

CASE STUDY with Utility Bills



5 YEARS

Performance Review:

The First Independent Retailer in the US to Retrofit with LED Tubes. In 2009, a third generation family business took the initiative to invest \$20,000 to retrofit with LEDs and has been saving over \$7,000 every year since.



Forward Thinking
Owner:
David Braxton

Business: Pet Supplies Facility Size: 8,000 Sq. Ft.
620 W Lancaster Ave, Wayne, PA 19087 610) 688-0769

www.Braxtons.com

Great Light and Great Savings



“ Lighting is a key element in retail. At first, I was unsure whether or not LED lighting could maintain the nostalgic feel in our old style barn that houses the retail store. However, after seeing the color versatility and the design capabilities that LEDs have to offer, it was a no-brainer. Now I’m saving over \$7,000 a year and my store looks better than ever! ”

David Braxton, Owner
Braxton’s Animal Works

Lower and Upper Level “Loft” Retail



2009 Savings Proposal: Part 1 of 2

Client:	Braxton Animal Works	
Property Type:	Medium Retail	City, State: Wayne, PA
Square Footage:	8,000	Lighting Savings 87%
SAVINGS REPORT		
	<u>Annual</u>	<u>Lifetime*</u>
Current Lighting Electricity Cost	\$9,137	\$287,321
Projected Lighting Electricity Cost (LED)	\$1,327	\$41,734
Electricity Cost Savings with LEDs	\$7,809	\$245,587
<u>Additional Operating Savings:</u>	<u>Annual</u>	<u>Lifetime</u>
Bulb Replacement Costs (~5 cycles)	\$329	\$6,016
Maintenance Labor Costs (Using Average of \$.05/sqft)	\$400	\$2,000
Reduced Air Conditioning Load (Avg. of \$.03 for every dollar saved on lighting)	\$234	\$7,029
Total Additional Operating Savings	\$962.92	\$15,044.52
Total Savings with LEDs	<u>Annual</u>	<u>Lifetime</u>
	\$8,772	\$260,631
*Lifetime based on 80,000 hour lifespan and annual increase in energy costs of 3%		

2009 Savings Proposal: Part 2 of 2

COST ANALYSIS			
Cost of LED Bulbs	\$19,855	Payback in Months	31
Installation Costs (est. 15%)	\$2,978	Return on Investment	38%
Total Estimated Cost	\$22,833		
		Monthly Cash Flows	
FINANCING OPTIONS	Financing Cost	Savings w/LED's	Net Cash Flow
36 Months @ 6%	(\$695)	\$731	\$36
60 Months @ 6%	(\$441)	\$731	\$290
Savings Share Program <small>(based on 65% of monthly savings)</small>	(\$423)	\$731	\$308
Monthly Net Savings w/ highest cash flow option			\$308
BONUS INCENTIVES			
EPAct Federal Tax Deduction (\$.60/sq ft)		\$4,800	
Property Value Increase <small>(10% Cap Rate applied to reduction in operating costs)</small>		\$87,724	
EcoAdvantage: CO2 Emissions Reduction (lbs) <small>(13 lbs of CO2 for every dollar of electricity saved)</small>		101,523	
ACT NOW!			
	Daily Cost of Waiting	\$24.03	
	Monthly Cost of Waiting	\$731.03	

Performance Measurement and Verification

The LED retrofit was installed over August and September of 2009. The estimated annual electricity savings was \$7,809 on a cost of \$19,855 for the LED equipment. The monthly savings estimate was \$650.75, and the actual monthly savings was \$660.44, exceeding the estimate.

Performance Analysis:

Step 1: Establish a baseline with the month prior and a year to the month prior as a cross check against any anomalies.

Step 2: Compare the utility bill after the retrofit to the baseline to determine actual savings.

Step 3: Compare pre and post retrofit cost and kWh consumption.

Each year, we check in with the ownership on the anniversary of the retrofit to confirm the ongoing savings. In addition to the utility bills on the immediate following pages, we have also included in this report the most recent years of utility data for comparison.

