

RENEWABLE ENERGY OPTIONS FOR THE CAPE & ISLANDS



THE COMMUNITY NEWSPAPER COMPANY SERIES



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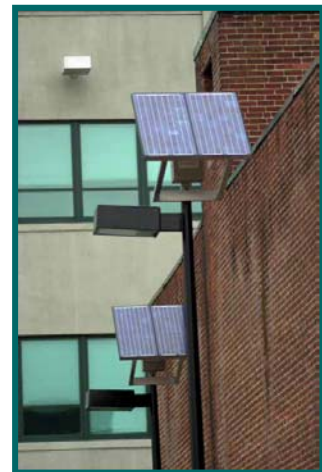
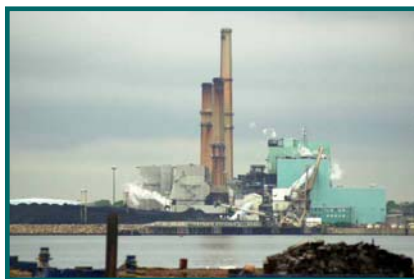


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The following series of articles was published by the Community Newspaper Company of Cape Cod. The series illustrates the commitment of editor-in-chief, Glenn Ritt to take advantage of the attention on renewable energy generated by the controversy swirling around the proposed offshore wind farm and explore the full range of renewable energy options available to the residents of Cape Cod, Martha's Vineyard and Nantucket.

Glenn invited each panelist who had agreed to participate in MTC's forum entitled "Renewable Energy Options for the Cape & Islands" that was held on October 26, 2002 at the Barnstable High School Performing Arts Center to write an op-ed for his newspaper. The articles were published in the weeks leading up to the forum – in most cases alongside other articles that dealt specifically with the proposed offshore wind farm.

The panelists' PowerPoint presentations are available on the MTC Web site:
www.masstech.org/RenewableEnergy/green_power/outreach/conference.htm





Renewable Energy Choices for the Cape and Islands

Greg Watson

Vice President, Massachusetts Technology Collaborative

October 11, 2002

What if you were given the opportunity to improve the local economy and environment and in the process help shape a national policy issue that had major implications for the entire planet? What would you do? Well, that's precisely the position that the residents of Cape Cod and the islands of Martha's Vineyard and Nantucket find themselves in today.

The issue in question is energy. The confluence of a number of factors has positioned the Cape and Islands as a catalyst for a long overdue *public* discussion on national energy policy.

Before jumping to conclusions, it should be made clear that this is not an article about the proposed offshore wind project, at least not entirely. There is no question that the proposal to develop a utility-scale wind farm on the Outer Continental Shelf off the coast of Cape Cod has riveted public attention on renewable energy in this region as never before. The Massachusetts Technology Collaborative intends to take advantage of this opportunity to help the residents of the Cape and Islands explore the full range of their renewable energy options.

There are many compelling reasons for integrating renewable energy sources into local, state and regional infrastructures. The development of indigenous renewable energy sources (solar, wind, biomass, hydroelectric, fuel cells, ocean wave and tidal) can enhance regional energy security, improve air quality, help mitigate global climate change, and be the source of new jobs.

The Massachusetts Restructuring Act of 1997 opened up the state's electric utility industry to competition and offered ratepayers their first real opportunity to have a say in influencing how their electricity is generated, and how much they pay for it. However, that historic piece of legislation only makes the benefits of competition *possible*, not inevitable.

The Massachusetts Legislature created the Renewable Energy Trust as part of the Restructuring Act. The Trust's mission is to shift electric energy consumption in Massachusetts away from conventional energy resources to a greater reliance on energy generated from renewable resources. Funded by ratepayers and administered by the Massachusetts Technology Collaborative (MTC), the Trust has initiated a number of programs designed to increase electric generating capacity from renewable resources while also encouraging the adoption of energy efficiency measures.

