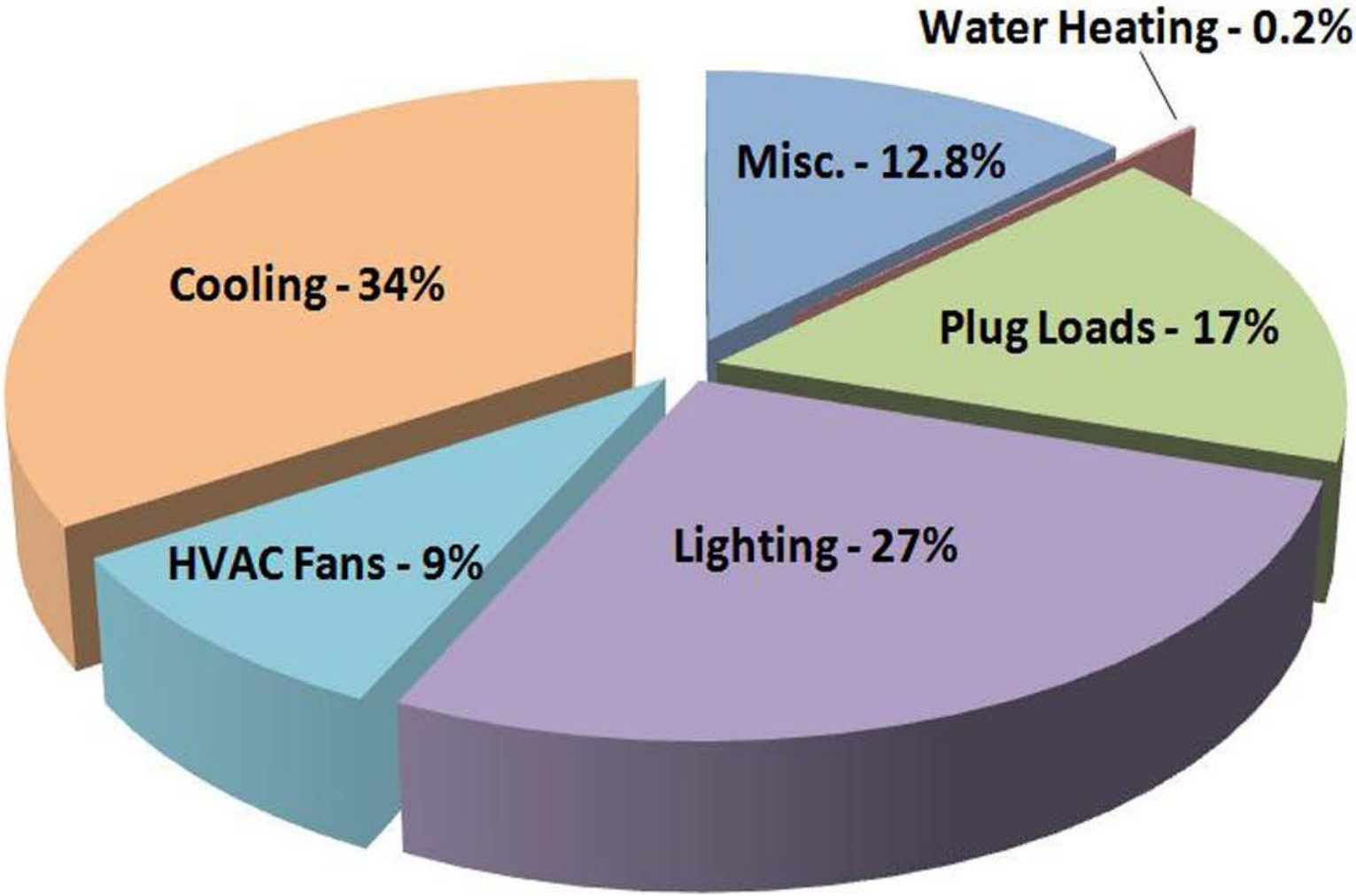
Investing In Energy Efficiency

Reasons to Invest in Energy Efficiency

- Hawaii commercial energy costs (per kWh) have increased over 5.7% annually from 1988-2012.*
- Mitigate the risk of increasing utility rates
- Reduce utility operating expense
- Increase net operating income
- Increase building value
- Low interest rate environment
- Broader financing options
- Incentives via Hawaii Energy

Areas of Consumption in Commercial Buildings



Considerations when using Financial Metrics with Energy Efficiency Investments

- - Use traditional metrics (NPV, MIRR, SIR, SPP, ROI) as a guide

<u>However</u>

- -Remember that EE investments can be paid for using existing operating budget, without the need to use limited capital improvement dollars

- -Traditional financial metrics do not account for the cost of delaying or foregoing the investment

Sample Savings Potential Case Studies

- Illustrates 3 preliminary assessments with different levels of investment and the projected savings over a ten year period using conventional financial metrics. (Pre-tax basis)

- All proposals contain a blend of various Energy Conservation Measures (ECM's) ranging from lower cost lighting improvements to more comprehensive cooling and heating systems that are more capital intensive.

