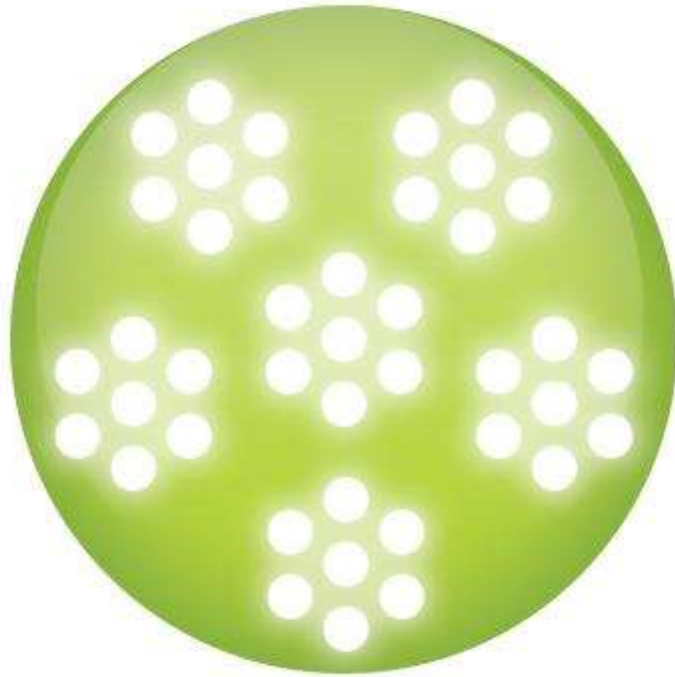


**NOTE: THIS COST BENEFIT ANALYSIS IS FOR ILLUSTRATION PURPOSES ONLY
FOR MORE DETAILS, ON HOW LEDS PERTAIN TO YOUR SPECIFIC APPLICATION
CONTACT US AT (212) 537-5788**



Cost Benefit Analysis

Complete Retrofit of NYC Power Plant



Executive Summary

Project Overview

Cost of Project

Total Material Cost and Labor (\$)	38,064
Less Rebates and Incentives (\$)	0
Net Cost of Project (\$)	38,064

Annual Operating Savings

Energy Savings (\$)	14,782
Maintenance Savings (\$)	1,080
Total Annual Operating Savings (\$)	15,863

Operating Savings Over 10 Years

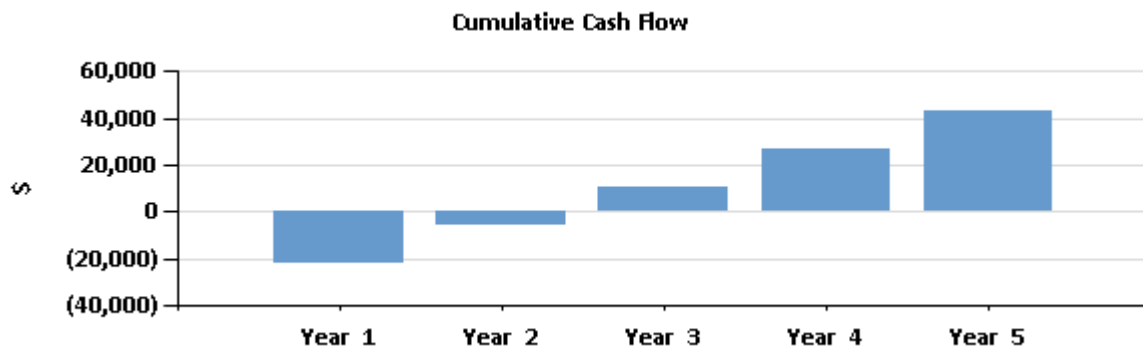
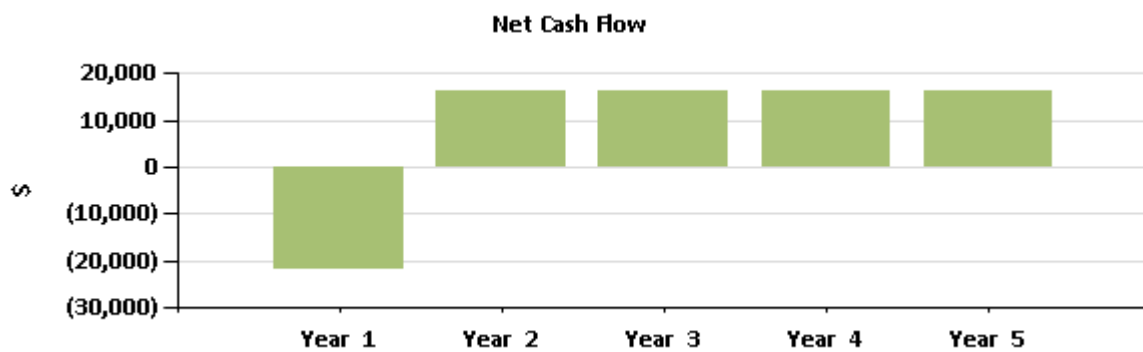
Energy Savings (\$)	147,828
Maintenance Savings (\$)	10,803
Total Operating Savings Over 10 Years (\$)	158,631