The Renewable Energy Trust currently focuses on six program areas (**Green Policy Development, Green Power, Green Buildings and Schools, Green Jobs, Education & Public Awareness, Community Outreach and Siting**) that span the spectrum of options from utility-scale green power projects (including wind farms and landfill gas facilities) to smaller-scale distributed generation initiatives such as green buildings and the installation of photovoltaic systems.

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MTC approved \$50 million in programs through the Trust in the past fiscal year. Falmouth was among the twenty-one cities and towns that received grants from MTC to assist in building high-performance, resource-efficient schools. The Woods Hole Research Center was the recipient of a grant to install photovoltaic panels and energy monitoring system at its Ordway Campus as part of the Green Buildings Initiative. Falmouth Hospital and Cape Cod Community College were awarded grants to conduct Green Building feasibility studies. MTC also awarded a grant to the Cape Light Compact in support of their efforts to increase consumer demand for electricity generated from renewable resources.

The arguments in favor of shifting our reliance away from fossil fuels to renewable energy sources for generating electricity become more persuasive as scientists continually unveil new evidence about the harmful cumulative effects on the environment and human health resulting from burning oil, coal and natural gas to fuel the world's industrial economy – global climate change being arguably the most profound. Ironically, at the same time, efforts to integrate renewable energy into our energy infrastructure continue to face a variety of technical, social and political hurdles.

The technical challenges are often the more straightforward. Most involve making technological advances that will effectively drive down the cost of solar panels, wind turbines and fuel cells and make them more competitive with conventional energy technologies.

The more formidable obstacles tend to be social and political in nature. Choosing a clean energy path will not be as simple as taking the conventional energy route we've become accustomed to. Renewables are more complex than traditional

fossil fuels. Most renewable energy sources are intermittent (windmills only generate electricity when the wind blows, solar panels only when the sun shines), and most are very site-specific (you must be *where* the wind blows and *where* the sun shines). In the case of the Cape and Islands, choices concerning the use of the ocean as a source of renewable energy may prove to be especially wrenching.

A commitment to renewable energy means that we will not be able to continue consuming energy at current rates nor will we be able to meet our energy needs from any single source. We will need to use less energy coming from more sources. Conservation, efficiency and diversity are the necessary precursors to a sustainable energy future. The Cape and Islands are uniquely positioned to demonstrate how such a future can unfold.

Cape Cod and the Islands are among the most beautiful places on Earth. We are fortunate not only for the beauty of our natural environment but also to be host to a number of outstanding organizations that understand the connections linking energy and the health of the environment and our local economy. Today we are challenged to develop innovative approaches to meeting the energy demands of a growing population and economy in ways that preserve the environment and our quality of life. Renewable energy has to be a part of the solution. How, where and when are up to you.

You can learn about the benefits of renewable energy in greater detail by reading the articles that follow as part of this series in the *Register* and by attending a forum entitled "Renewable Energy Options for the Cape & Islands" that will be held at the Barnstable High School Performing Arts Center on October 26, 2002 from 8:30am to 1pm.



Global Warming, Energy, and Cape Cod

Stephen H. Burrington

Vice President and General Counsel, Conservation Law Foundation

October 17, 2002

A newspaper headline delivered a simple but disturbing message to Cape Cod residents one day last June: "EPA concedes greenhouse effect; no remedial action planned as yet." In its *Climate Action Report*, EPA had acknowledged that "[h]uman-induced warming and associated sea level rises" are occurring. The carbon dioxide and other gases produced when we burn fossil fuels have created a heat-trapping blanket that's warming the planet.

Last March, a 12,000 year-old ice shelf in Antarctica, roughly the size of Rhode Island, collapsed into the ocean. The summer brought dramatic news of glaciers melting in Alaska. Scientists have been adjusting upward their predictions of sea level rise. The Woods Hole Oceanographic Institute points out that Massachusetts's sandy low-lying coastal communities face the greatest loss of land.

We don't know exactly what changes global warming will bring, or when. As one expert tells us, we should think of the earth's climate as an angry beast that we're poking with a sharp stick. The climate may react unpredictably and violently.

