

Burlington Electric Commission
585 Pine Street
Burlington, Vermont 05401

Bram Kranichfeld, Chair
Dan Shearer, Vice-Chair
Robert Herendeen
Paul Hines
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To: All BED ratepayers and citizens of Burlington
Date: March 2010
Re: **Performance Measures Report**

We are pleased to present Burlington Electric Department's Performance Measures Report for 2009. We have been preparing these reports since 1998 for the benefit of the Burlington City Council and our ratepayers. Each year, BED conducts a comprehensive self-examination and presents the findings in this report. Performance measurement helps us achieve several important goals for the organization:

- **Accountability** Inform ratepayers, citizens and elected officials about BED's performance.
- **Service** Identify areas in need of improvement.
- **Costs** Strengthen our capacity for financial analysis with new tools.
- **Strategic planning** Incorporate performance data in our long-term planning efforts.
- **Management** Include organizational performance goals in employee evaluations.

The indicators included in this report are relevant to BED's mission, and they are comparable with earlier years, external norms and other utilities. They are based on verifiable data.

The measures chosen and the data reported represent a small fraction of the information available from managers at BED. If you would like clarification or additional information, contact BED at 802-658-0300.

At BED, we are proud of our 105-year history as a publicly owned utility. While we are constantly making efforts to improve our efficiency and productivity, we are always mindful of reliability and safety. The overall condition of our utility is sound. Much of the reason for our success can be attributed to two important factors: being a publicly owned utility and hiring qualified and committed employees.

INTRODUCTION

Burlington Electric (BED) is a department of the City and an essential part of Burlington's infrastructure. But BED is more than that. As a public utility, BED is an expression of the community's commitment to:

- ⇒ Not-for-profit rates
- ⇒ Local control
- ⇒ Sustainability

In addition to **not-for-profit rates**, BED offers customers the right to participate directly in the most important decisions about the future of the utility. This illustrates the importance of community-based decisions about our energy future because they reflect local values such as **renewable energy** (residents supported the construction of the McNeil Generating Station 25 years ago); **energy efficiency** (residents approved an \$11.3 million bond to help reduce energy consumption in 1990); **system reliability** (residents approved a \$36.6 million bond in 2009 for upgrades and other projects), and environmental protection (reduced consumption means less pollution).

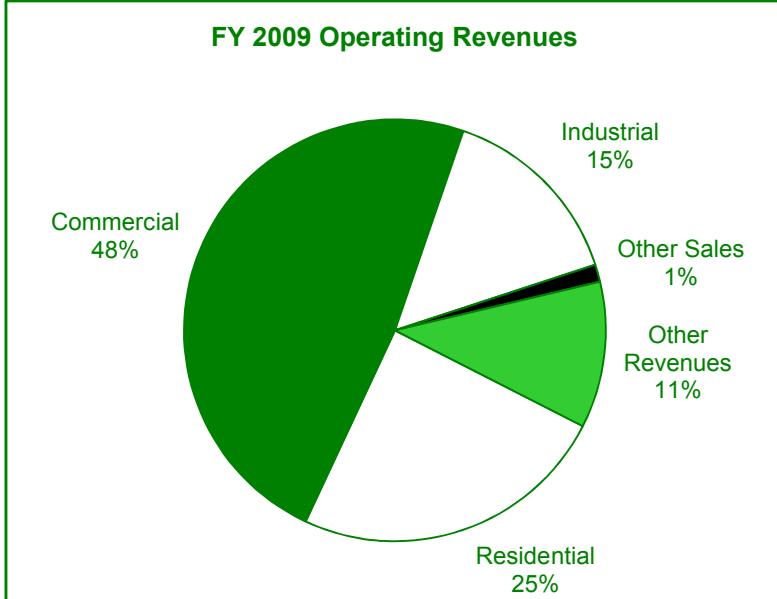
We're proud to serve Burlington and will continue to be responsive to the community. This report is intended to help explain what we do and to help us measure our progress over time. We invite your comments and suggestions.

MARKET & REVENUES

BED provides electric service to more than 16,000 residential customers and 3,700 commercial and industrial customers. For a variety of reasons, including a very large number of students, BED's turnover in residential accounts is over 6,000 per year. This is a remarkable amount of account management for a utility of this size and contributes to somewhat higher than average customer service costs.

On the other hand, BED has two large customers that represent 29% of total sales. Not surprisingly, commercial and industrial customers use much more electricity than residential customers and account for 63% of revenues.

All BED customers expect certain fundamental services — reliable and safe electricity, professional and courteous service, and affordable bills. Each customer group has unique needs, however. That's why we have tailored all of our programs and services to meet the needs of each group.



SERVICE QUALITY & CUSTOMER SATISFACTION

Like all Vermont utilities, BED is required to submit a quarterly **Service Quality and Reliability Plan** (SQRP) to the Department of Public Service. The SQRP establishes standards for a variety of performance criteria, including the number of incorrect bills, worker injuries, customer notification of outages, and the time required to restore power following an unscheduled outage. Other categories are related to customer service and power reliability.

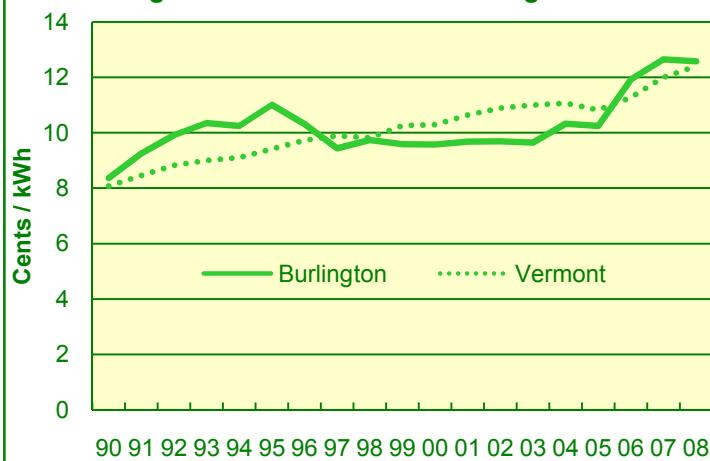
Each utility is expected to meet these minimum performance standards. BED performed far better in most categories than required and had no violations at all in some areas. In only one area did BED exceed the state standard: lost time severity. The reason is because of an injury involving one employee where recovery took place over a period of many months. Other than that, only one other employee lost time from a work related injury after the day of an incident.

