

ENERGY: Time to take the offense

By Neal Peirce and Curtis Johnson

New England has historically been America's energy orphan, literally at the end of the energy pipelines. Only Hawaii is more vulnerable to interruption of imports or distribution system breakdown. Electricity costs are 36 percent above the national average.

So now, in a century shadowed by threat of global energy emergencies – Middle East instability and violence, Asia's insatiable energy appetite, the prospect of more Katrinas and devastating flooding wrought by global warming -- can New England survive and prosper?

Are the six states ready to unite in a search for radical diversification of energy sources? Can they conserve so smartly that they reduce their vulnerability?

The answers should be yes. The region has top corporations, nationally-famed research laboratories, scores of activist groups, all pushing new energy experiments. Self-reliance, resourcefulness, are New England hallmarks. Ingenuity and technological prowess are its trademarks. With a pioneering spirit, its six states working closely together, New England could lead America's indispensable energy revolution.

What's more, New England's at the receiving end of the midwestern air corridor with its many coal-burning plants. It's afflicted by disturbing rates of asthma, plagued by acid rain destroying lakes and forests.

As early as the 1970s, far-sighted regional leaders -- the late Sen. Paul Tsongas of Massachusetts at the fore -- began to focus on New England's energy vulnerabilities and suggest inventive regional strategies.

Massachusetts, in 1997, was the first state to set up a "renewable portfolio standard"-- how much utilities are obliged to switch to wind, solar, biomass and other "clean" energy alternatives. Connecticut, working with its utilities, has spent more than \$1.5 billion in 20 years on conservation and load management. All New England states now have some kind of program to promote conservation and new energy sources. Most of the region's utilities – savvy in energy technology, wired in politically – seem ready to be partners providing they're allowed to charge customers enough to offset their extra costs.

The emerging mega-issue is how to stem the greenhouse gas emissions increasingly linked to global warming, rising sea levels, more dangerous storms and lung disease. And presently there's a friendly competition -- New England and its New York-New Jersey neighbors versus the progressive West Coast trio of California, Washington and Oregon -- in tough measures to achieve cleaner air and reduce greenhouse gas emissions.

Progress will be hard to register. New England is still a fossil fuel glutton, whether it's heating oil or natural gas or gasoline. Regional demand for cleaner-burning natural gas has jumped 70 percent in recent years. Many hope that new liquefied natural gas (LNG) terminals may

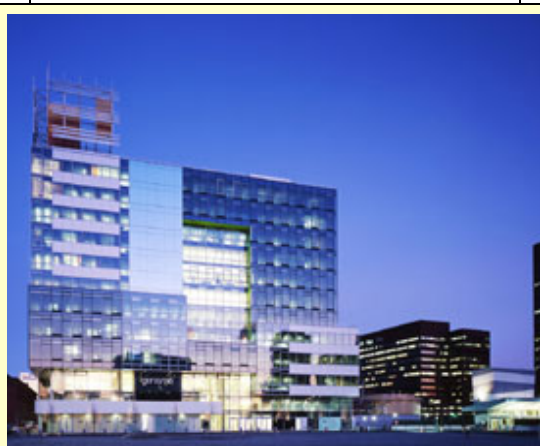


Photo: Peter Vanderwarker

The Genzyme Center, located in Cambridge, Mass., received the highest rating issued by the U.S. Green Building Council.

smooth out the wide New England price swings; globally, however, there's rising concern about reliable future supplies.

The harsh fact is that New England's reliance on fossil fuels -- whether from nearby Canada or such places as politically turbulent Venezuela and terrorist/supply threatened-Saudi-Arabia -- costs billions of dollars that could be

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recirculating, creating new companies and new jobs to bolster the region's perilously slow-growth economy. The lost opportunity is immense.

Plus, as Erich Stephens of

Peoples Power and Light in Providence notes, today's skyrocketing prices of natural gas mean New England has little choice: it must develop renewable sources if it's to hope for any energy price stabilization.