But we know enough to take action, starting with four facts.

First, most greenhouse gas pollution – about 70% – comes from transportation and electricity generation. Second, Americans have a special responsibility to act – we make up only 4% of the world's population, yet produce one quarter of its greenhouse gas pollution. Third, we need to act soon – greenhouse gases

linger in the atmosphere for decades, so the longer we pollute, the sharper the cutbacks we'll need to make to stabilize the climate.

Last, but not least, is this: because the federal government has no plans to cut greenhouse gas pollution, the responsibility for taking action falls squarely on the shoulders of the American people.

Tackling transportation will be tough. The federal government has exclusive authority to regulate fuel economy and most forms of pollution from cars and trucks. California has passed a law regulating carbon dioxide emissions from motor vehicles, and now faces an epic court battle against auto manufacturers as a result. Massachusetts should support and emulate California's move.

We have more control over where our electricity comes from than we do over what cars Detroit offers. And we have many reasons to clean up our power system. Massachusetts's "Filthy Five" power plants – coal and oil-fired plants built before the Clean Air Act was passed – cause hundreds of premature deaths and thousands of unnecessary hospitalizations every year. Canal Station in Sandwich is one of them; the Brayton Point plant, a few miles upwind in Somerset, is the largest. Power plants such as these also spew nitrogen that is visibly damaging our bays and coves.

How much must we do to protect the climate? How do we go about it?

No one knows exactly what it will take to stabilize the climate, but it

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is safe to say we must cut greenhouse gas pollution to less than half its current level. At the same time, we have to replace New England's aging nuclear power plants, which generate one-quarter of its electricity without emitting greenhouse gases. Four plants have already closed and the others will reach the end of their lives in coming years.

Industry spokesmen call for a new generation of nuclear plants. But nuclear power means high costs, insoluble waste disposal problems, and enormous controversy. Since New England states enacted utility restructuring laws, dozens of clean, efficient natural gas-fired power plants have begun to replace both nukes and old, dirty fossil fuel-fired plants. But new gas plants still produce lots of carbon dioxide.

Should we concentrate on cutting demand, rather than trying to satisfy a seemingly insatiable appetite for energy?

For over a decade, New England has been a national leader in energy efficiency. We have done more than any other region – with the possible exception of California – both to retrofit existing homes and businesses and to design new buildings so they consume less electricity. The Massachusetts utility restructuring law provides continued funding for this effort.

But consider this. With a very aggressive efficiency effort, New England has still seen electricity consumption rise. We can and should reduce the rate of growth more than we have to date. But it is unlikely we can keep electricity consumption from rising somewhat.

Massachusetts thus needs a renewable energy strategy that can attain a three-part goal. We must displace a significant part of current

fossil fuel generation, make up for the closing of nuclear plants, and meet the growth in demand that will occur even if we invest more heavily in efficiency.

It's a tall order, but one we can fill if we care enough to protect our children and grandchildren from the harm that global warming will otherwise inflict on Cape Cod and the rest of the world.

Taking into account technology, geography, and economics, our two leading renewable energy options are wind power and combustion of natural gas produced by decaying landfills. New England has rich wind resources offshore and on mountain ridges. Wind power technology has improved steadily over the past two decades, and can now generate electricity at close to the price of conventional sources. On the other hand, a limited number of landfills produce enough gas to support electricity generation. They represent a more modest part of our energy portfolio.

Other renewable energy sources have much more limited potential in the near term. Three that have long-term potential -- photovoltaic cells, fuel cells, and power plants that burn "biomass" such as forest industry waste in an environmentally sound manner -- remain very expensive or await further technological developments. Only small additional amounts of hydropower from new or existing dams can be developed in either the near or long term.

So, like other parts of the United States, Europe, and the developing world, Cape Cod must look above all to wind power. This year, its debate over offshore wind power has attracted national media coverage. Our decisions about how to use this vitally important resource will be watched closely by others.