BED will continue to work hard on service quality and reliability. We know our customers expect no less.

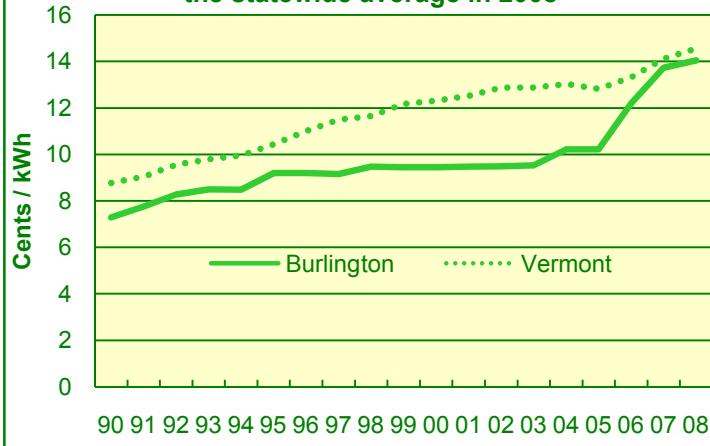
| Performance Area | Standard | BED |
|---|----------|--------|
| % Bills found inaccurate | 0.1% | 0.005% |
| % Bills estimated | 5% | 0.2% |
| % Customer requested work completed by promised delivery date | 95% | 100% |
| Average # of customer interruptions per year | 2.1 | 1.5 |
| Average duration of customer interruption (hours) | 1.2 | 1.1 |
| Lost time incidents / year (injury leading to lost work time) | <= 3.5 | 1.8 |
| Lost time severity (total work days missed due to injury) | <= 71 | 114.5 |

RATES AND BILLS

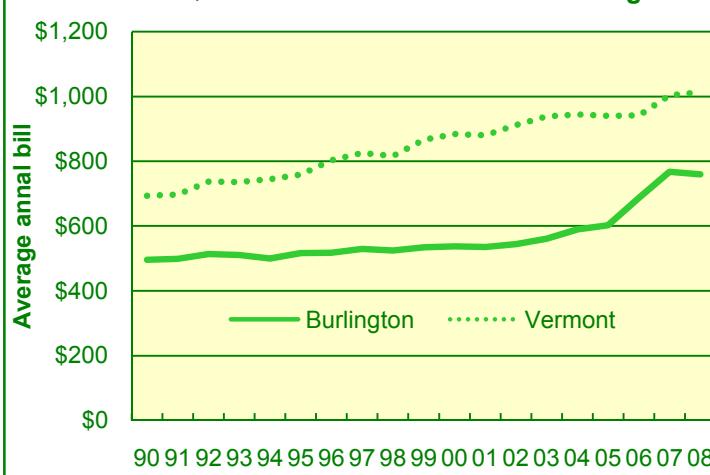
BED's average overall rates were 1.4% higher than the statewide average in 2008



Even with recent increases, BED's residential rates remained 3% lower than the statewide average in 2008



Burlington's 2008 average residential bill was \$252 less than the statewide average



Utilities have different rate designs that make comparisons difficult. The easiest way to measure performance is to compare *average revenues per kilowatt-hour* - total revenue divided by kWh sales. This is called “average rates” and is a standard measure for the price of electricity to the consumer.

BED had no rate increase in 2008 but the average rate declined because there was less demand for power from large commercial and industrial customers. Since their rates are based in part on demand, a reduction in use translates to lower average rates.

Although rates are an important indicator, they tell only part of the story. A customer's bill reflects the rate times the amount of electricity used. Thus, customers who are more efficient and use less power have lower bills.

RESIDENTIAL CUSTOMERS

Even after recent rate increases, BED's residential rates were still 3% lower than the statewide average in 2008.

In addition to low rates, Burlington residents have reduced their electric use through energy efficiency (see p.5). The combination of low rates and declining usage has produced relatively stable bills for Burlington residents.

Burlington's average residential bills were 25% less than the statewide average in 2008.

| | Avg. res. rate (cents / kWh) | Avg. res. Annual bill |
|------------|---------------------------------|--------------------------|
| Burlington | 14.05¢ | \$760 |
| Vermont | 14.55¢ | \$1,013 |

In 2007, an average Burlington residential customer paid \$252 less per year than the statewide average. Overall, this represented aggregate savings of \$4.1 million in 2008 -- money that could be saved or spent in the local economy. These savings also help lower housing costs, which is important in Burlington's tight housing market.

Note: Some of the difference in usage and bills reflects the number of small rental units in Burlington.

RATES AND BILLS

The 2008 inflation-adjusted average annual residential bill is still lower than in 1990. This is especially noteworthy in contrast to the rising costs of other energy sources. For example, according to the U.S. Department of Energy, the inflation-adjusted price of natural gas for residential customers in 2008 was 216% higher than in 1990.

COMMERCIAL & INDUSTRIAL CUSTOMERS

Average commercial and industrial rates increased in 2006 and 2007 but declined a bit in 2008. Although BED's rates remain higher than the statewide average, the gap is expected to close in the next few years (see below).