Criss-crossing New England in the past two years, we were startled by the chorus of rising impatience with the energy status quo. Students on campuses, firms pioneering new technologies, mayors and grassroots energy activist groups -- all are demanding a new, smarter energy future.

Many echoed Vermont energy expert Rich Cowart: "We should adopt, regionally, a suite of policies that are cost-effective in reducing our energy vulnerability. We're talking smart energy, not cheap energy."

It's true, New England has made a start on a new generation of energy-efficient buildings, "green roofs" included. Top "headline" breakthroughs include the Genzyme biotechnology company's stunning "LEED" (energy efficiency rated) 12-story building in Cambridge, and the ingenious geothermal heating and cooling system for historic Trinity Church in Boston proper. Across the six states, there are broad efforts to retrofit and "energy-proof" existing homes and buildings, with active encouragement of local utilities. There are pioneering spots of local generation and cogeneration of power, turning waste products into energy, applications of solar power and a renewed push for wind and solar. Burlington, Vt., now fills a startling 42 percent of its energy needs from renewable sources.

A number of universities -- the University of Connecticut, Mt. Holyoke, Middlebury, the Connecticut Conference of Independent Colleges among them -- have begun to set ambitious "green" standards for new buildings, undertake recycling programs, and cut overall

energy use. Harvard now ranks as the country's second-largest university buyer of renewable energy. Tufts University six years ago committed to meet or beat the emission reductions outlined in the Kyoto Protocol (the international accord the Bush administration disavowed).

And lots of energy organizing is underway, in New England -- groups ranging from "Clean Air-Cool Planet" to the Conservation Law Foundation, "Smartpower" to PIRGs (public interest research groups). All are pushing universities, businesses, towns, state governments, to take strong action to cut back on fossil fuels and advance renewables. More compact city and town growth, they note, will mean less sprawl, gas and electricity consumption.

The activism seems directly linked to what some experts call "civic environmentalism" -- an ideal rooted in the New England heritage of shared responsibility that began on the deck of the Mayflower in Provincetown Harbor on Nov. 11, 1620. The ideal was nurtured over centuries of town meetings and stewardship of local forests and farmlands. Starting in the 1960s, it expanded dramatically as towns across New England set up land trusts to protect treasured local lands, more recently to advance "smart growth" measures.

Even while hailing local activism, Charles H.F. Foster, Massachusetts' first (1971-75) secretary of environmental affairs, says state government has a significant partnership role to play. That's precisely what the Massachusetts Renewable Energy Trust, the Connecticut Clean Energy Fund and a smaller counterpart in Rhode Island are trying to do. Funded by a small surcharge on utility bills, they provide grants and loans to trigger progress from solar and wind to tidal energy experiments.

And the benefits get compounded, says Robert Pratt, head of the Bay State's Renewable Energy Trust. His group's strategic grants to promising "green" enterprises have spurred over 10,000 new jobs for high-paid scientists and engineers, but also the thousands of blue-collar workers likely to be busy for years if not decades retrofitting and building new facilities.

Boston Mayor Thomas Menino's "Green Building Task Force" is seeking to show how companies can reap such benefits as radically reduced energy costs, extended building life cycles, and greater worker productivity, outweighing higher construction costs often associated with green building.

And Menino's hardly alone. Forty-three New England cities have signed on as members of the International Council on Environmental Initiatives, pledging to fight global warming through "green" public buildings, expanded public transit and buying more renewable energy. SmartPower, a Hartford-based nonprofit, persuaded Connecticut to commit to 20 percent clean energy use in its operations by 2010, and 100 percent by 2050. It's pushing "20 by 2010" nationwide; recently Providence became the first Northeast capital city to sign on.

Many New England corporations are now reporting major bottom line savings from energy conservation. "Green" got a huge boost last May when General Electric's Jeff Immelt -- CEO/chairman of the Connecticut-headquartered mega-corporation -- said he'd cut back dramatically on GE's likely future greenhouse gas emissions. And, that he'd double GE's R & D budget for such clean technologies as hybrid locomotives, water desalination and recyclable plastics. "Increasingly for business," Immelt added, "green is green."



