



Making Green by Going Green

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Making Green by Going Green



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Introduction

1. Changes in Energy Policy & Regulation
2. Top 3 Environmental Impacts that affect Your Business
3. How Green Projects effect Net Operating Income
4. Environmental Benefits of Green Projects

What is the 2005 Energy Policy Act?

- The 2005 Energy Policy Act regulates and mandates minimum efficiency regulations, incentives and research dollars for lamps, ballasts, fixtures, LEDs, transformers, electrical equipment, motors and appliances.

2005 Energy Policy Act (EPAct)

How does the Energy Policy Act Benefit YOUR business?

The 2005 Energy Policy Act provides market-based incentives and solutions that reduce costs and enhance energy efficiency.

- Reduce overall lighting costs
- Accelerated tax deductions
- Improve competitiveness



Changes in Energy Policy



- EAct was extended by Congress through the end of 2013. This means a deduction of up to \$1.80 sq/ft for the building with \$0.60 sq ft for lighting.
- EAct is accelerated tax depreciation. It is not a dollar for dollar credit. % on \$

Changes in Energy Policy



- This means your projects **MUST BE** funded with **Capital Expense** dollars that are going to be amortized over time, not fully deducted this year as with Operating Expense budget dollars.
- National and local energy codes (power budgets) are raising the bar on efficiencies, this means the base line (the old systems) are being increased – which means potential rebates will be reduced.

2007

Energy Independence & Security Act

What is the 2007 Energy Independence and Security Act?

The 2007 Energy Independence and Security Act sets minimum efficiency requirements for incandescent and metal-halide fixtures.



2007

Energy Independence & Security Act



- Requires a 30% increase in efficiency by reducing lamp wattage while maintaining lumen levels (effective 2012)
- Metal Halide fixtures shall contain pulse start metal halide ballast with minimum ballast efficiency of 88 percent (already in effect)

2009

Department of Energy (DOE) Regulations



- The new efficiency standards will eliminate nearly all 4-foot T12 lamps, some 4-foot T8 lamps, most 8-foot T12 lamps, and nearly all standard halogen PAR38, PAR30 and PAR20 lamps.
- Effective in the summer of 2012



2009

Department of Energy (DOE) Regulations



- 4 foot fluorescent lamps must meet a minimum 2850 lumens
- Current lamps (700 series or SP) with low Color Rendition (CRI) do not meet minimum lumen requirement



Environmental Legislation



- Current proposed legislation may require businesses to reduce greenhouse gas emissions
- Some States ban landfill disposal of all mercury-containing products
- Disposal of ballasts containing PCB's is federally regulated by the EPA



Top 3 Environmental Impacts



1. Energy Efficiency
2. Longer Life Products
3. Recycling

Energy Efficiency



- Increasing the energy-efficiency of the lighting system has the largest effect on reducing overall impact and reducing energy bills
 - Lighting Retrofits
 - Relamping Projects
 - Occupancy Sensors
 - New Technologies (LED, OLED, Induction)

Longer Life Products



- Increasing lamp life and therefore reducing the number of lamps made, transported and recycled, has the second largest effect on reducing environmental impact
 - Utilize longer life (XL) lamps and products
 - Beware of extremely low mercury claims

Recycling



- Recycling recovers materials, including mercury, for re-use, thus reducing environmental impact

Why Recycle?

1. **Legal:** Many states require lamp recycling and proper disposal of ballasts, batteries, and electronic waste by law.
2. **Environment:** Fluorescent lamps contain small amounts of mercury. Ballasts, batteries, and electronic waste can contain mercury, lead, metals, and other materials which may have a harmful effect on the environment if not recycled.



Why recycle?




- 3. Cost Effective:** Over the lifecycle of a fluorescent lamp, the cost to recycle is less than 1% of the cost of ownership. Recycling your lamps and obtaining a certificate of recycling dramatically lowers any liability associated with fines and costly enforcement action which can easily exceed the cost of lamp recycling.
- 4. Green:** Implementing a lamp, ballast, battery, or electronics recycling program is a simple and practical way to "green" your organization. Recycling universal waste can earn your facility LEED points too.