Payback Period (years)	2.4
Net Present Value (\$)	82,135
Internal Rate of Return (%)	50.70

Cash Flow Analysis

10 Year Cash Flow Analysis (\$)

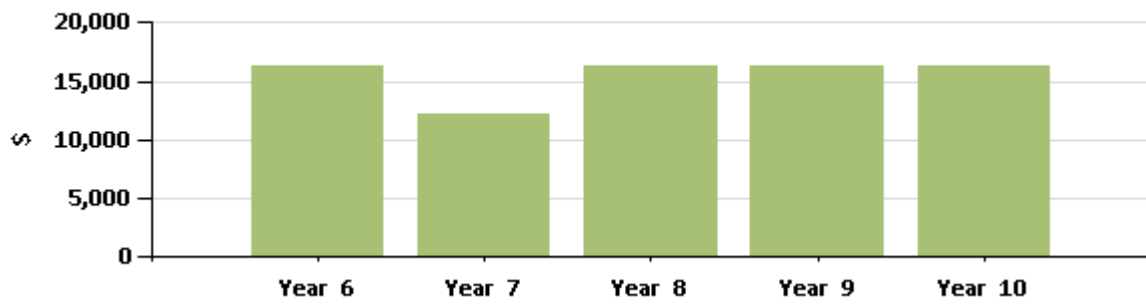
	Year 1	Year 2	Year 3	Year 4	Year 5
Product Costs	32,067	-	-	-	-
Installation Services	5,997	-	-	-	-
Energy Savings	14,783	14,783	14,783	14,783	14,783
Maintenance Savings	1,495	1,495	1,495	1,495	1,495
Net Cash Flow	(21,786)	16,278	16,278	16,278	16,278
Cumulative Cash Flow	(21,786)	(5,508)	10,770	27,047	43,325



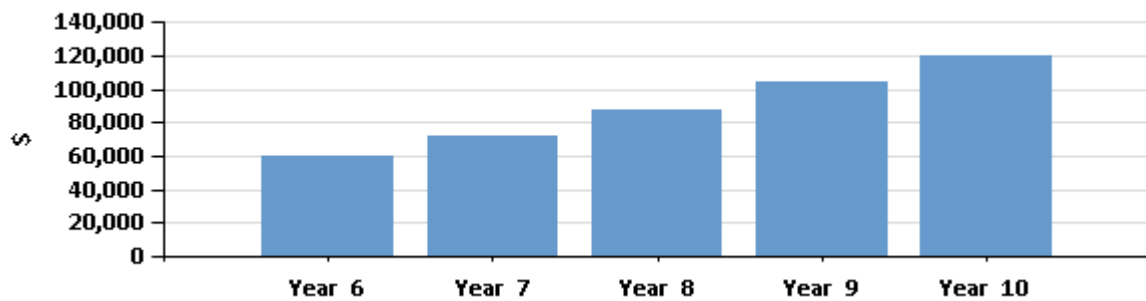
10 Year Cash Flow Analysis (\$)