Photo: Sandy Thomas, NESEA

The Greenfield Energy Park, Greenfield, MA, opened in 1999 to provide public education about clean energy use in a public park setting.

None of this means that 20th century-style, "top-down" energy distribution -- the familiar pattern of importing gasoline and heating oil from afar, electricity from big central power plants -- will disappear anytime soon. Utility executives reminded us that renewable energy sources have a long way to go to meet New England's existing (not to mention growing) energy demand. They favor at least one more LNG terminal, and would take a fresh look at nuclear power, which provided close to 50 percent of the region's electric power in the early '90s, still 25 percent today. (Even some environmentalists would now favor a fresh look at nuclear power, because it produces zero greenhouse gas emissions. But politically, the issue's so radioactive that periodic relicensing of the region's existing nuclear plants may be challenge enough.)

So renewable energy choices remain the bright frontier. Though on a 1 to 10 scale of where New England could be on energy conservation and new source development, it's probably at just 3 or 4 today. Most of the inventing, financing, putting-in-place of a truly less dependent regional system remains to be done.

Some movement is starting on the private capital side -- for example the New Energy Capital Corp., a New England-based investment firm with a biomass power plant in Maine and a cogeneration plant in Massachusetts.

Yet ironically, part of New Energy Capital's funding comes from the California State Teachers' Retirement System. Right now, California has a massive lead on the renewable

energy front. The headlines have gone to Gov. Arnold Schwarzenegger's "million roofs" solar proposal. But what's already in motion, demanding New England's attention, is State Treasurer Phil Angelides' "Green Wave" initiative. The goal: to mobilize the immense investment powers of the state-run, multi-billion dollar pension funds to develop clean technologies in California that can then be sold across the globe. If there's any parallel effort by New England state treasurers, it's a well kept secret.

And with money, there's also need for strong region-wide commitment. Each New England state is individually just too small, too interlinked with its neighbors, to innovate effectively alone. Biofuels present golden opportunities, for example, but they cry out for a rational New England-wide distribution system developed with the utilities savvy in building and managing energy grids.

Handling sudden emergencies underscores the need. After a frightening 1965 energy blackout, the region created "New England ISO" -- an around-the-clock watchdog/coordinator of power flowing over the region's 7,000 miles of electric transmission lines, ready to protect the region against sudden outages.

But a lot more may be critical now. More hurricanes like Katrina could cripple the nation's oil refining and distribution capacity. A sudden jolt in global markets could send oil prices soaring north of \$100 a barrel. New Englanders' capacity to heat homes, businesses, schools -- or drive cars -- could be stretched to a breaking point. Interstate plans for massive bus and other alternative transportation modes would be mandatory. Today, in large part, they don't exist.

It's not just political leaders who need to lead New England's energy revolution. New ideas, skills, advocacy, need to come too from corporate leaders, scientists, planners, and the region's rich array of non-profit groups. Where conversions to a new energy age hit barriers, for example, civic and political New England's leaders need to be on deck. Think of the impact of top public-private leadership standing up, collectively, to local opponents of energy breakthroughs -- opponents of wind farms off of Cape Cod, and in the Vermont mountains, for example. The message wouldn't be hostile -- simply that every reasonable new piece of energy supply is needed to enhance New England's energy future.

And it needn't all be an "eat your spinach" exercise. Why not hold a New England-wide natural resources summit, suggests Rick Handley of the Coalition of Northeast Governors. Patterned after a successful Maine conference convened by Gov. John Baldacci, its theme could be economic and environmental opportunity. Imaginative research and development agendas could explore new ways to tap energy potentials from the northern forests to the region's ocean frontiers, with narrowly-conceived single-state efforts replaced by smart interstate sharing of research capacity, capital and planning.

