There are historic turning points in industry when opportunities arise for those with vision and leadership to expand the horizon of accepted practice. Such turning points are rare, and implementing innovative ideas can be difficult, particularly in the face of vested interests reluctant to change.

For the Massachusetts public power industry, one such turning point occurred around the turn to the 20th century, when 40 cities and towns decided to create the Commonwealth's consumer-owned municipal utilities. The wisdom and foresight of those decisions has been demonstrated time and again over the past century.

Another turning point came with creation of the New England Power Pool (NEPOOL) in the early 1970s, when municipal utilities fought for and won the right to participate in the establishment and activities of NEPOOL. This initiative, which also led to the creation of MMWEC, enabled municipal utilities to own shares in the region's major power plants, bringing ownership benefits to municipal utility consumers over the decades since.

As the regional and wholesale power market representative of its Member utilities, MMWEC is positioned to identify and seize such opportunities, which today include the potential for public ownership of new natural gas pipeline and electric transmission facilities. These are emerging and evolving opportunities that stem from New England's growing reliance on natural gas for electric generation and efforts to diversify the region's energy resources.
As it pursues these new opportunities, MMWEC is bringing a focus on consumer interests and transparency to the process of change. This is particularly important when considering fundamental changes in business practice, such as the unprecedented proposals for a new surcharge on electric consumers to pay for natural gas pipelines.

Meanwhile, we are continuing to provide the broad range of services our Members and Project Participants need to stay competitive, from resource planning, financing and development through management of municipal power portfolios and associated risks. There were several important financial milestones for the MMWEC organization in the past year, including the retirement of additional long-term bonds, bringing us closer to debt-free ownership of key power supply resources.

Among other initiatives, we are working to upgrade the MMWEC information systems required to participate effectively in the wholesale power marketplace, building upon the Financial Systems Redesign project that was completed in 2013.

The MMWEC Members and Project Participant utilities are strong and independent utilities in their own right, but as part of the MMWEC organization, they are even stronger and more effective. As the industry continues to change and expand beyond its current horizons, it is the strength of joint action that will help municipal utilities remain competitive and efficient far into the future.
A NEW MODEL FOR NATURAL GAS PIPELINE DEVELOPMENT
A historic shift in reliance on natural gas for electric generation and a failure of the marketplace to adapt have resulted in a shortage of natural gas pipeline capacity for New England’s electric generating plants. This shortage is jeopardizing electric system reliability and threatening the economic health of the region with unacceptably high energy prices.

**MMWEC has estimated that for every $1 billion in pipeline cost, consumers will save about $1.9 billion over the life of the pipeline. That is money that will stay in the pockets of New England businesses and consumers to finance economic development, energy efficiency and other beneficial activities.**

The traditional model for financing gas pipelines would require electric generators to sign long-term, firm contracts to purchase pipeline capacity. This model is unworkable in the New England marketplace, where generators are unable to recover the high cost of such contracts.

Recognizing this problem, New England’s governors proposed a new regional tariff charge on electric consumers to pay for the needed pipeline capacity. Such a tariff, administered by ISO New England (ISO-NE), would require Federal Energy Regulatory Commission (FERC) approval. More recently, to sidestep federal issues, states are developing plans to replace the proposed federal tariff with individual state surcharges on retail electricity bills to pay for new pipelines.

Either way, the predominant thinking on financing pipeline capacity for electric generation breaks the old pipeline financing model and taps an entirely new source of revenue – electric consumers – to pay for natural gas pipelines. MMWEC has been supportive of this innovative proposal for financing gas pipelines because pipeline costs will be recovered quickly via lower energy costs. However, New England has a unique opportunity to reach even further across the horizon to contain costs for consumers.

MMWEC’s Consumer Model for Natural Gas Pipeline Development calls for nonprofit, public ownership of natural gas pipelines financed with a surcharge on electric consumers, as approved by state or federal regulators. The alternative proposal is for private ownership of such pipeline facilities by for-profit, investor-owned utilities.

The avoided costs under the Consumer Model will result in part from the interest cost of debt issued by a public entity being significantly less compared to the interest cost of debt issued by a for-profit entity. But the bulk of avoided costs result from the foregone profits earned by pipeline companies and electric distribution companies. For example, using the nonprofit Consumer Model, MMWEC has estimated that for every $1 billion in pipeline cost, consumers will save about $1.9 billion over the life of the pipeline. That is money that will stay in the pockets of New England businesses and consumers to finance economic development, energy efficiency and other beneficial activities.