	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Product Costs	-	-	-	-	-	32,067
Installation Services	-	-	-	-	-	5,997
Energy Savings	14,783	14,783	14,783	14,783	14,783	147,829
Maintenance Savings	1,495	(2,652)	1,495	1,495	1,495	10,803
Net Cash Flow	16,278	12,131	16,278	16,278	16,278	120,568
Cumulative Cash Flow	59,603	71,734	88,012	104,290	120,568	120,568

Net Cash Flow



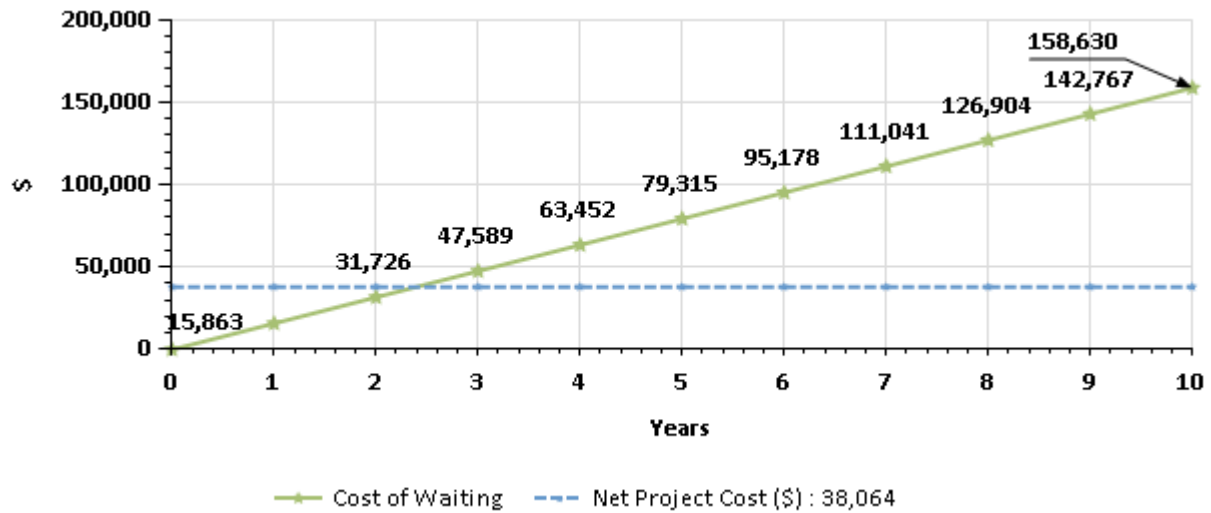
Cumulative Cash Flow



Cost of Waiting

Cost of Waiting

Monthly (\$)	Yearly (\$)	10 Years (\$)
1,321	15,863	158,630

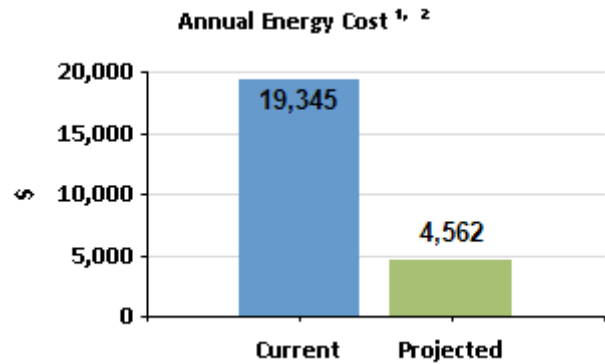
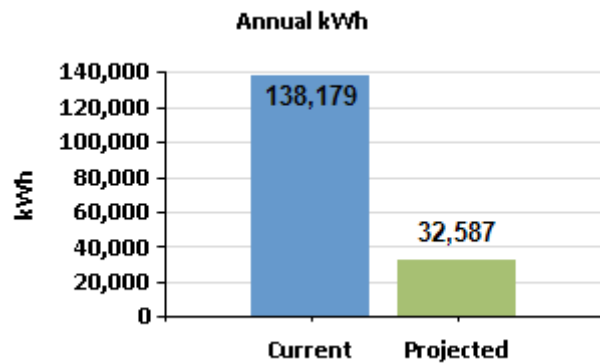


