

 The Fund for New Jersey

CROSSROADS NJ

POLICY CHOICES THAT DEFINE OUR FUTURE

CLIMATE CHANGE ADDS URGENCY TO RESTORING ENVIRONMENTAL PROTECTION

CLIMATE AND ENVIRONMENT



Climate Change Adds Urgency to Restoring Environmental Protection

If a single public policy issue embodies the phrase “Think globally, act locally,” it is climate change.

Facing serious dangers from climate change, New Jersey needs more than ever to restore protecting its environment to the prominent role necessary for a healthy, secure future.

Nearly 50 years ago, New Jersey recognized substantial threats to the health of its residents and to the state’s economic well-being and became one of the first states to create a cabinet-level department charged with safeguarding the environment and natural resources. The state became a national leader in such areas as regulating land use to preserve open space and guide development, protecting air and water quality, promoting recycling, identifying and remediating hazardous waste sites, and keeping the public safe from toxic substances.

Now, our economic and physical health depend on devoting attention, leadership, and financial resources to adopt and execute common-sense policies in four key areas that address the scientific realities of climate change.

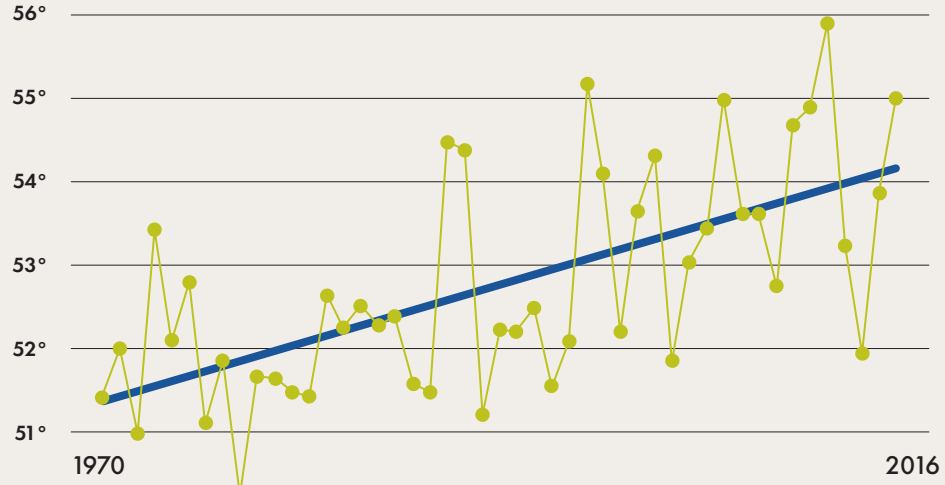
- Energy Policy
- Water Supply and Quality
- State and Regional Planning
- Environmental Justice¹

Each of these areas is important on its own. Together they should be part of a sustained, well-coordinated effort to prevent climate change from being disastrous for New Jersey.

If a single public policy issue embodies the phrase “Think globally, act locally,” it is climate change. Globally, climate change threatens humanity’s existence.

The overwhelming scientific consensus is that an alarming rise in average temperature over the past century is due to human activity—especially burning fossil fuels (oil, coal, natural gas), which increases carbon dioxide and other greenhouse gases in the atmosphere. New Jersey experiences climate change in the form of increased rainfall, higher temperatures, rising sea level, and an increase in the frequency and severity of extreme weather events. Average annual temperatures, after creeping upward for most of the 20th century, jumped by 1.2 degrees Fahrenheit in the first decade of the 21st century,

**New Jersey
Warming Since the
First Earth Day**

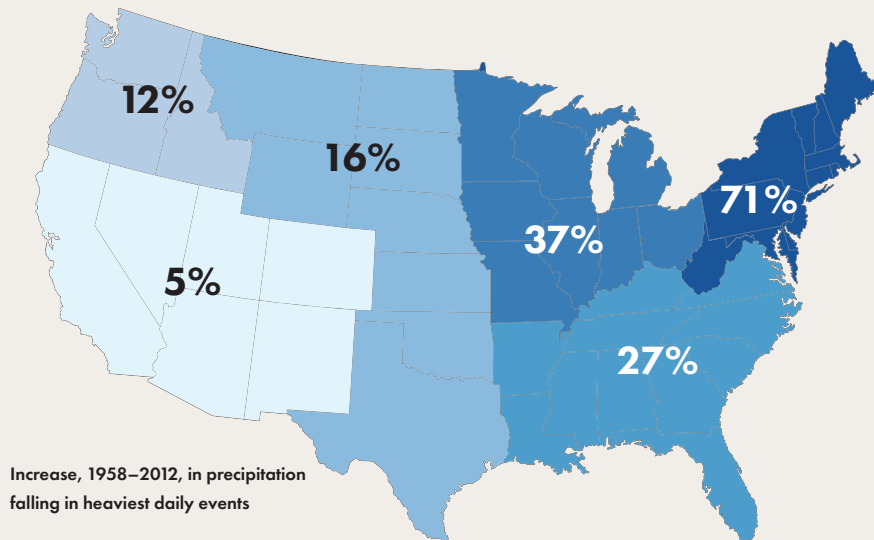


Source: Climate Central (Average Annual Temperature per NOAA/NCEI)²

to an average of 53.9°F in the period 2000-2010,³ from 52.7°F in 1971-2000. The number of days over 90°F rose by 36% since 1949.⁴ January through June 2016 was the warmest six-month period ever recorded, with average temperatures 1.3°F warmer than in the late 1800s.⁵

Researchers predict hotter, wetter weather. New Jersey's mean annual temperature is expected to increase by 3 to 5 degrees Fahrenheit by the 2050s, and by 4 to 7.5 degrees Fahrenheit by the 2080s. Summers in the Garden State will be as warm as they are in Alabama today. Precipitation is expected to increase by 10% to 20%.⁶ Such changes in temperature and rainfall, which might not seem dramatic, would significantly affect agriculture and plant and animal life, and exacerbate both flooding and droughts.

**Heavy Downpours
Increasing**



Increase, 1958-2012, in precipitation falling in heaviest daily events

Source: Climate Central⁷



The nature of New Jersey's energy supply and demand poses serious challenges to the effort to reduce harmful emissions.