Massachusetts Renewable Portfolio Standard: Setting the Stage for Green Power

David L. O'Connor

Commissioner, Massachusetts Division of Energy Resources

October 17, 2002

Over the last several years, the importance of providing Massachusetts with reliable, affordable, and clean energy has come into sharper focus. Likewise, there is growing acknowledgement of the potential for renewable energy to contribute to the diversity and security of our energy supplies. In part, this is the result of our nation's post-9/11 risk assessments of critical infrastructure and a heightened recognition of the costs of our heavy reliance on imported fuels.

New England has no indigenous fossil fuels or refining capacity to meet our energy needs. We rely almost exclusively on imported fuels, such as oil, natural gas, coal, and uranium to produce the energy to heat our homes, drive our cars, deliver our food, run our computers, and operate our electric power plants. To limit the risk of over-reliance on any single fuel source, we use a diverse mix of fossil, hydro and nuclear fuels to produce electricity. From an economic perspective, this strategic balance is positive in that it protects consumers from volatility in international oil and natural gas markets. However, there are societal costs associated with generating electricity from fossil fuels—particularly the health and environmental costs of air pollution—and deeply rooted public concerns about the dangers of an accident at nuclear energy facilities.

By contrast, New England is blessed with potential indigenous fuel in the form of renewable energy. Some of them offer potential to produce power

with significantly lower or no air pollution. These are replenishable energy sources — such as wind, sun, water, wood, and methane gas from landfills and can be used to generate heat and electricity or to produce liquefied fuels for transport.

Despite their promise and recent advances in technology, power plants that use renewable fuels have been slow to emerge. Such plants are generally smaller than conventional power plants, making the benefits of economies of scale difficult to achieve, especially in dynamic energy markets. Consequently, some foreign countries and states, including Massachusetts, have created mechanisms to encourage the use of renewable fuels in competitive electricity markets.

Massachusetts lawmakers recognized the potential of renewable energy sources in 1997 when they passed a law to change the structure of the electric industry in the Commonwealth. In addition to restructuring the industry, the law charged the Division of Energy Resources with implementing a regulatory program, known as the Renewable Energy Portfolio Standard.

The program requires all retail electricity suppliers, beginning in 2003, to purchase a minimum percentage of their annual electricity supplies from qualified "new" power units fueled by one of several renewable energy sources. Eligible fuel sources are biomass (such as wood and landfill gas), wind, solar, photovoltaic, ocean thermal, wave and tidal energy, and fuel cells using renewable fuels. Eligible facilities must

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be new as of 1998 or significantly increase their output over the prior three years. Plants can be located anywhere in New England, states outside the region, and Canada. The program seeks to:

- Diversify the fuels used to generate power in or near our region,
- Decrease our reliance on fuels imported from other regions,
- Moderate price volatility caused by reliance on imported fuels, and
- Decrease pollution from the generation of electricity.

Beginning in 2003, each supplier must obtain at least 1% of its supply from qualified renewable energy producers. The standard increases by one-half percent (0.5%) each year through 2009 when it reaches 4% of each supplier's sales in that year. After 2009, the standard may increase by 1% per year until the Division modifies or suspends it.

To date, the Division has approved fifteen generators to participate in the program. Most use wood products or landfill gas as their fuel. There is one photovoltaic facility and one wind energy producer as well. With our existing providers, we will surely meet our 2003 and 2004 goals. As the minimum requirement increases each year, the challenge becomes greater and the need for contributions from wind power will become increasingly important.

Wind energy is an important component of the state's strategy for meeting the Renewable Energy Portfolio Standard and other state policies, including our forthcoming Climate Change

Action Plan. Research shows the winds off the Northeast U.S. coast, including Cape Cod and the Islands, as some of the best in the world for power generation.