We did sense that the combination of new energy initiatives across New England -- by governments, universities, corporations, utilities,

non-profits -- may be ready for spontaneous combustion. New Englanders are supposed to

be a smart bunch. It's time to overcome old turf barriers and move the needle forward -- fast.

Price Spike City -- And How to Escape It

By Neal Peirce and Curtis Johnson

New Englanders filling their gas tanks in September 2004 paid an average of \$1.87 a gallon; this summer the price was \$2.54, and for weeks in the wake of Hurricane Katrina, over \$3. In 2003, home heating oil cost \$1.23 a gallon, this September it spiked to \$2.61. Natural gas prices are projected to be close to 50 percent higher than last winter.

So what's New England to do?

First, it can ramp up its push for solar, wind power and biofuels. All have historically required some form of subsidy, but today have begun to look quite competitive. Unless world energy prices start to tumble dramatically, the "renewables" will likely prove to be the inexpensive (and reliable!) sources of the future.

But for a far swifter impact on energy prices and fossil fuel consumption, New England (like the Bush administration, in the wake of the recent hurricanes) needs to turn fast and hard toward energy efficiency. Efficiency is the region's "nearest big-time opportunity" for dramatic energy savings, says Robert Pratt, director of the Massachusetts Renewable Energy Trust.

So what's "efficiency"? Isn't that all the stuff we've heard for years about installing sensor-activated lights, buying low-energy bulbs? About limiting the power use of every product from television adapter boxes to commercial icemakers? Or rewriting building codes for higher energy efficiency? Or utility-administered programs that pay for home insulation?

The answer: yes, and consumers and businesses in New England and nationwide have already saved billions of dollars by such measures, even while freeing up energy supplies. But the job's just started. New, improved appliance standards are constantly being proposed: a broad set of rules was approved in Rhode Island in June, with measures pending in all the other New England states.

The allied, big idea is "green" building -- every measure from improved materials and insulation to basic design and siting as ways to reduce energy demand in homes, office buildings, schools and stores. The opportunity is massive:



Photo: ISO New England

The control room at ISO New England serves as an around-the-clock watchdog/coordinator of power flowing over the region's 7,000 miles of electric transmission lines.

buildings account for two-fifths of America's overall energy consumption and generate a third of its carbon dioxide emissions. Insisting buildings "go green" can yield huge gains. Even in such "slow growth" states as Massachusetts and Connecticut, there are projected to be spectacular numbers of new homes (25 percent-plus increase) and office space (over 50 percent) in 2030 compared to 2000.

Lots of standard assumptions do need to be challenged to get there. Consider New England's electricity demand -- it's rising, inexorably, 1.2 percent a year to 2013, according to ISO New England, the group that oversees electric generation and transmission in the six states.

But contrast that discouraging prospect with the "economically achievable energy efficiency

potential" calculated by the non-profit, Northeast Energy Efficiency Partnerships (a coalition of consumer, environmental and energy efficiency groups). With smart steps now, the group projects, New England could actually do a turnaround and reach 1.38 percent less demand per year. Natural gas demand could be cut by as much as 25 percent by 2013. Investing in energy efficiency could provide net benefits of up to \$23 billion for the region's economy.

One exciting potential: systems of "distributed generation" -- local power plants producing modest amounts of electricity within or close to hospitals, apartment houses, factories or neighborhoods. Often operated with cogeneration techniques to produce both electricity and heat, the energy efficiency of such plants is often double or triple that of typical big regional power plants (which typically lose large chunks of their power traveling long distances on transmission lines).

Distributed generation, we heard, could help especially in areas where the New England power grid is perilously overloaded -- a problem now severest in Connecticut from Middletown to the New York line, where local opposition has stymied building of sufficient power lines, but also in areas around Boston, southeast Massachusetts, and Burlington, Vt. Why couldn't local generation reduce or-- maybe eliminate -- need for some new transmission lines?

