



# Lighting Energy Analysis

*Building Name*

**Sample Better Building**

*Proposal Name*

**InstantFit 12w T8**

*Wednesday, March 25, 2015*

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Thank you for considering Atlanta Light Bulbs! With the Energy Solutions lighting retrofit program, you have a unique opportunity to save thousands of dollars in power consumption costs by upgrading to technologically advanced energy efficient LED lighting, while drastically reducing your facility's carbon footprint and energy usage.

Energy efficiency means delivering the same (or more) services for less energy. This decreases the demand on power plants, thus reducing CO2 emissions and improving air quality. Atlanta Light Bulbs' Energy Solutions (ALBES) division is deeply rooted in the philosophy that the fastest way to make a substantial reduction in CO2 emissions is through energy conservation. On average, lighting equates to 35% of total energy usage. There is an immanent opportunity for LED lighting retrofits in commercial buildings to drastically reduce CO2 emissions and save businesses 20-30% off of their power bill. It's a WIN-WIN scenario for operating budgets and the environment!

We have analyzed your current lighting and energy consumption via a comprehensive lighting energy analysis. Based on our findings we are recommending a LED retrofit solution that will drastically reduce your facility's annual CO2 emissions and energy consumption.

The LED payback presentation breaks down your annual costs for lighting, cooling, and maintenance, as well as the timeframe for your return on investment (ROI). Make a smart decision to GO GREEN while saving your facility money at the same time!

We look forward to becoming your trusted partner in energy savings. A simple monthly payment allows easy re-allocation of operating budget funds generated by the monthly power bill savings to pay for equipment costs without capital expenditures. Monthly payment calculations have been included in this proposal as well for your review.

We look forward to becoming your trusted partner in energy savings.

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## Executive Summary

### Project Overview

Total Material Cost and Labor (\$)	7,936
Less Rebates and Incentives (\$)	1,600
<b>Net Cost of Project (\$)</b>	<b>6,336</b>

Annual Operating Savings	
Energy Savings (\$) <sup>1, 2</sup>	3,697
Maintenance Savings (\$) <sup>3</sup>	1,040
<b>Total Annual Operating Savings (\$)</b>	<b>4,737</b>

Operating Savings Over 10 Years	
Energy Savings (\$) <sup>1, 2</sup>	36,975
Maintenance Savings (\$)	10,400
<b>Total Operating Savings Over 10 Years (\$)</b>	<b>47,375</b>

Payback Period (yrs)	1.7
Net Present Value (\$) <sup>4</sup>	30,335
Internal Rate of Return (%)	1681.34

1. Energy cost (\$) = 0.1200/kWh; Annual energy cost escalation (%) = 0.00
2. Energy savings are averaged over 10 year analysis period
3. Maintenance costs are averaged over 10 year analysis period
4. Assumed cost of capital (%) = 6
5. Product Tax Rate (%) = 0.00
6. Service Tax Rate (%) = 0.00

### Financial Summary

Total Project Cost (\$)	Net Project Cost (\$)	10 Yr Operating Savings (\$) <sup>1, 2</sup>	Payback Period (yrs)	NPV (\$) <sup>3</sup>	IRR (%)
7,936	6,336	47,375	1.7	30,335	1681.34

1. Energy cost (\$) = 0.1200/kWh; Annual energy cost escalation (%) = 0.00
2. Operating Savings equals the energy cost savings plus the maintenance savings averaged over the analysis period
3. Assumed Cost of capital (%) = 6



