



Green and LEED: How much does it cost?

- ◆ What is the Green premium?
- ◆ A couple of Case Studies
- ◆ How long is the Payback?
- ◆ Where are the real benefits?

Additional constructions costs for LEED-certified buildings

Average for offices and schools, based on 40 buildings

Conventional Building Cost (100%) Additional Cost

PLATINUM (2 buildings)

6.8%

GOLD (9 buildings)

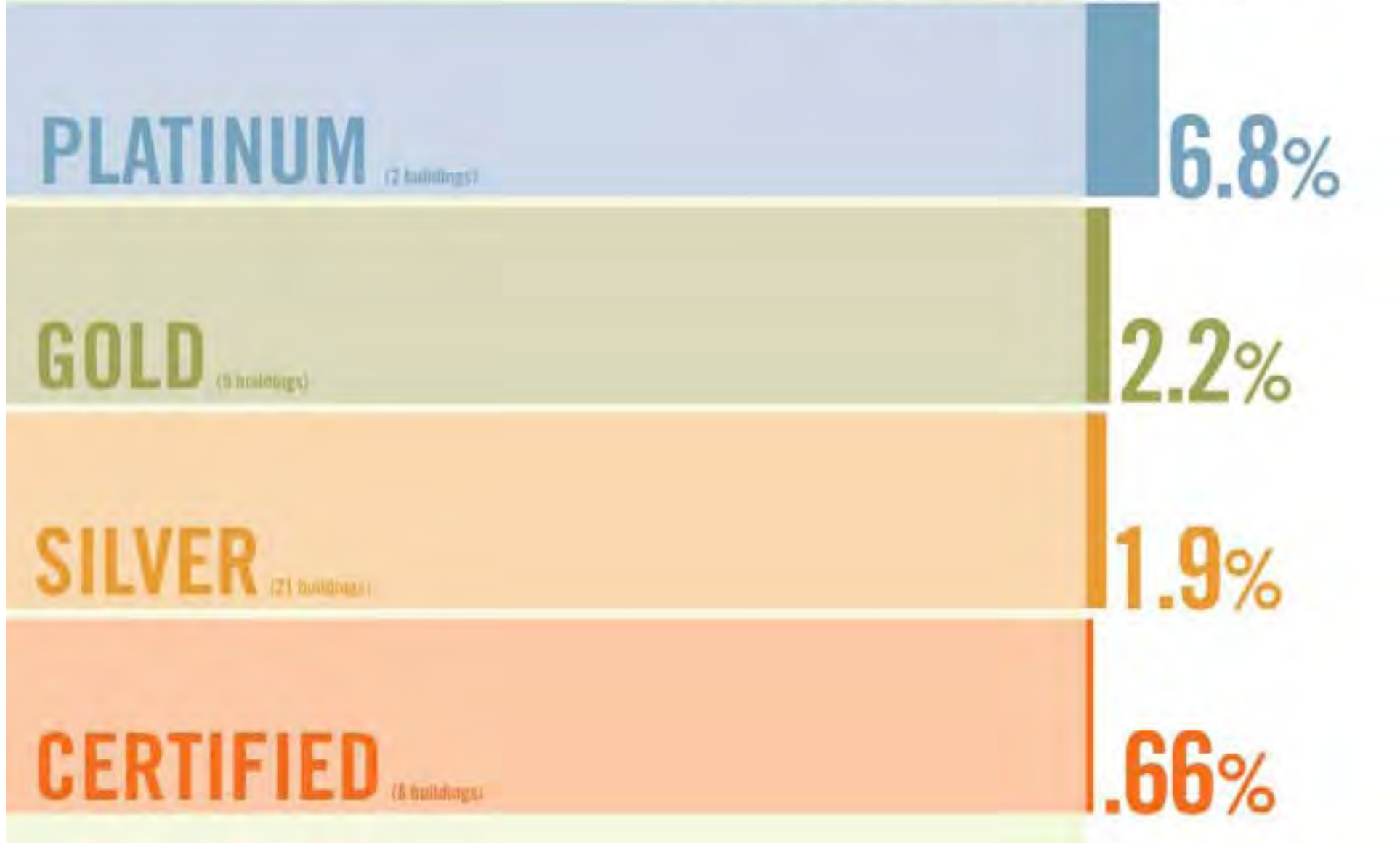
2.2%

SILVER (21 buildings)

1.9%

CERTIFIED (8 buildings)

.66%



Results of the California Study

33

Diverse Buildings

10

Built over the last years

1.8%

Cost construction premiums of



Results of the California Study

5 = \$0

Five buildings had no cost increase at all.



