
Ohio	.1920
New York	.1870
North Carolina	.1800
Florida	.1740
Illinois	.1700
Georgia	.1630
Tennessee	.1440
Texas	.1310
Virginia	.1240
Alabama	.1110
New Jersey	.1100
Indiana	.1030
Kentucky	.997
Maryland	.927
Missouri	.896
Michigan	.871
South Carolina	.791
Mississippi	.489
Louisiana	.481
Arkansas	.479
West Virginia	.459
Total for 10 Southeastern states (states highlighted in table)	.11,696

- **Ozone.** Ozone is created when NO_x and other pollutants from power plants and automobiles react with other compounds in the atmosphere in the presence of sunlight. Ozone exacerbates respiratory ailments such as asthma, chronic bronchitis, and other health problems. Even though all the complex factors that contribute to the asthma epidemic are not known, it is becoming increasingly clear that high ozone levels trigger asthma attacks in those with the disease. A recent study suggests that dirty air can actually cause asthma.³ Nationally, about 25% percent of NO_x pollution can be attributed to power plants,⁴ and this figure may be 30% for the Southeast (see Table 3). The total number of asthma attacks suffered in the Southeast exceeds 1.7 million (see Figure 1).⁵ According to American Lung Association data, over 33 million people in the Southeast live in counties with unhealthy air quality.⁶
- **Mercury.** Mercury is one of the most poisonous pollutants attributed to coal combustion. When ingested by pregnant or nursing women, methylmercury can cause neurological damage, including delayed development in the fetus and young children. Once released into the environment, mercury does not break down, and it cannot be destroyed. Mercury emissions settle in water bodies across the Southeast, where mercury compounds are absorbed by aquatic life. Mercury compounds accumulate in fish tissue at concentrations as much as one million times greater than the surrounding water. As a result, each year

FIGURE 1

Ozone-related summertime asthma attacks in the Southeast



thousands of individuals are exposed to unsafe mercury levels in the fish they eat. Advisories have been issued in the Southeast to limit the consumption of king mackerel, bowfin, bass, and other species. In 1999, 10 southeastern states reported to EPA a total of 268 fish consumption advisories for mercury, which covered 534,825 lake acres and 42,298 river miles. A study conducted by the National Academy of Sciences finds that 60,000 children nationally, or 13,236 children in the Southeast,⁷ are born each year with neurological damage due to mercury exposure. The Centers for Disease Control and Prevention conducted a national study finding that 10% of women of childbearing age had mercury in their blood streams above the levels that EPA considers safe.⁸

Visibility

Visibility in the southern Appalachian Mountains, particularly in the summertime, is greatly impaired by air pollution. Once SO₂ and NO_x pollution is released in the atmosphere, it reacts and can be transformed into sulfate and nitrate particles. Under normal conditions, atmospheric water vapor scatters light and reduces visibility. When sulfate and nitrate particles attach to water particles in the atmosphere, however, they form larger particles that are more effective in scattering light, increasing the amount of haze and reducing visibility. Natural visibility ranges are estimated to be 113 miles on an average day in the Smoky Mountains, but today air pollution has reduced visibility to an average of 25 miles (Figure 2).⁹ Summertime visibility averages only 16 miles, and on many days air pollution reduces the visibility range to less than five miles. The average annual visibility in the Southeastern United States declined by 60% between 1948 and 1983, with an 80% decline during the summer months.¹⁰ Residents of the Southeast have long enjoyed beautiful outdoor scenery and vistas.

The drop in visibility undermines our aesthetics and sense of heritage. There is now a good chance that on any given day mountain views will be obscured, especially in the summer. This discourages tourists, creating a direct economic consequence.

Acidification of ecosystems

When sulfate and nitrate particles combine with water molecules, another problem endemic to the region is created: acid rain, snow, sleet and fog. The rate of acid deposition in the southern Appalachians is among the highest in the country.¹¹ Some of the country's most acidic precipitation falls in the Great Smoky Mountains National Park.¹² These acidic conditions make plant life more susceptible to disease, pests, and extreme weather conditions, turning once lush peaks of many mountaintops in the southern Appalachians into wastelands.

Acid deposition has also taken its toll on mountain streams. A Virginia trout stream study based on 13 years of data from 60 streams found that 6% of Virginia's mountain streams are incapable of supporting trout or other fish populations and 50% of the streams have a reduced capacity to host fish populations due to acid conditions. If current acid deposition levels continue, the number of Virginia streams incapable of supporting fish populations will climb to 35% by 2041.¹³

Atmospheric deposition of nitrogen has also caused nitrogen saturation of the soil in many areas in the southern Appalachians. This occurs when atmospheric nitrogen, combined with nitrogen from biological sources, exceeds the capacity of organisms in the soil to uptake and assimilate nitrogen deposits. Nitrogen saturation is considered a major factor in the decline of high elevation red spruce forests, and also contributes to both chronic and episodic acidification of mountain streams.¹⁴

Eutrophication in coastal waters

Atmospheric nitrogen contributes to harmful levels of nutrient loading in sensitive coastal and estuarine water systems such as the Chesapeake Bay and the Tar-Pamlico