Pre LEDs: Cost Analysis: (One Year Prior to Retrofit)

Issue Date: 10/03/2008

Current Period ... continued

Generation Charges	9,976 kWh	X	0.04990	497.80
Transmission Charges	3,384 kWh	X	0.01290	43.65
Transmission Charges	9,976 kWh	X	0.00380	37.91
Distribution Charges	3,384 kWh	X	0.03640	123.18
Distribution Charges	9,976 kWh	X	0.01080	107.74
Transition Charges	3,384 kWh	X	0.07360	249.06
Transition Charges	9,976 kWh	X	0.02190	218.47
State Tax Adjustment				-17.12
Sales tax				102.78
Total current charges				\$1,815.70

Other Basic Charges

Thank you for your payment of \$2,060.12

Total amount due

\$1,830.88

September 2008 = \$1,830.88

Pre LEDs: Cost Analysis:

(One Year and a Month Prior to Retrofit)

Issue Date: 11/03/2008

Current Period ... continued

Generation Charges	9,272 kwh	X	0.04990	462.67
Transmission Charges	2,808 kwh	X	0.01290	36.22
Transmission Charges	9,272 kwh	X	0.00380	35.23
Distribution Charges	2,808 kwh	X	0.03640	102.21
Distribution Charges	9,272 kwh	X	0.01080	100.14
Transition Charges	2,808 kwh	X	0.07360	206.67
Transition Charges	9,272 kwh	X	0.02190	203.06
State Tax Adjustment				-15.07
Sales tax				90.63
Total current charges				\$1,601.07

Other Basic Charges

Thank you for your payment of \$1,830.88				
Overpayment				\$-6.72
Total other charges				\$-6.72
Total amount due				\$1,609.53

October 2008 = \$1,609.53

Pre LEDs: Cost Analysis: (One Month Prior to Retrofit)

Issue Date: 10/05/2009

Current Period ... continued

Generation Charges	9,392 kwh	X	0.05000	469.60
Transmission Charges	3,248 kwh	X	0.01290	41.90
Transmission Charges	9,392 kwh	X	0.00380	35.69
Distribution Charges	3,248 kwh	X	0.03640	118.23
Distribution Charges	9,392 kwh	X	0.01080	101.43
Transition Charges	3,248 kwh	X	0.07270	236.13
Transition Charges	9,392 kwh	X	0.02170	203.81
State Tax Adjustment				-4.11
Sales tax				98.37
Total current charges				\$1,737.81

Other Basic Charges

Thank you for your payment of \$2,218.40

Total amount due

\$1,764.34

September 2009 = \$1,764.34

Pre LEDs: Cost Analysis:
(Months Prior to Retrofit)

September 2008 = \$1,830.88

October 2008 = \$1,609.53

September 2009 = \$1,764.34

The Average = \$1,734.91

**(This is the monthly
cost baseline to beat!)**

Post LEDs: Cost Analysis: (One Month After Retrofit)