EPA Science and
Technology Center
Kansas EPA
Kansas City KS
LEED-NC Gold

SWINERTON
BUILDERS



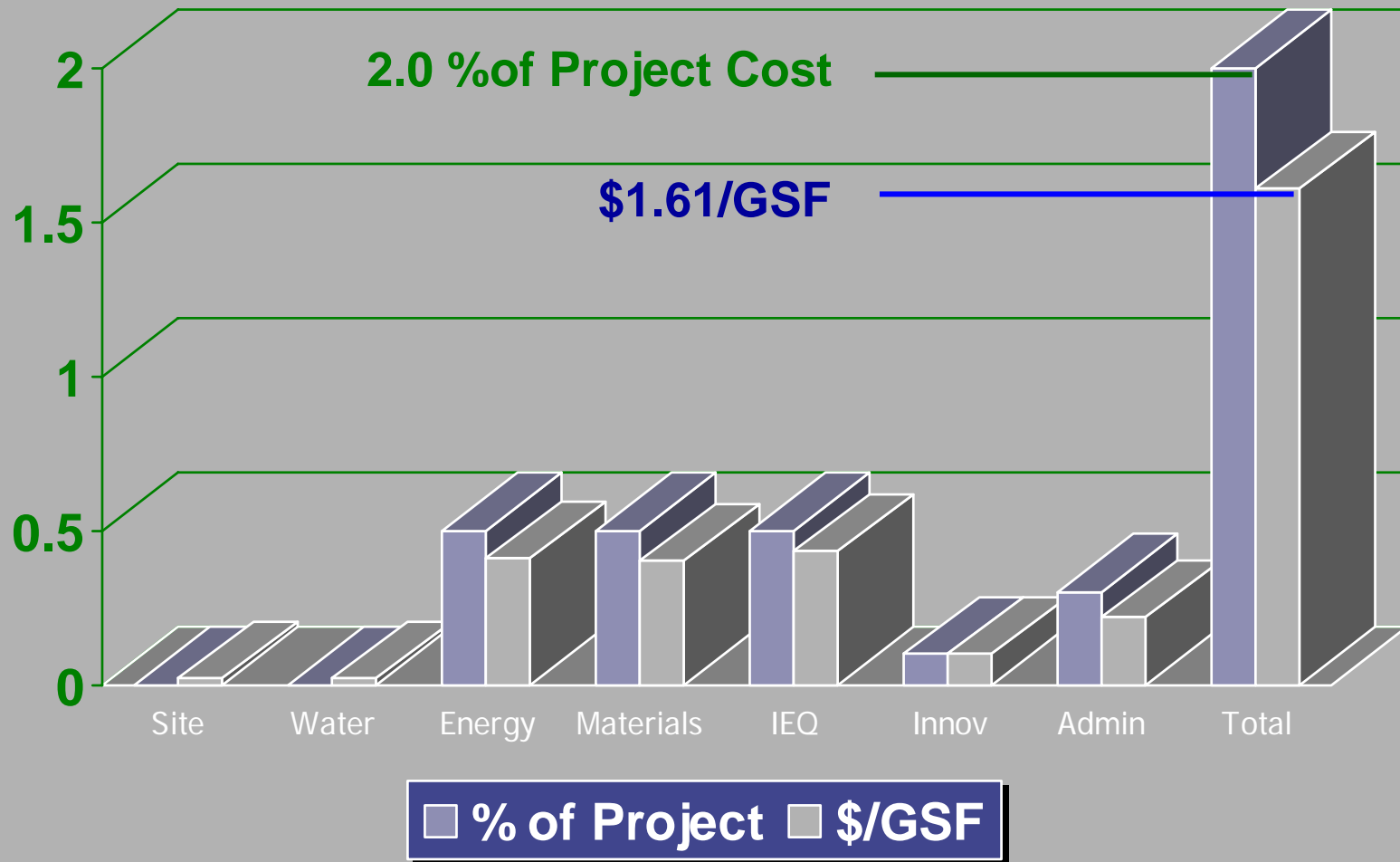
LEED EB Gold Case Study

Swinerton Headquarters
260 Townsend St.
San Francisco, Ca.