While the concept of public ownership and financing may be new to the gas pipeline business, it has proven its value in developing other energy facilities, including power plants and electric transmission lines. The hurdles are high for implementing the Consumer Model, but this is one of those rare industry turning points where there is opportunity to enhance the benefits of change for all New England consumers while addressing a fundamental flaw in the energy marketplace.
RETHINKING ELECTRIC TRANSMISSION DEVELOPMENT
ISO-NE's transmission planning process may have seen the highest level of competition in its history this year when two transmission projects battled it out to meet a power system reliability need in the Greater Boston area. But this year’s competition is likely only a taste of things to come as new federal regulations encourage competition among transmission developers to better serve the public interest.

The need for new transmission facilities to diversify New England’s energy mix, coupled with a competitive mandate, should open the door to joint ownership opportunities and greater control over transmission costs.

The Federal Energy Regulatory Commission’s landmark Order 1000 launches a new era of competition in the transmission business, eliminating the exclusive right of existing transmission owners to build new projects. According to the order, such exclusivity severely harms the public interest by undermining the benefits of competition in transmission development.

In 2014, MMWEC supported the New Hampshire Transmission (NHT) SeaLink transmission project as the preferred alternative to meet the reliability need in Greater Boston. Along with NHT, MMWEC and many public officials encouraged ISO-NE to use a broad set of criteria in evaluating the competing projects, including criteria that would enable a more detailed assessment of the final cost and value of the projects to consumers. MMWEC also noted that the ISO-NE transmission project evaluation process needs improvement to adequately compare the costs and benefits of competing projects.

In addition, NHT, MMWEC and others called for better control over the cost of transmission projects, which have a history of large cost overruns, paid for by consumers. Project costs need to be a factor in evaluating competing projects, but there needs to be a higher level of firmness and certainty in cost estimates for cost to be a valid measure of competitiveness.

MMWEC is planning to advocate for such reforms, including a cost cap provision applicable to new transmission projects, for use by ISO-NE in evaluating competing proposals. We also are looking to review the process for developing transmission project cost estimates.

Increased competition in New England’s transmission business will diversify ownership and likely bring opportunities for joint ownership of transmission facilities, a concept promoted by MMWEC for many years. MMWEC ownership of transmission facilities will reduce project costs and financing risks by bringing tax-exempt financing to the equation. It also presents an opportunity for MMWEC Member utilities to offset the rising cost of transmission service for their customers.

Until now, the logic and value of such joint ownership ventures have fallen victim to the existing transmission owners’ virtual monopoly over transmission development. There was no incentive to modify long-established transmission development rights, but Order 1000 mandates competition and represents another important turning point in our industry.

The need for new transmission facilities to diversify New England’s energy mix, coupled with a competitive mandate, should open the door to joint ownership opportunities and greater control over transmission costs. These are long-term MMWEC objectives that have a greater likelihood of success in this new environment.
After issuing more than $4.7 billion in bonds since 1976 to finance and refinance its 735-megawatt ownership in several generating facilities, MMWEC will be free of its currently outstanding debt by 2019.

MMWEC has issued bonds to finance ownership interests in the Stony Brook power plant, a dual-fueled, combined-cycle intermediate and peaking plant in Ludlow, MA; and Wyman Unit No. 4, an oil-fired plant in Yarmouth, ME. All of the debt associated with these plants was retired in 2008.

MMWEC’s remaining debt, approximately $167 million, is related to its ownership in the Seabrook Station and Millstone Unit 3 nuclear plants, both of which are expected to operate until at least 2045, long after the related debt is retired. The long operating life of these units and relatively short life of related debt make these units a valuable, long-term hedge against price volatility and uncertainty in wholesale power markets.

In 2014, MMWEC retired the debt associated with its Nuclear Mix No. 1 Power Supply Project, which represents a portion of its ownership in Seabrook and Millstone Unit 3. Through Nuclear Mix No. 1 and four other Power Supply Projects, MMWEC owns 4.8% of Millstone Unit 3 and 11.59% of Seabrook Station.

MMWEC provides electric energy and capacity from its ownership entitlements to 28 Massachusetts municipal utilities, one Rhode Island utility and six Vermont utilities. Payments for the principal and interest on MMWEC bonds are derived from contracts through which these utilities agree to pay a share of MMWEC’s unit ownership costs, including the cost of debt service, unit operating costs and MMWEC’s administrative expenses.