FIGURE 2
Annual visibility range for the Great Smoky Mountains National Park

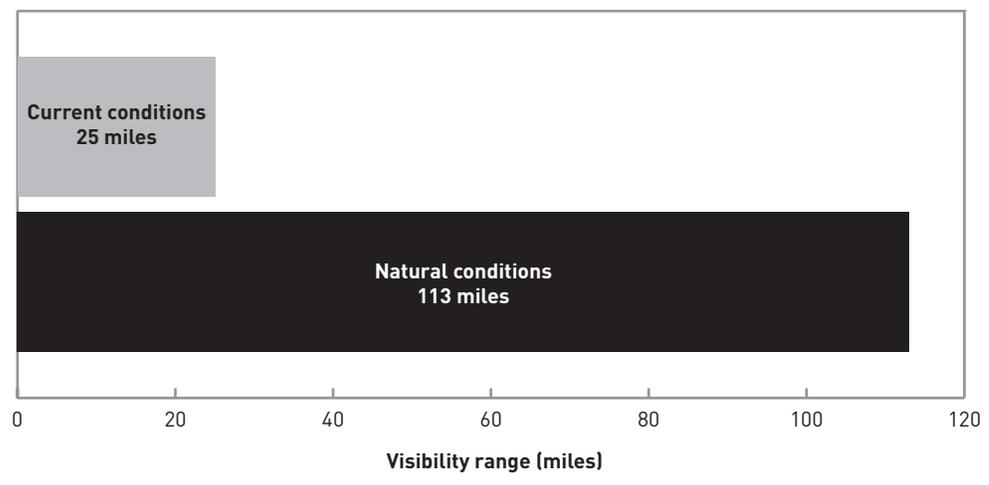
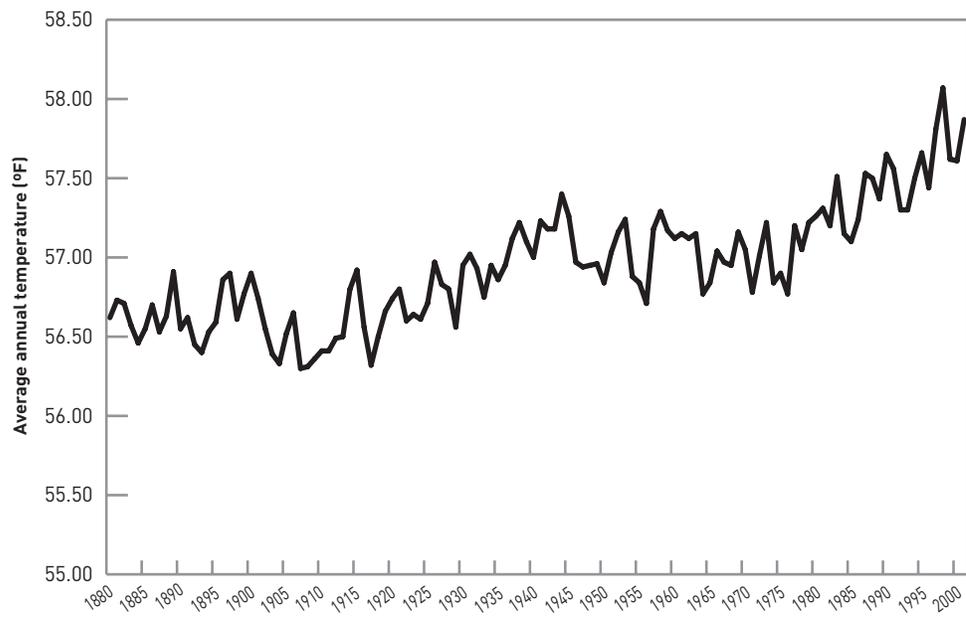


FIGURE 3
Average global temperature



watershed.¹⁵ The excess nitrogen overstimulates algae growth, which depletes oxygen levels. Eventually, the changes in the water's oxygen levels alter the natural habitat, causing fish kills and destroying ecologically and commercially valuable plants. Sources of atmospheric nitrogen include fossil fuel combustion and agriculture. For 42 estuaries in the United States, atmospheric deposition onto the landscape contributes between 5 and 50% of the total nitrogen load.¹⁶ Total power plant contributions can be significant, as in the case of Indian River, Florida, where 15% of nitrogen deposition can be traced to power plants.¹⁷ Although not the predominant source, power plants are undeniably sources of nitrogen contributing to estuarine eutrophication.

Global climate change

There is general consensus in the scientific community that significant global warming has already occurred (see Figure 3), and that this warming is mostly due to human activities, mainly the burning of fossil fuels, which produce heat-trapping gases such as carbon dioxide. Scientists also agree that decreasing emissions of carbon dioxide and other greenhouse gases will likely slow the process of global warming. Without decreases in heat-trapping gases, scientific evidence suggests that the temperature in the Southeast will rise 4.5 to 9.5 degrees on average over the next 100 years.¹⁸ Under these scenarios, sea level is expected to rise about 7.5 inches on the Atlantic coast by 2030.¹⁹

These changes could lead to an increase in extreme weather and stronger hurricanes. Rising sea levels could completely inundate a large fraction of the barrier islands and significantly change the coastline of Southeastern states. The Southeast is highly susceptible to increases in weather intensity and rising sea levels

because of its large number of sensitive ecosystems. In addition, global warming is expected to increase inland and coastal flooding, increase ground-level ozone and the number of unhealthy air days, add to the incidence of mosquito-borne diseases and reduce crop yields. The changes would have significant negative effects on human health and the region's economy.

Economic consequences

Air pollution contributes to human health problems, significant crop loss, tourism deficits, damage to forests and aquatic ecosystems, toxic pollution, and global warming. While these costs to society are widely recognized and are of concern to utilities, many claim that full accountability for cleaning up emissions would be over-burdensome and too expensive. Utility companies often argue that cleaning up emissions would raise the price of consumer and commercial energy bills excessively. Yet, as documented in a recent analysis, the demand for a healthier environment, which means a cleaner energy system, is not only technically achievable, it can be accomplished with only a marginal increase in electric bills.²⁰

On the other hand, the costs of not reducing air pollution are overwhelming. The one-time costs of cleaning up excessive air emissions are much lower than the costs to society of air pollution over the life span of a power plant. Pollution takes a high toll on daily lives across the Southeast. Sulfate particle pollution sent nearly 3,000 people to the emergency room in 1999 from asthma and lung-related health problems and contributed to two million lost workdays from asthma-related illnesses.²¹

A recent report concludes that reducing haze-causing air pollution in the Great Smoky Mountains and Shenandoah National Parks could bring well over

TABLE 3
Sources of Southeast air pollution
[all units are tons except for CO₂ which is millions of tons]

	1999 SO ₂ -Elec	1999 SO ₂ -Other	1999 NO _x -Elec	1999 NO _x -Other	1998 CO ₂ -Elec	1998 CO ₂ -Other	1993 Hg-Elec	1993 Hg-Other
AL	542,467	187,420	185,228	449,964	18.40	14.39	1.099	2.020
FL	734,087	189,608	318,248	795,197	28.13	29.81	1.390	7.593
GA	512,168	123,690	174,298	587,418	18.52	23.33	1.341	3.395
KY	659,107	126,322	308,121	387,239	22.62	15.38	2.673	1.050
MS	127,443	122,418	72,660	331,896	5.10	10.20	0.364	0.874
NC	458,125	149,741	202,041	474,087	17.27	19.46	1.700	2.748
SC	214,712	87,895	88,154	290,111	8.02	10.68	1.336	1.864
TN	473,921	212,062	189,131	551,392	14.84	17.07	0.850	3.039
VA	226,127	148,918	95,237	480,065	7.82	18.72	0.971	3.179
WV	688,845	120,988	286,349	217,110	23.90	7.61	1.580	2.211
Total	4,637,003	1,469,062	1,919,467	4,564,479	164.62	166.65	13.304	27.973
Share	75.9%	24.1%	29.6%	70.4%	49.7%	50.3%	32.2%	67.8%