260 Townsend LEED-EB Premium Cost





Was it worth it?

- ✓ Energy Savings - ROI of 1.7 yrs on BMS
- ✓ Employee productivity increased
- ✓ Improved Air Quality
- ✓ Reduced Operations Costs
 - 50% reduction in electricity use
 - 0.1kWh/sf/day before LEED; 0.05kWh/sf/day after LEED
 - 40% reduction in water use before vs after LEED
- ✓ The Building itself ...
 - Promotes Green culture in employees
 - Presents Green Business Development opportunities
 - Educational tool
 - Creates Media PR & Outreach

...Yes!



Adobe's San Jose Headquarters LEED EB *Platinum* Retrofit

- ◆ Since pre-retrofit in 2001
 - Electricity use reduced 35%
 - Gas consumption reduced 41%

- ◆ \$1.1 billion investment in 45 energy-related projects
 - Yielded \$1 million in annual savings
 - Included \$350,000 in energy rebates

**Average
Bottom Line
Savings**

**GREEN IMPROVEMENTS PAY FOR
THEMSELVES IN 3 YEARS**

3

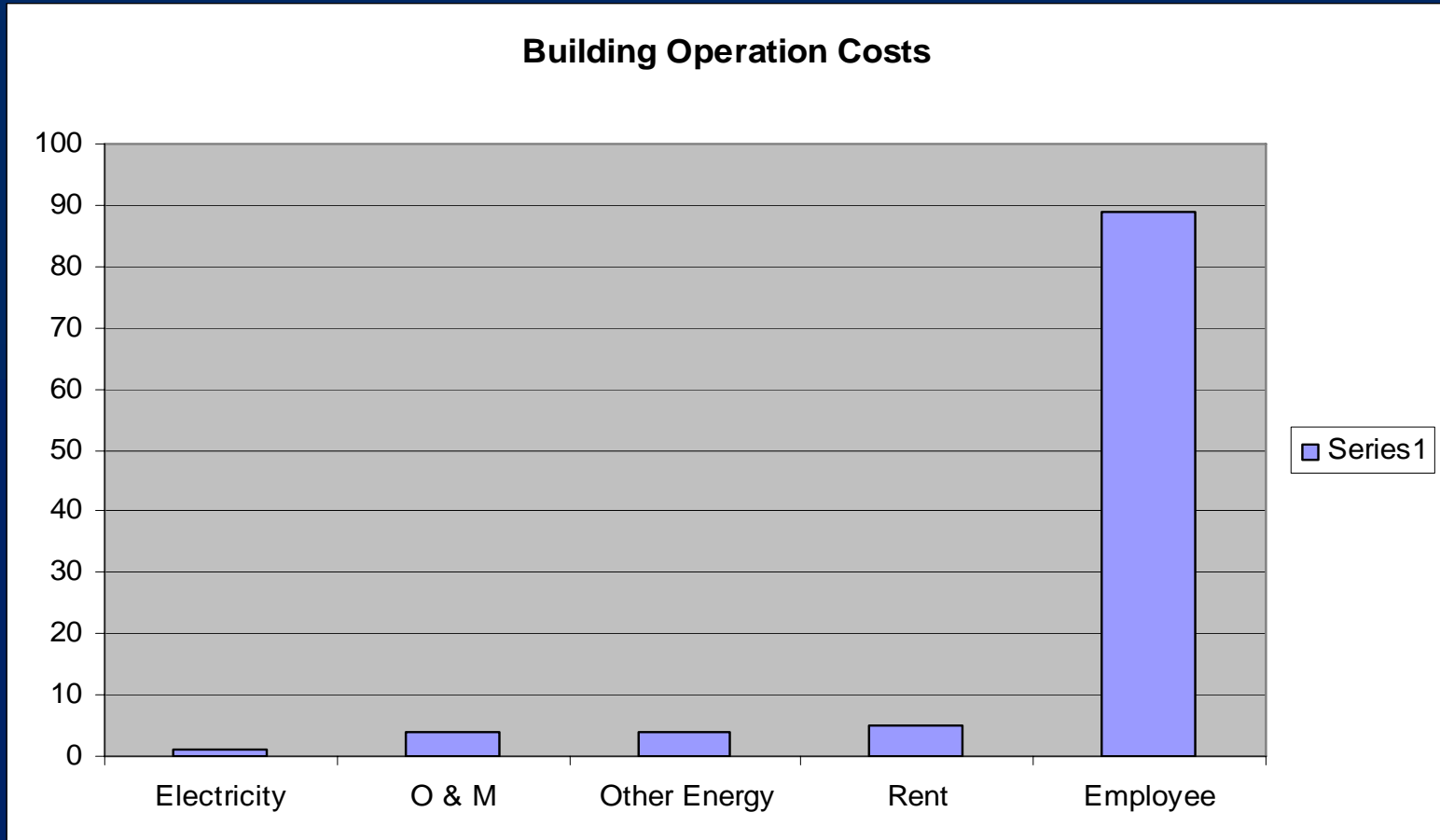
(ANNUAL RETURN ON INVESTMENT IS 25-40%)



