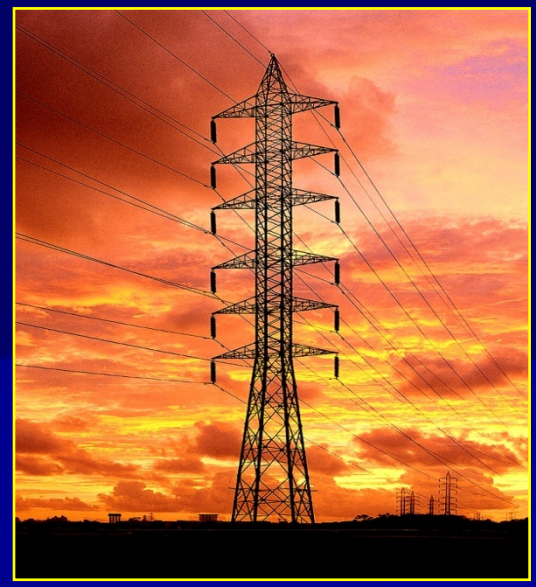
Lockheed Martin Energy and Climate Energy Efficiency

EPA Climate Leaders Meeting

Boulder Co, Dec 5

Introduction



1. History of Capital Investment program
2. Energy Reduction & Payback on Investments
3. Environmental Impact
4. Sample Completed Projects
5. Lessons Learned
6. Summary