Energy Usages and Costs

Annual Energy Usage Reduction

Current Usage (kWh)	Projected Usage (kWh)	Reduction (kWh)	Reduction (%)
138,179	32,587	105,591	76

Energy Comparison



1. Energy Cost (\$) = 0.1400/kWh; Annual energy cost escalation (%) = 0.00
2. Energy costs are averaged over 10 year analysis period

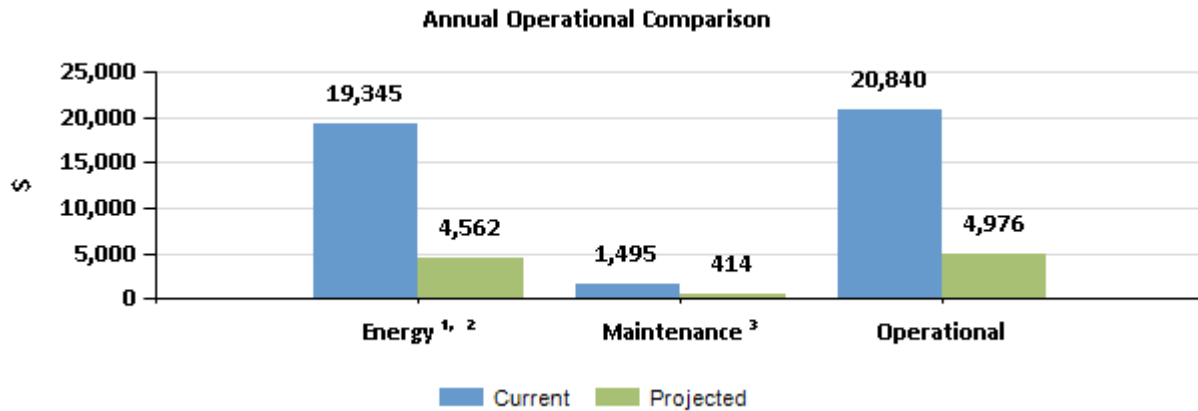
Operational Overview

Operational Savings Summary

Operational Area	Current Annual (\$)	Projected Annual (\$)	Reduction (%)	Current 10 Year (\$)	Projected 10 Year (\$)	Reduction (%)
Energy ^{1, 2}	19,345	4,562	76	193,451	45,623	76
Maintenance ³	1,495	414	72	14,950	4,146	72
Total	20,840	4,976	76	208,401	49,769	76

1. Energy cost (\$) = 0.1400/kWh; Annual energy cost escalation (%) = 0.00
2. Energy costs are averaged over 10 year analysis period
3. Maintenance costs are averaged over 10 year analysis period

Annual Operational Savings Comparison



1. Energy cost (\$) = 0.1400/kWh; Annual energy cost escalation (%) = 0.00
2. Energy costs are averaged over 10 year analysis period
3. Maintenance costs are averaged over 10 year analysis period