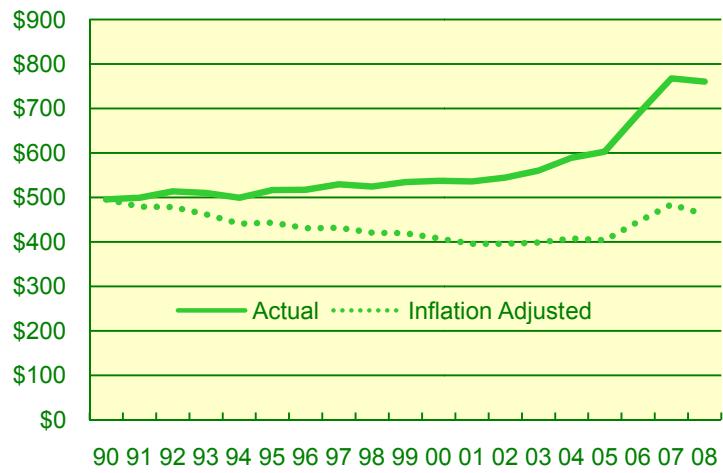
Recent rate increases were driven largely by expiring power contracts at old prices and the need to replace them with contracts at higher market rates. Fortunately, the majority of impacts from the deregulated markets are already built into our rates. Recent reductions in market prices are allowing BED to secure new resources at prices that are higher than the old expired contracts but lower than the market contracts signed to replace them in recent years, which is helping to reduce future rate pressure.

CVPS and GMP have not yet absorbed as much of the new market prices because of their existing Hydro Quebec and Vermont Yankee contracts. When the contracts expire in 2012, those utilities will have to replace them, likely at higher cost. At that point, their rates (and the statewide average) will very likely catch up with BED's increases.

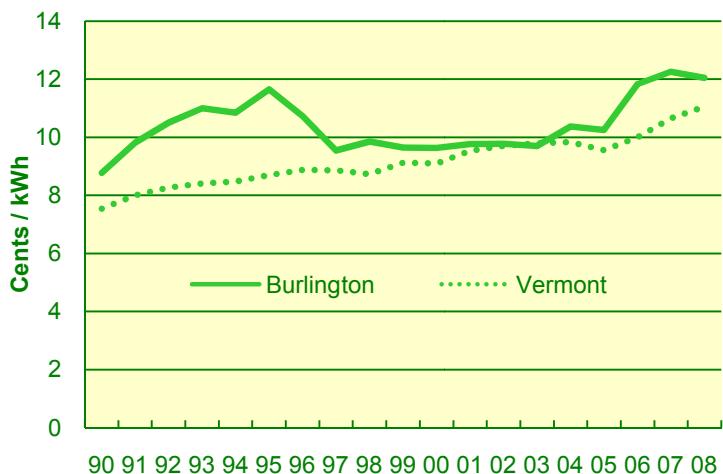
The bottom graph shows a comparison of BED's overall rates with other New England states. To the extent electric rates are a real or perceived issue for economic development, Burlington is in good shape within the region.

In any case, rates are still only half the picture. Along with the efforts to reduce rates, BED's Energy Services staff have helped C&I customers reduce their consumption through energy efficiency initiatives (see pages 5 and 6). The combined effect is powerful.

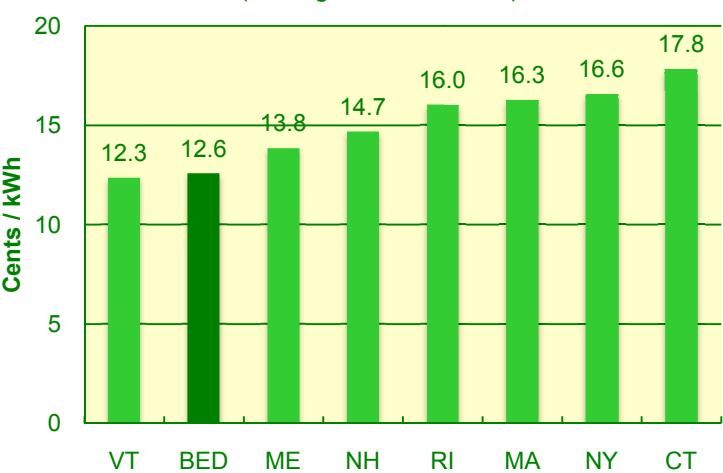
The 2008 inflation adjusted average residential bill is lower than it was in 1990



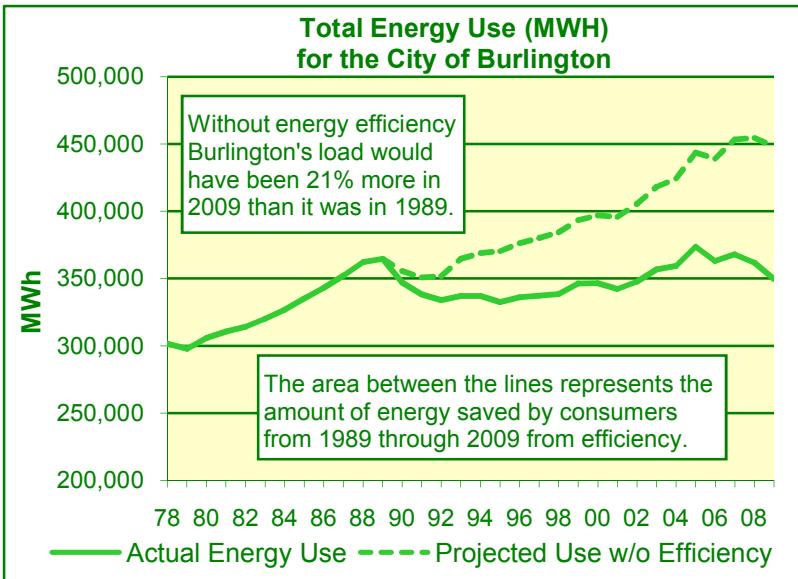
BED's commercial & industrial rates declined in 2008



2008 Retail Price of Electricity (average for all sectors)



ENERGY EFFICIENCY



Burlington voters approved an \$11.3 million energy efficiency bond in 1990. BED invested those funds wisely and the results are described below. BED customers (like all others statewide) pay a small monthly charge that supports BED's energy efficiency efforts.