Dense development, rising seas, and other factors make New Jersey's coast highly vulnerable to climate change. The sea level along the New Jersey coastline has risen by about 1.5 inches every 10 years over the past 100 years—nearly twice the global average. And the sea level is projected to rise between 1.0 and 1.8 feet by 2050 regardless of future greenhouse gas emissions, with a worst-case scenario of 2.8 feet.⁸ The state Department of Environmental Protection predicts the large storms that occur every 20 years will come every five years by 2050, greatly increasing the potential for coastal damage. By the end of the century, 1% to 3% of New Jersey's shoreline is likely to be lost to rising sea levels, and occasional flooding will inundate 6.5% to 9% of the state's coastal area.⁹

Altered rainfall patterns associated with climate change are likely to increase the intrusion of saltwater into the Delaware River and Bay and coastal aquifers, threatening New Jersey's drinking water.

Because many predictions of the dangers from climate change extend over decades, it can be difficult to get policymakers to take immediate and decisive action. For elected officials whose terms will expire long before the most severe predicted consequences, the easiest decision often is to do nothing. Today, that is not good enough. Much more needs to be done in New Jersey to confront climate change.

Specifics are described in the sections below. In many cases, these measures have cross-cutting relevance beyond the section in which they are listed. The magnitude of the threats that climate change poses to New Jersey creates overlapping areas of concern requiring aggressive steps.

Advancing Clean, Homegrown Energy

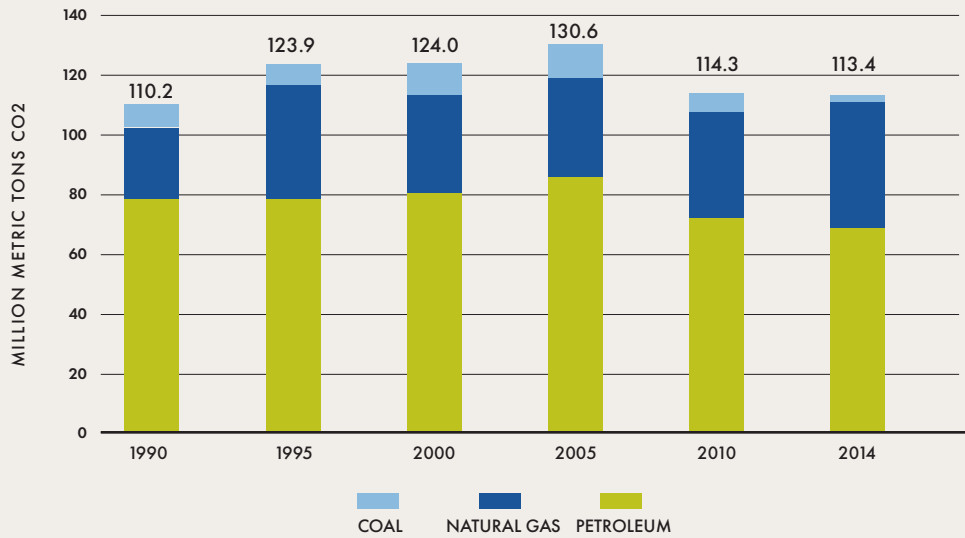
The nature of New Jersey's energy supply and demand poses serious challenges to the effort to reduce harmful emissions.

New Jersey's electricity portfolio, when last reported in 2015, included 49.5% that was generated through the use of natural gas.

Nuclear plants provided 44.5%, and only 2% came from coal. Coal usage, which has been declining sharply since 2006, now is close to zero: in June 2017, Public Service Electric & Gas closed the state's two largest and oldest remaining coal-fired power plants, leaving two smaller plants.

Despite that, overall emissions from energy generation declined by only 8% from 2006 to 2015.¹⁰ Heavy reliance on the burning of natural gas was the reason the drop was not greater. Gas-fired generation in New Jersey increased dramatically—by 51% from 2013 to 2016 (surpassing nuclear power)—and that brought a significant increase in carbon dioxide (CO₂) from combustion.¹¹ When methane emissions from natural gas are taken into account, the situation became even more serious, given that methane is a more potent greenhouse gas than CO₂ in the short run.

**New Jersey
Emissions Decline
Stalled by
Natural Gas**



Data show emissions from all sectors: industrial, commercial, residential, electrical, and transportation.

Source: U.S. Energy Information Association¹²

The trend away from nuclear power is likely to accelerate when the Oyster Creek nuclear plant, responsible for about 4% of in-state generation, closes in 2019.

PSEG has raised concerns about the financial viability of its nuclear plants in New Jersey. For New Jersey, then, emissions reductions from electricity production is a matter of reducing natural-gas generation while substantially improving efficiency and increasing renewable energy production.

On the demand side, New Jerseyans' energy consumption is lower than the national average. The state ranks 37th in per-capita energy consumption.¹³

LIMITING CARBON EMISSIONS

New Jersey was once among the leading states in a cooperative effort to reduce carbon dioxide emissions, which included the “California Car” program, the 2007 state Global Warming Response Act, the 2008 state Energy Master Plan, and a regional cap-and-trade¹⁴ agreement. The state was among seven that in 2005 established the Regional Greenhouse Gas Initiative,¹⁵ the nation’s first mandatory cap and trade program. States participating in RGGI commit to capping their carbon emissions and requiring power plants to purchase allowances in order to emit specific amounts of carbon. Three more states joined in 2007. Then New Jersey dropped out in 2011.

RECOMMENDATION**Rejoin the Regional Greenhouse Gas Initiative.**

RGGI has proven to be a useful way to reduce carbon dioxide levels and promote energy efficiency. RGGI participants allocate CO₂ allowances largely through regional auctions that generate money for the states to reinvest in energy-saving programs. Through 2014, states used nearly \$1.4 billion in this way, with each state deciding how to spend its share. New York, for example, in 2016 launched a \$16 million initiative that helps municipalities reduce energy consumption and promote clean energy use. Since RGGI began, power sector pollution is down 45% in the participating states.

If New Jersey rejoined RGGI, it should dedicate a stated share of funds from CO₂ auctions for use in urban areas and communities of color where harm caused by pollution is greatest. In addition, a 25% reduction in emissions should be mandated for power plants located in such neighborhoods.