Sources:

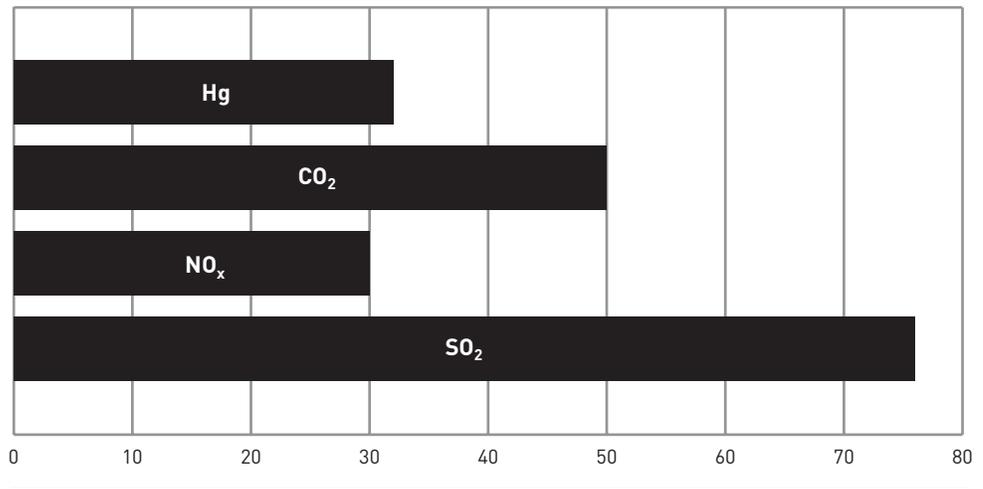
SO₂ and NO_x figures are from the EPA air data web site, <http://www.epa.gov/air/data/net.html>. These values include data from all power plants (coal and oil) greater than 25 MW.

CO₂ figures are from the EPA global warming web site energy CO₂ inventories.

<http://yosemite.epa.gov/globalwarming/ghg.nsf/emissions/CO2Emissions>

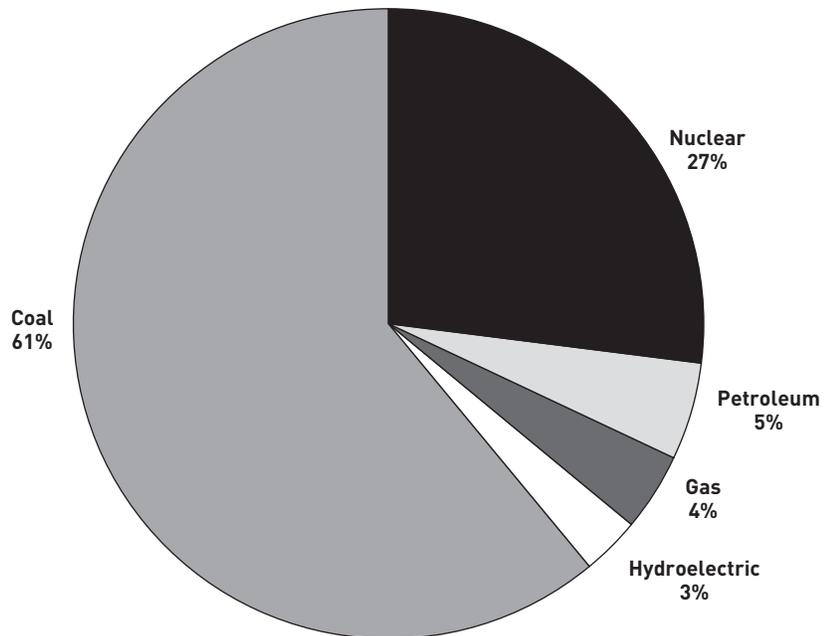
Mercury figures are from the EPA National Toxics Inventory, 1993.

FIGURE 4
The percent of pollutants in the Southeast attributable to electric generation



\$300 million and about 5,000 new jobs to the local economy annually.²² Yet another study found that if the current Clean Air Act provisions were enforced, up to an estimated 3,403 deaths and 64,400 asthma attacks could be avoided in the Southeast. The dollar value of avoiding the deaths is more than \$20 billion per year.²³ Avoiding the asthma attacks could save \$2.6 million per year.²⁴ Air pollution also reduces crop yields, causing losses in the Southeast valued at hundreds of millions

FIGURE 5
Sources of energy generation in the Southeast



of dollars annually. Other environmental and societal costs from power plant pollution include their contribution to the numerous impacts of global warming. Global warming takes a toll on the economy in areas such as human health and property and infrastructure losses. In addition, toxic emissions from power plants cost society through the impacts on human health, wildlife, water and air quality.

Although passage of power plant cleanup legislation could increase a household's utility bill, according to a 2001 Gallup poll, a vast majority (74%) of Americans support increasing their electricity bills in exchange for cleaner power. In addition, energy efficiency and conservation incentives and practices could save consumers around \$17 each month if consumption patterns were decreased in the Southeast to match the national average.²⁵ According to a recent report, implementing U.S. efficiency standards in the Southeast would reduce annual energy use by 4.3%, save energy consumers approximately \$140 billion (in 1993 dollars), and eliminate the need for roughly 80,000 megawatts (MW) of new generation capacity²⁶. The benefit-cost ratio of these standards is more than 3:1—that is, \$3 of energy savings are produced for every \$1 spent on more efficient measures.

Sources of air pollution

There are approximately 167 fossil fuel-based power plants in the Southeast over 25 megawatts (MW). Despite the relatively small numbers of power plants, these facilities are the predominant source of air pollution in the Southeast. The contribution of power plant pollution is presented in Table 3 and Figure 4. Figure 5 presents the sources of energy generation in the Southeast.

State level solutions

There are no silver bullets to improve air quality in the Southeast. Cleaner energy depends on stricter emission standards as well as smarter energy use, including conservation, efficiency, and renewables. Although some clean air policies need to occur at the federal level, states have authority to make significant and potentially more rapid progress. In fact, air quality can never be fully improved without state leadership and action.