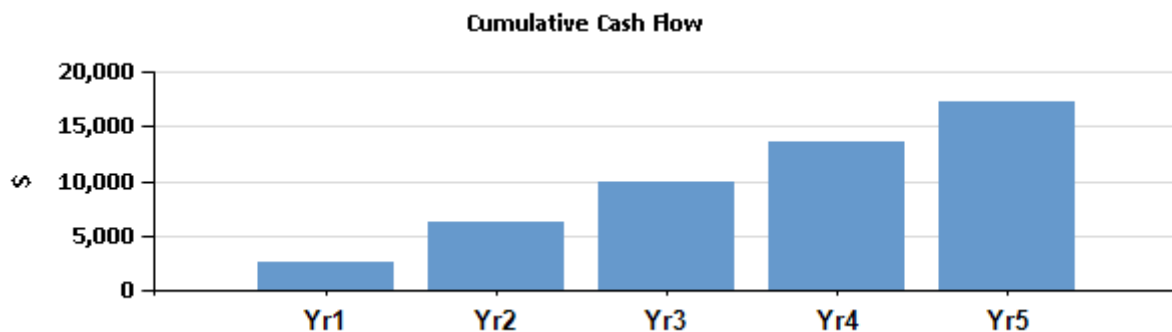
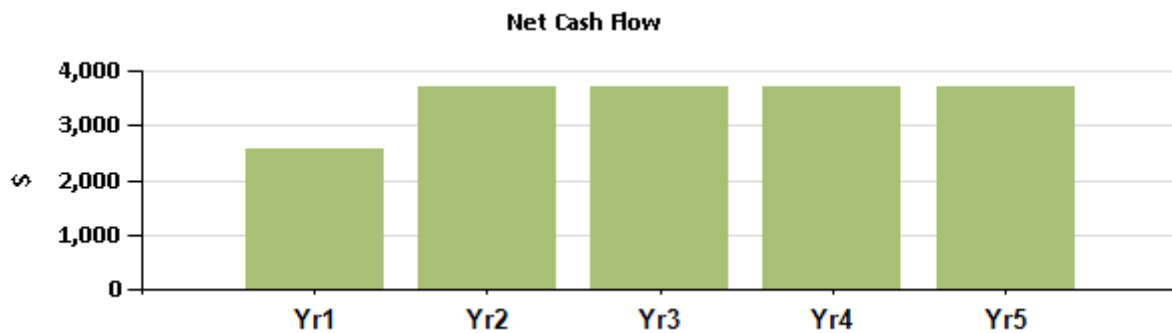
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4. Product Tax Rate (%) = 0.00
5. Service Tax Rate (%) = 0.00

## Cash Flow Analysis

### 5 Year Cash Flow Analysis (\$)

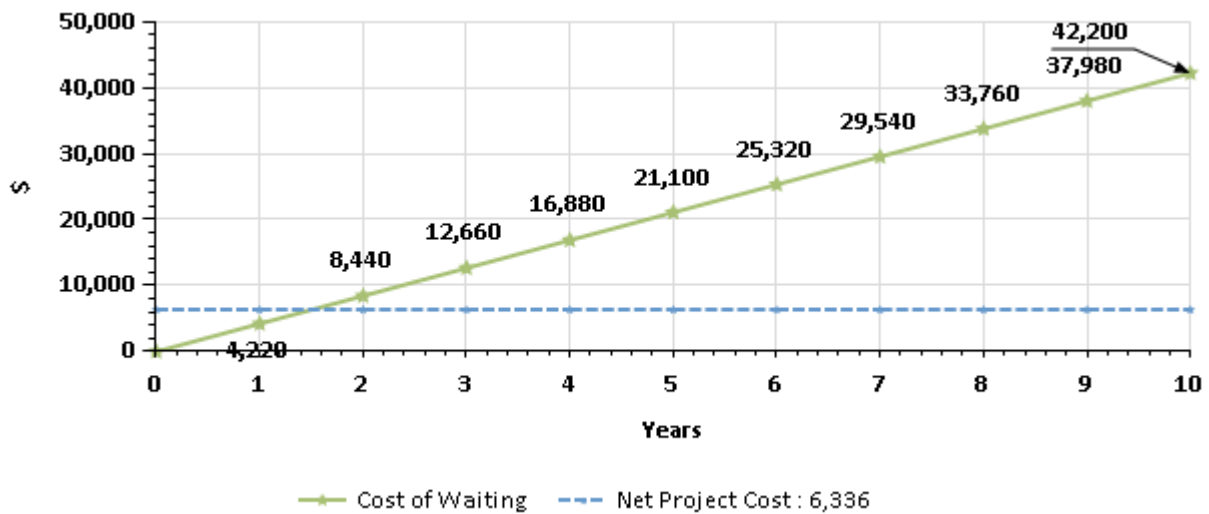
	Yr1	Yr2	Yr3	Yr4	Yr5	Total
Product Costs	7,936	-	-	-	-	<b>7,936</b>
Incentives	1,600	-	-	-	-	<b>1,600</b>
Energy Savings	3,311	3,311	3,311	3,311	3,311	<b>16,556</b>
Maintenance Savings	5,200	-	-	-	-	<b>5,200</b>
HVAC Savings	386	386	386	386	386	<b>1,932</b>
<b>Net Cash Flow</b>	<b>2,562</b>	<b>3,698</b>	<b>3,698</b>	<b>3,698</b>	<b>3,698</b>	<b>17,352</b>
<b>Cumulative Cash Flow</b>	<b>2,562</b>	<b>6,259</b>	<b>9,957</b>	<b>13,654</b>	<b>17,352</b>	<b>17,352</b>