PROMOTING CLEAN ENERGY

The safest, most efficient energy future for New Jersey is clean, renewable energy such as wind and solar, combined with reduced energy waste. The state Senate has twice voted overwhelmingly to enact the Renewable Energy Transition Act. RETA would require that 80% of all electricity sold in the state “shall be from Class I renewable energy sources” by 2050. Class I sources include solar photovoltaic, wind, and methane gas from landfills.

RETA sets up a schedule of increases, starting with 20% renewables by 2020 and increasing the target by 10% every five years, reaching the full 80% level by 2050. The amount of electricity sold in the state from renewable sources—nearly zero just 10 years ago—is currently less than 10%.

Enactment of RETA would make New Jersey one of the leading states in the use of renewables. The California Senate has adopted legislation to speed its transition to 50% renewable energy by 2026 and to move to 100% renewable energy by 2045. Hawaii enacted a 100% renewable energy mandate by 2045. New York is committed to achieve 50% renewable energy by 2030.

RECOMMENDATION

Mandate that 80% of all electricity sold in the state comes from renewable sources by 2050. Pass the Renewable Energy Transition Act to move immediately toward this mandate.



The state is not on track, nor does it have a plan, to meet the 2050 emissions reduction goals.

LONG-TERM ENERGY PLANNING TO MEET EMISSION TARGETS

Chief among existing New Jersey state laws addressing climate change is the Global Warming Response Act (GWRA), passed in 2007. It calls for reducing greenhouse gas emissions to 1990 levels by 2020, and sets a target of further reducing emissions to 80% below 2006 levels by 2050. The state is not on track, nor does it have a plan, to meet the 2050 goals. In fact, as already noted, emissions reductions in the electricity generation sector have slowed due to the significant increase in gas-fired electric generation.

The law would be even more effective if it set specific targets for increased renewables such as wind and solar and for reduced energy use.

RECOMMENDATION

Require a Clean Energy Master Plan, to be updated every five years, that establishes a pathway to achieve the statewide target for 2050. It should include analysis and interim emissions targets by sector for 15 years.

Adopt a measurable, accountable energy-saving goal of 30% below 2015 levels for electric and natural gas usage in New Jersey by 2030.

This goal is to be reached by reducing residential, commercial, and industrial energy consumption; reducing vehicle miles and increasing the proportion of low- and zero-emission vehicles on the road; shifting from fossil fuels to renewable sources (solar, wind, geothermal); and fostering land-use patterns that preserve and protect open space, tidal marshes, and forests.

MAKE ENERGY EFFICIENCY A WAY OF LIFE

Climate change and other 21st-century considerations require giving more attention to how the places where New Jerseyans live and work are built and operated.

RECOMMENDATION

Establish an Energy Efficiency Portfolio Standard that requires utilities to meet a minimum level of energy efficiency each year and includes incentives to achieve higher energy efficiency gains.¹⁶

As of January 2017, 26 states had fully funded policies in place, with specific energy savings targets that utilities or non-utility program administrators must meet through customer energy efficiency programs.

RECOMMENDATION

Increase minimum energy efficiency standards for household and commercial appliances, codified in law and regulation; and update state construction code standards for new commercial and residential buildings.

Set a goal to accelerate wider-scale development of “net zero” homes and buildings — those where the amount of energy consumed yearly is about the same as the amount of renewable energy created there.

An aggressive policy would require all new homes built in the state to be net zero by 2020, and all new commercial buildings by 2030.

MAKE STATE GOVERNMENT A STRONGER PARTNER

Energy efficiency is important enough to be promoted more actively at the state level.

RECOMMENDATION

Establish a state agency or authority to drive energy efficiency measures, monitor and evaluate the success of current and future measures, and develop innovative ways to reduce energy use.

Such an agency should prioritize low-income communities.

State officials also could play a larger role in helping residents learn about and prepare for job opportunities that can come from energy efficiency.

Create a statewide hub for “green jobs” training, modeled on successful programs in Trenton and Newark.

Examples of green jobs include stormwater management, cleaning up “brown-fields” for reuse, urban forestry, and assessing buildings to see whether they meet energy efficiency standards. This effort could leverage federal and state job-training funds and involve renewing the state tax credit for employers that hire graduates of the program.

DEALING WITH VEHICLE POLLUTION

Greenhouse gases also originate from mobile sources, primarily motor vehicles. At least until the new administration took over, the U.S. Department of Transportation had steadily toughened Corporate Average Fuel Economy (CAFE) standards to meet more stringent greenhouse gas emissions standards set by the U.S. Environmental Protection Agency. New Jersey, in turn, adopted the California Car program,¹⁷ requiring passenger vehicles and light-duty trucks sold after Jan. 1, 2009, to meet the EPA’s strictest vehicle emissions standards, and creating incentives for Zero Emission Vehicles.

Regardless of where federal policy goes next, the improved fuel efficiency of cars and the increasing number of low- and zero-emission vehicles on New Jersey's roads show the effectiveness of the CAFE standards and the California Car program. Their salutary effect, however, is at least partially offset by steady growth in miles traveled by New Jersey motorists: 75.4 million miles in 2015, compared with 72.8 million in 2009.¹⁸

RECOMMENDATION

Expand electric car infrastructure by participating in the regional Transportation and Climate Initiative on electric vehicles, and support proposed expansion of CAFE standards for cars and light trucks during the National Highway Traffic Safety Administration program review.¹⁹

The Transportation and Climate Initiative is a collaboration of 12 Northeast and Mid-Atlantic jurisdictions that seek to develop the clean energy economy and reduce greenhouse gas emissions in the transportation sector. CAFE standards are adopted pursuant to the law that Congress passed in 1975 to improve average fuel economy of cars and light trucks manufactured for sale in the U.S.

Accelerate expansion of fast charging stations for electric vehicles on the state's roadways, modeled on the U.S. Department of Transportation's "alternative fuel corridors" initiative.

New technology requires commitment of state resources. Gas stations along highways are of no use to owners of electric cars, and electric car infrastructure is a must if such vehicles are to help address New Jersey's pollution problems.