Another plus of local power plants is that while they often power up with natural gas, they're ideally suited for several emerging new energy technologies -- fuel cells, wind turbines, rooftop solar electric devices, even bioconversion based on cow manure. They protect consumers from major power blackouts and reduce vulnerability to terrorist attacks. Both drawing power from and able to contribute power to large electric grids, they sound like quintessential New England: "distributed, decentralized and democratic."

There's Fuel in those Fields

By Neal Peirce and Curtis Johnson

Diesel fuel oil – spewing its burned black emissions from the tailpipes of countless trucks, buses, heavy construction equipment, not to mention home furnaces – has big downsides.

It throws off particulates considered a major culprit in high asthma rates. It exudes carbon into the atmosphere, increasing perils of global warming. Every gallon has to be imported into New England. Its price is sensitive to any interruption of U.S. or international petroleum supplies.

But what if New England could blend a homegrown substitute fuel to run all those hungry vehicles? Or, even better, pour a clean substitute (50 percent fewer particulates, 78 percent less carbon dioxide) into the furnaces of millions of homes and small businesses?

This miracle fuel already exists. Based on crops from New England and Midwestern farms, it can take a substantial bite out of the petro-dollars that we now ship overseas. It's called biodiesel. Almost any modern diesel engine, or diesel-powered furnace, can run on any proportion of biodiesel. Harmful emissions start to drop significantly, even at a blend of 10 percent biodiesel.

Up to now, biodiesel has mostly been made by crushing soybean seeds to separate the oil, after which there's a fancy process called transesterification. But a next generation of crop source is coming on fast, based on the far higher production potential of rapeseed (canola) and mustard seeds.

Advocates such as director Fred Carstensen of the Connecticut Center for Economic Analysis claim these new sources can more than double biodiesel harvests and yield four times the energy it takes to produce it. That means biofuels are increasingly cost competitive as national and global fuel prices escalate.

There are naysayers, of course. "Not enough land in New England for these seeds...the growing season's too short, the soil too rocky."

But one instantly wonders: can biofuels translate into an era of new, locally raised crops, provide willing, young New England farmers with reason to stay? Could fuel crops provide incentive to keep the open, tended fields so important to the

region's mystique (and tourist economy)? On the edge of growing metropolitan zones, can biofuels help farmers decide against making a subdivision their final crop?

The potentials are wide. After oil is extracted from mustard seeds, for example, the remaining meal in some varieties makes an effective organic pesticide. According to Michael Briggs



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of the University of New Hampshire's physics department, "High oil algae can be grown on organic wastestreams and processed into biodiesel and biofertilizer, animal feed, and potentially other products, yielding many times more oil per acre than conventional crops."

Biofuels may also be a key to tapping the energy harvests of New England's vast northern forests. Current experiments seek to take waste or low-grade timber, volatize it and cool the gases, some of which condense into a bio-oil that can be used as a fuel.

New England biofuel pioneers, it turns out, are already at work -- small refineries, start-up distribution terminals, venture capital financing for production facilities. In several locations, cooking oil from restaurants is being used as a biofuel. UConn and MIT, Dartmouth and others are testing new biofuel sources. Boston Mayor Tom Menino is vowing to convert 450 city vehicles to the fuel.

What about price? Historically, biofuels have cost marginally more than oil or gas. But this spring in the Midwest, ethanol was selling 30-40 cents per gallon less than gasoline. Brazil gambled oil prices would soar and now a third of its vehicles operate on ethanol largely produced from their own sugar crops. Most of the energy experts we talked with said that unless hurricanes stop, peace suddenly engulfs the Middle East, and Asian nations halt their fast-rising energy demands, petroleum prices will ride a permanent high. The bottom line for biofuels: an excellent bet for New England.

But with one big proviso. This won't work in New England's familiar, splintered ways.

If biodiesel is to get to significant scale, really make a difference, it must have a big enough start-up market. That means "lot of additional tank capacity, along with new quality measures," says Richard Handley of the Coalition of Northeast Governors. Governments will need to be catalysts since private sector fleets will join, but too slowly.