## Cost of Waiting

### Cost of Waiting

Monthly (\$)	Yearly (\$)	5 Years (\$)	10 Years (\$)	15 Years (\$)	20 Years (\$)
351	4,220	21,100	42,200	63,300	84,400

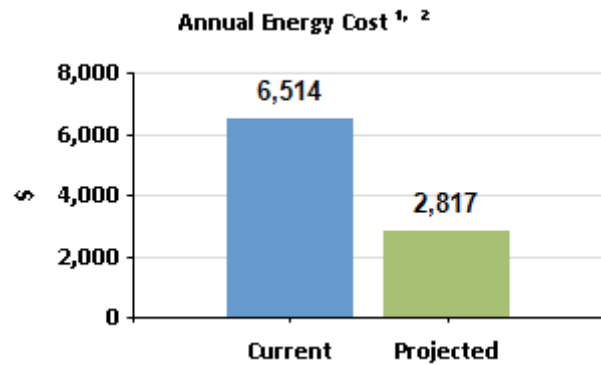
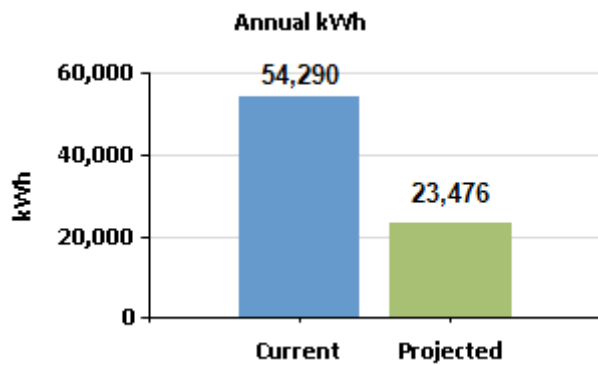


## Energy Usages and Costs

### Annual Energy Usage Reduction

Current Usage (kWh)	Projected Usage (kWh)	Reduction (kWh)	Reduction (%)
54,290	23,476	30,813	57

### Energy Comparison



1. Energy Cost (\$) = 0.1200/kWh; Annual energy cost escalation (%) = 0.00
2. Energy costs are averaged over 10 year analysis period

### Watts Summary

Existing Watts <sup>1</sup>	Proposed Watts <sup>1</sup>	Reduced Watts	Reduction (%)
11,100	4,800	6,300	57

1. The watts calculations in this table take into account existing fixtures that are being replaced, upgraded, and/or have new lighting controls being proposed for them

There is no data to be presented for Fixture Replacement Wattage Comparison.

**Component Upgrade Wattage Comparison**

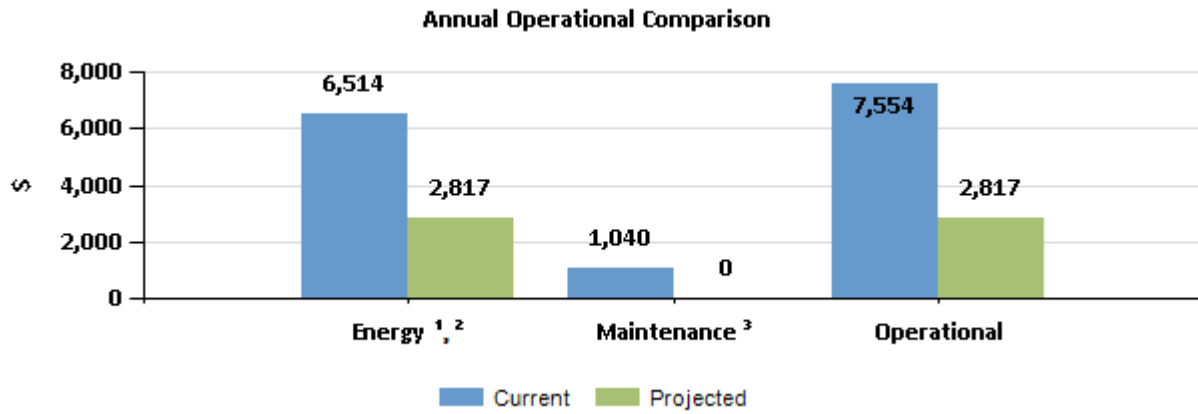
Area :