HARNESSING WIND FOR POWER

The Offshore Wind Economic Development Act, adopted in 2010, authorized the state Economic Development Authority to provide tax credits for qualified facilities in wind energy zones. There has been no effort to implement this law, however— costing New Jersey jobs, renewable energy, and investments that offshore wind projects generate in other states. New Jersey has significant potential generation capacity, and with greater support from policymakers the state is positioned to be a national leader on offshore wind projects.²⁰



New Jersey should promote additional growth in solar by considering policies that other states have recently implemented to foster the solar market.

RECOMMENDATION

Take the necessary steps to move ahead with offshore wind projects, including creation of Offshore Wind Renewable Energy Credits as the financing mechanism necessary for investment in wind projects.

Other states already have begun awarding ORECs. New Jersey needs to catch up, starting with a definitive evaluation of the potential for offshore wind, including capacity, preliminary siting scenarios, and an economic analysis to determine the cost to utility consumers. The Offshore Wind Economic Development Act mandates that the Board of Public Utilities take into account the cost of a project and conduct a cost-benefit analysis. The bid process and the cost of ORECs will provide a clear snapshot of the expected cost of the project for utility customers. BPU's analysis should examine the outright cost of the energy as well as the social cost of carbon (including projected sea-level rise). This calculation would offset the higher initial cost currently of renewable energy with the future cost of fossil fuel energy, and would factor in cost-reductions in the clean energy technology.

With the goal of reaching 3,000 megawatts of offshore wind by 2025 and 5,000 megawatts by 2030, an ongoing comprehensive ocean planning process will inform decisions on siting and size.

PROMOTE CONTINUED DEVELOPMENT OF SOLAR POWER

New Jersey has been a nationally recognized leader in solar power development, ranking first on the East Coast and among the top three states nationwide in installed solar capacity. In 2015, solar power became the state's largest source of renewable electricity.

New Jersey should promote additional growth in solar by considering policies that other states have recently implemented to foster the solar market. For example, New York implemented a public/private partnership, called NY-Sun, that coordinates and expands existing solar programs, including that of PSEG Long Island, to support solar expansion. The cost of utility grid solar has significantly decreased in New York. Delaware and Connecticut now use a bidding system for inclusion in long-term contracts, with some solar companies bidding zero charges for the first three or four years to gain the security of the longer term.

RECOMMENDATION

Expand solar to about 15% of New Jersey's energy mix by 2030, and help reach that goal by adopting a program to reduce costs to residences and businesses.

Direct New Jersey's Board of Public Utilities to undertake a comprehensive review of best practices nationally and make recommendations for further strengthening and expanding New Jersey's solar capacity through a public process.

USE CLEAN ENERGY FUND AS INTENDED

New Jersey slowed its move to clean energy by diverting more than \$1.3 billion that utility customers had paid into programs designed to reduce energy use and promote development of renewable energy sources. These diversions for other purposes continued under the state budget adopted for the fiscal year starting July 1, 2017.

RECOMMENDATION

Use money from the Clean Energy Fund exclusively for energy efficiency, clean energy projects, and innovative clean energy technologies.

Raiding this fund and others is a counterproductive practice that delays a meaningful solution to the state's fiscal problems and sets back efforts to improve residents' well-being in important areas. This needs to stop. If legislators and the governor summoned the will, they could generate the resources needed for top state priorities.

At least 40% of yearly allocations from the Clean Energy Fund should go to energy efficiency and renewable energy projects in New Jersey's urban areas and communities of color.

PIPELINE PROLIFERATION

New Jersey's increased reliance on natural gas for electricity has serious drawbacks. Though natural gas burns more cleanly than oil or coal, it is a non-renewable fossil fuel, with high levels of carbon dioxide, and it brings a dramatic increase in emissions of methane—a powerful greenhouse gas that absorbs 25 times as much heat as CO₂ does. In addition to the climate impact, there are direct local effects: some power plants fueled by natural gas, including the Newark Energy Center, are in economically distressed neighborhoods and communities of color, where they contribute to air pollution that already is at disproportionately high levels.

A growing share of the natural gas reaching New Jersey comes from hydraulic fracturing ("fracking") in Pennsylvania. To carry this product from source to end users elsewhere in the U.S. and overseas, new pipelines have been proposed for New Jersey. Already, 1,520 miles of pipelines crisscross the state. Serious questions have been raised about the dangers these pipelines pose to public health and ecologically sensitive lands and habitat—explosions, as well as accidents, leaks, and spills—as well as about whether more pipelines are being proposed than needed to meet demand.

RECOMMENDATION

Place a moratorium on all pending pipeline projects and conduct a review to determine whether they are necessary, safe, and consistent with the state's goals to reduce the adverse impacts of climate change.

Such an assessment would include determining pipelines' impact on New Jersey's ability to meet targets under the Global Warming Response Act.

Ensure that pipelines do not damage critical natural resources, by using the state's full authority under the Clean Water Act and state regulations.

This would help prevent the approval of projects that are inconsistent with the regional plans protecting the Pinelands and the Highlands.

Preserving and Protecting Water Supply and Quality

Many factors affect the quality and quantity of drinking water available to New Jerseyans. Erratic precipitation patterns change the amount of water in reservoirs and aquifer-recharge areas. Residential development increases the demand for water while reducing the open space that absorbs rainwater and recharges the supply of ground water. Pollution taints the water drawn from reservoirs and wells.

For maximum effectiveness of state and federal laws enacted to protect water, sound water- and land-use planning is essential. That means knowing where water will come from, how much is needed in the future, and what steps must be taken to ensure water quality.

Failure to update New Jersey's Water Supply Master Plan since 1996 means important information is lacking. Many county water-quality management plans are out of date as well.

RECOMMENDATION

Restore and strengthen Clean Water Act protections.

In recent years, rollbacks of Water Quality Management Planning, septic rules in the Highlands, the Coastal Area Facility Review Act, and other rules and regulations have jeopardized water resources and put New Jersey in a worse position to meet the state's clean water needs. Without safe and abundant water resources, New Jersey cannot overcome the impacts of climate change.

Update the state Water Supply Master Plan.