The William and
Flora Hewlett
Foundation
Menlo Park CA
LEED Gold



Even at that: Are we looking at the right numbers?



(Data from 2003 California Sustainable Building Task Force Study, by Capital E Group.)



Building cost vs People cost

- ◆ Core & shell cost \$110/gsf
- ◆ TI Cost \$60/sf
- ◆ Design cost \$8/sf

- ◆ = \$178/sf overall





Plus the "Green Premium"

- ◆ 0.66% for LEED Certified = \$1/sf
- ◆ 1.9% for LEED Silver = \$3/sf
- ◆ 2.2% for LEED Gold = \$4/sf
- ◆ 6.8% for LEED Platinum = 12/sf



p.s.... these costs have come down every year since the LEED system began in 2000



Now let's look at the people...

◆ Annual salary	\$65,000
◆ Burdened at 48%	\$96,200
◆ Salary at 320sf/Employee	\$300/sf
◆ Salary x 20 years	\$6,000/sf
◆ Cost to build LEED Silver	\$181/sf
= 3.01% of the people cost	
◆ LEED Silver premium	\$3/sf
= .05% of the people cost	



Now let's look at the people...

◆ Annual salary	\$65,000
◆ Burdened at 48%	\$96,200
◆ Salary at 320sf/Employee	\$300/sf
◆ Salary x 20 years	\$6,000/sf
◆ Cost to build LEED Silver = 3.01% of the people cost	\$181/sf
◆ LEED Silver premium = .05% of the people cost	\$3/sf



SO if we can improve employee productivity...

- ◆ 0.05%... pays for the LEED Silver Premium
- ◆ 4%... pays for the entire building

- ◆ I think we can all see that our actual productivity increase will be somewhere in between.
 - Either is quite a return on investment



Evidence of the Positive Impact of the Green Building Environment

- ◆ Miller SQA building in Holland, MI
 - 290,000sf manufacturing plant, office, showroom: LEED Gold
 - Increase in productivity of 0.22% in first 9 months
 - no productivity "dip" with the move to the new facility – typically see 30% drop
 - 60% increase in workers' "overall feeling about the environment"
 - 30% said the new building was better for social well-being
 - Over 20% expressed an increased sense of "being in good spirits"



Other evidence...

- ◆ Genzyme's Cambridge, MA Headquarters
 - High emphasis placed on IEQ
 - 5% less sick time than in Genzyme's other facilities
- ◆ Hospital Studies
 - High IEQ (daylighting and view) reduces healing time
- ◆ School Studies
 - High IEQ (daylighting and view) increases test scores
- ◆ Retail Studies
 - High IEQ (daylighting and view) increases sales
- ◆ Reduced Liability
 - Reduced insurance rates
 - Reduced liability to Sick Building Syndrome



Our Challenge: Matching the Costs vs. Benefits

	Higher First Cost	Operational Savings	
Owner Occupied (100%)	Cost to owner	Savings to owner	Easiest to match the costs vs. benefits of LEED
Owner with Single-Tenant NNN Lease	Cost to owner	Savings to tenant	Can match costs and benefits if rent is increased to offset additional costs to owner.
Owner with Multi-Tenant Leasing	Cost to owner	Savings to multiple tenants	Most difficult to match cost vs. benefits.

Is It Easy Being Green?

Event Hosts