There's an obvious breakthrough strategy: start shifting all of New England's school districts, public vehicle fleets, transit systems to biodiesel. Then there'll be incentive for major investments in crushing and refining equipment, supply terminals, distribution centers.

In addition, there's major potential in the home heating market. Handley points to surveys showing consumers would even pay more for a biodiesel blend, though enough local supply, combined with federal tax credits, could make biodiesel cheaper

As a starter, a big New England skull session on biofuels could be called -- possibly by the Clean Energy States Alliance, based in Montpelier. From crop selection long-term benefits, there are many unknowns. But who says science and techno-proficient New England can't figure the answers?

Attempted state by state, biofuels won't amount to much. Developed region-wide, they could be a big marker in a New England drive for ever-greater energy independence.

Sustainable Cities: What It Takes

By Neal Peirce and Curtis Johnson

Can high energy efficiency and fighting global warming bubble from the bottom up?

Portland, Oregon claims so. In 1993 it became America's first city to adopt a strategy to reduce emission of carbon dioxide (CO₂), the heat-

trapping gas primarily responsible for global warming. The goal then: reduce CO₂ emissions to 10 percent below 1990 levels by 2010.

More than a decade later, there's dramatic progress to report: per capita emissions for

Portland and surrounding Multnomah County have dropped 13 percent. Overall emissions are already under 1990 levels.

How did Portland do it?

By an across-the-board strategy of interlinked steps, developed systematically since the late 1970s. Examples:

- Aggressively seeking renewable electricity sources for city buildings -- 12 percent achieved so far, the agreed-on goal 100 percent. (A utility-scale wind power project is now being explored.)

- Saving watts by replacing incandescent traffic signals with LED bulbs, cutting the city's electricity bill by \$265,000 a year.

- Initiating a 20 percent biofuel mix for all diesel vehicles and equipment using the city's fueling stations.

- Cutting auto driving by a web-based ride-sharing service, new biking and walking paths, and adding two major light rail and a city streetcar line (with a 75 percent increase in public transit ridership).

- Achieving 53 percent recycling of trash - among the country's highest. (Buried and burned garbage means energy is being wasted. For example: compared to the energy expenditure of original manufacture, it takes 90 percent less energy to remanufacture aluminum or plastics, 50 percent less for steel or paper, 30 percent less for glass.)

- Constructing nearly 40 high-performance green buildings.



Photo: Institute for Sustainable Communities
Burlington, Vt., now fills a startling 42 percent of its energy needs from renewable sources.

- Planting over 750,000 trees and shrubs (which absorb CO2 from the atmosphere).

- Aggressive steps to weatherize thousands of homes and multifamily units.

- Getting state help -- namely energy-efficiency incentives for homes and businesses through the newly-created Energy Trust of Oregon.

So, one asks, could New England cities achieve as much? The answer: at least one -- Burlington, Vt. -- actually has. Burlington's been pursuing truly sustainable development "since before the term was invented," claims Mayor Peter Clavelle. Today the city as a whole is actually consuming 2 percent less energy than it did in 1989.

How? Aiming "to conserve rather than consume," says Clavelle. The city tries to promote compact urban development and less sprawl, partly through major downtown and waterfront development. It has an active trash recycling program.

And Burlington Electric, the municipally-owned utility, has moved its percentage of energy from renewable sources to 42 percent. One major source: electricity from wood chips, a regionally available and renewable resource. The utility's next aim: wind power from proposed (and hotly debated) new Vermont wind farms.

A Perilously Warm New England?