BED partners with Efficiency Vermont on the retail products program. Customers receive rebates for buying Energy Star lighting and appliances at local retailers. In 2009, BED customers purchased more than 17,000 compact fluorescent bulbs, 165 washing machines, 91 air conditioners, and more than 50 refrigerators.

Altogether, **BED has invested \$13.9 million in energy efficiency and has leveraged another \$19 million in private funds** from our customers. Almost all of these dollars re-circulate in the local economy. The effect has been dramatic.

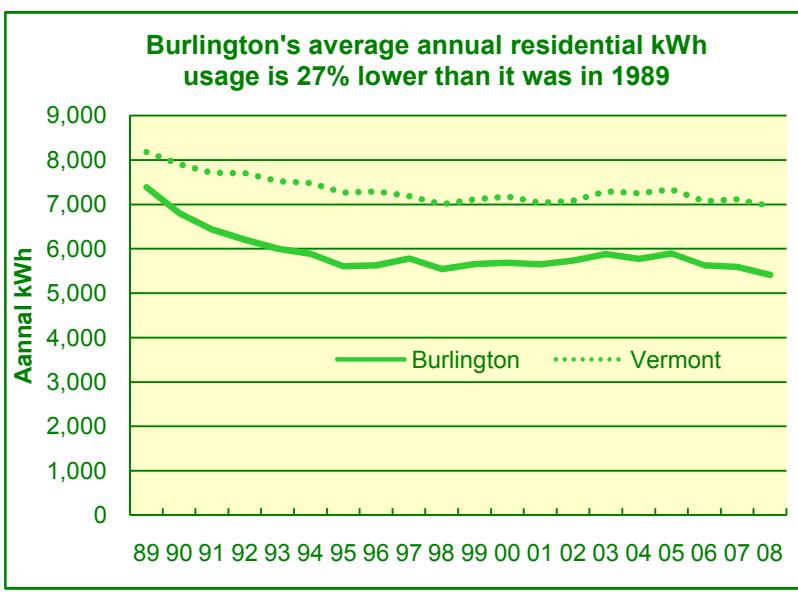
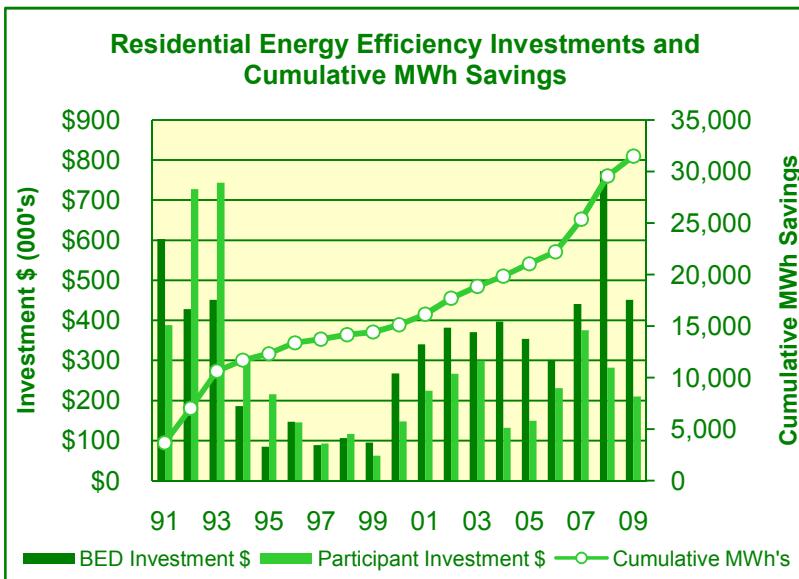
Overall electricity use in 2009 was only 2% greater than in 1989. Thus, we are meeting the needs of a growing local economy with about the same amount of electricity as we used 20 years ago. **The efficiency investments saved Burlington customers \$10.1 million in 2009 alone.**

These investments helped Burlington avoid the release of 43,842 tons of CO₂ in 2009, equivalent to removing 11,447 cars from the highways.

All customers pay for efficiency investments in their bills, so BED has programs tailored for all rate classes. The graphs at left and below show the distribution of resources and savings.

BED's Energy Services staff worked with dozens of customers in 2009 to implement efficiency projects that save energy, enhance facilities, and improve competitiveness. Total customer savings were \$639,955. For example:

Some of the interesting technologies installed included free air economizers on several reach-in refrigeration coolers at Champlain Farms convenience stores and the Price Chopper supermarket.