Offshore wind resources tend to be stronger and more consistent than on-shore sites. In contrast to land-based sites, they offer opportunities for large projects that can add significant amounts of our electricity to our regional supply. Unlike the West Coast of the U.S., East Coast waters are shallower, offering viable opportunities for offshore projects. These sites are also closer to large populations and their electrical demands unlike the mid-western U.S.

Wind energy is not new to Massachusetts. In colonial times and into the nineteenth century, many windmills dotted Massachusetts hilltops and the coast. These early machines provided mechanical energy for pumping water and grinding grain. Subsequently, they gave way to electric power plants, utility poles, and power lines.

The Division recognizes that wind energy projects can be controversial. Cape Wind and other projects proposed for the waters off the Cape are a testament to that. The Division has not taken a position in favor or against any of these projects and will abide by the outcomes of federal and state permit proceedings. The Division is pleased to assist the Massachusetts Renewable Energy Trust in providing opportunities for the public to obtain accurate and complete renewable energy information. Strong public participation in permit proceedings will contribute greatly to defining the Cape and Islands' energy future.



Renewable Energy Development Around the World: Is America Leading or Lagging?

Deborah Donovan

Energy Research Coordinator, Union of Concerned Scientists

October 25, 2002

Wind, solar, and other renewable sources of electricity are growing rapidly around the world. As a result, renewable energy now provides tens of millions of households with clean, secure power using abundant and inexhaustible fuels. Globally, the fastest growing energy source of any kind for the last several years has been wind power, resulting in a ten-fold increase in wind capacity over the last decade. The reasons for this are several: the cost of generating electricity from wind is falling rapidly, and many governments are adopting policies to stimulate more renewable energy development.

For many years, the United States led the way in the manufacturing and use of renewable energy technologies. But even with the significant growth in U.S. wind generation recently, we have relinquished our position as the innovator in this important area of opportunity to others, mostly in Western Europe, where clean energy has become an uppermost goal.

One year ago, the European Union adopted a renewable energy directive that 22% of all electricity should come from renewable sources by 2010. A number of forces are driving the EU's commitment to this significant shift, including concerns about climate change, energy security, and nuclear power. The switch to renewable energy sources offers a solution to all three of these issues.

By signing the Kyoto Protocol, the EU and its member countries made a commitment to cutting emissions of heat-trapping gases that are causing the earth's climate to change. Currently, the burning of fossil fuels to generate electricity is one of the major sources of such emissions, as well as other dangerous air pollutants that EU countries are working to reduce.

What is more, increasing renewable energy use will make Europe more secure because it can cut back on imported fuel. Currently, the EU is highly dependent on foreign sources of energy, importing a full 50% of what it consumes. More renewable energy also increases the diversity of the overall energy system, enhancing its security even further by offering protection from price spikes or shortages of fossil fuels. And electric consumers stand to benefit as well. Already, wind projects are going up across Europe that can offer electricity at prices that are competitive with new coal and natural gas power plants in many places.

Perhaps the most notable of the motivations behind Europe's efforts to increase renewable energy use is the cornerstone of Germany's and Belgium's long term energy plans: the complete phasing out of commercial nuclear energy generation in the next 30 to 40 years, to be replaced by renewable energy sources.

European governments are adopting a range of specific market

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policies to achieve their renewable energy goals. One such policy requires utilities to gradually increase the percentage of renewable energy they deliver to customers, sometimes called a renewable energy standard or a renewable portfolio standard. As of today, 4 EU countries have adopted or are in the process of adopting formal renewable energy standards, while 7 others have set similar targets. While these relatively new policies begin to take effect, EU countries are also stimulating renewable energy development by committing significant sums to research and development, offering market incentives for renewable power production, and addressing the serious imbalance of government subsidy that currently favors fossil fuel and nuclear power.