Following are 11 recommendations for cleaning up the air in the Southeast. These recommendations fall into two categories: emissions standards and energy use. Southern Environmental Law Center, Southern Alliance for Clean Energy, and Environmental Defense believe that these recommendations are appropriate for all Southeastern states. It is our expectation that they will be seriously considered and that many of these recommendations will be adopted. Our children's children may have the opportunity to breathe clean air year-round because of the decisions that state governments make today.

Emissions standards

MULTI-POLLUTANT REDUCTIONS FROM POWER PLANTS

Southeastern states can achieve substantial improvements in regional air quality with comprehensive legislation requiring major reductions in SO₂, NO_x, mercury, and CO₂ emissions from power plants. In addition to direct in-state benefits, such laws will produce broader regional benefits, as the pollution from power plants invariably impacts neighboring downwind states.

TABLE 4

Current and Recommended Smokestack Emissions by State for Coal-Fired Power Plants
(all values in tons except for mercury, which is in pounds)

State	SO ₂			NO _x		CO ₂		Mercury	
	2000 Emissions	Phase II Allowances	75% Reduction from Phase II	1997 Emissions	75% Reduction	2000 Emissions	1990*	1999**	90% Reduction
Alabama	511,709	312,560	78,140	209,147	52,287	86,673,835	55,518,451	4880	488
Florida	562,313	500,100	125,025	295,144	73,786	120,674,752	96,229,720	1890	189
Georgia	518,565	419,466	104,867	178,485	44,621	83,225,459	68,095,012	2642	264
Kentucky	584,898	374,345	93,586	363,056	90,764	103,398,702	75,798,608	4168	417
Mississippi	129,901	67,535	16,884	50,690	12,673	23,416,443	13,894,617	506	51
North Carolina	453,363	274,732	68,683	282,627	70,657	72,977,577	47,049,292	2426	242
South Carolina	200,283	114,560	28,640	103,490	25,873	40,746,613	24,444,532	1072	107
Tennessee	424,959	270,037	67,509	278,167	69,542	64,545,363	51,432,976	2375	238
Virginia	214,213	126,977	31,744	106,416	26,604	39,471,631	23,095,669	1167	117
West Virginia	592,802	426,066	106,517	321,642	80,411	91,372,550	77,225,427	4744	474
Total	4,193,006	2,886,378	721,595	2,188,864	547,218	726,502,925	532,784,305	25,870	2,587

2000 SO₂, NO_x, and CO₂ data comes from U.S. EPA 2000 Acid Rain Program Emissions Scorecard: 2000 State Summary of SO₂, NO_x, CO₂, and Heat Input for Coal Units.

*1990 CO₂ is estimated using the 1990 heat input and the 1995 emission rate.

**Data come from EPRI Technical Report 10000608, "An Assessment of Mercury Emissions from U.S. Coal-Fired Power Plants."

The compelling body of evidence developed over the past two decades has helped us understand the broad health and environmental impacts of power plant pollution. The evidence firmly establishes the need for major reductions of this pollution. Scientific studies have shown that SO₂ reductions of 75% below levels adopted in Phase II of the 1990 Clean Air Act and year-round NO_x reductions of 75% below current levels will be required to address fine particulate matter pollution, acid precipitation, and visibility impairment.²⁷

**Recommendation #1:
Multi-pollutant reductions for power plants**

Southeastern states should adopt multi-pollutant emission standards for power plants.

The health and ecosystem impacts of mercury pollution have been known for some time. Plant-by-plant mercury reductions in the range of 90% below current levels appear achievable through the application of current control technologies. Given the health and ecosystem impacts involved, comprehensive legislation should seek the maximum level of reductions currently achievable.

Given that CO₂ emissions from Southeastern power plants exceed those in other regions of the country, the Southeast should lead national CO₂ reduction efforts through legislation establishing a regional power sector cap-and-trade system. Legislation should cap CO₂ emissions at 1990 levels, as called for by the United Nations Framework Convention on Climate Change, which has been ratified by the United States.

Comprehensive state-level legislation requiring reductions in SO₂, NO_x, mercury and CO₂ must form the cornerstone of a regional strategy to improve air quality in the Southeast. The reductions called for are summarized in the following bullets and analyzed at a state-by-state level in Table 4. These values are consistent with the reductions that would be required by U.S. Senate Bill 556 introduced by Senator James Jeffords (I-VT).

- **Nitrogen oxides:** Year-round 75% reduction from 1997 levels.
- **Sulfur dioxide:** 75% reduction from Clean Air Act Title IV Phase II levels.
- **Mercury:** 90% reduction from 1999 levels.
- **Carbon dioxide:** Cap net CO₂ emissions at 1990 levels, as called for by the United Nations Framework Convention on Climate Change, which has been ratified by the United States.

Southeastern states should pursue the most cost-effective policies to achieve these reductions, which may include state and/or regional caps and a possible Southeastern regional trading system for NO_x, SO₂, and CO₂. Any policy mechanisms must ensure that sensitive ecosystems like those in the Great Smoky Mountains National Park are protected. Under current cap-and-trade regimes for Title IV of the Clean Air Act, certain plants may contribute excessively to air quality problems in sensitive ecosystems and urban communities. Thus, trading programs may need to be complemented by some specific plant-by-plant controls or local offsets to ensure that the most sensitive ecosystems are protected.

ENCOURAGE NATIONAL POWER PLANT CLEANUP LEGISLATION

Although Southeast governors can do much to improve regional air quality, comprehensive federal legislation will provide additional air quality benefits and help

reduce the overall cost of air quality improvements. While detailed modeling of pollution transport has shown that pollution emitted in Southeastern states tends to impact the Southeast more directly than other regions, studies have also documented significant regional impacts from sources as far away as the Ohio River Valley and the Upper Midwest. Air quality impacts from pollution emitted outside of the Southeast must be addressed through national legislation.

The adoption of comprehensive clean smokestacks legislation by Southeastern states will send a powerful message to Congress that states expect the federal government to exert similar leadership at the national level. While pursuing state legislation, Southeastern governors should also weigh in at the federal level with a joint letter to President Bush and the Southeast Congressional delegation calling for comprehensive federal legislation with SO₂, NO_x, mercury and CO₂ power sector emissions caps at the levels called for in the state legislation. President Bush's multi-pollutant plan, announced on February 14, 2002, falls well short of the needed reductions for NO_x, SO₂, and mercury, and does not reduce carbon dioxide emissions at all. Pressure from the states will enhance the negotiating position of those in Congress advocating stronger standards than those in the President's plan.

**Recommendation #2:
Encourage national power plant
cleanup legislation**

Southeastern governors should send a letter to President George Bush to encourage strong national four-pollutant standards for coal-fired power plants.