The last Water Supply Master Plan was adopted by the NJDEP in 1996. New Jersey law requires that the plan be updated at least once every five years, but release of the update was delayed for over 15 years, costing New Jersey valuable time and depriving residents of the opportunity to evaluate strategies for maintaining an adequate supply of clean water. The DEP finally released a draft Water Supply Master Plan in spring 2017, but it is primarily a recapitulation of existing data. It fails to go into sufficient detail about vulnerable sub-watersheds and falls significantly short in proactively planning for New Jersey's water supply needs.



An extensive inventory of New Jersey's drinking water infrastructure is long overdue.

WATER QUALITY

The state Drinking Water Quality Institute, an expert panel responsible for developing standards for hazardous contaminants in drinking water, rarely meets. There has been very little implementation of new or more-stringent standards the DWQI has recommended for at least 12 years for about 16 contaminants.

RECOMMENDATION

Adopt the standards on contaminants in drinking water proposed by the Drinking Water Quality Institute.

The standards include a recommendation for the strictest health standard in the nation for perfluorooctanoic acid (PFOA), a contaminant found in Teflon, carpet cleaning products, and weather-proof fabrics.

CAPACITY

An extensive inventory of New Jersey's drinking water infrastructure is long overdue. Only with a clearer idea of the condition of every aspect of the system can policymakers know what is needed to rebuild water and sewer capacity and make other investments to assure residents of a safe, plentiful supply.

RECOMMENDATION

Conduct a comprehensive assessment of all state water programs, including an analysis of needed repairs and improvements.

The emphasis and priority should be on developing stormwater utilities, permeable pavements, and other "green infrastructure."

THE PINELANDS AND HIGHLANDS

To protect water sources that are acutely vulnerable to climate change, the state carved out two regions for special attention—the Pinelands and the Highlands. In the Pinelands, warmer temperatures, stronger storm systems, and changing rainfall patterns increase the risk of wells drying up and salt water intruding into the Kirkwood-Cohansey Aquifer. In the Highlands, development and climate change increase the likelihood of severe flooding and stormwater runoff, exposing water supplies to contamination.

To date, the Pinelands Commission and the Highlands Council have not directly addressed the threats posed by climate change. Neither the Pinelands Commission's most recent five-year review of the Comprehensive Management Plan nor the Highlands Council's Regional Master Plan, adopted in 2008, addresses climate change.

RECOMMENDATION

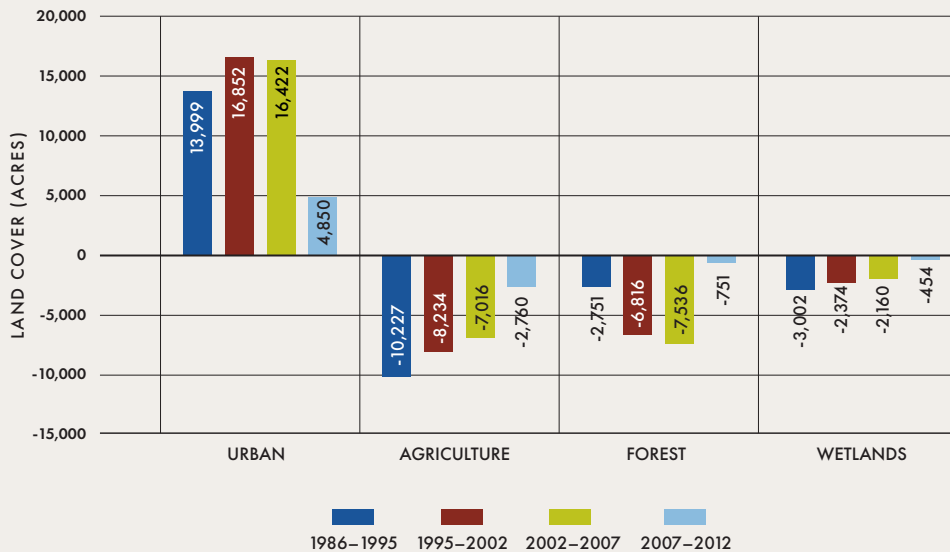
Require the Pinelands Commission and the Highlands Council to update their plans to address the impacts of climate change.

Invigorating State and Regional Planning

“Buy land,” Will Rogers famously counseled nearly a century ago. “They ain’t making any more of the stuff.” If the vaudevillian-turned-social commentator were alive today, he might advise New Jerseyans: “Preserve land. There ain’t much more of the stuff left.”

New Jersey is the most densely populated state and the most built-out. More than 2 million of the state’s 5 million acres are fully developed, and an estimated 1.4 million acres are protected by various levels of government. With much of the remaining land unsuitable for development, researchers expect New Jersey to approach near-total build-out by midcentury.²¹

New Jersey’s Disappearing Open Space



Source: “Changing Landscapes in the Garden State”²²

Preserving and protecting New Jersey’s shoreline, its diminishing open fields, forests, wetlands, highlands, farmland, and parkland are more than a matter of aesthetics. Undeveloped land absorbs rainfall, replenishing aquifers that are major sources of drinking water. The impervious surfaces in fully developed areas prevent rainwater from being absorbed by the ground, causing urban flooding, stormwater runoff, and sewer overflows.

SHORE PLAN LONG OVERDUE

Some municipalities along the Atlantic coast, Delaware Bay, and other low-lying areas are taking steps on their own. These include planning to buy out residents whose homes are severely damaged or destroyed in future storms; amending master plans to return storm-devastated residential areas to open space; requiring foundations of rebuilt homes to be raised several feet above previous levels; and upgrading sewer systems to protect against water contamination from severe flooding. But this is too big a problem to leave to local action.

RECOMMENDATION

Develop a climate-change action plan to address the coastal threats from rising sea levels. The plan should include effective growth-management strategies, sustainable-development practices, and protective shoreline-management plans.

This plan should include an immediate update of the Shore Protection Master Plan. The 35-year-old plan predates decades of development, Superstorm Sandy, the latest revelations about climate change, and the sea-level rise.

STRENGTHENING STATE PLANNING

New Jersey's development patterns through the last three decades of the 20th century and into the second decade of the 21st have led to suburban sprawl, turning farmland into shopping malls, office parks, and residential developments. This, in turn, has brought more parking lots, streets and sidewalks, and bigger, wider highways that enable commuters to travel greater distances between home and work, increasing motor-vehicle use, gasoline consumption, toxic air pollution, and greenhouse gas emissions.

