

# How to Create a Cost Value Analysis of a Green Retail or Commercial Project

Led by:

Kevin Songer, JD, LEED® AP, ISA



# A to Z of Affordable Mixed-Use Green Building

- Everything you wanted to know about developing, designing, constructing and certifying a commercial green building, but didn't know who or what to ask about!



# First Two Questions for Any Project

- Is this a project we can do?
  - Do we have the capability to complete?
- Can we do it green?
  - What value is there to going green?





# If This is a Project We Can Do? The time for an Initial Project Charrette...

- Can we do it green?
  - Identify advantages of a green project
  - Analyze demand for a green project
  - Identify project strategy (team, site, etc.)
  - Identify project budget



# Step 1

## Identify Advantages of a Green Project

- Entitlements
  - Rezoning, etc.
- Rent
- Demand
- Resale
- Fee Rebates
- NIMBY Issue Resolution
- Political Support



## Step 2

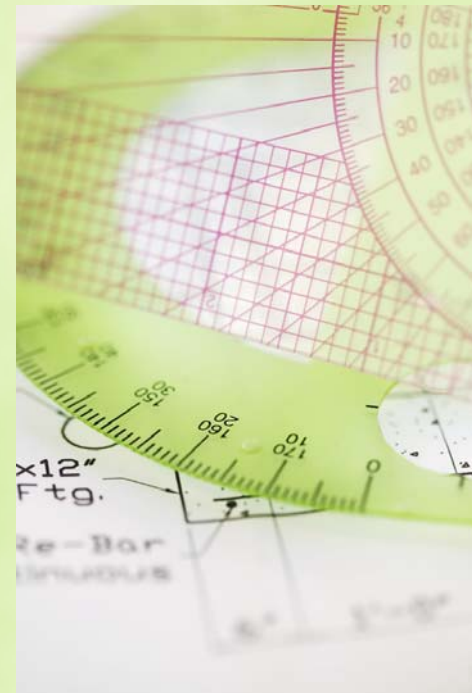
# Is There Demand for Green Buildings?

- Obvious Demand!
  - **Build to Suit** for a Client
  - Corporate America has Made a Decision to **Go Green!**
    - They are having difficulty finding green for lease
  - Local Business **Less Knowledgeable** about Green
    - Educate through marketing!
    - Overcome objections about global warming



# Is There Demand for This Property Type?

- Market Research
  - Market Conditions
    - Occupancy rates
    - Projects under construction
    - Announced projects not yet under construction
      - Assess probability of construction
  - Rental Rates
    - Current
    - Historical

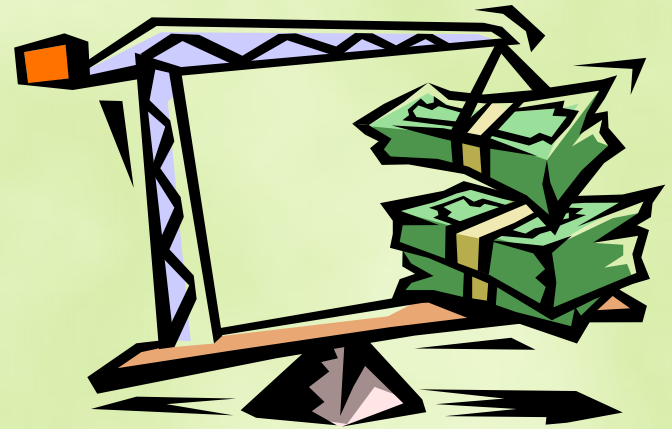




## Step 3

# Put Together Project Team & Meet to Establish Strategy

- Civil Engineer
- General Contractor
- Architect
- MEP
- Commissioning Agent
- Determine what LEED points are achievable & their estimated cost





## Step 4

# What is the Budget for the Project?

- How do we determine the budget?
  - Public Sector
    - Funds allocated for project in budget
  - Private Sector
    - Market research
      - Competitive product and price
    - Margin required
    - Historical costs for similar projects