Why recycle?

5. **Right thing to do:** Recycling your lamps and other universal waste is the right thing to do! As the saying goes "*every little bit counts*" and keeping hazardous waste out of our landfills and re-using natural resources is a big step towards a sustainable world.





N.O.I.

Net Operating Income

- The language of Owners & Asset Management
- Revenue – Expenses = Net Operating Income
- NOI / Buildings Cap Rate = Real Property Value
- Lower Expenses, Keep Rents Up, = Happy Owner.
- Divide project savings by Building's Cap Rate = the impact on the buildings value.
 - Great way to demonstrate management's (and your) value to owners. Build the resume.

Impact of Lighting on N.O.I.



lighting > electrical > energy
technology > signs

CONFIDENTIAL

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ABC Property

Total Leaseable Space:	100,000 Sq Ft	
Vacant Space Available:	15,000 Sq Ft	
Average Lease Cost / Sq Ft:	\$18.00 /Sq Ft	
Other Income on Property:	\$5,500	3/10/2010
Current Operating Expenses:	\$580,000	
Total Utility Expense:	\$140,000	24.1% of total Operating Expenses
Capital Budget:	\$100,000	
Annual Debt Service:	\$106,000	
Current Capitalization Rate:	5.00%	

(If Rate is unknown take NOI / the current Real Property Value)

Rents Possible on Property	\$1,800,000
Less Vacant Space Rentals	(\$270,000)
Total Gross Rents Paid:	\$1,530,000

Plus Other Income From Property: (IE. Parking, Vending Etc.)	\$5,500
Effective Gross Income: (EGI)	\$1,535,500

Less Building Operating Expenses:	(\$580,000)
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NET OPERATING INCOME: (N.O.I.)	\$955,500
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Less Capital Expenses	(\$100,000)
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Less Current Debt Service:	(\$106,000)
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CASH FLOW On PROPERTY:	\$749,500
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Total Utility Expense:	\$140,000	Current Utility Costs / Sq Ft	Prop Cost per Sq Ft.
Utility % of Total Operating Expenses	24.1%	\$1.40	\$1.22

Existing Utility Expense for Lighting:	\$54,000	Energy Measure Cost Reduction %	Energy Measure % of Total Utilities	Measure as % of Tot Oper. Cost
Proposed Utility Expense for Lighting:	\$36,000	33.3%	38.6%	9.3%

Projected Utility Cost Avoidance:	\$18,000	Added to Existing NOI
Installed Cost of Energy Upgrade:	\$50,000	

NOI Adjusted for the Impact of the Lighting Upgrade	1.88%	\$973,500
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* Real Property Value (Before to Energy Upgrade):	\$191.10 Sq Ft.	$\frac{NOI}{Cap Rate} = RPV$	\$19,110,000
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* Real Property Value (After Energy Upgrade):	\$194.70 Sq Ft.		\$19,470,000
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Real Property Value Improvement:	\$3.60 Sq Ft.		\$360,000
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Payback based on Real Property Value (RPV) Gain:	1.7 Months
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Green Benefits



- Reduces your facilities carbon footprint
- Lowers demand on utility plants to produce power by burning fossil fuels.
- Creates a more competitive building: LEED points
- Builds or enhances corporate image in local community.
- Employs local contractors – Saved Jobs!
- Improves your financial performance!



Helpful Websites

- www.doe.gov
- www.energy.senate.gov
- www.energy.gov
- www.epa.gov
- www.nrdc.org
- www.energystar.gov
- www.tecq.state.tx.us
- www.usgbc.org
- www.fsgji.com



Conclusion



Energy Efficiency and Saving the Environment are Financially Possible Making Green by Going Green

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