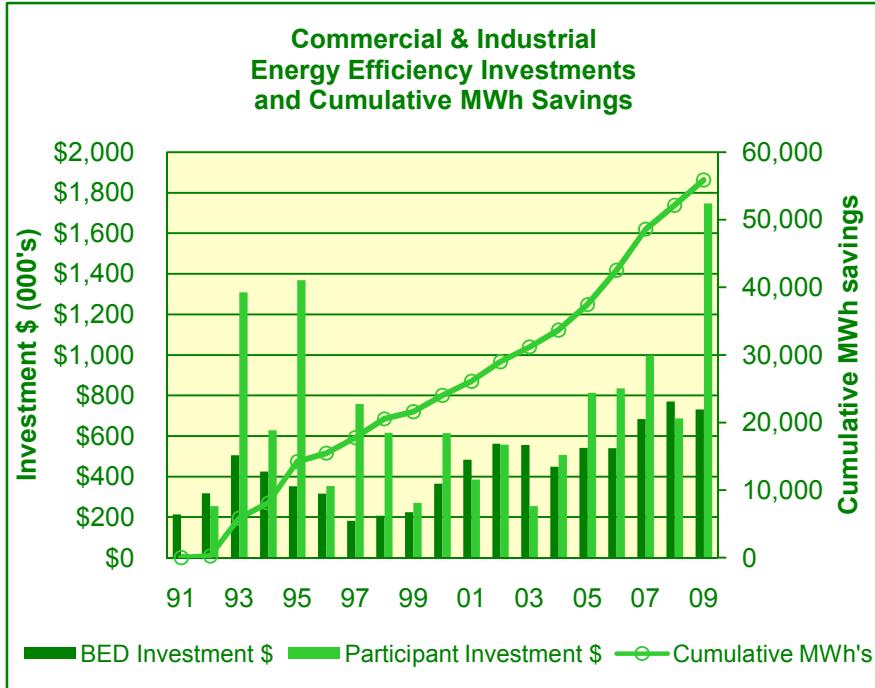


ENERGY EFFICIENCY

During most of the winter months, small energy efficient fans use duct work to bring cold outside air into the coolers so the compressors don't have to run as often. This saves considerable energy as well as wear and tear on the refrigeration equipment.

BED also worked with many of these same store owners to replace the reach-in door display case lighting with new LED technology. Not only do LED's use less energy and last longer, but – importantly for this application – they produce less waste heat inside the coolers. As a result, the compressors don't have to remove as much heat, which saves more energy.

BED staff also worked with Burlington's Waste Water Division on installing more energy efficient motors with variable speed controls at the main sewage treatment plant. The water treatment process uses a tremendous amount of energy, and this equipment will pay for itself in energy savings in about three years.

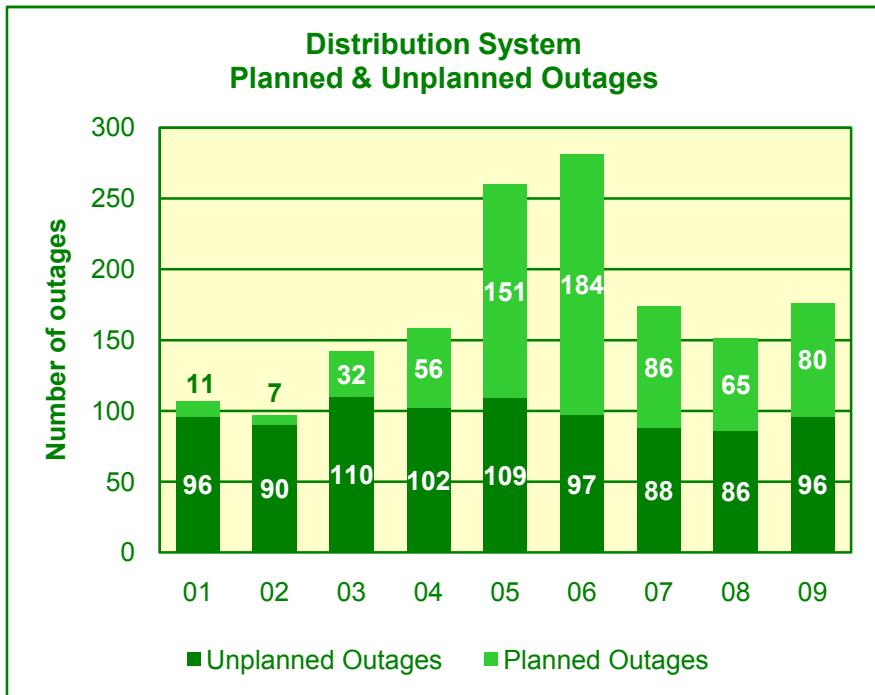


RELIABILITY

An interruption of power is considered an outage if it exceeds five minutes. Outages are either planned or unplanned. Planned outages are generally shorter in duration, affect a smaller number of customers, and are warned in advance giving customers time to prepare. Planned outages allow BED personnel to safely perform routine maintenance, eliminate old infrastructure, and upgrade facilities. Unplanned outages usually impact a larger number of customers, occur without warning, cost more to repair, and are generally longer in duration. Most are caused by weather, equipment failure, and animal or tree contact.

BED's increased investment in capital improvements is evident in the growth in planned outages. The upgrades are intended to improve reliability, and the investments are paying dividends.

BED experienced 12% more unplanned outages than last year due to an increase in animal contacts, but the number is in line with historic levels.



POWER SUPPLY

BED's power supply mix reflects a number of considerations including cost, renewability, reliability, diversity of fuel sources, and other economic and environmental impacts. While cost is always critical, other factors influence purchase decisions. BED has succeeded in maintaining comparatively low and stable rates, while continuing our commitment to renewables and, to the extent possible, keeping money in Vermont by supporting Vermont-based renewable generation.