# Market Research Competitive Product & Price

- Market Rents
  - What are current market rents and are they moving up or down?
  - Age of project/rental rate comparison
  - Can we get more rent for a green building?
    - Yes if it is a “Build to Suit”
    - Minor up charge is sometimes obtainable on speculative projects
      - Long term view of recapture is helpful
    - Usually **NO** in today’s market on speculative projects

# Margin Required!

- All developers have a predetermined margin they want to achieve
- Given your market research on rental rates and construction pricing from historical data and the input from third party sources you prepare your budget
- Usually on a speculative project and developer must lower their margin to build Green!



# Historical Costs for Similar Projects

- Review previous projects for cost data
- Evaluate changes in the price of basic construction materials
- Obtain third party pricing of recent similar projects
  - Consultants
  - Construction companies





# AVID GROUP LEED Cost Analysis -

## LEED (EB) Existing Building

Project Name: Project XXX-1

Project Number: AVID Group

ID #	LEED Prerequisite or Credit	Yes	?	No	Estimated Cost	Cost Analysis	Comments
<b>Sustainable Sites</b>							
SS-1	Previous LEED Certification	4	0	0	\$ -	4	
SS-2	Building Exterior & Hardscape Management	1			\$ -	1	Site exterior bldg management plan (Maint)
SS-3	Pest Management, Erosion Control & Landscape Mgmt Plan	1			\$ -	1	Integrated Pest/Erosion/Landscape Mgmt Plan
SS-4.1-4	Alternative Commuting Transportation 1-4 points		1		\$ -	2	Could possibly offer bus passes
SS-5	Protect Open Space - 25% ex bldgs	1			\$ -	1	25% site native or adapted, exclud bldgs ftprnt
SS-6	SWMF Management - collect & reuse 15% precipitation	1			\$ -	1	collect/reuse 15% SW from 2 yr 24 hr event
SS-7.1	Heat Island - Non Roof 50% covered		1		\$ -	2	working on calc's - will be close
SS-7.2	Heat Island - Roof 75% covered		1		\$ -	2	not applicable - do not meet
SS-8	Night Light Pollution		1		\$ -	2	not applicable - do not meet
<b>Water Efficiency</b>							
WE - P1	Minimum Indoor Plumbing Fixture Efficiency 120% 2006 UPC standards	6	0	1	\$ -		
WE-1.1	Water Performance Measurement - meter and log water use	1			\$ -	1	log in water meters - total bldg use
WE-1.2	Water Use Metering - meter bldg water usage	1			\$ -	1	need to establish log
WE-2	Indoor Water Use Reduction - 2006 UPC Baseline %'s 1-3 points	1			\$ -	1	cut sheets reviewed - calcs underway
WE-3	Water Efficient Landscaping - 1-3 points 100% reduction on potable	3			\$ -	1	SWMF provides all landscape irrigation
WE-4	Cooling Tower Water Use Reduction			1	\$ -	4	No Cooling Towers
<b>Energy &amp; Atmosphere</b>							
EA-P1	Bldg Operational Plan - ASHRAE walk-through (Level1)	12	0	8	\$ -		
EA-P2	Minimum Energy Performance, Energy Star 69				\$ -	-	Scheduled w/ Mike, Kevin & possible JEA
EA-P3	Ozone Protection - no CFC's -				\$ -	-	Verified with ESPM
EA-1.1	Optimize Energy Performance, Energy Star 67	1			\$ -	1	Confirmed & mtg with Vendor 2-11-08
EA-1.2	Optimize Energy Performance, Energy Star 69	1			\$ -	1	ESPM documentation
EA-1.3	Optimize Energy Performance, Energy Star 71	1			\$ -	1	ESPM documentation
EA-1.4	Optimize Energy Performance, Energy Star 73	1			\$ -	1	ESPM documentation
EA-1.5	Optimize Energy Performance, Energy Star 75	1			\$ -	1	ESPM documentation
EA-1.6	Optimize Energy Performance, Energy Star 77	1			\$ -	1	ESPM documentation
EA-1.7	Optimize Energy Performance, Energy Star 79			1	\$ -	-	
EA-1.8	Optimize Energy Performance, Energy Star 81			1	\$ -	-	
EA-1.9	Optimize Energy Performance, Energy Star 83			1	\$ -	-	
EA-1.10	Optimize Energy Performance, Energy Star 85+ 1 pt for each 2 pts ES PM A			1	\$ -	-	
EA-2.1	Existing Bldg Commissioning: Investigation & Analysis	2			\$ -	1	Option A - Commissioning Process
EA-2.2	Existing Bldg Commissioning: Implementation	2			\$ -	1	Implement Low or Now Cost improvemnts
EA-2.3	Existing Bldg Commissioning: On-going Commissioning		2		\$ -	2	Ask YYY when the HVAC upgrades occurred
EA-3.1	Performance Measurements - Building Automation Systems		1		\$ -	2	Requested clarification on BAS standards
EA-3.2/3	Performance Measurements - Systems Level Metering 40/80		2		\$ -	2	See above - defining BAS system standards
EA-4.1/4	Green Power				\$ -	3	
EA-5	Refrigerant Management - option B calcs	1			\$ -	1	Mtg with HVAC rep to confirm
EA-6	Emissions Tracking and Reporting	1			\$ -	1	Emissions report - in - house / ES confidentiality