History of Capital Investment

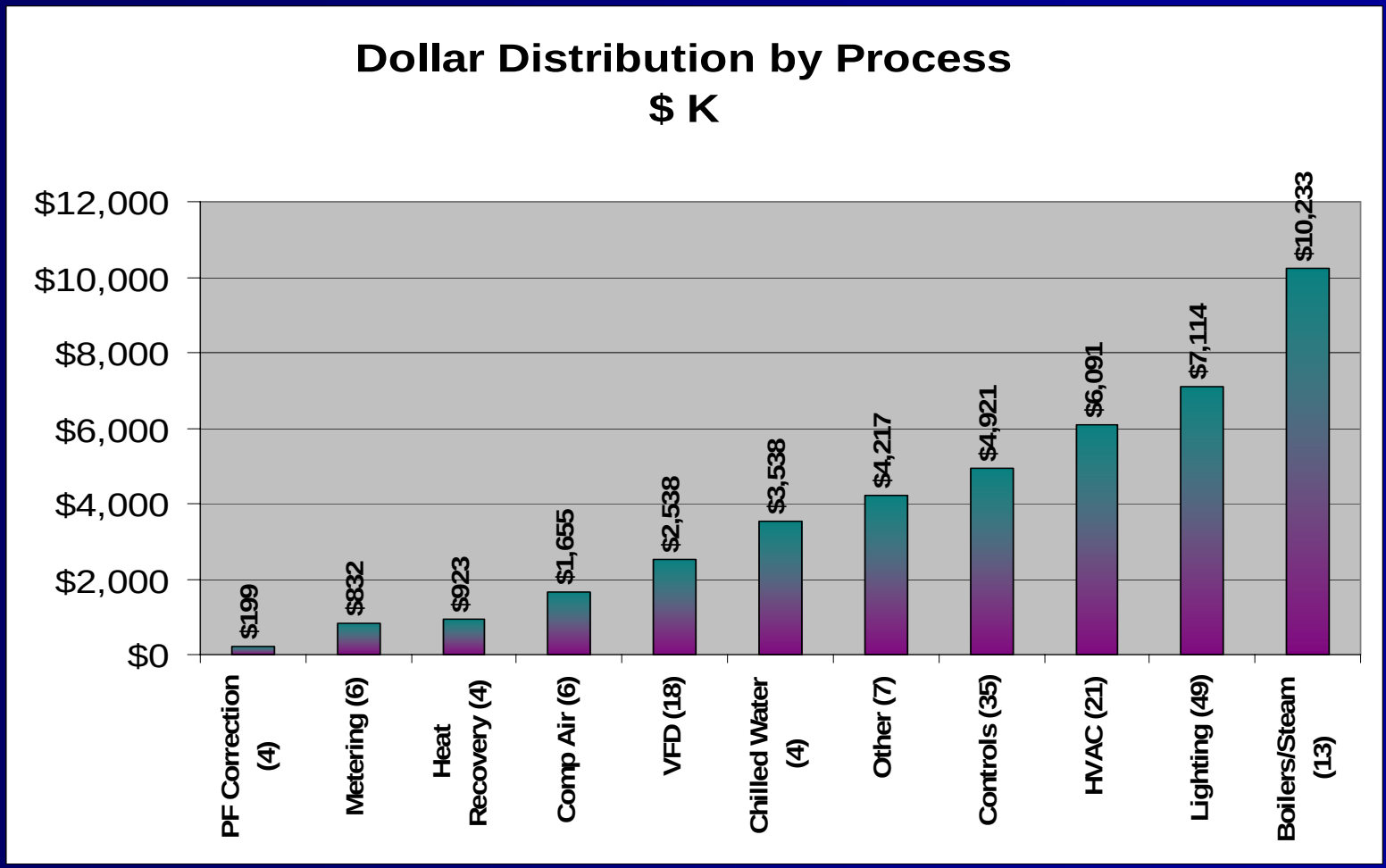
Why

- *Needed to drive change from the Top*

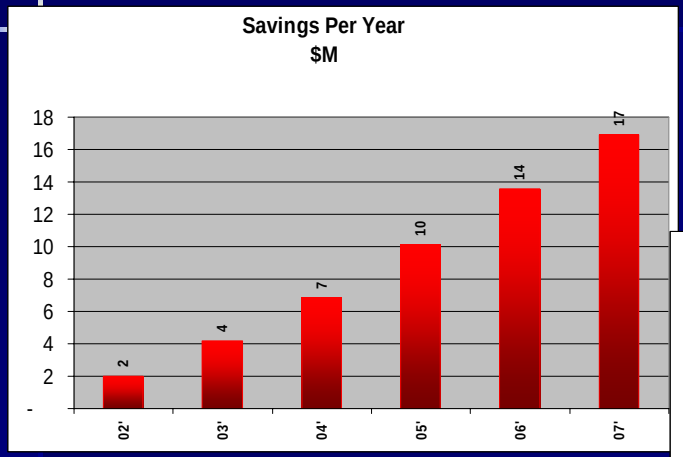
How

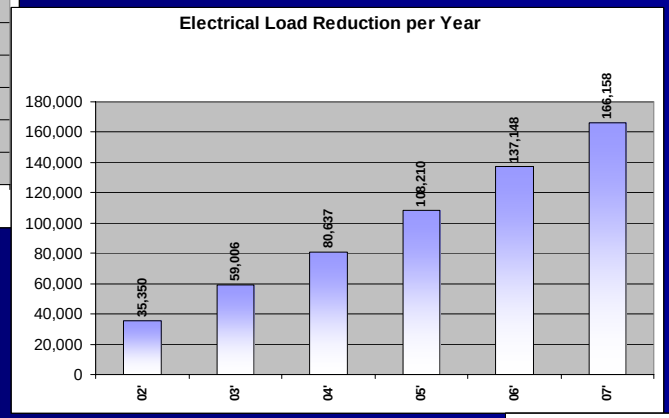
- *A central source of capital funding to support energy related construction projects through out all business areas.*
- *Based on simple payback and IRR analysis, from $ 5- 10 M a year is granted to projects showing the best return and energy reduction .*
- *From 2002 through 2007, 167 projects have received over $ 41 M in Capital Funding*

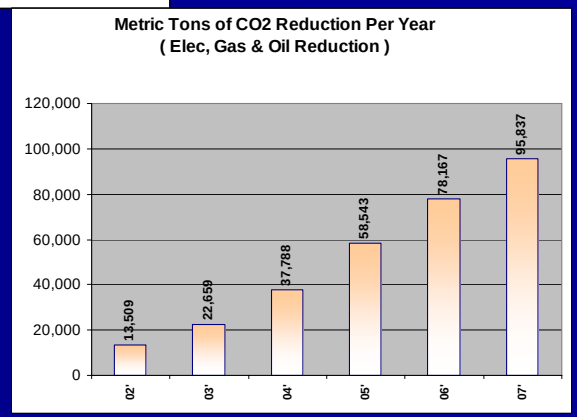
Project Distribution



Energy Reduction and Environmental Impact







- ***Total Annual Savings = $ 17 M, payback = 2.32 yrs***
- ***Total Annual Reduction 166K MWh***
- ***Total Annual CO2 Reduction 96K Metric Tons***