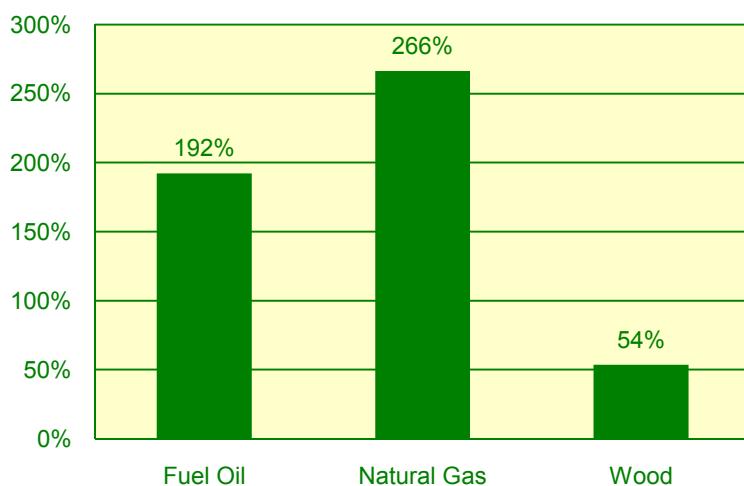
Global Warming & Future Power Supply: Fossil fuel electric generation contributes to climate change. BED has been a leader in renewable energy development, but more needs to be done. The goal is to meet 100% of Burlington's needs with renewable resources. But in-state renewables are challenging. For example, wind energy is Vermont's most promising type of renewable power (and is cost effective relative to other sources), but implementation is moving slowly. In order to replace a long-term contract that expired at the end of 2009, BED contracted for 16 megawatts of Vermont Wind generation that will come on line in late 2010. BED is working with many renewable project developers in Vermont and New England, including the proposed Georgia Mountain Community Wind Project in Milton.

Integrated Resource Plan: In addition to power from the McNeil Plant, BED buys power through short- and long-term contracts. BED conducted a comprehensive analysis of supply options, and renewable resources were identified as the best course of action (see <https://www.burlingtonelectric.com>). However, these resources generally come at a premium price. In order to buy these resources and maintain stable rates, BED can sell the rights to the renewable aspects of the output from McNeil and other renewable resources (Renewable Energy Credits or REC's). When REC's are sold however, BED loses the right to claim the output from renewable resources.

After accounting for the sale of the McNeil REC's, 30% of BED's needs were met with renewable energy in 2009. This is noteworthy because the rest of New England has set targets ranging from 15% to 30% renewable power by 2025. **Prior to the sale of the REC's, BED received about 60% of its power from renewable resources** (similar to prior years).

The REC's were sold to recover the cost of state-of-the-art emission control technology installed in 2008 without putting additional pressure on rates. BED has committed to sell REC's only through 2011 and is working to acquire additional renewable generation. BED will review the economics of selling REC's from new renewable sources to control rates, versus retaining the ability to claim renewability.

Comparison of fuel prices at the McNeil Plant
change in three-year avg. prices '89 - '91 to '07 - '09



The McNeil Station: In 2009, 32% of BED's power came from McNeil. Despite recent reductions in oil and natural gas prices, operating hours should remain high in 2010 due to volatility in the wholesale markets for electricity; the relatively low cost of wood; and the competitive advantage conferred by the new emissions controls. If necessary, the McNeil Plant can burn fuel oil or natural gas in addition to wood (although that is unlikely). As the chart at left shows, however, wholesale prices for natural gas and fuel oil have grown dramatically over the years while wood prices have remained relatively stable.

GENERATION – THE McNEIL PLANT

The McNeil Station is dispatched by ISO New England, which controls all of the region's power plants. The decision to run a plant is based on regional demand, reliability needs, and the bid price, which reflects fuel costs at each plant.

ISO does not consider the total cost of producing power because it excludes most "externalities" (environmental and secondary economic impacts). However, ten states now require fossil fueled units to purchase carbon credits to be allowed to operate. This incorporates environmental costs into the economics of these units. **McNeil uses a renewable fuel** (wood / biomass, considered carbon neutral), which provides a competitive advantage.

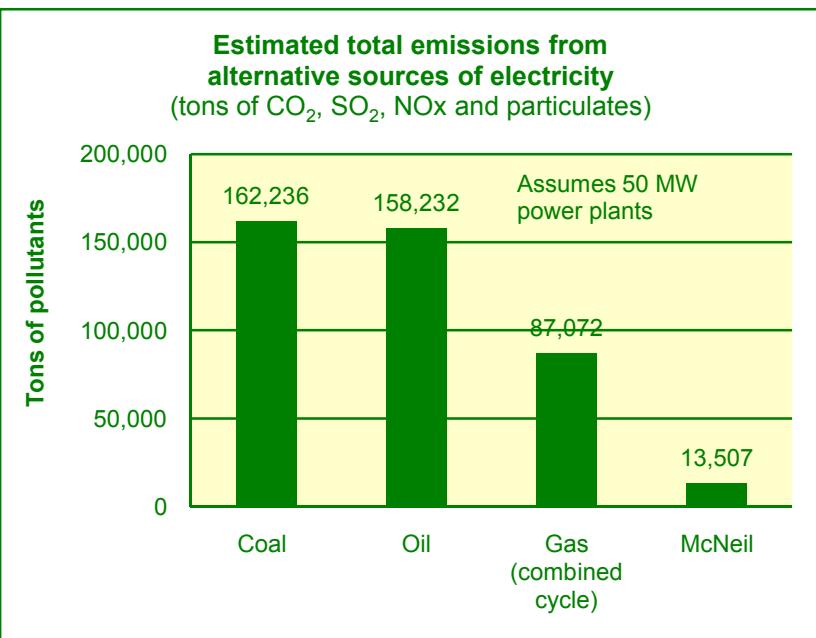
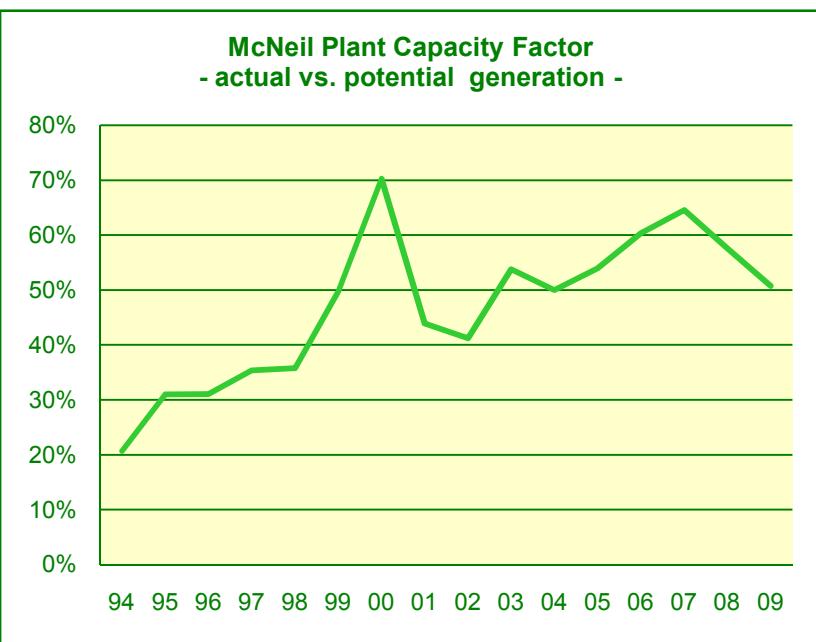
All power plants that burn fuel emit certain substances into the air. Until we are able to switch completely to pollution-free technologies like wind, solar, and hydro, we must continue to reduce demand whenever possible.