KEY	
1	Measures with no premium
	Measures with low cost premiums
2	Measures with moderate cost premiums
3	Measures with high cost premiums
	Measures with variable cost premiums
4	Measures not applicable to the project
	Measures not pursued, although technically viable

# LEED Cost Analysis

## Existing Building

ID #	LEED Prerequisite or Credit	Yes	?	No	Estimated Cost	Cost Analysis	Comments
<b>Materials &amp; Resources</b>							
		6	8	0	\$ -		
MR-P1	Sustainable Purchasing Policy - Economically Feasible			PRE	\$ -	-	Building Site mgmt control
MR-P2	Solid Waste Management Policy - Economically Feasible			PRE	\$ -	-	Building Site mgmt control
MR1.1/3	Sustainable Purchasing Policy - Consumables 40/60/80 1-3 points		1		\$ -	2	Requested USGBC clarification
MR2.1/2	Sustainable Purchasing Policy - Durable Goods ES/Recycled 1-2 points		2		\$ -	2	Requested USGBC clarification
MR-3	Sustainable Purchasing Policy - TI materials -50%	1			\$ -	1	does TI have to occur during PP?
MR4.1/2	Mercury in Lamps 90pg/lh 70pg/lh	1	1		\$ -	1	In place - document
MR-5	Sustainable Purchasing Policy - Food 25% organic		1		\$ -	2	Move this to a probable - clar request in
MR-6	Waste Stream Audit	1			\$ -	1	underway
MR7.1/2	Waste Diversion 50/70% Consumables - Volume/Weight (paper) 1-2 points	2			\$ -	1	initiated
MR-8	Solid Waste Management - Recycle Durables 75% - SA Pickup	1			\$ -	1	initiated
MR-9	Solid Waste Management - TI 70% by volume		1		\$ -	2	probably not feasible due to drywall
<b>Indoor Environmental Quality</b>							
		10	11	0	\$ -		
EQ-P1	Outside Air Introduction & Exhaust Systems - ASHRAE 62.1-2007			PRE	\$ -	-	Meeting with HVAC rep Monday 2-11-08
EQ-P2	Environmental Tobacco Smoke (ETS) Control			PRE	\$ -	-	Underway
EQ-P3	Green Cleaning Policy Note: Will require negotiations w/ subs			PRE	\$ -	-	YYY to initiate, CBRE 2 negotiate bldg site cntrl
EQ-1	IAQ BMP's	1			\$ -	1	2008 I-Beam CD ordered from EPA
EQ-1.2	Outside Air flow Monitoring		1		\$ -	2	Not practical
EQ-1.3	Increase outdoor air by 30% over ASHRAE 62.1-2007		1		\$ -	2	will discuss with HVAC rep 2-11-08
EQ-1.4	MERV 13's on intakes and recircs	1	1		\$ -	2	YYY investigating
EQ-1.5	Improvement - Flush Outs 14,000CF/SF		1		\$ -	2	not practical
EQ-2.1	Occupant Comfort Survey and Plan		2		\$ -	2	YYY to analyse
EQ-2.2	Lighting Control for Occupants - 50% FTO controllability	1			\$ -	1	documentation underway