New Jersey's first major attempt at curbing sprawl statewide came in 1985, with passage of the State Planning Act. The Act established the State Planning Commission (SPC) and the Office of State Planning (OSP). The SPC was assigned the duty of creating a "coordinated, integrated and comprehensive plan for the growth, development, and conservation of the State and its regions...which...identif[ies] areas for growth, agriculture, open space conservation and other appropriate designations."²³

The commission adopted New Jersey's first State Development and Redevelopment Plan in 1992, made changes and readopted in 2001, and offered a revision in 2010 that was not adopted. While many municipalities and counties actively participated in a "cross-acceptance" process aimed at linking the goals and objectives of the SDRP with local planning efforts, the effort was doomed by a flaw: the state plan was not binding. It became a haphazardly applied blueprint.

State and regional efforts, critical to climate change adaptation, demand greater urgency.



The State Planning Commission, for all practical purposes, is moribund.

RECOMMENDATION

Update the State Development and Redevelopment Plan, Pinelands Comprehensive Management Plan, and Highlands Regional Master Plan to address the threats New Jersey faces.

The 2010 version of the SDRP offered a prescient observation (originally attributed to Benjamin Franklin). “Failing to plan,” it declared, “is tantamount to planning to fail.”

Events of recent years bear out this sentiment. The OSP was reconstituted as the Office for Planning Advocacy in the Department of State. The SDRP became the State Strategic Plan, refocused primarily on where state investment should be guided, but was never adopted. The SPC, for all practical purposes, is moribund. According to the last two meetings for which minutes are available, the commission met for three minutes in July 2015 and for seven minutes in January 2016. Seven of its last 11 scheduled meetings have been canceled.

RECOMMENDATION

Remove the Office of State Planning from the Department of State and establish it as an independent agency located in the Department of Treasury.

The State Planning Act provided for the Office of State Planning and the State Planning Commission to be “established in the Department of the Treasury” as an independent body with a director appointed by and serving at the pleasure of the governor. The director was to act as the principal executive officer of the SPC. Over time, the independent authority of the SPC and its staff has been eroded. A return to the organizational infrastructure set forth by the State Planning Act, combined with a commitment to the mission and core principles of the State Planning Act, are necessary to restore the critical role of the SPC and its staff in undertaking sound and integrated statewide planning to protect the environment, revitalize cities and towns, and foster economic growth.²⁴

STRENGTHENING REGIONAL PLANNING BODIES

New Jersey’s efforts at regional planning have been more successful. In 1969, the Legislature established the Hackensack Meadowlands Development Commission (“Development” was later dropped from its name). The HMDC statute set up a district comprising 14 municipalities in Bergen and Hudson counties, with the commission largely responsible for converting the Meadowlands from landfill-infested marshland in the basin of the polluted Hackensack River into a transportation and recreation hub boasting 8,400 acres of preserved wetlands and open space.

The commission accomplished this through an innovative tax-sharing plan, under which the municipalities pooled revenue and enjoyed the economic benefits of sharing services and consolidating their planning, zoning, and regulatory functions into a single entity. Despite recent legislation and administrative action that weakened this regional collaboration, the transformation of the Meadowlands has been impressive.

The Pinelands offers another regional planning success. In 1978, Congress created the Pinelands National Reserve, covering 1.1 million acres—or 22% of the state's total land mass, the largest area of open space between Richmond and Boston. One year later, the New Jersey Legislature passed the Pinelands Protection Act, “to preserve, protect, and enhance the natural and cultural resources of the Pinelands National Reserve, and to encourage compatible economic and other human activities consistent with that purpose.”

The responsibility for carrying out this ambitious goal was placed in a 15-member appointed Pinelands Commission with an unusual level of land-use authority over an area encompassing 53 municipalities in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Ocean counties. Among other powers, the commission can override local land-use and development regulations. Municipalities are required to conform their local master plans and zoning ordinances to the regional plan.

Pursuant to the statute, the commission in 1980 delineated areas where development would be permitted, limited, or prohibited. By law, this Comprehensive Management Plan is updated every five years.

Despite occasional disputes between the Pinelands Commission and its constituent municipalities and counties (as well as the Legislature and the governor), the vision set forward more than three decades ago largely prevails. Nearly half of the Pinelands (460,000 acres) is permanently protected through cooperative state, county, municipal, and private efforts. The New Jersey Pinelands Commission's annual Long-Term Economic Monitoring Program finds that managed development has overall shown economic benefits for Pinelands municipalities using indicators such as population growth, real estate values, income and employment trends, and municipal finances.²⁵

The New Jersey Highlands Council, established in 2004, lacks the Pinelands Commission's level of authority. Its jurisdiction covers 859,000 acres spread across 88 municipalities in Bergen, Hunterdon, Morris, Passaic, Somerset, Sussex, and Warren counties.

Like the Pinelands Act, the Highlands Act aims to protect important water supplies—in this case, the sources for 5.4 million New Jersey residents, or 60% of the state's population. Unlike the Pinelands Comprehensive Management Plan, however, the Highlands Regional Plan is more an advisory document than an enforceable plan of action. It more closely resembles the State Planning Act in this regard, carrying sufficient weight to persuade some municipalities and counties to participate in joint planning efforts but lacking enforcement clout except in a Preservation Area regulated by the DEP. And, like the State Planning Commission, the Highlands Council's influence depends largely on the attention—or inattention—it receives from the administration in Trenton.

In recent years, some decisions have been made that run counter to the mission of preserving valuable resources and promoting regional solutions. Examples include eliminating regional tax sharing in the Meadowlands and approving a gas pipeline through the Pinelands' fragile ecosystem. In addition, the DEP has made more land in the Highlands available for development by increasing the number of septic systems allowed there. Corrections are needed to get back on course.

RECOMMENDATION

Appoint members to the State Planning Commission, Pinelands Commission, and Highlands Council who are committed to carrying out these agencies' missions.

All of these efforts are important to controlling sprawl, reversing unsustainable land-use patterns, slowing the inexorable drive toward build-out, and crafting regional solutions. But more is needed. Along the Atlantic coast and in other tidally influenced areas such as the Delaware Bayshore, Delaware River, and Hudson-Raritan estuary, the threats posed by climate change—beach erosion, tidal flooding and, ultimately, the permanent loss of habitable land to the rising sea—require regional, rather than local, strategies.