The dwindling level of MMWEC debt, coupled with the strong financial standing of MMWEC and its Member utilities, positions MMWEC well to take advantage of new capital investment opportunities that may arise in the years to come. MMWEC maintains A-level credit ratings with the three major credit rating agencies, largely on the credit strength of its Project Participant utilities. Ratings on the Berkshire Wind Power Cooperative Corporation, which is comprised of MMWEC and 14 of its Member utilities, were upgraded late in 2014 from A to A+ by Fitch Ratings and from A- to A by Standard & Poor’s.
MMWEC, the Massachusetts Attorney General and others prevailed in a complaint to the FERC seeking a reduction in the base rate of Return on Equity (ROE) New England transmission owners are allowed to earn on their investments in transmission facilities. Transmission costs represent one of the fastest growing components of electric bills.

In an October 2014 decision, the FERC reduced the base ROE from 11.14% to 10.57%, finding the higher rate to be “unjust and unreasonable”, given current economic conditions and interest rates. New England electricity consumers are expected to get a refund of approximately $60 million with the benefit increasing as the lower ROE is applied in the years ahead to new, long-term transmission investments. The current $7 billion invested in New England transmission facilities is expected to increase to about $11 billion by 2017, and the costs avoided with a lower ROE will increase as the transmission investment base grows.

Litigation to reduce the ROE further and extend the refund period is continuing in 2015.

MMWEC launched its Pooled Loan Program late in 2014, financing the construction of a $9.8 million substation for the Wakefield Municipal Gas & Light Department. Early in 2015, the Princeton Municipal Light Department used the program to borrow $6.9 million to finance its acquisition of two Princeton wind turbines. These financings will be merged with other program financings into a single MMWEC bond issue, ultimately reducing financing costs and expediting projects for Member utilities.

The Pooled Loan Program is authorized by MMWEC’s enabling legislation. The Massachusetts Department of Public Utilities approved up to $400 million in financing for the program in 2014. Member utilities can use the program to finance a variety of capital projects and equipment, including wind turbines and substations but also assets like buildings, vehicles, computer systems and energy efficiency projects.

The program captures the benefits and economies of scale that are the foundation of MMWEC’s joint action initiatives. In funding multiple Member projects with a single MMWEC financing, MMWEC is saving the participating utilities the costs of multiple individual financings, such as the bond counsel, rating agency, trustee and other fees associated with bond issues.
MMWEC’s Strategic Information Technology Plan is moving forward, encompassing upgrades to the computing center environmental controls and redesign of the Settlement Market Data System that interacts with ISO-NE. This work is building upon the Financial Systems Redesign (FSR) project that was completed in 2013 and continues to bring efficiencies and reporting improvements to MMWEC’s financial activities.

The overall technology plan is a multi-year strategy to transform MMWEC’s information systems and business processes into a sustainable, competitive advantage for Member and Project Participant utilities. It encompasses all of MMWEC’s business functions, from a broad range of power supply, energy management and engineering functions to a full spectrum of financing, accounting and treasury services.

Improvements to the MMWEC computing center standardize and consolidate processors, modernize network cabling and upgrade the HVAC, power and fire suppression systems, bringing greater efficiency to the management, operation and maintenance of the information systems infrastructure.

Redesign of the Settlement Market Data System is a significant undertaking. This system, which houses 864 million data records in nearly 2,000 tables and spreadsheets, is the backbone of MMWEC’s interactions with ISO-NE and the wholesale power markets. Essentially, this project will upgrade and integrate the information systems dedicated to MMWEC’s power supply activities with accounting, treasury and other critical business functions. This will enable a broader view and integrated reporting of revenue and expense data, providing a clearer measure of competitiveness.

With FSR installed, MMWEC is continuing to roll out improvements that redesign, reorganize and simplify data management and reporting related to MMWEC’s accounting, treasury and other financial functions.
Long-term competitiveness and price stability for Member utilities are the goals of MMWEC’s power portfolio management activities, which include a growing number of sophisticated hedging and risk management initiatives. These initiatives are adding flexibility and options to risk controls designed to address the effects of unanticipated spikes in the price and demand for power.