Issue Date: 11/10/2009

Current Period ... continued

Sales tax	2.22
Total current charges	\$39.22

Electric Commercial Service

Service 10/04/2009 to 11/04/2009 - 31 Days

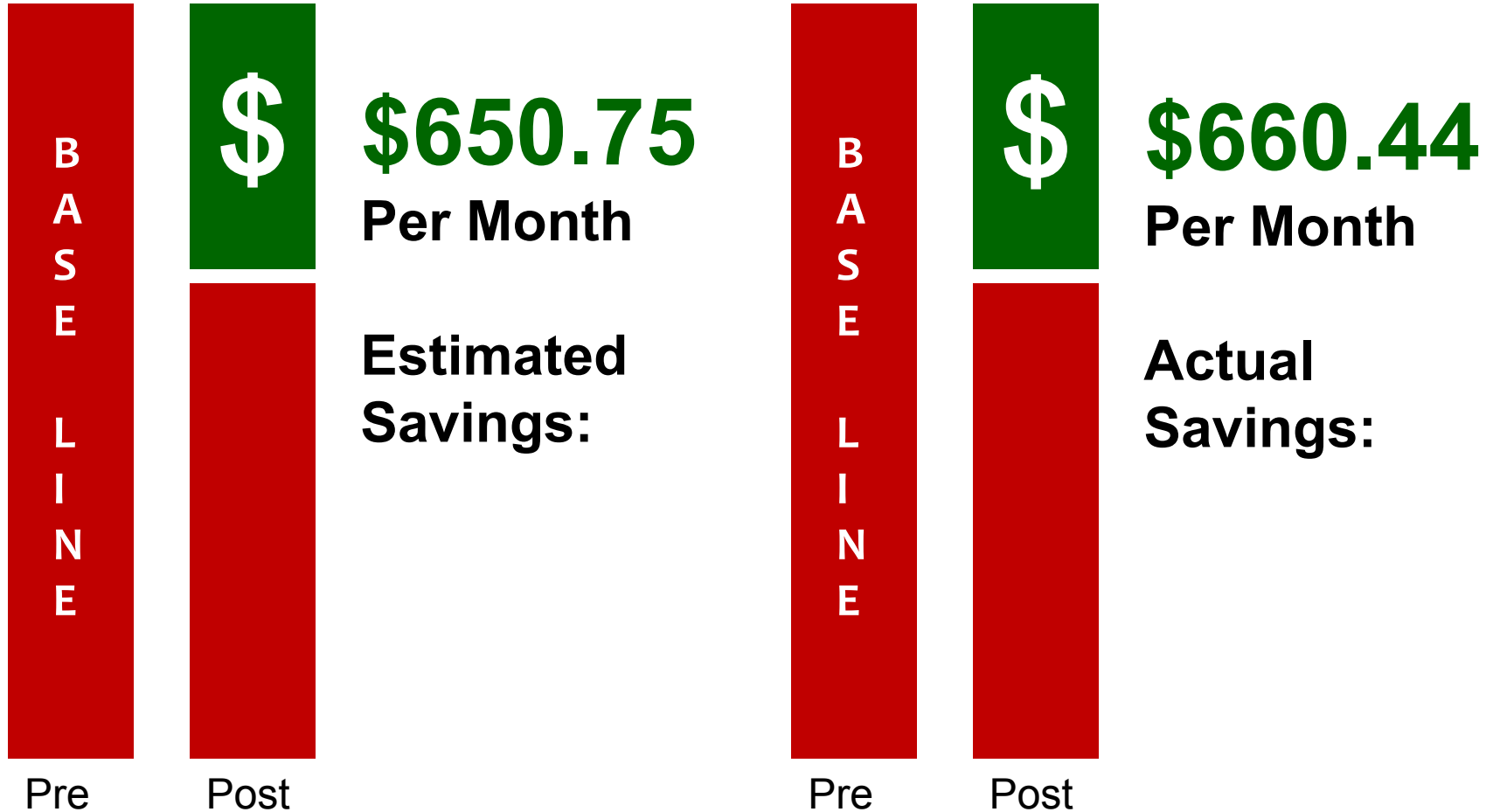
Customer Charge			\$23.94
Generation Charges	1,456 kwh	X \$0.12710	185.06
Generation Charges	5,824 kwh	X 0.05000	291.20
Generation Charges	1,760 kwh	X 0.03180	55.97
Transmission Charges	1,456 kwh	X 0.01290	18.78
Transmission Charges	5,824 kwh	X 0.00380	22.13
Transmission Charges	1,760 kwh	X 0.00170	2.99
Distribution Charges	1,456 kwh	X 0.03640	53.00
Distribution Charges	5,824 kwh	X 0.01080	62.90
Distribution Charges	1,760 kwh	X 0.00470	8.27
Transition Charges	1,456 kwh	X 0.07270	105.85
Transition Charges	5,824 kwh	X 0.02170	126.38
Transition Charges	1,760 kwh	X 0.00960	16.90
State Tax Adjustment			-2.38
Sales tax			58.26
Total current charges			\$1,029.25

Other Basic Charges

Thank you for your payment of \$1,764.34	
Overpayment	\$-4.00
Total other charges	\$-4.00
Total amount due	\$1,064.47

October 2009 = \$1,064.47

How Close was the Estimated Savings to the Actual Savings on total Electricity Cost?



Going Strong Multiple Years Later

2013 Monthly Savings: \$736.51

Multiple years later all of the bills are consistently lower than the previous \$1,735 monthly benchmark. With 3% avg. annual inflation, the bill would be \$1,953 in 10/13, yielding savings of \$736.51

Month	Date	kWh (Elec)	Ccf (Gas)	Amount Due
December	12/4/2013	7,760	38	\$1,021.31
November	11/1/2013	8,240	0	\$1,047.73
October	10/3/2013	9,680	0	\$1,216.49
September	9/4/2013	11,120	0	\$1,341.99
August	8/5/2013	12,800	0	\$1,406.67
July	7/5/2013	10,800	0	\$1,229.69
June	6/6/2013	9,440	0	\$1,091.53
May	5/6/2013	7,600	5	\$1,106.24
April	4/5/2013	6,640	119	\$1,073.92
March	3/7/2013	7,120	196	\$1,071.24
February	2/6/2013	7,360	232	\$1,114.86
January	1/7/2013	8,400	148	\$1,135.23

Pre LED and Post LED kWh Analysis

Utility Bill review on kWh consumption is as important as review of the cost savings to cross check the performance of the LED retrofit.