Space	Existing Fixture	Qty	Watts	Total Watts	Proposed Fixture	Qty	Watts	Total Watts
Main Area :								
2x4 Troffers	2x4ft (600x1200mm), 4 Lamp, F32 T8/T26 Prismatic	100	111	11,100	Lamps: 4 Instantfit 4FT 12w T8/48-4000 IF 10/1 Ballasts: 0	400 0	12	4,800
<b>Total(s)</b>			<b>111</b>	<b>11,100</b>			<b>12</b>	<b>4,800</b>



## Operational Overview

### Annual Operational Savings Comparison



1. Energy cost (\$) = 0.1200/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

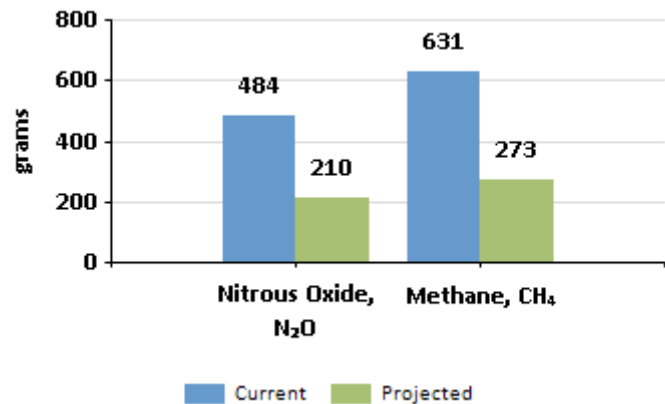
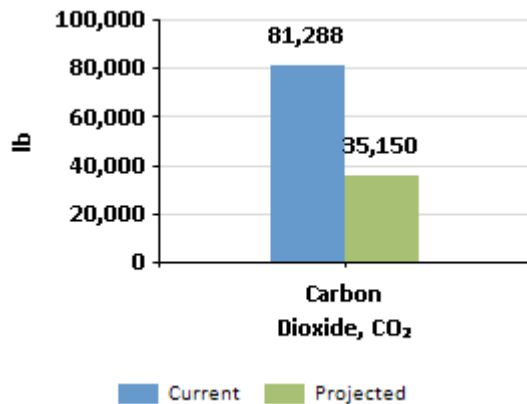
Current	Projected	Gases Avoided	Reduction (%)
81,288	35,150	46,137	57

### Greenhouse Gas Analysis

#### Greenhouse Gas Comparisons

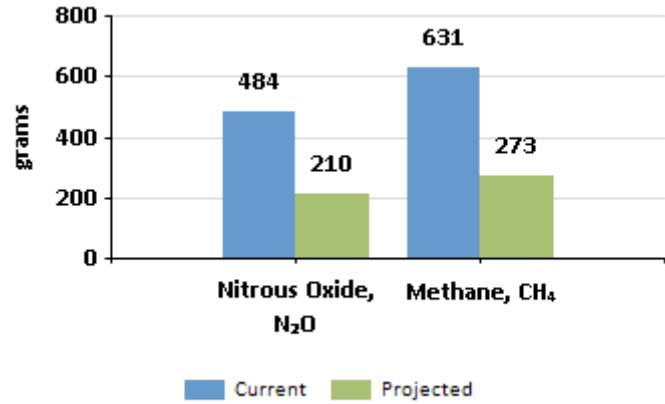
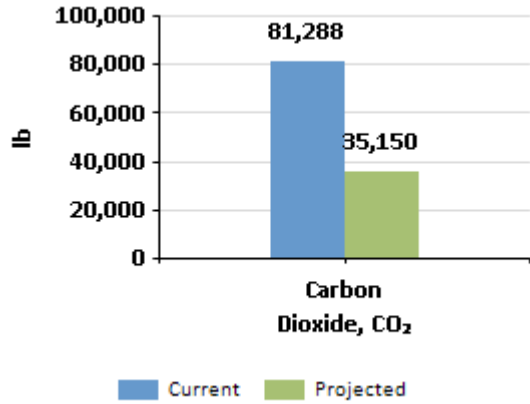
Greenhouse Gas	Current <sup>1</sup>	Projected <sup>1</sup>	Avoided	Environmental Effect
Carbon Dioxide, CO <sub>2</sub>	81,288	35,150	46,137	Greenhouse Gas, Global Warming
Nitrous Oxide, N <sub>2</sub> O	484	210	275	Acid Rain, Global Warming
Methane, CH <sub>4</sub>	631	273	358	Greenhouse Gas, Global Warming