	Building #1	Building #2	Building #3
Current Electric Bill Per Year	$2,000,000	$380,000	$3,400,000
Energy Conservation Measures (ECM's)Proposed	Various HVAC improvements, high efficiency lighting, new controls	Various HVAC improvements, high efficiency lighting, new controls	Comprehensive HVAC improvements, high efficiency lighting, new controls
Cost of ECM's	$2,000,000	$1,150,000	$13,400,000
Estimated Annual Dollar Savings	$360,000 or approx. 18%	$216,000 or approx. 57%	$2,230,000 or approx. 66%
Simple Payback Period	5.6 years	5.3 years	6 years
Return on Investment(ROI)- 1st year	18%	18.8%	16.6%
Net Present Value (NPV)- 8% discount rate, 3% inflation rate	Yr. 5-($480,674) Yr. 7-$33,139 Yr. 10-$718,048	Yr. 5- ($238,404) Yr. 7- $69,833 Yr. 10-$480,828	Yr. 5- ($3,988,618) Yr. 7- ($805,834) Yr. 10-$3,426,798
Modified Internal Rate of Return(MIRR) –Finance and reinvestment rate 8%	Yr. 5- 2.2% Yr. 7- 8.3% Yr. 10- 11.4%	Yr. 5- 3.1% Yr. 7- 8.9% Yr. 10- 11.8%	Yr. 5- 0.6% Yr. 7- 7.0% Yr. 10- 10.5%
Savings to Investment Ratio (SIR)	Yr. 5- 0.8 Yr. 7- 1.0 Yr. 10- 1.4	Yr. 5- 0.8 Yr. 7- 1.1 Yr. 10- 1.4	Yr. 5- 0.7 Yr. 7- 0.9 Yr. 10- 1.3

Cost of Delay

-Loss of savings opportunity

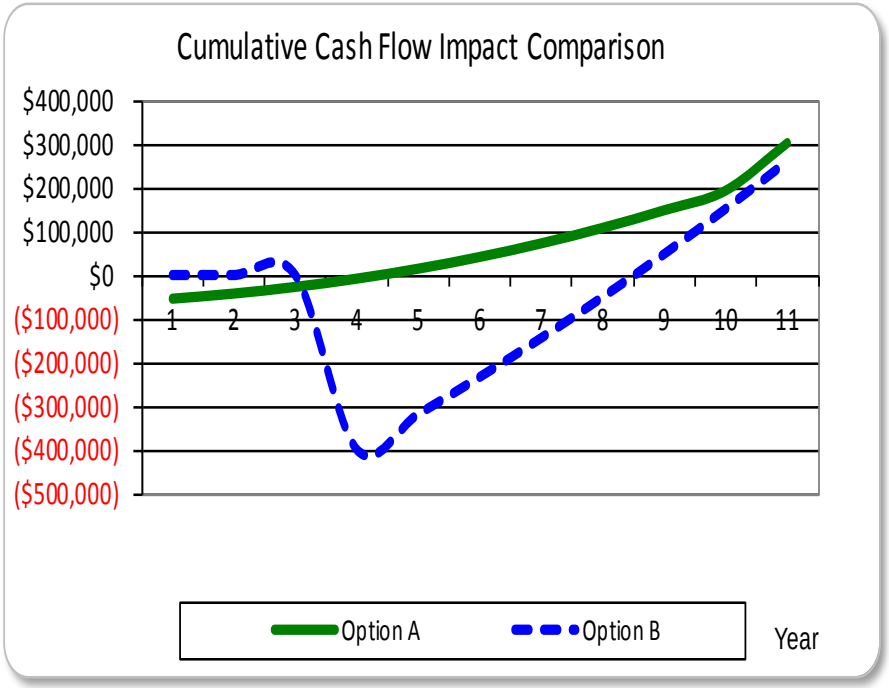
-Increase in project costs over time

- Building materials, labor
- Inflation
- Cost of capital
- Annual utility cost escalation

See the “Cash Flow Opportunity Calculator” at:
www.energystar.gov

Cost of Delay- Sample

Project cost	400,000	$
Simple payback	6	years
		month(s)
Interest rate	8.00	%
Financing term	10	years
Year(s) postponed	3	years
Project cost increase due to postponement	1.00	%
Estimated energy cost change in year 2	5.00	%
Annual change in energy costs after year 2	5.00	%
Estimated energy savings in year 1	6.00	%



These cash flow calculations are on a pretax basis.

For purposes of this calculation, all cash flows are being discounted at the interest rate indicated in cell G7 - financing paid monthly in arrears.

Net Present Value of Option A (Fast Track Financing)	**$143,343**	**$61,781**	**Net Present Value of Option B (Waiting for Cash)**

Fast Track Financing generates $81,562 or 132% more cash than waiting!

Summary and Recommendations

- Obtain an energy assessment
- Identify your financial barriers and potential funding source
- Recognize that the payment for a properly constructed EE investment is already embedded in your current payment (operating funds) to the utility, regardless of your method of funding the improvements
- Use financial metrics as guide to include utility savings and cost delay scenarios

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Thank you.

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