Pre LEDs: kWh Analysis: February 2009 13,186 kWh (Month without Air Conditioning)



Emergency and Repairs: 1-800-841-4141. This is the number to call to report power outages, gas leaks or odors, and safety hazards related to PECO equipment. For all other business, call 1-800-494-4000.

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Name: BRAXTON'S ANIMAL WORKS
 Service Address: 620 W LANCASTER AV, NEW., WAYNE
 Phone Number: 610-688-0769

Your major account rep is BUSINESS ACCT SRVCS-PECO. If you have any questions about this bill please contact us at 800-980-9655 or by writing 2301 Market St, Philadelphia, PA, 19101.

Issue Date: 02/06/2009

PAID
21995

General Information

Next scheduled meter reading: March 9, 2009
Payment Information: PECO Energy, 2301 Market St, Philadelphia, PA, 19101, walk-in business hours Monday through Friday 8:30AM to 5:00PM. For additional payment options, go to www.peco.com/ehome. If you have any questions or concerns, please call 1-800-494-4000 before the due date.
 To pay by phone, call 1-877-432-9384. (A convenience fee will apply.)
 Si tiene alguna pregunta, favor de llamar al numero 1-800-494-4000 antes de la fecha de vencimiento.

Meter Information

Read Date	Meter Number	Load Type	Reading Type	Meter Reading		Diff	Mult X	Usage
				Previous	Present			
02/05	020662963	General Service	Total Ccf	120 ACT	299 ACT	179	1	179
02/05	004039526	General Service	Tot kWh	13186 ACT	13317 ACT	131	80	10480
02/05	004039526	General Service	Pk kW	0.00 ACT	0.33 ACT	0.33	80	26.72
Total Ccf Used					179			
Total kW Billed					26.7			
Total kWh Used					10480			

Pre LEDs: kWh Analysis: March 2009 13,317 kWh (Month without Air Conditioning)



Emergency and Repairs: 1-800-841-4141. This is the number to call to report power outages, gas leaks or odors, and safety hazards related to PECO equipment. For all other business, call 1-800-494-4000.

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Name: BRAXTON'S ANIMAL WORKS
 Service Address: 620 W LANCASTER AV, NEW., WAYNE
 Phone Number: 610-688-0769

Your major account rep is BUSINESS ACCT SRVCS-PECO. If you have any questions about this bill please contact us at 800-980-9655 or by writing 2301 Market St, Philadelphia, PA, 19101.

Issue Date: 03/09/2009

General Information

Next scheduled meter reading: April 7, 2009
PAID
Payment Information: PECO Energy, 2301 Market St, Philadelphia, PA, 19101, walk-in business hours Monday through Friday 8:30AM to 5:00PM. For additional payment options, go to www.peco.com/ehome. If you have any questions or concerns, please call 1-800-494-4000 before the due date.
 To pay by phone, call 1-877-432-9384. (A convenience fee will apply.)
 Si tiene alguna pregunta, favor de llamar al numero 1-800-494-4000 antes de la fecha de vencimiento.

Meter Information

Read Date	Meter Number	Load Type	Reading Type	Meter Reading		Diff	Mult X	Usage
				Previous	Present			
03/08	020662963	General Service	Total Ccf	299 ACT	407 ACT	108	1	108
03/08	004039526	General Service	Tot kWh	13317 ACT	13449 ACT	132	80	10560
03/08	004039526	General Service	Pk kw	0.00 ACT	0.40 ACT	0.40	80	31.68
Total Ccf Used								108
Total kW Billed								31.7
Total kWh Used								10560

Pre LEDs: kWh Analysis: April 2009 13,449 kWh (Month without Air Conditioning)



Emergency and Repairs: 1-800-841-4141. This is the number to call to report power outages, gas leaks or odors, and safety hazards related to PECO equipment. For all other business, call 1-800-494-4000.

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Name: BRAXTON'S ANIMAL WORKS
 Service Address: 620 W LANCASTER AV, NEW., WAYNE
 Phone Number: 610-688-0769

Your major account rep is BUSINESS ACCT SRVCS-PECO. If you have any questions about this bill please contact us at 800-980-9655 or by writing 2301 Market St, Philadelphia, PA, 19101.