GREENHOUSE GAS REGISTRY

Climate change may be the most pressing and difficult environmental problem the world has ever faced. Despite the magnitude of the problem and the direct consequences for the citizens of the Southeast, leaders in the region are not paying attention to global warming. Although national action is needed, states can encourage greenhouse gas reductions through a state registry program by which electric generating sources report their annual emissions of carbon dioxide and other greenhouse gases. The registry would build the structure needed to reduce greenhouse gases and would also provide a mechanism to give credit to companies that make early reductions prior to mandates that may eventually be adopted. Businesses would also benefit from a registry program coordinated among Southeast states. Development of a registry program should be considered a first step, and Southeastern states may want to collaborate on additional steps to address climate change.

**Recommendation #3:
Greenhouse gas registry**

Southeastern states should create a greenhouse gas registry program so that power companies can receive credit for early reductions in carbon dioxide and other greenhouse gases.

EVALUATE NEW POWER PLANT DEVELOPMENT

In the last year, numerous new power plant proposals have been issued in states across the Southeast. Over 10,000 MW of new development have been proposed despite the fact that the South is already awash in energy and new power development. As previously mentioned, the Southeast has the highest residential consumption of electricity in the United States, creating tremendous potential for

efficiency and conservation. Such measures should take priority over new power development. The proposed power plants do not necessarily reflect the actual need for power, but are more directly a response to a lack of comprehensive load analysis in some Southeastern states combined with underdeveloped environmental siting regulations.

Several states have issued moratoriums on new power development in response to siting concerns, energy demand and supply considerations, and market capacity issues. These moratoriums provide an opportunity for states to pause, consider, and plan before undertaking extensive new power development.

In order to build an environmentally sensitive and sustainable energy portfolio, Southeastern states should consider new power plant proposals only after an accurate load analysis to evaluate the demand and supply-side options available to meet current and future energy needs.

**Recommendation #4:
Evaluate new power plant
development**

Southeastern states should only consider new power development proposals after a comprehensive analysis of predicted supply and demand, net environmental impacts of new generation, and efficiency opportunities.

New power development must achieve a net environmental benefit and fit in with wise energy planning criteria for the state. New facilities must be as clean as possible, meet all modern clean air standards, and offset existing, dirtier energy sources. When siting new facilities, a thorough analysis of proposed locations must be undertaken and ranked according to the expected environmental impacts. Considerations for siting criteria include: unhealthy air, critical habitats, environmental justice, minimization of infrastructure, and transmission line capacity.

Energy use: Conservation, efficiency, and renewables

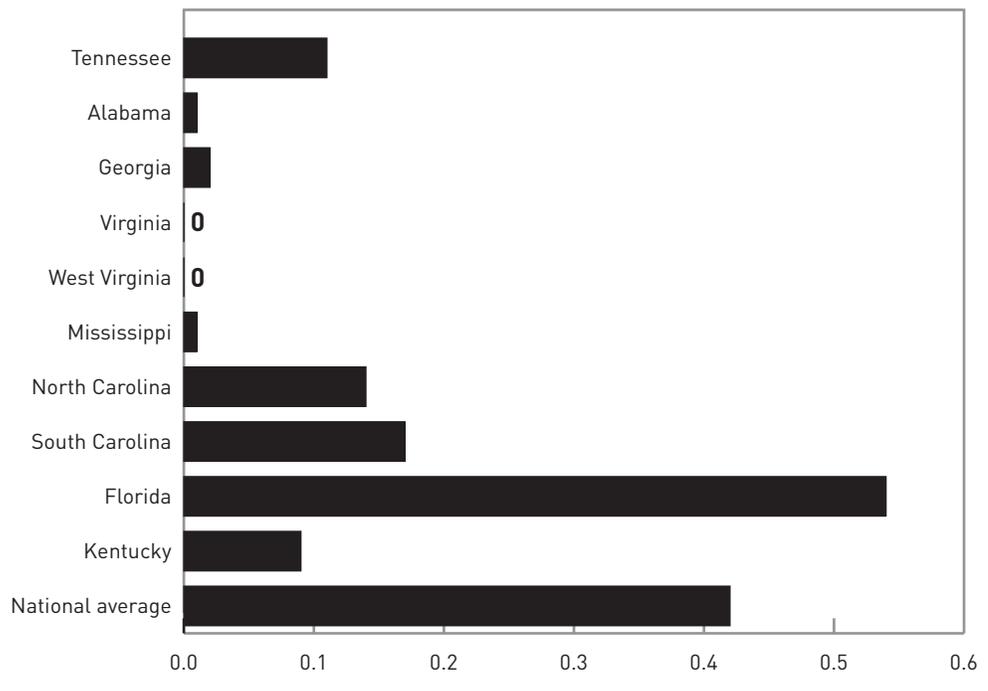
When compared to other locations in the country, the Southeast is lagging significantly in investments and expenditures for energy efficiency, energy conservation, and load management programs. All states in the Southeast, with the exception of Florida, have below average spending for efficiency programs. For example, in 1999 Tennessee spent .11% of the state's revenues on energy efficiency, while the national average is .42% (see Figure 6).²⁸ Renewable energy programs are also lagging in the Southeast. The Tennessee Valley Authority (TVA) has the first and largest renewable program in the region, setting an example for other utilities and states with cleaner, sustainable technologies.

Aggressive energy efficiency programs make both environmental and economic sense, and could eliminate the need for over 100 power plants by 2020. Implementing energy efficiency measures can be highly cost-effective, and the savings can be passed on to customers through lower electric bills. On average, the energy efficiency opportunities discussed in this document cost 2.5¢ per kilowatt hour (kWh), which is significantly less than the cost of generating, transmitting, and distributing electricity to consumers.²⁹ The result is \$4.2 billion in net benefits, or a savings of \$1.69 for every \$1.00 invested in energy efficiency. The totals do not include the additional economic, societal, and environmental benefits of energy efficiency.