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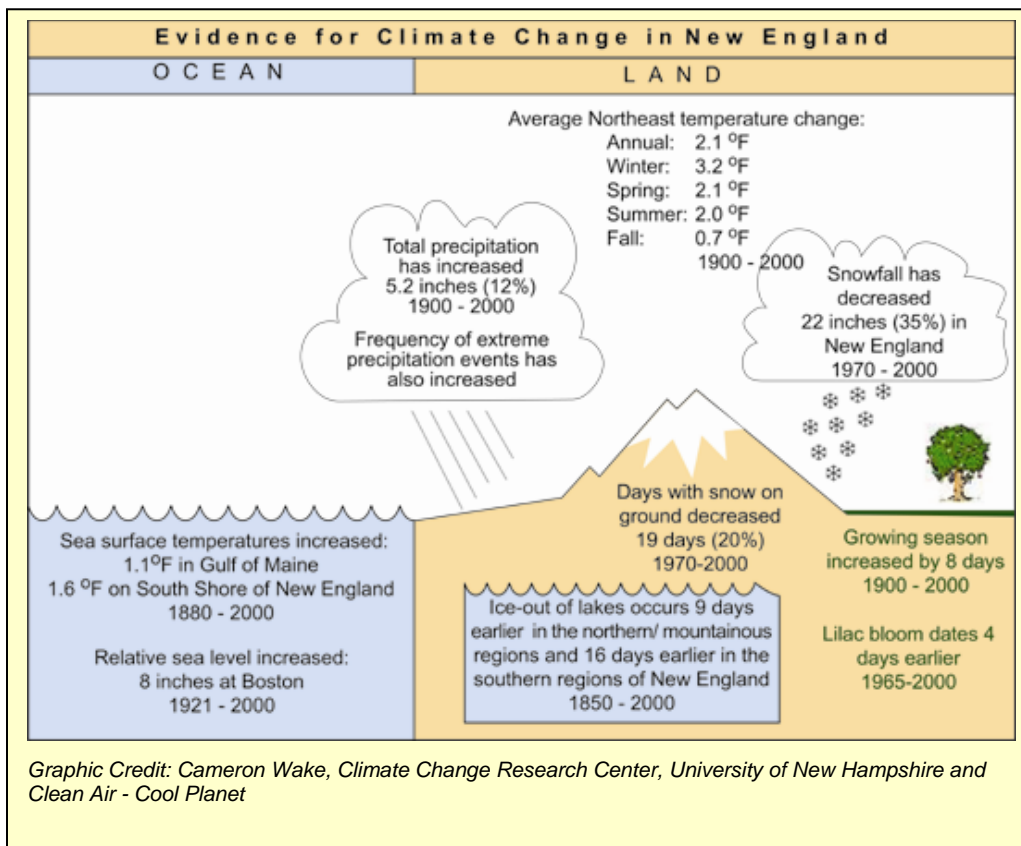
Weather, New England and change aren't strangers; as Mark Twain astutely noted, "One of the brightest gems in the New England weather is the dazzling uncertainty of it."

But what of today's red flag issue: global warming?

First, is it real? Some skeptics and the oil industry dismiss it, but the vast majorities of scientists now believe that the past century's sharp increases in key greenhouse gases, especially carbon dioxide, triggered by the burning of fossil fuels (coal, oil and gas) are raising the earth's temperature.

A sea change in attitudes is likely to build in the wake of Hurricanes Katrina and Rita, counsels John Topping, president of the Climate Institute. "The United States is one of the most vulnerable nations in the world to climate change. The peril is extreme on the Gulf Coast. But the whole Atlantic Coast is very vulnerable. We're likely to see more super- hurricanes-- Category 4's becoming Category 4.5 or 5's, for example, and a lot more rain even from moderate storms."

Even before global warming became an issue, New England faced periodic



storms costing many lives, inflicting vast damage – including the brutally damaging hurricane of 1938, which produced winds of up to 138 miles per hour and killed close to 700 people, and storms of immense severity in 1954, 1955, 1960, 1985 and 1991.

A rise in sea levels -- perhaps 1 to 2 feet -- is virtually certain, meaning storm surges also 1 to 2 feet higher, says Topping. "Boston and other areas along New England's coast could be under water."