BEACH REPLENISHMENT

The Army Corps of Engineers, which has spent an estimated \$1.5 billion on New Jersey beach projects over the past 25 years, proposes to spend an additional \$1.92 billion for sand dredging and pumping through 2060, to replenish beaches and reconstruct dunes, which will be in ever-greater danger of washing away in extreme weather.²⁶ This is a losing proposition.

Even the best efforts of coastal municipalities to adapt their master plans, zoning ordinances, and building codes to changing climate conditions are no substitute for a larger scope of regional planning and management strategies.

RECOMMENDATION

Conduct a comprehensive cost-benefit analysis of all beach replenishment projects involving climate change considerations. The analysis should include alternatives to replenishment as a way to respond appropriately to the risks associated with climate change.



The harm from unhealthy air, unsafe water, haphazard development, and projects such as incinerators and power plants is often worst in neighborhoods that are beset by social and economic stress...

Ensuring Environmental Justice

A well-designed response to climate change would have the additional benefit of improving conditions for many in New Jersey who suffer disproportionately from environmental problems because of where they live.

The harm from unhealthy air, unsafe water, haphazard development, and projects such as incinerators and power plants is often worst in neighborhoods that are beset by social and economic stress and that do not have the clout of other communities to reject such projects. Air quality deteriorates in urban areas where ozone is trapped and concentrations of particulate matter are elevated; when temperatures rise, the air quality worsens further. Tap water for residents of many economically hard-pressed neighborhoods and communities of color comes from pipes more than 100 years old, which increases the potential for contamination. In many older homes and school buildings, children are exposed to unhealthy levels of lead, mold, and other indoor toxins—found in paint, in water drawn through lead pipes or copper plumbing soldered with lead, in furniture, even in older toys. The toxins can cause lasting brain injury, impairing children's ability to learn and grow.

New Jersey's urban areas also contain high concentrations of contaminated industrial sites, where cleanup efforts can be delayed for years—even decades—by litigation, the inability to identify a responsible party, lack of funding, or low priority on the remediation list. Some sites are simply paved over. Many urban parking lots, athletic facilities, and schools sit atop sequestered accumulations of toxic substances. One investigation found that 74% of New Jersey residents with incomes below the federal poverty line live within a mile of a contaminated site for which no cleanup plan exists.²⁷

The responses to these communities' environmental problems generally are site-specific or substance-specific. Poor air quality is treated as an air issue; poor water quality as a water issue; where to build a power plant is a siting issue. There is growing realization, however, that these multiple environmental problems need to be addressed together and to be framed in terms of the public health harms the pollutants cause.

Further, economically distressed neighborhoods and communities of color are too frequently located in places vulnerable to the effects of climate change: urban areas that experience unhealthy air quality when temperatures rise, severe flooding and contaminated water when rainfalls increase, plus inconvenience and worse when extreme weather disrupts the energy supply. More needs to be done to protect people in these communities.

RECOMMENDATION

Impose a moratorium on state regulatory approval or funding for any development that has not been screened to ensure that it is not adding to pollution burdens already imposed on economically struggling communities.

The requirement that state agencies take environmental justice into account would be strengthened by establishment of an Environmental Justice Advisory Council, whose responsibilities would include monitoring the cumulative impacts of development in communities over time.

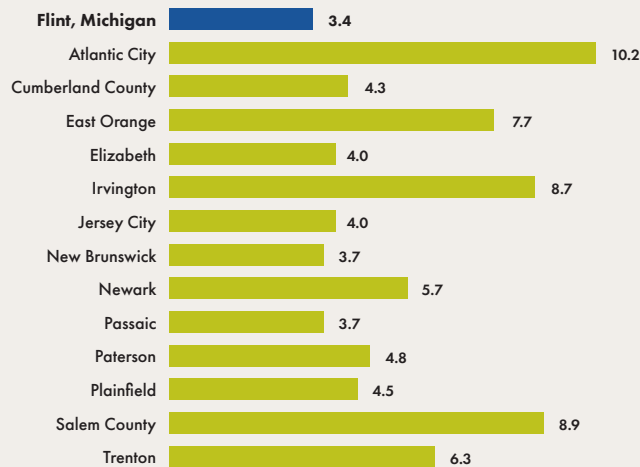
In the current system, developers need show only that the harm from any one form of pollution does not exceed danger levels. With analysis of cumulative impacts, the multiple forms of pollution would be measured comprehensively, which will more clearly show the additive effects of environmental hazards on the health of residents.

DEALING WITH DANGERS FROM LEAD

Science shows there is no safe level of exposure to lead, and children are most vulnerable to lead poisoning and the permanent damage it can cause. Eleven New Jersey communities have a higher proportion of young children with dangerous lead levels than does Flint, Mich.

More Children Experience Dangerous Lead Levels in New Jersey Than in Flint, Michigan

Percent of children tested at more than 5 milligrams per deciliter



Source: nj.com²⁸

Atlantic City, Irvington, and East Orange had the state's highest levels. One effort to address the issue of cumulative impacts is under way in Newark, where the city has adopted a municipal ordinance requiring the creation and maintenance of a resource inventory that includes demographic, health, and environmental data.²⁹ The ordinance also mandates that newly proposed commercial and industrial activities reveal the type and amount of pollution they will produce.

A broader state-coordinated approach is needed.

RECOMMENDATION

Significantly step up efforts to test for—and lessen exposure to—lead, and identify new sources of funds to assist with reducing health risks.

Necessary measures include:

- annual testing for lead in drinking water at schools, day-care centers, and pre-schools;
- requiring municipalities to conduct lead paint inspections in one- and two-family rental units;
- mandating soil testing to determine lead content prior to sales of homes that have a higher risk of contamination;
- compiling and granting public access to tests of soil lead levels; and
- adopting a statewide plan to reduce exposure from lead-contaminated buildings, soil, and drinking water.

DIESEL EMISSIONS

Living in urban areas also exposes residents to higher levels of vehicle exhaust than suburban and rural New Jerseyans face. State policy should take this into consideration.