Southern states have the highest residential electric consumption per capita in the nation. All of the Southeast states covered in this document rank in the top

FIGURE 6

Southeast efficiency expenditures in percent expenditures of revenue



20. Tennessee leads the country with an average of 1250 kWh used a month. Louisiana, Alabama and Mississippi are next highest on the list. The national average per capita residential electric consumption is 866 kWh a month. In addition, the Southeast has some of the poorest quality of housing stock in the nation with the lowest efficiency ratings, which contributes to high residential power consumption.³⁰ If the Southeastern states were to reduce their overall energy consumption to match the national average, consumers could save an average of \$17 each month on their electric bills.³¹

The high consumption levels in the Southeast are at least in part due to the low cost of electricity in the region. The average price in the Southeast is \$.07 per kWh compared to \$.08 and above elsewhere.³² The low electricity rates reflect the predominance of coal, a relatively cheap and dirty source of energy, which is used to produce over 60% of energy in the South.³³ The environmental and public health cost externalities of coal combustion are not reflected in the price of electricity. This market failure masks the benefits of energy efficiency and points to the need for incentives to reduce consumption of dirty coal-generated electricity. We do not have an energy crisis in the Southeast; we have an *efficiency* crisis. The following set of recommendations encourages policy changes to emphasize renewable energy, conservation, and energy efficiency programs critical to reducing environmental impacts from energy consumption.

PUBLIC BENEFITS FUND

Adoption of a public benefits fund (PBF) can serve as a logical vehicle to bring energy efficiency and renewable programs on-line in a state. A PBF is an eco-

nomically sound and tangible means of generating revenue specifically for demand-side management, efficiency, and renewable energy programs. Funds come from a surcharge placed on consumption of energy per kWh.

A rough estimate of the revenue provided by a public benefits fund on the Tennessee Valley Authority's system is impressive. A 2 mil (or \$.002) per kWh public benefits charge would generate \$320 million annually for energy efficiency and other programs in TVA's seven state service area. That is only about \$2–3 extra per person on a monthly utility bill. There are 20 states in the U.S. with public benefits funds.³⁴ In states such as Massachusetts (\$160 million) and Rhode Island (\$16.5 million),³⁵ PBFs generate an extensive revenue base that allows for highly successful demand-side management incentive programs, renewable energy investments, and market transformation initiatives. A demand-side management program funded through PBFs in Massachusetts provided the state with an annual energy savings of 135 GWh in 2000.³⁶ Similarly, other states in the country have reduced peak capacity needs by hundreds of megawatts per year.³⁷

**Recommendation #5:
Public benefits fund**

Southeastern states should create public benefits funds to raise revenue for energy efficiency, renewable energy sources, green power programs, and development of clean technologies.

States can help ensure that renewable energy options become an integral component of the state energy mix by committing financial resources to those programs. A portion of the public benefits funds should be set aside to encourage the development of clean, renewable supply-side energy options. Green energy options include wind and solar power.

MARKET TRANSFORMATION

Market transformation is an effort to reshape the purchasing priorities and demands of consumers by helping energy efficient products gain a greater market share and achieve extensive market penetration. Rebates and other market incentives help bring down the cost of energy efficient products and services and contribute to the transformation of the market for these products. Programs to facilitate market transformation are generally voluntary for retailers and manufacturers. Programs are implemented through state policies that provide tax breaks or other incentives for participating companies.

Market transformation helps expand the number and types of stores carrying and promoting energy efficient products, and increases the number of large customers purchasing efficient technologies in new construction projects. Over time, the market will also benefit from an increase in consumer recognition of energy efficient products and technologies. Energy savings from market transformation programs have enormous environmental benefits. By reducing the amount of electricity needed, the initiatives help to conserve fossil fuels and reduce harmful air pollution.

States can play a critical leadership role in bringing retailers (such as Home Depot, Lowe's, Sears, etc.) together with utilities, environmental organizations, and manufacturers to provide incentives for energy efficient appliances and programs at the consumer level. Market transformation is essential to establish energy efficient behavior among the public. Successful programs in other regions of the country continue to provide significant energy savings.

Successful market transformation organizations include the Northwest Energy Efficiency Alliance, Midwest Energy Efficiency Alliance, and Northeast Energy Efficiency Partnership. By June of 2000, through the water-efficient clothes washer program in the Northeast, more than 50,000 ENERGY STAR washers had been purchased, and market share had climbed from 3% to 22%—even higher in some areas.³⁸ Experience has shown that regional approaches are necessary to the success of market transformation programs by reducing costs through operating competitively in multiple states. Key state leadership is necessary to ensure that the efforts are strategic, coordinated, consistent, and flexible.

The Southeast Energy Efficiency Alliance (SEEA) is being proposed as the regional entity to transform Southern markets. The Tennessee Valley Authority is funding a group of consultants from the Northwest to do background research and develop a roadmap for developing SEEA. In the near future, there will be a need for broader representation from southern states in the decision-making process. SEEA will be an excellent catalyst for increasing energy efficiency in a region where there is significant potential for savings.

**Recommendation #6:
Market transformation**

Southeastern states should support market transformation incentives to encourage the increased supply and purchase of energy efficient products and services.

EFFICIENCY LEADERSHIP

State government agencies and offices can be effective educators and promoters of efficiency simply by leading by example. State commitment to energy efficient behaviors, purchases, and investments can set the standard for conservation and efficiency that residential and industrial consumers should follow. State buildings should use the most energy efficient appliances (light bulbs, copy machines, computers, printers, windows, etc.) and institute rules of efficiency operations within all buildings. In addition, governments should prioritize public education about the benefits of conservation and efficiency choices and behaviors. Although commitment to efficiency may require upfront investments, states can often realize significant long-term savings through efficiency.

**Recommendation #7:
Efficiency leadership**

Southeastern states should develop energy conservation plans to promote energy efficiency and conservation in state buildings, and goals should be set to achieve phased reductions in energy consumption within specific timeframes (i.e. 10% reduction by 2004 and 20% reduction by 2010). Also, Southeastern state governments should purchase renewable energy for all buildings and assist in public education efforts to promote green power and efficiency.

State government agencies also can set an example by committing to purchase a portion of their energy from renewable resources. States can also be effective “marketers” of renewable energy by educating the public about the benefits of purchasing energy from clean, sustainable sources.

GREEN POWER PRICING TO PROMOTE RENEWABLE ENERGY SOURCES

Providing renewable energy options is an essential component of cleaner energy production. All states should require utilities to provide a choice for their con-

sumers to purchase renewable energy or “green power.” Ultimately, all consumers in the Southeastern states should have the option of choosing green power instead of or in addition to their normal energy mix. Green power options should be established through certified “green pricing” programs that ensure the technologies are the cleanest and most sustainable options available.