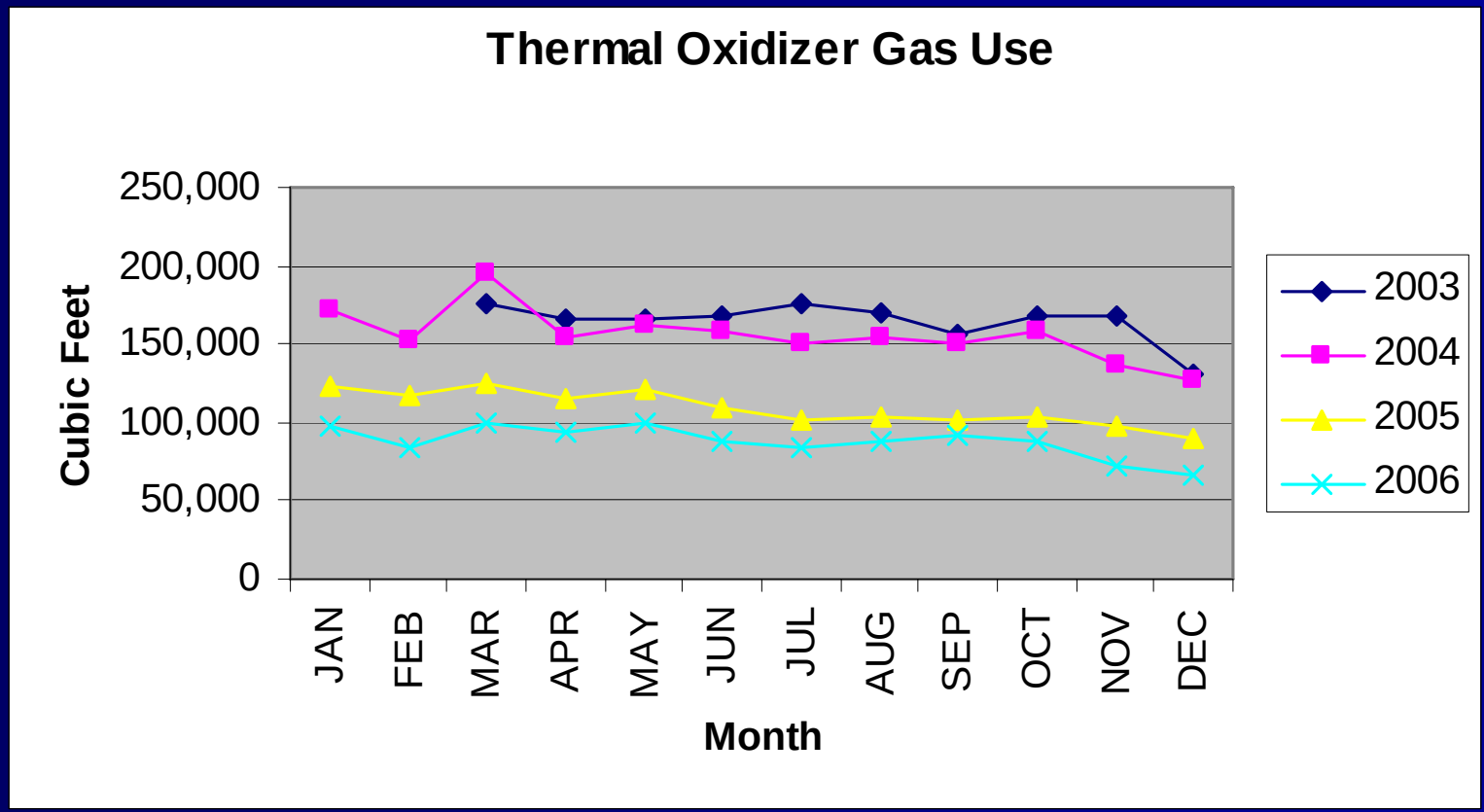
CHP Project - 2005

- ***Project Description : Provide self generation of 500 kw of electric power using existing main steam system.***
- ***Project Cost : $ 805K***
- ***Energy Savings : $ 285K/year***
- ***Payback: 3.3 yrs IRR : 22%***
- ***KwH Savings : 3,500,000***
- ***Steam load will also be serving Steam Absorption chiller providing cooling during summer months.***

Regenerative Thermal Oxidizer System

Thermal Oxidizer Natural Gas Use 2003 – December 2006

Minimize Consumption and Cost



~50% Reduction in Natural Gas Use; 283,835 KwH Reduction

Lessons Learned

- Need for gated capital
- Focused projects; Strategic Investments
  - Better analysis
  - Validation
  - Reporting
- Capital Investment increase

Summary

- Engineering Support
- Vendor Support
- High Level Representation in each line of business
- Commitment to cooperate and participate
- Road Maps developed by LOB and Site
- Increase in Overhead/Expense Funding
- Future Investments include Alternative Technologies
  - Biomass, Fuel Cell, Solar etc.