Coming off the winter of 2013-14, when spot market prices and demand were unexpectedly high, MMWEC purchased a number of power hedges, locking in prices to limit its Members’ exposure to the spot market during the 2014-15 peak winter period. Hedging involves entering into contracts for future power; using a variety of market intelligence and analytical tools to manage risks and achieve stable prices.

There also are risks associated with higher demand, called volumetric risks, which occur when Members must purchase additional power, usually at a high price, when demand spikes unexpectedly. MMWEC has expanded its risk assessment to include analysis of products available to address this type of risk, including load-following and options contracts. Quantifying such risks involves increasingly sophisticated analysis, but the process is essential due to the high costs of the related risk management tools.

Building a portfolio with flexible risk controls is helping Members to navigate power market volatility, an essential task in achieving stable and competitive prices over the long term.
DIRECTORS AND OFFICERS

MMWEC Directors, top: Gary R. Babin, Mansfield Municipal Electric Department Director. Middle, from left: Jonathan V. Fitch, West Boylston Municipal Lighting Plant General Manager; Kevin P. Kelly, Groton Electric Light Department Manager. Bottom, from left: Charmaine White, Gubernatorial Appointee; Cornelius Flynn, Town of Hampden Representative.

MMWEC Directors, standing from left: Jeffrey R. Cady, Chicopee Electric Light General Manager; Sean Hamilton, Sterling Municipal Light Department General Manager; Luis Vitorino, Town of Ludlow Representative. Seated, from left: James M. Lavelle, Holyoke Gas & Electric Department General Manager; Glenn Trueira, Peabody Municipal Light Plant General Manager.
SENIOR MANAGEMENT
Standing, left to right, are David Tuohy, Director of Communications & External Affairs; Michael J. Lynch, Director Of Market Management & Planning; Alan R. Menard, Director of Business Support and Administrative Services; Daniel L. Suppin, Director of Information Technology. Seated are Edward Kaczenski, Director of Engineering and Generation Assets, Carol A. Martucci, Director of Accounting & Financial Reporting.

OFFICERS
Standing, left to right, are Stephen J. Smith, Assistant Treasurer; Matthew J. Ide, Treasurer, Director of Treasury and Commodities. Seated are Nancy A. Brown, Assistant Secretary; Peter H. Barry, General Counsel.
MEMBERS & PROJECT PARTICIPANTS

Ashburnham Municipal Light Department*
Boylston Municipal Light Department*
Braintree Electric Light Department
Chicopee Electric Light Department*
Danvers Electric Division
Georgetown Municipal Light Department
Groton Electric Light Department*
Hingham Municipal Lighting Plant
Holden Municipal Light Department*
Holyoke Gas & Electric Department*
Hudson Light & Power Department
Hull Municipal Lighting Plant*
Ipswich Municipal Light Department*
Littleton Electric Light & Water
Mansfield Municipal Electric Department*
Marblehead Municipal Light Department*
Middleborough Gas & Electric Department
Middleton Municipal Electric Department
North Attleborough Electric Department
Paxton Municipal Light Department*
Peabody Municipal Light Plant*
Princeton Municipal Light Department*
Reading Municipal Light Department
Russell Municipal Light Department*
Shrewsbury Electric & Cable Operations*
South Hadley Electric Light Department*
Sterling Municipal Light Department*
Templeton Municipal Light & Water Plant*
Wakefield Municipal Gas & Light Department*
West Boylston Municipal Lighting Plant*
Westfield Gas & Electric*
Pascoag (RI) Utility District
Green Mountain Power Corporation (VT)
Hardwick (VT) Electric Department
Ludlow (VT) Electric Light Department
Morrisville (VT) Water and Light Department
Stowe (VT) Electric Department
Swanton (VT) Electric Department

* MMWEC Members
MMWEC’s Financial Statements for the years ended December 31, 2014 and 2013 are contained on the CD included in this year’s annual report. Copies of this report and supplemental financial information can be obtained, free of charge, by contacting:

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The Massachusetts Municipal Wholesale Electric Company (MMWEC) is a not-for-profit, public corporation and political subdivision of the Commonwealth of Massachusetts, created in 1976 through an Act of the Massachusetts General Court. MMWEC provides a broad range of power supply, financial, risk management and other services to enhance the competitiveness of Massachusetts municipal utilities. MMWEC also is the operator and principal owner of the Stony Brook power plant, a 527-megawatt, combined-cycle generating station located at MMWEC’s Stony Brook Energy Center in Ludlow, Massachusetts.