Germany has far surpassed all other countries in its use of wind power. By the end of last year, Germany had nearly 9,000 megawatts (MW) of wind turbines, double the U.S. wind capacity. Today, wind power provides Germany with over 3% of the country's total electricity demand. This is expected to reach 5% by the end of next year, according to a recently released published study from the European Wind Energy Association, known as EWEA. Germany has set of goal of having 25,000 MW of wind power operating by 2025. Among the rest of the EU countries, Spain increased its wind resources by 50% in 2001 to become the world's third largest generator of wind power. Even relatively tiny Denmark has nearly 2,500 MW of wind turbines, is expected to provide almost 20% of the country's electricity requirements this year – the greatest in the world.

The near term future for European wind energy continues to be

bright. For the most part, the majority of expansion in the wind sector will take place in offshore wind farms, or parks as they are called. According to EWEA, Europe has sufficient offshore wind potential to provide all of its electricity demand. While not all of this potential will be developed, there are currently proposals to build 20,000 MW of offshore wind off the coasts of 12 EU nations. Some estimates are that the first 3,000 MW of that will be operating by 2005. Denmark, Ireland, and Germany are building the bulk of these, but other projects are in the works for the Netherlands, Belgium, Sweden, and the United Kingdom. The strong steady winds and shallow water depths that surround Europe are providing attractive alternatives to traditional energy sources and the practical constraints of large on-shore wind development in a highly developed region of the world.

Here in the U.S., some states have adopted renewable energy standards and we offer tax credits to renewable energy producers. But we still get a mere 2% of our electricity from wind, solar, and other renewable sources. Given our renewable energy potential is many times that of Europe, we need to ask ourselves the hard questions. Are we doing enough to address the imminent dangers of climate change? What can we do to make our energy system more secure, and ultimately more affordable? What kind of policies do we need to bring about a transformation of our electricity supplies that will bring us the benefits that we see coming Europe's way? How can we again lead the way to a sustainable energy future? The answer could be right across the pond.



Electricity in New England – An Industry in Transition

By Craig Kazin

Senior External Affairs Representative, ISO New England Inc.

October 25, 2002

When you think about it, the things we all do every day – flipping a switch and having the lights come on, pressing a button and having music play, turning a dial and having an oven heat up – really are extraordinary. In much of the world, and sometimes even in parts of the United States, you cannot always count on these things. But in New England, we take them for granted.

While the physics of the system that generates, transmits, and distributes the lifeblood that we all depend upon is functionally the same as it was 100 years ago, the industry around it is undergoing significant change. The mechanisms surrounding electricity production and delivery are becoming more complex, and the transformation of electricity into a competitive business is full of challenges. Despite the well-publicized problems in California energy markets, New England remains an evolving success story.

The New England Bulk Power System

The six-state New England region encompasses some 128,000 square miles, over 350 wholesale generators, and some 8,000 miles of high voltage transmission lines. The region also has transmission links to electricity systems in New Brunswick, Quebec, and New York. Historically, those connections have supplied 10-15% of the electricity consumed in New England.

The system that manufactures, transmits, and distributes electricity in New England is a vast network of generators and transmission lines. Generators, fueled by coal, oil, natural gas, wind, and water create

the electricity that ends up all over New England. From the generator, electricity travels over a large, interstate highway system of high voltage transmission lines. These large lines then connect to local distribution lines that, in turn, connect to transformers that convert it to voltages usable at our homes and businesses.

Restructuring 101

Until recently, electric utilities were responsible for supplying and delivering energy throughout the power system and to customers. They were local monopolies with specific service areas and customers. The traditional utility played three distinct roles. It generated power, transmitted it from the site of generation to population centers, and distributed it to residential and industrial end users.

However, a turning point for New England's electric power industry came in the 1990s. Electric power had been tightly regulated for a century, with federal, state and local governments each having a role in determining such factors as the price utilities could charge their customers. In the years leading up to that period, many industries, including transportation, communications and financial services, experienced sweeping deregulation as a means of creating competitive, more efficient industries. Eventually, the federal government acted to deregulate the electric power industry. Most utilities, which previously had been responsible for all aspects of electric power, were required to unbundle their generation operations from their transmission operations. A new wholesale market was created for generators to sell the electricity they produced to utilities and

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others who would then sell it to residential and business users.