But what's the bigger picture for New England? A careful -- and sobering -- assessment was published this year by the environmental group, "Clean Air-Cool Planet." Using data from the University of New Hampshire's Climate Change Research Center, it showed clear trends toward warmer temperatures, longer warm seasons and shorter winters, and increased overall precipitation despite decreased snowfall. Sea temperatures have risen; ice-out on lakes is occurring earlier. Sea level at Boston has risen 8 inches since 1856.

And average New Englanders are starting to note change, says Bill Burtis of Clean Air-Cool Planet. More ozone alert days. Troublesome asthma rates, even in coastal Maine. Very heavy local rainfalls with erosion and local flooding. The peak of fall foliage, formerly around Columbus Day in most of northern New England, has retreated a week or so, nipping tourism. And there are fears the region's forests

will actually switch from fabled maple and birch to more oak and pine, making today's vivid fall colors, a New England trademark around the world, mere memory.

Boston-based writer Jane Holtz Kay recently wrote for the American Planning Association Magazine, we're now faced by "threatened shorelines, sinking islands, drought-hit farms, undermined species, and melting glaciers."

Some say global warming is a worldwide problem, beyond local control. But the Conservation Law Foundation warns that New England's 14 million people produce, cumulatively, more greenhouse gas emission than 92 developing nations with a half billion-plus people.

So what's to be done? The region's leaders, pushed along by activist groups, have begun to act. A Climate Change Action Plan -- strong on goals, weak on implementation -- was approved by the New England governors and the Eastern Canadian premiers in 2001. In 2003, New York's Gov. George Pataki invited all nine governors from Maine to Maryland to develop a regional program with clear state-by-state goals to cut carbon dioxide emissions. Individual states have been working on an implementation formula.

Some businesses and electric companies cry foul. The Edison Electric Institute foresees a "major impact" on electricity prices. Advocates

reply that with the federal government asleep at the switch on global warming, states and regions need to take the initiative, that in the long run cutting carbon dioxide emissions will reduce energy needs and costs. According to the Environmental Protection Agency, for example, commercial and institutional buildings use \$80 billion worth of energy each year and contribute about 20 percent of U.S. greenhouse gas emissions - a problem state and local leadership and regulations could address directly.

In California, Gov. Arnold Schwarzenegger has set a goal of cutting California's greenhouse emissions in five years to less than the levels of 2000: "We know the science, we see the threat; the time for action is now," he declares.

And the Californians are clearly ahead of the pack with their recently enacted, toughest-in-the-nation emission standards for new cars, SUVs and light trucks. Oregon and Washington appear to have withstood the pressure of the auto lobbyists and decided to join California.

Will New England go along? Latest reports indicate Massachusetts, Connecticut, Vermont and Maine, plus New York and New Jersey, have determined to set vehicle emission standards identical to California's. Rhode Island is uncertain, and New Hampshire -- at latest report -- was resistant. New England may need some serious inter-family counseling to straighten out its act for fast-changing times.

About the Writers and the Project

Journalists Neal Peirce and Curtis Johnson have reported for newspapers on the unique strategic issues facing two dozen metropolitan regions nationwide. Peirce is a syndicated columnist (Washington Post Writers Group) who has also written two books on New England. Johnson is a public policy analyst and a former community college president and Minnesota government official. They co-authored the book *Citistates*.

These articles are the kickoff of a New England Futures Project aimed at identifying key 21st century challenges facing the six-state region. Citizen reaction and participation, leading to a shared regional agenda, are key to the project. Your input is welcome at www.newenglandfutures.org.

The sponsoring Partnership for New England includes the Vermont-based Institute for Sustainable Communities (which will coordinate follow-up public debates across the region), the New England Council, the New England Initiative at UMass Lowell, Mt. Auburn Associates, the New England Association of Regional Councils, and the Orton Family Foundation. Financial backing comes from community foundations in all six states, the Bank of America Foundation and others (full list at the web site).



Journalists Curtis Johnson (left) and Neal Peirce, are co-authors of the "New England: New Century - New Game" series.