HARVESTING BIOMASS

McNeil's wood harvesting standards are comprehensive, field-proven means to harvest biomass fuel sustainably, and have been used as a model in developing forest management certification criteria. In 2009, McNeil Station purchased 338,000 tons of wood; 91% harvest residue, 7% sawmill residue and 2% clean recycled wood. McNeil foresters plan and monitor harvests on more than 5,000 acres per year within a 100 mile radius of Burlington. Harvest plans include protecting critical habitats and wetlands. For example:

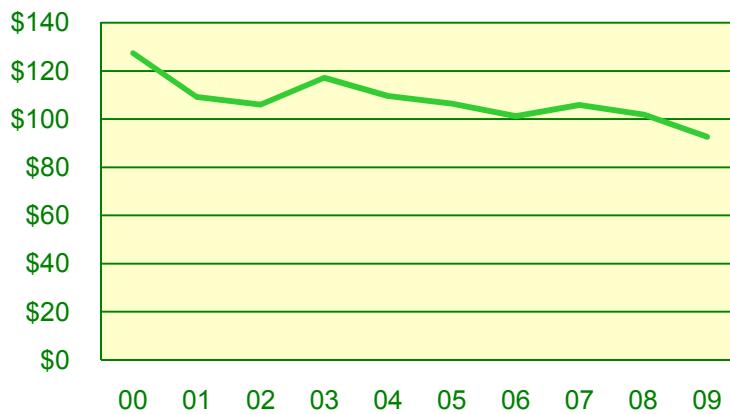
- McNeil makes available portable skidder bridges for free (on loan) to loggers.
- McNeil foresters encourage the use of low-impact harvesting equipment on sensitive sites.
- McNeil manages its wood fuel inventory to minimize delivery disruptions during inclement weather and to avoid environmental impacts of harvesting during sensitive times of the year.

McNeil continues to operate the Burlington Waste Wood Depot, which provides local residents with a central location to dispose of clean waste wood at no charge. In 2009, 3,508 tons of waste wood were diverted from local landfills to McNeil and processed into fuel, which conserved approximately 15,000 cubic yards of critical landfill space and reduced McNeil fuel costs by \$45,600.



OPERATING EFFICIENCY

Customer Service
- cost per customer -
 (inflation adjusted)



Approximately 6,000 of our 16,000 residential customers change locations each year, which is a primary driver of customer service costs. BED has managed to lower and stabilize these costs over the last ten years. **Adjusted for inflation, the cost per customer has declined 27% since 2000.** Among other things, this reflects considerable savings from consolidating job functions and the productivity of our staff.

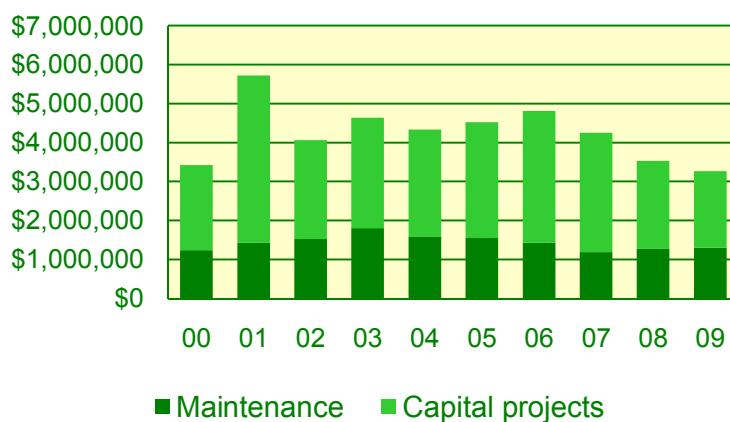
The average cost of maintaining BED's distribution system is about \$1.4 million per year. In addition, BED makes long-term investments to improve the system, to extend its useful life, and to accommodate new development. Capital projects include equipment upgrades, line extensions and new underground conduits and cables.

These investments improve system reliability and reduce unplanned outages. Recent distribution system efficiency measures (e.g., conversion from 4.16 KV to 13.8 KV) have reduced line losses and are saving about \$410,000 annually.