States and utilities can provide incentives for cleaner, more efficient, and sustainable technologies. The Tennessee Valley Authority has prioritized renewable energy options for consumers in the service area with the “Green Power Switch” program. This program has proven to be a great success in its first years. Green Power Switch energy sales have exceeded the market test goals by 14%, and TVA has successfully deployed the Southeast’s first commercial wind turbines. TVA plans to expand its current 2 MW wind commitment to over 20 additional MW by fall of 2002. In its second year, Green Power Switch has signed up over 4,600 residential customers to purchase 1,182,450 kilowatt hours of green power, and 206 commercial customers are buying 843,150 kilowatt hours of green power. Similar programs are just starting or are under development in North Carolina, South Carolina, Georgia, and Florida.

**Recommendation #8:
Green power pricing to promote
renewable energy sources**

Southeastern states should ensure that utilities sponsor green pricing programs so consumers can voluntarily purchase energy from clean sources.

NET METERING

Another incentive to encourage cleaner, renewable technologies is to allow individuals to supply the grid with excess clean power that they produce themselves. For example, a homeowner who has solar panels on her roof may generate excess energy during certain parts of the day or year. Through a net metering program, she could be allowed to reduce her power bill equivalent to the quantity of energy provided. Net metering offers incentives for personal investment in renewable technologies by enabling consumers to offset financial investments with lower power bills. Thirty-seven states currently have net metering laws. Georgia and Virginia should be commended for passing the first two net metering laws in the Southeast.

**Recommendation #9:
Net metering**

Southeastern states should pass net metering legislation to allow small producers, including households, to supply locally generated excess power to the main energy grid.

BUILDING CODES

Strong energy efficient building codes adopted at the state level are yet another means by which governments can help drive the commercial market in more sustainable directions.

Initial investments or higher construction costs associated with green building standards can often be offset through years and decades of energy savings. In fact, a building designed and constructed for efficiency will lower energy bills, creating more disposable income and benefiting the economy in other sectors. Efficient buildings also help to lower maintenance costs, another economic benefit that leads to increased spending elsewhere in the market.

The Southeast as a whole is behind the national average for state adoption of model codes. There are a variety of building codes in each state and varying degrees of enforcement of those standards. The new International Energy Code (IEC) is the most energy efficient standard available, and four Southeast states have adopted it (Florida, North Carolina, South Carolina and Kentucky). The other six Southern states have lower standards that are also some of the oldest. We urge the governors of those states to upgrade their standards to the new IEC levels.

Lack of enforcement of building codes in many states contributes to the lack of energy efficient building stock in the Southeast. In states where enforcement of the codes is lacking, we urge the governments to dedicate the resources necessary to ensure stronger code enforcement. It may be appropriate for a portion of public benefit fund revenue to be allocated to enhance enforcement of building codes.

Recommendation #10:

Building codes

Southeastern states should adopt the International Energy Code. All states should improve enforcement of the model codes in order to ensure implementation and use of energy efficient construction standards.

RENEWABLE PORTFOLIO STANDARD (RPS)

The national Renewable Portfolio Standard (RPS) requires that a percentage of the nation's power supply portfolio come from renewable sources like wind, solar, biomass and geothermal energy. The Union of Concerned Scientists calls for the minimum level to be 5% of all electric generation by 2005 and 10% by 2010. Senator Jeffords of Vermont has introduced a bill to require a national RPS of 20% by the year 2020. States can create smaller scale renewable portfolio standards by mandating a small percentage of a utility's power supply portfolio come from premium energy sources such as wind and solar.

Recommendation #11:

Renewable portfolio standards

Southeastern states should explore mandating, through a renewable portfolio standard, that a certain percentage of a state's energy mix come from premium renewable energy sources, energy efficiency, and conservation efforts.

An RPS can be met by the states through implementation of one or more of the above-mentioned programs that encourage renewable energy technologies, conservation, and efficiency.

Conclusion

Energy in the Southeast can be much cleaner than today, and it is widely accepted that pollution from the old “grandfathered” power plants needs to be cut significantly. It is technically feasible to produce cleaner energy, and it makes economic sense to do so when the benefits to society are considered. Natural gas and alternative sources of energy such as wind power offer far cleaner sources of energy than current coal combustion technologies. Where coal power remains, technologies to control emissions are readily and widely available. The only real impediment to cleaning up power plant emissions is the costs.

Cost concerns are real, and they must be considered in any sensible plan to improve air quality in the Southeast. Reducing emissions from the power sector is generally one of the most cost-effective ways to improve air quality. Cleanup costs are reasonable when divided among the millions of households in the Southeast. For example, according to utility estimates, the costs of the pending clean smokestacks legislation in North Carolina designed to reduce NO_x and SO₂ pollution would be only about \$2 per household per month, an amount that consumer advocate groups find acceptable.

The benefits far outweigh the costs of cleaning up dirty old power plants. Power plant pollution contributes to health problems, crop loss, tourism decline, ecosystem damage, and global warming. Considering the costs to the Southeast of these impacts, reducing power plant emissions can save tens of billions of dollars.

Conservation and efficiency often produce real cost savings, and they can provide a good return on public benefits funds or other up-front investments. As the renewable energy technologies improve and higher economies of scale are achieved, the costs of clean technologies come down. Wind power in the Southeast is not that much more expensive than coal combustion. Sometimes all that is needed are modest incentives from the states to promote cleaner energy technologies. As the importance of energy security issues rises, so does the need for conservation, efficiency and locally developed renewable energy.

Energy in the Southeast must be produced in ways that are good for public health, the environment, and the economy. Some of the responsibility for promoting cleaner energy lies with the federal government. However, much of the responsibility rests with the states. Through leadership by individual states and as a region, the Southeast can show the nation how to meet its energy needs while protecting the environment.

Appendix

Southern Air Principles

On June 1, 2001, governors Donald Sundquist of Tennessee, Mike Easley of North Carolina, and Roy Barnes of Georgia signed the following Southern Air Principles. Governor Jim Hodges of South Carolina signed the document at a later date.

Protecting and improving air quality is essential to safeguard public health, protect our natural resources and promote the long-term economic vitality of the South. Air quality is a shared resource, and all sectors of society bear a responsibility for improving air quality and protecting our natural resources.