RECOMMENDATION

Mandate significantly reduced diesel particulate-matter emissions, beginning with support for reviving a ban on pre-2007 trucks from ports operated by the Port Authority of New York and New Jersey.

Improving air quality will have a salutary effect on the health of residents in Newark, Elizabeth, and the surrounding area.

DISASTER READINESS

Though the consequences of climate change are more threatening and immediate in economically distressed neighborhoods and communities of color, many of those communities are unprepared.

RECOMMENDATION

Develop adaptation and emergency plans to address the impacts of climate change, with the involvement of community residents, local community groups, and environmental justice organizations.

Such plans should include steps to be taken for evacuation; police, fire, and public works deployment; and feeding and housing people when a climate-related crisis occurs.

Conclusion

Time is not on New Jersey's side. Challenges that previously were little known now turn out to be substantial threats to residents' well-being. And, in many instances, the situation is worsened because of action deferred and protections weakened. From rejoining the Regional Greenhouse Gas Initiative to developing a shore master plan to protecting economically struggling communities, restoring New Jersey to national environmental leadership is about far more than bragging rights. The state's quality of life is on the line.

Endnotes

- ¹ “Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” [U.S. Environmental Protection Agency](#).
- ² [“New Jersey Warming since the first Earth Day,” Climate Central.](#)
- ³ [Union of Concerned Scientists, Northeast Climate Impacts Assessment Synthesis Team, “Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions,” July 2007.](#)
- ⁴ [Sustainable Jersey Climate Change Adaptation Task Force, “New Jersey Climate Change Trends and Projections Summary,” September 26, 2011.](#)
- ⁵ [National Aeronautics and Space Administration, “2016 Climate Trends Continue to Break Records,” July 19, 2016.](#)
- ⁶ [National Conference of State Legislatures, “Climate Change and the Economy/New Jersey: Assessing the Costs of Climate Change,” 2008.](#)
- ⁷ [“Extreme Precipitation Events are on the Rise,” Climate Central, May 6, 2014.](#)
- ⁸ [NJ Climate Adaptation Alliance, “Assessing New Jersey’s Exposure to Sea-Level Rise and Coastal Storms: Report of the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel,” October 2016.](#)
- ⁹ [National Conference of State Legislatures, “Climate Change and the Economy/New Jersey: Assessing the Costs of Climate Change,” 2008.](#)
- ¹⁰ [US Energy Information Administration, “State Carbon Dioxide Emissions,” November 3, 2016.](#)
- ¹¹ [U.S. Environmental Protection Agency, “2015 Greenhouse Gas Emissions from Large Facilities,” reported to EPA by facilities as of August 13, 2016.](#)
- ¹² [US Energy Information Administration, “State Carbon Dioxide Emissions,” November 3, 2016.](#)
- ¹³ Ibid.
- ¹⁴ The cap on greenhouse gas emissions is a limit backed by science. Companies pay penalties if they exceed the cap, which gets stricter over time. The trade part is a market for companies to buy and sell allowances that permit them to emit only a certain amount. Trading gives companies a strong incentive to save money by cutting emissions. [Environmental Defense Fund, “How Cap and Trade Works.”](#)

- ¹⁵ [Regional Greenhouse Gas Initiative. "Regional Greenhouse Gas Initiative: An Initiative of the Northeast and Mid-Atlantic States of the U.S."](#)
- ¹⁶ [American Council for an Energy-Efficient Economy. "Energy Efficiency Resource Standard."](#)
- ¹⁷ The California Car program is based upon the 1970 Clean Air Act provisions that permit California to adopt more stringent auto-emissions standards than the federal government sets. Other states also may adopt the California emissions standards. New Jersey is considered a California Clean Cars state, and specifically one of 10 Section 177 states that are part of the Zero Emission Vehicle (ZEV) program. Based on the travel provision, auto manufacturers have been able to bank credits in Section 177 states for ZEVs based on ZEV sales in California. This credit program will expire in 2018, which makes it even more critical for New Jersey to ramp up its electric vehicle program. ["U.S.: Section 177 States," TransportPolicy.net, September 6, 2013.](#)
- ¹⁸ [New Jersey Department of Transportation, "New Jersey Annual Certified Public Road Mileage and VMT Estimates," 2015.](#)
- ¹⁹ The U.S. Department of Transportation's National Highway Traffic Safety Administration is responsible for establishing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act, as amended by the Energy Independence and Security Act (EISA). Its first National Program addressed 2012-2016 vehicles and the second phase of the national program covers 2017-2025 light duty vehicles. [U.S. Environmental Protection Agency: Regulations from Emissions from Vehicles and Engines.](#)
- ²⁰ [Environment New Jersey Research and Policy Center, "Turning to the Wind: American Wind Power is Cutting Carbon Pollution Today and Paving the Way for a Clean Energy Future," Winter 2015.](#)
- ²¹ [John Hasse, "Final Harvest in the Garden State: New Jersey's Struggle with Suburban Sprawl," in *Earthcare: An Anthology in Environmental Ethics*, eds. David Clowney and Patricia Mosto \(Lanham: Rowman & Littlefield Publishers, 2009\).](#)
- ²² [Richard G. Lathrop and John A. Bognar, Center for Remote Sensing and Spatial Analysis, Rutgers University, John E. Hasse, Geospatial Research Lab, Rowan University, "Changing Landscapes in the Garden State," December 2016.](#)
- ²³ [State Planning Act, N.J.S.A. 52:18A-196 \(2006\).](#)
- ²⁴ [Ibid.](#)
- ²⁵ [New Jersey Pinelands Commission, "New Jersey Pinelands Long-Term Economic Monitoring Program: 2015 Annual Report," June 2016.](#)
- ²⁶ [Kirk Moore, "Money and Sand: Will There Be Enough for New Jersey's Beaches?" NJ Spotlight, September 29, 2016.](#)
- ²⁷ ["Dirty Little Secrets: New Jersey's Poorest Live Surrounded by Contamination," WNYC, December 9, 2015.](#)
- ²⁸ [Ben Horowitz, "Why 11 N.J. cities have more lead-affected kids than Flint, Michigan," nj.com, February 3, 2016.](#)
- ²⁹ [City of Newark, Environmental Justice and Cumulative Impact Ordinance, July 7, 2016.](#)