1. Average emission rates per kWh are based on EPA estimates for GA



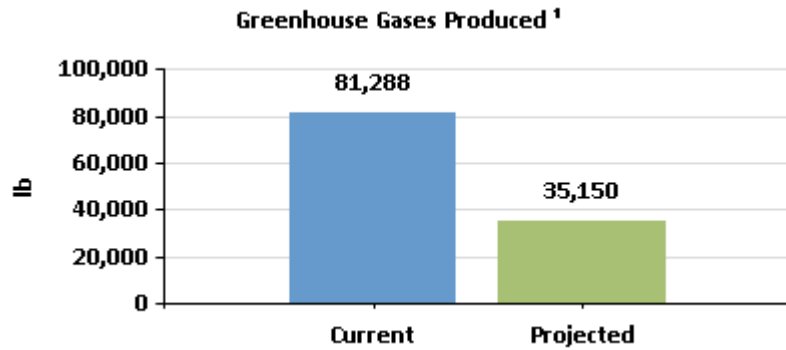
### Greenhouse Gas Analysis

#### Greenhouse Gas Comparisons<sup>1</sup>



1. Average emission rates per kWh are based on EPA estimates for GA

**Greenhouse Gas Comparables**



**Comparable Metrics**

- Trees Saved: 1,730
- Acres of trees planted: 4
- Fewer cars on the road: 6

1. Average emission rates per kWh are based on EPA estimates for GA

## Upgrade Analysis

There is no data to be presented for Fixture Replacement Summary.

## Bill of Materials

### Products

#### Component Upgrade

Part Number	Short Description	Qty	Cost (\$)	Extended (\$)
9290011241	Instantfit 4FT 12w T8/48-4000 IF 10/1	400	19.84	7,936.00
<b>Total(s)</b>				<b>7,936.00</b>

There is no data to be presented for Installation.

There is no data to be presented for Additional Items.

## Appendix

### Incentives

Description	Amount (\$)	Est. Receipt Date
GA POWER Rebate .20 per w reduced	1,600.00	Immediate
<b>Total(s)</b>	<b>1,600.00</b>	

### Financial Assumptions

Cost of Capital (%)	Analysis Period (yrs)	Energy Cost (\$/kWh)
6.0	10	0.1200

### Financial Assumptions

Analysis Period (yrs)	10
Payback Calculation Method	Simple Payback
Cost of Capital (%)	6.0
Energy Cost (\$/kWh)	0.1200
Energy Cost Annual Increase (%)	0.00
Product Tax Rate (%)	0
Service Tax Rate (%)	0
Cooling Savings Factor	0.35
Cooling Season Months	4
Heating Cost Factor	0
Heating Season Months	0

### Efficiency Measure Assumptions

*InstantFit 12w T8 Assumptions*

**There is no data to be presented for Installation Assumptions.**

### Maintenance Assumptions

### *InstantFit 12w T8 Maintenance Assumptions*

There are no maintenance assumptions to be presented.

### **Schedules**

Schedule Name	Description	Hours/Year
Continuous (24x7)		8,760
Default Lighting Schedule		4,380

### **Disclaimer**

This proposal is good for 30 days from date of delivery.

This is not an investment grade audit.

The projected energy and costs savings contained in this proposal are estimates based upon data obtained during the preliminary walk through of your facility and information obtained from your employees. Atlanta Light utilized its best efforts to assure that the results predicted in this scope audit will be confirmed by the investment grade audit. It is the responsibility of the user to identify and perform any and all tests and analyses necessary to ensure that the proposed products and design ideas Atlanta Light Bulbs has presented are safe and suitable for the end-use conditions.

If the information supplied to us was incorrect or conditions have changed at the site a substantial difference may result. Thus, Atlanta Light disclaims any responsibility for differences between the enclosed scope proposal and your actual results to the extent that the differences were caused as a result of inaccurate data supplied.

This scope audit is aimed at assisting users in the decision making process. We are using various assumptions and a variety of factors can affect the outcome of the projected savings. While every effort has been made to use accurate assumptions and factors in developing this analysis, ATLANTA LIGHT BULBS MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, 2) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER THE CONDITIONS AT THE INSTALL SITE, OR AS TO THE EFFECTIVENESS, SAFETY OR APPROPRIATENESS OF ANY DESIGN INCORPORATING THE DESCRIBED MATERIALS, PRODUCTS, USES, RECOMMENDATIONS OR ADVICE. IN NO EVENT SHALL ATLANTA LIGHT BULBS BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF THIS AUDIT.

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audit.

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