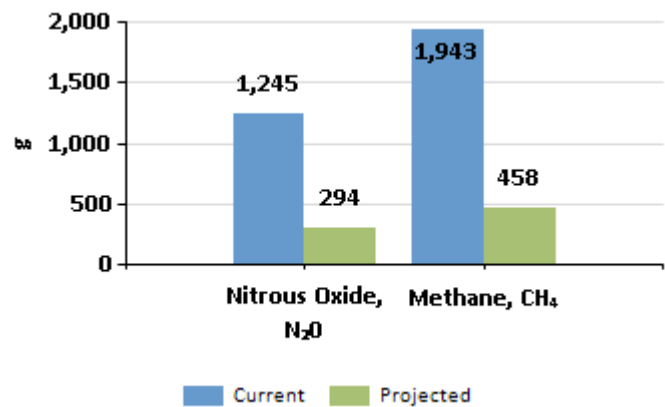
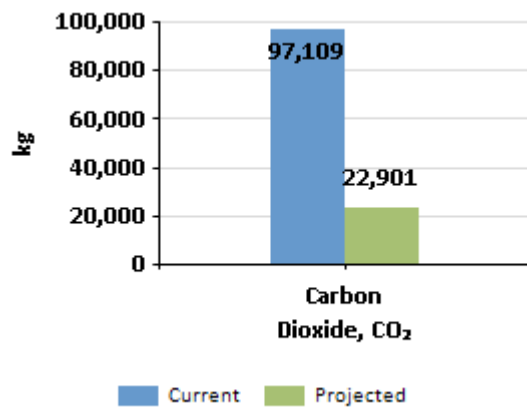
Environmental Impact

Greenhouse Gas Analysis

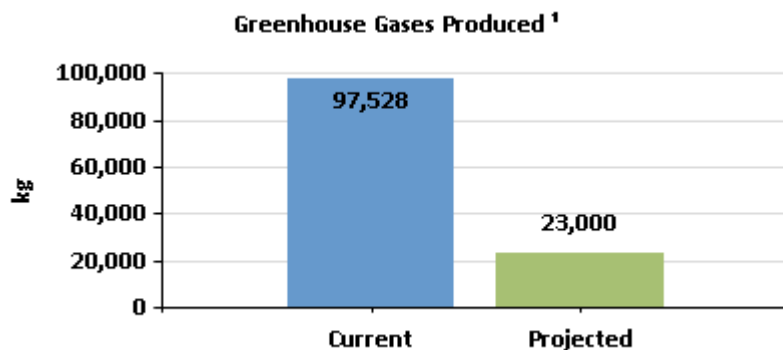
Greenhouse Gas Comparisons¹

Greenhouse Gas	Current ¹	Projected ¹	Avoided	Environmental Effect
Carbon Dioxide, CO ₂ (kg)	97,109	22,901	74,208	Greenhouse Gas, Global Warming
Nitrous Oxide, N ₂ O (g)	1,245	294	951	Greenhouse Gas, Global Warming
Methane, CH ₄ (g)	1,943	458	1,485	Greenhouse Gas, Global Warming
Nitrogen Oxides, NO _x (g)	84,958	20,036	64,922	Smog, Acid rain, Global Warming
Sulfur Oxides, SO _x (g)	183,750	43,334	140,416	Acid rain

1. Average emission rates per kWh are based on estimates from eGrid 2012



Greenhouse Gas Comparables



Comparable Metrics

Barrels of oil consumed: 173

Urban forests (acre): 61

Fewer cars on the road: 16

Gasoline consumed (gallon):
8386

1. Average emission rates per kWh are based on estimates from eGrid 2012

Upgrade Analysis

Component Upgrade by Space

Area	Space	Existing Fixture	Qty	Proposed Upgrade	Qty	Scheduled Hours
Aux Building	Main	Exit Sign 30W 1-Side	3	Lamps: 1 Exit Sign LEDs	3	8,760
Aux Building	Main	MH, 400W, Mag Probe	9	Lamps: 1 SOLSTICE	9	8,760
Exterior	Site Lighting	HPS, 400W	26	Lamps: 1 SOLSTICE	26	4,745
GW5	CEMS	4ft, 2 lamp F32T8	2	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	4	1,040
GW5	Chiller	4ft, 2 lamp F40T12	4	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	8	8,760
GW5	Chiller	Exit Sign 18W 2-Side	2	Lamps: 1 Exit Sign LEDs	2	8,760
GW5	Gas Compressor	4ft, 2 lamp F40T12	4	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	8	8,760
GW6	CEMS	4ft, 2 lamp F32T8	2	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	4	1,040
GW6	Chiller	4ft, 2 lamp F40T12	4	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	8	8,760
GW6	Chiller	Exit Sign 18W 2-Side	2	Lamps: 1 Exit Sign LEDs	2	8,760
GW6	Gas Compressor	4ft, 2 lamp F40T12	4	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	8	8,760
Interior	Deluge Shack	4ft, 2 lamp F40T12	1	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	2	1,040
Interior	Fire Main Building	4ft, 2 lamp F40T12	5	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	10	1,040
Interior	SCS Room	4ft, 2 lamp F40T12	5	Lamps: 2 1 Lamp 4 Ft Retrofit Kit	10	8,760
Interior	SCS Room	Exit Sign 30W 1-Side	2	Lamps: 1 Exit Sign LEDs	2	8,760
Interior	TCP & Battery Rooms	4ft, 4 lamp F40T12	10	Lamps: 4 1 Lamp 4 Ft Retrofit Kit	40	8,760
		Total Fixtures:	85	Total Lamps:	146	