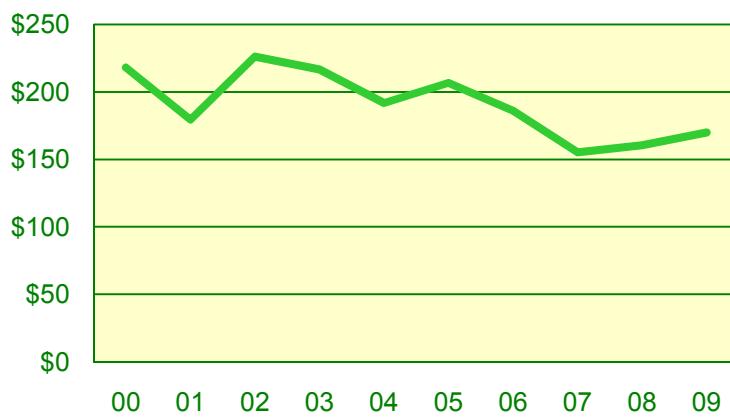
Note: The spike in capital expenditures in 2001 resulted from three major projects occurring at the same time.

The administrative costs of running BED have declined significantly since the late 1990s from staff reductions (down from 164 employees in 1996 to 125 today) and greater efficiencies. Since then, BED has continued to work hard to control costs. However, since the customer base is stable, any cost increases (e.g., health care, salaries, insurance, etc.) result in higher costs per customer. Nevertheless, **adjusted for inflation, the cost per customer has declined 22% since 2000.**

Distribution System Expenditures
Maintenance & Capital Investment
 (inflation adjusted)



Administration
- cost per customer -
 (inflation adjusted)



ECONOMIC IMPACTS

TAXES AND FEES

As a municipal entity, BED is not required to pay property taxes. However, BED makes an annual payment in lieu of taxes (PILOT) that makes us the largest property taxpayer in the City. BED also collects a 3.5% franchise fee for the City.

This is significant because these payments come from all customers (and the joint owners of the McNeil Station), including nonprofit entities such as UVM

and Fletcher Allen that don't pay property taxes. This is a more equitable distribution of the burden of financing City operations and is an important benefit of public power.

If not for BED's PILOT and the franchise fee, the combined property and school tax rate would be almost \$0.09 higher than it is today. That means a family with a \$200,000 home saves about \$176 per year in property taxes, while paying only \$27 in franchise fees, a savings of \$149 per year.

JOBS AND THE MULTIPLIER EFFECT

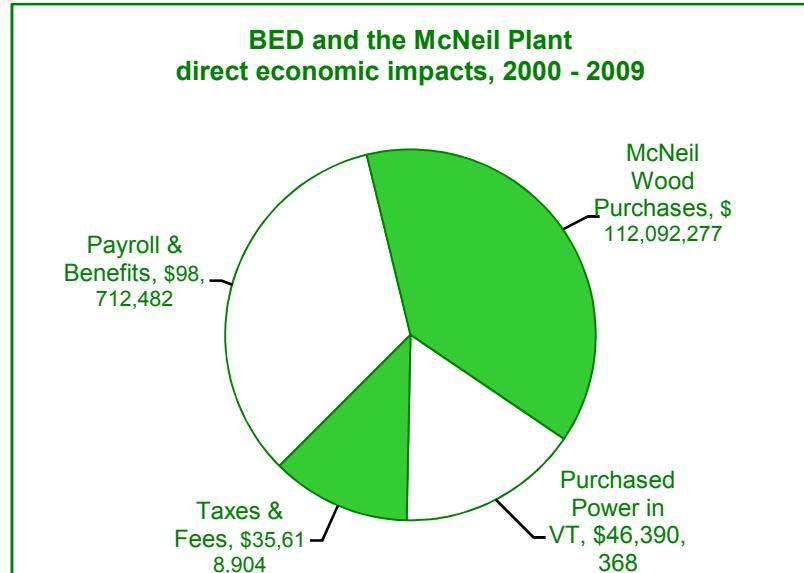
One of the benefits of the decision to build the McNeil Generating Station is that a considerable amount of money remains in Vermont and the region. In addition to providing 40 jobs for Vermonters at the Plant, BED's wood fuel purchases also contribute to the Vermont economy, supporting North Country landowners, processors, and haulers. It is especially noteworthy that much of this activity has occurred in the northernmost counties of Vermont, where most economic indicators lag behind the rest of the state.

In addition, sustainable harvesting of wood fuel results in environmental benefits and a reliable long-term fuel source. A sustained market for low-grade wood at McNeil allows landowners to improve the future value of their woodlands. This encourages residents to own and maintain undeveloped forestland, which provides many public benefits such as clean water, wildlife habitat, and land for recreation.

The economic impact of BED's operations includes payroll, local taxes, wood purchases, and other power purchased within Vermont. **BED's total direct contribution to the Vermont economy over the past 10 years was \$293 million.**

The indirect benefits are significant as well. For example, wood purchases have a powerful "multiplier effect" as the money circulates through the economy. Including transportation costs, **BED and the Joint Owners spent \$14.8 million for wood at the McNeil Plant last year. This led to \$12.9 million in additional economic activity, including \$6.5 million in wages for 181 jobs (one year only).**

| BED Payments in Lieu of Taxes and Franchise Fee Transfers | | | |
|---|---|---------------------|---------------------|
| Fiscal Year | Payment in Lieu of Taxes (PILOT) ¹ | City Franchise Fees | Totals |
| 2005 | \$1,726,365 | \$1,240,541 | \$2,966,906 |
| 2006 | \$1,204,542 | \$1,306,525 | \$2,511,067 |
| 2007 | \$1,329,161 | \$1,561,087 | \$2,890,248 |
| 2008 | \$1,422,118 | \$1,555,177 | \$2,977,295 |
| 2009 | \$1,545,262 | \$1,581,818 | \$3,127,080 |
| 5 Yr. Totals | \$7,227,448 | \$7,245,148 | \$14,472,596 |



¹ The decline in the PILOT from 2005 to 2006 was due to the overall shift in tax burden from commercial & industrial properties to residential from the state mandated reappraisal. However, while all other properties are appraised every ten years or so, the City appraises BED property every year. As a result, BED's PILOT increases each year to reflect the higher values.