Issue Date: 04/07/2009

PAID

32183

General Information

Next scheduled meter reading: **May 6, 2009**
Payment Information: PECO Energy, 2301 Market St, Philadelphia, PA, 19101, walk-in business hours Monday through Friday 8:30AM to 5:00PM. For additional payment options, go to www.peco.com/ehome. If you have any questions or concerns, please call 1-800-494-4000 before the due date.
 To pay by phone, call 1-877-432-9384. (A convenience fee will apply.)
 Si tiene alguna pregunta, favor de llamar al numero 1-800-494-4000 antes de la fecha de vencimiento.

Meter Information

Road Date	Meter Number	Load Type	Reading Type	Meter Reading		Diff	Mult X	Usage
				Previous	Present			
04/06	020662963	General Service	Total Ccf	407 ACT	410 ACT	3	1	3
04/06	004039526	General Service	Tot kWh	13449 ACT	13578 ACT	129	80	10320
04/06	004039526	General Service	Pk kw	0.00 ACT	0.39 ACT	0.39	80	31.04
Total Ccf Used				3				
Total kW Billed				31.0				
Total kWh Used				10320				

Pre LEDs: kWh Analysis:
(Month without Air Conditioning)

February 2009 = 13,186 kWh

March 2009 = 13,317 kWh

April 2009 = 13,449 kWh

The Average = 13,317.33

**(This is the monthly
kWh baseline to beat!)**

Post LEDs: kWh Analysis: April 2014 6,720 kWh

(Month without Air Conditioning) New Bill Format

When paying in person, please bring the entire bill.

(continued on next page)



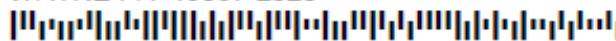
Return only this portion with your check made payable to PECO. Please write your account number on your check.

- Check here to enroll in Power Pay automatic account debit and complete form on reverse side.
- Check here to pledge a donation to MEAF and complete form on reverse side.

To pay by phone call 1-877-432-9384.
A convenience fee will apply.

21751 0020 30000 0000

19299 1 AV 0.378 19299/019299/039084 070 01 GXFW0Q 12 04082014
BRAXTON'S ANIMAL WORKS
 NEW
 620 W LANCASTER AVE
 WAYNE PA 19087-2525



Account Number
21751-00203

Payment Receipt Stamp

Payment Amount

Please pay this amount by 04/29/2014

\$980.58

Name: **BRAXTON'S ANIMAL WORKS**

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Electric Commercial Service 0-100kW - Current Period Detail

Service 03/06/2014 to **04/06/2014** - 31 days

Customer Charge				\$40.29
Generation Charges	6,720 kWh	X	\$0.08170	549.02
Transmission Charges	16.40 kW	X	2.41000	39.52
Distribution Charges	16.40 kW	X	4.96000	81.34
Distribution Charges	6,720 kWh	X	0.00410	27.55
Energy Efficiency Charge	6,720 kWh	X	0.00240	16.13
State Tax Adjustment				-0.35
Sales tax				45.21
Total Current Charges				\$798.71

The kWh Cross Check confirms the Cost Savings.

Season	Month	Date	kWh (Elec)	Ccf (Gas)	Amount Due	Pre LED Retrofit kWh from 2009 Baseline	kWh Savings	% Savings
Spring	April	4/7/2014	6,720	128	\$980.58	13,449	6,729	50.03%
	March	3/7/2014	6,160	267	\$1,061.38	13,317	7,157	53.74%
Winter	February	2/6/2014	6,160	227	\$1,072.54	13,186	7,026	53.28%
	January	1/7/2014	7,520	168	\$1,180.71	<p style="text-align: center;">Consistent Savings across multiple years Over 50% Previous Bills over \$1,700 / Month with Gas included</p>		
	December	12/4/2013	7,760	38	\$1,021.31			
Fall	November	11/1/2013	8,240	0	\$1,047.73			
	October	10/3/2013	9,680	0	\$1,216.49			
	September	9/4/2013	11,120	0	\$1,341.99			
Summer	August	8/5/2013	12,800	0	\$1,406.67			
	July	7/5/2013	10,800	0	\$1,229.69			
	June	6/6/2013	9,440	0	\$1,091.53			
Spring	May	5/6/2013	7,600	5	\$1,106.24			
	April	4/5/2013	6,640	119	\$1,073.92			
	March	3/7/2013	7,120	196	\$1,071.24			
Winter	February	2/6/2013	7,360	232	\$1,114.86			
	January	1/7/2013	8,400	148	\$1,135.23			
	December	12/4/2012	7,760	31	\$985.49			
Average:					\$1,125.74			

Please note that electricity has increased by 3% annually for 50 years, so the savings over the next ten years will continue to increase relative to the initial investment.