Bill of Materials **NOTE: EVERY JOB IS DIFFERENT AND THESE PARTICULAR SOLUTIONS MAY NOT APPLY TO YOUR OPERATION. THEY ARE FOR ILLUSTRATION PURPOSES ONLY.**

CALL US TO DISCUSS YOUR APPLICATION (212) 537-5788

Products

Fixtures

Part Number	Short Description	Qty	Cost (\$)	Extended (\$)
RRWLEDEXHIDLED	Explosion Proof LED	8	560.00	4,480.00
Total				4,480.00

Lamps

Part Number	Short Description	Qty	Cost (\$)	Extended (\$)
RRWITHLEDS-5498-5600K-277V-70D	SOLSTICE	26	603.43	15,689.18
RRWLEDEXIT	Exit Sign LEDs	9	45.00	405.00
RRWITHLEDS-5498-4100K-120V-70D	SOLSTICE	9	588.57	5,297.13
RRLED 1L4FT	1 Lamp 4 Ft Retrofit Kit	102	46.67	4,760.34
Total				26,151.65

Additional Items

Part Number	Short Description	Qty	Cost (\$)	Extended (\$)
RRWLEDNSS	T-8 Sockets	124	2.50	310.00
Total				310.00



Installation

Description	Qty	Cost (\$)	Extended (\$)
EXIT SIGN RELAMPING	9	9.33	83.97
48 INCH 2 LAMP INSTALLATION	31	53.33	1,653.23
48 INCH 4 LAMP INSTALLATION	10	53.33	533.30
EXPLOSION PROOF INSTALLATION	8	86.67	693.36
AUX BUILDING INSTALLATION	9	86.67	780.03
INSTALLATION HID SITE LIGHTING	26	86.67	2,253.42
Total			5,997.31



Additional Cost

Description	Cost (\$)
MAN LIFT RENTAL	1,125.00
Total	1,125.00

Appendix

Financial Assumptions

Cost of Capital (%)	Analysis Period (yrs)	Energy Cost (\$/kWh)
6.0	10	0.1400

Financial Assumptions

Analysis Period (yrs)	10
Payback Calculation Method	Cash Flow Payback
Cost of Capital (%)	6.0
Energy Cost (\$/kWh)	0.1400
Energy Cost Annual Increase (%)	0.00
Product Tax Rate (%)	0
Service Tax Rate (%)	0
Cooling Savings Factor	0
Cooling Season Months	0
Heating Cost Factor	0
Heating Season Months	0

Schedules

Schedule Name	Description	Hours/Year
Default Lighting Schedule		2,868
Continuous (24x7)		8,760
Dusk till Dawn		4,745
As needed		1,040

Disclaimer

All values contained herein are a best good faith estimate derived from data that you or one of your employees has provided. Retrofit and Relamp with LEDs Inc. is not responsible for discrepancies in this report if the information provided is false or incorrect. Additionally, this proposal is for the removal of existing florescent lamps and the installation of new LED tube lights ONLY. It does not take into account or provide for repair or rewiring of any fixture that currently does not have power at the fixture.