



Coppervale helps major MSO reduce energy costs by 10% and identify efficiency improvement opportunities

Customer

A large broadcasting, cable and home Internet service provider in the United States, and the nation's third largest home telephone service provider. Provides services to residential and commercial customers in 40 US states and the District of Columbia.

Challenge

Energy represents one of the largest unmanaged operational costs for cable operators. To reduce these costs (and better manage them over time), Customer initially wanted to target their supply-side expenses. This case study highlights the results from a cost-reduction project in a cable system in the southeastern U.S. that spends over **\$26 million** on electricity to reach over **3 million connected customers**.

Solution

Coppervale conducted a comprehensive and detailed utility bill audit, correcting billing errors, optimizing tariffs, removing unused accounts, and renegotiating more favorable usage rates. Coppervale also used the powering characteristics identified during the audit as the basis for a desktop efficiency analysis of facilities and the outside plant network.

Results

Coppervale identified and realized over **\$2.7 million in immediate savings, or over 10% of the total annual spend on electricity** by this regional system. Additional savings opportunities were presented as part of a longer term efficiency program requiring capex investment.

Industry: Broadband and Telecommunications
Employees: 136,000
Subscribers: 21 million residential & commercial

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Summary of Coppervale Actions

- Coppervale analysts found and corrected a number of billing errors by a particular utility. We also identified several sites which are no longer occupied by the customer but were still being billed to the customer.
- Coppervale identified a number of power supplies that were longer needed but were still connected to the network, or had been removed but the account was still active.
- Many utilities offer a plethora of tariff choices based on usage level and profile. Coppervale was able to optimize the tariff selection for both power supplies and facilities in many of the locations within this regional system.
- Coppervale also identified a discount available to utility customers whose total annual load exceeds a certain threshold. We provided the necessary documentation to the utility to ensure the customer was able to take advantage of this offer.
- Finally, Coppervale recognized that a particular utility was overcharging the customer for over 2,000 unmetered power supplies in its territory. After negotiating with Coppervale, the utility agreed to adjust these power supply rates to a lower number once meters were installed.

Annual Usage and Spending Summary

	Total Annual Energy (kWh)	Total Annual Spend
Outside Plant Power Supplies	123,282,890	\$18,598,097
Critical Facilities	50,793,652	\$4,762,239
Non-critical Facilities	36,690,867	\$3,281,560
Total	210,767,409	\$26,641,896

Total Post-Audit Utility Savings

Area of Opportunity	Total Savings
Billing Errors	\$38,476
Tariff Changes – Facilities	\$49,954
Tariff Changes – Power Supplies	\$428,953
Negotiated Discounts (cumulative load)	\$232,398
Suspect Facility Accounts	\$53,043
Unused Metered Power Supplies	\$62,753
Unused Unmetered Power Supplies	\$44,035
Unmetered Overbilling Adjustments	\$1,790,471
Total	\$2,700,082

Energy Benchmarking and Efficiency Analysis

Coppervale also used the energy usage data, correlated with customer facility information, to measure the relative performance of individual facilities with average loads greater than 40kW within this particular cable system. We used load factor as the key metric to evaluate performance.

Critical Facility Benchmarks

	Critical sq ft	Avg Power kW	Seasonal Flux in Load Factor	Avg Load Factor	kWh/ sq ft/ Year
Facility 1	5,100	155	35%	82%	266
Facility 2	4,134	148	31%	86%	314
Facility 3	4,846	102	11%	89%	185
Facility 4	600	86	8%	85%	1,257
Facility 5	1,396	72	6%	87%	450
Facility 6	1,450	68	23%	83%	410
Facility 7	257	68	17%	85%	2,302
Facility 8	500	61	11%	92%	1,070
Facility 9	498	60	8%	89%	1,061
Facility 10	2,400	55	--	--	200
Facility 11	1,157	55	16%	87%	414
Facility 12	1,452	47	17%	82%	287
Facility 13	1,225	45	21%	74%	345
Facility 14	956	44	5%	94%	407
Facility 15	1,025	44	5%	91%	372
Facility 16	560	42	9%	88%	657

A lower than desired load factor for critical facilities may indicate non-optimum building cooling performance or the presence of personnel within the boundaries of a technical facility. A higher than expected load factor for administrative facilities may indicate the absence of sufficient building management, i.e. higher than required energy usage during non-working hours.

The data and recommendations presented became a baseline tool by which the customer's management team was able to further diagnose issues, and subsequently implement measures that would improve efficiency and performance of the facility.

About Coppervale

Coppervale Enterprises Inc. is a leading energy management, engineering and sustainability consultancy to the broadband industry. Our team consists of energy and carbon management specialists, environmental and sustainability professionals, and veteran cable engineers. Let Coppervale show you how you to improve operational efficiency, reduce your energy costs, and minimize your carbon impact. To find out more, visit us at www.coppervale.org.

Coppervale will ensure you are paying the appropriate rates for the utility power you use. Whether your operations are based in regulated or deregulated energy markets, we have the experience to reduce your rates.

Start reducing your operating expenses today.



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