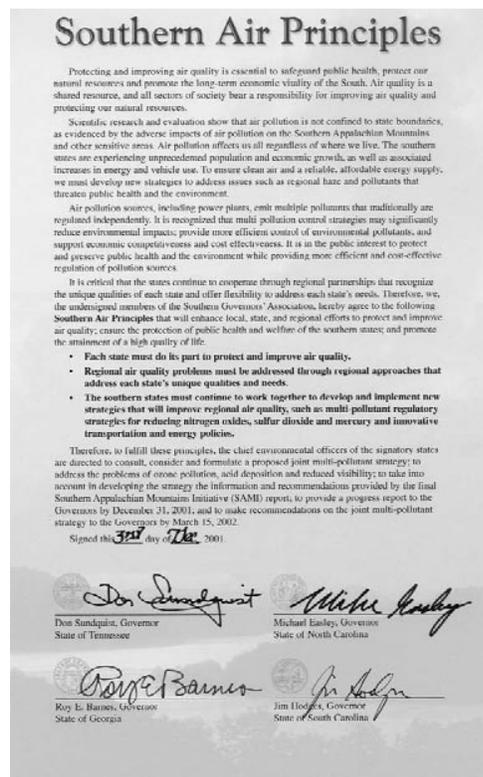
Scientific research and evaluation show that air pollution is not confined to state boundaries, as evidenced by the adverse impacts of air pollution on the Southern Appalachian Mountains and other sensitive areas. Air pollution affects us all regardless of where we live. The southern states are experiencing unprecedented population and economic growth, as well as associated increases in energy and vehicle use. To ensure clean air and a reliable, affordable energy supply, we must develop new strategies to address issues such as regional haze and pollutants that threaten public health and the environment.

Air pollution sources, including power plants, emit multiple pollutants that traditionally are regulated independently. It is recognized that multi-pollution control strategies may significantly reduce environmental impacts; provide more efficient control of environmental pollution; and support economic competitiveness and cost effectiveness. It is in the public interest to protect and preserve public health and the environment while providing more efficient and cost-effective regulation of pollution sources.

It is critical that the states continue to cooperate through regional partnerships that recognize the unique qualities of each state and offer flexibility to address each state's needs. Therefore, we the undersigned members of the Southern Governors' Association, hereby agree to the following Southern Air Principles that will enhance local, state, and regional efforts to protect and improve air quality; ensure the protection of public health and welfare of the southern states; and promote the attainment of a high quality of life.

- Each state must do its part to protect and improve air quality.
- Regional air quality problems must be addressed through regional approaches that address each state's unique qualities and needs.
- The southern states must continue to work together to develop and implement new strategies that will improve regional air quality, such as multi-pollutant regulatory strategies for reducing nitrogen oxides, sulfur dioxide and mercury and innovative transportation and energy policies.

Therefore, to fulfill these principles, the chief environmental officers of the signatory states are directed to consult, consider and formulate a proposed joint multi-pollutant strategy; to address the problems of ozone pollution, acid deposition and reduced visibility; to take into account in developing the strategy the information and recommendations provided by the final Southern Appalachian Mountains Initiative (SAMI) report; to provide a progress report to the Governors by December 31, 2001, and to make recommendations on the joint multi-pollutant strategy to the Governors by March 15, 2002.

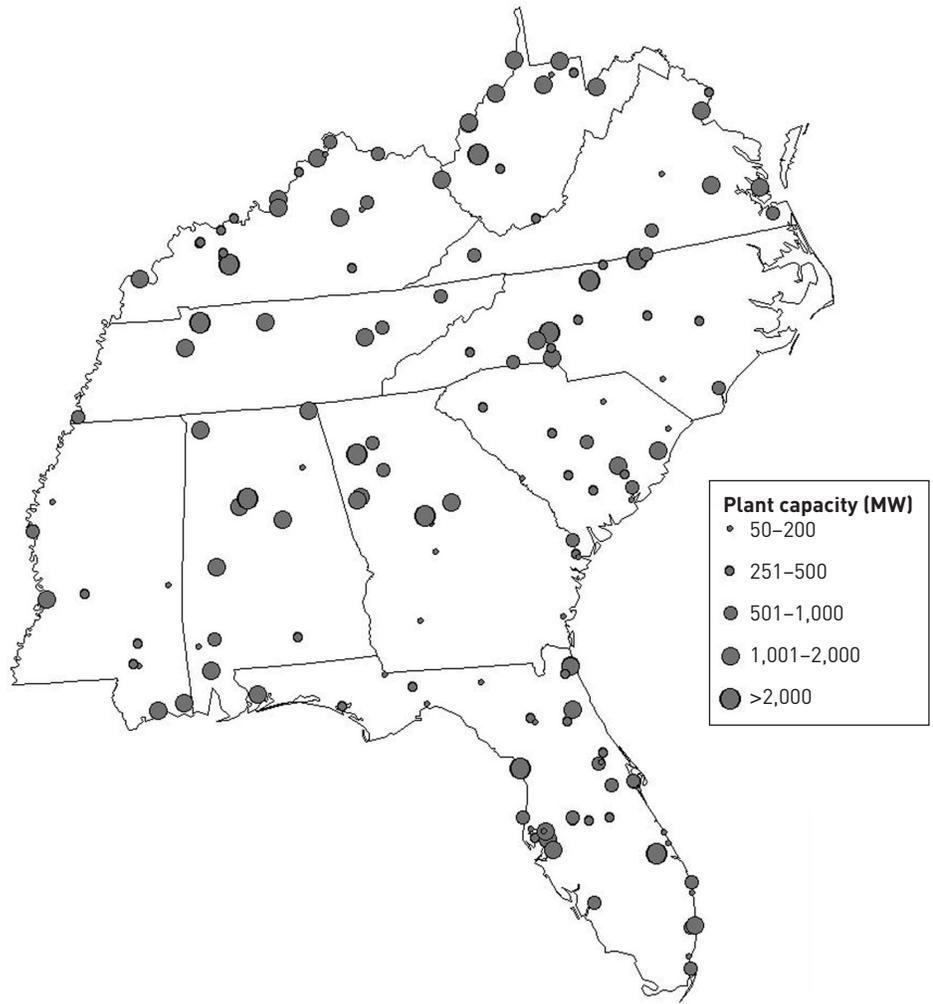


and reduced visibility; to take into account in developing the strategy the information and recommendations provided by the final Southern Appalachian Mountains Initiative (SAMI) report; to provide a progress report to the Governors by December 31, 2001; and to make recommendations on the joint multi-pollutant strategy to the Governors by March 15, 2002.

Signed this 3rd day of Dec. 2001.

Don Sundquist, Governor, State of Tennessee
Roy E. Barnes, Governor, State of Georgia
Michael Easley, Governor, State of North Carolina
Jim Hodges, Governor, State of South Carolina

Power plants in the Southeast United States



Notes

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