The Federal Energy Regulatory Commission (FERC) created new institutions called independent system operators to oversee this new wholesale market. In an age of deregulation, these entities would independently operate and administer a highly reliable bulk power system and ensure open and fair access to the transmission network that brings power from generators to utilities and then to homes and businesses.

As a result, ISO New England Inc. (ISO-NE) was created in 1997. The organization is responsible for administering the wholesale electricity markets in the region and ensuring the reliability of the bulk power system. This task is accomplished with a staff of approximately 350 people who are located in Holyoke, Massachusetts.

Retail Restructuring

The mid-90's also brought changes to the retail electricity marketplace. Five out of six states in New England opened their retail marketplaces to customer choice, with Massachusetts and Rhode Island having led the way. Utilities, as a condition of state-level restructuring, were ordered to sell their generators to unregulated companies. Transitional rates were instituted to guarantee up-front customer savings and to cushion the transition for retail consumers to a competitive (or market-based) electricity rate. The cornerstone of the retail restructuring approach was consumers' ability to choose a competitive supplier of electricity.

The transmission and distribution portion of the business remains regulated, but decisions to build generators, once made by utilities under regulatory oversight, are now investment decisions made by entrepreneurs. These companies, along with those involved in buying and selling electricity on the open market comprise New England's wholesale marketplace.

Wholesale Power Markets

Under the watchful eye of ISO New England, the region's wholesale power markets began operation in May 1999. While the same high standards of reliability needed to be met, the New England power business was no longer comprised of regulated utilities, but a collection of market participants, including power generators, power marketers, retail providers, vertically integrated utilities, and municipal systems.

Electricity production and delivery is a challenging endeavor, especially since no one knows with absolute certainty exactly how much will be demanded at any one second. As unlikely as it might seem, the process of running the market is based upon a daily auction in which these market participants can buy and sell electricity. Each day, generators offer their output competitively to the ISO in hopes of being the supplier of choice to meet the actual demand in the following day. At the same time, generators, marketers, and suppliers strike bilateral contracts for financial entitlements to power – essentially market credits or debits toward their wholesale power bill.

The ISO chooses the generators that run based upon their competitive offers. Moreover, the ISO also has at its fingertips the next offer that will be accepted should demand for power rise. This next offer price, averaged every hour, constitutes the Energy Clearing Price, sometimes called the "spot market" price because it is the price wholesale market participants pay to buy "on the spot." As might be expected, when demand is low and supply plentiful, real time spot prices can be very low, even as low as zero! However, when supplies are strained, such as on hot summer days, wholesale "spot market" prices can be very high – sometimes \$1.00 per kWh. This compares to the average rate we pay on our monthly bills of around 10-12¢ per kWh.

Changes to Wholesale Markets

In March 2003, ISO New England will implement the next phase of wholesale restructuring. The new system will feature

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equal participation by both the supply and demand sides of the market in setting prices in the spot market, as opposed to the current, supply-side determinant.

A second change involves the transition to locational marginal pricing (LMP). Under this system, New England will be divided into eight pricing zones, each with its own zone-specific price. When transmission system “clogging” occurs due to high demand or transmission line failures in an area, prices downstream of the clog will likely be higher, reflecting the offers of more expensive generators capable of serving that isolated demand. With this enhanced price signal, the wholesale marketplace will readily be able to determine areas in need of transmission expansion, new generators, or demand response (using less electricity in exchange for compensation).

In closing...

Electricity industry restructuring is well underway in the Northeast, and the New England story to date has been a positive one. The price of spot market electricity correlates well with demand for the product, and as confidence in the markets grows, more choice will be offered to retail consumers.

By refining the wholesale system and guiding it toward greater consistency with other areas of the country and Canada, a world of competitive opportunities should develop within New England. And behind it all, ISO New England continues to oversee and refine the wholesale markets, ensure reliability, and lead the effort to guarantee a reliable future for New England’s electricity system.