EQ-2.3	Air & Humidity Monitoring - ASHRAE 55-2004	1			\$ -	1	documentation underway
EQ2.4/5	Occupant Daylight/Views 2% daylight50%spaces & 2/75	1	1		\$ -	1	documentation underway
EQ-3.1	Green Cleaning Program - negotiate with Vendor		1		\$ -	2	YYY initiated/ coordinate with EQ-P3
EQ3.2/3	Green Custodial APPA Survey 1/2 points depending on score	1	1		\$ -	1	Attached - conduct upon registration
EQ3.4/6	Green Cleaning Purchases 30/60/90 1-3 pts	2	1		\$ -	1	BPG Green Cleaning Policy
EQ-3.7	Green Cleaning Equipment		1		\$ -	2	BPG Green Cleaning Policy
EQ-3.8	Entryway systems 10' mats	1			\$ -	1	
EQ-3.9	Integrated Pest Management Program	1			\$ -	1	
<b>Innovation &amp; Design Process</b>							
		1	2	0	\$ -		
ID-1.1	Innovation in Operation & Upgrades: Provide Specific Title		1		\$ -	2	
ID-1.2	Innovation in Operation & Upgrades: Provide Specific Title		1		\$ -	2	
ID-1.3	Innovation in Operation & Upgrades: Provide Specific Title				\$ -	-	
ID-1.4	Innovation in Operation & Upgrades: Provide Specific Title				\$ -	-	
ID-2	LEED® Accredited Professional	1			\$ -	1	
<b>Project Totals (pre-certification estimates)</b>							
		39	40	9	\$ -		

KEY	
1	Measures with no premium Measures with low cost premiums
2	Measures with moderate cost premiums
3	Measures with high cost premiums Measures with variable cost premiums
4	Measures not applicable to the project Measures not pursued, although technically viable

# LEED Cost Analysis

New Construction

Project Name:

Project Number:  

ID #	LEED Prerequisite or Credit	Yes	?	No	Estimated Cost	Cost Analysis	Comments
<b>Sustainable Sites</b>		0	0	0	\$ -		
SS-P1	<b>Construction Activity Pollution Prevention</b>	<b>PRE</b>			\$ -	-	
SS-1	<b>Site Selection</b>				\$ -	-	
SS-2	<b>Development Density &amp; Community Connectivity</b>				\$ -	-	
SS-3	<b>Brownfield Redevelopment</b>				\$ -	-	
SS-4.1	<b>Alternative Transportation</b> , Public Transportation Access				\$ -	-	
SS-4.2	<b>Alternative Transportation</b> , Bicycle Storage & Changing Rooms				\$ -	-	
SS-4.3	<b>Alternative Transportation</b> , Low-Emitting and Fuel-Efficient Vehicles				\$ -	-	
SS-4.4	<b>Alternative Transportation</b> , Parking Capacity				\$ -	-	
SS-5.1	<b>Site Development</b> , Protect of Restore Habitat				\$ -	-	
SS-5.2	<b>Site Development</b> , Maximize Open Space				\$ -	-	
SS-6.1	<b>Stormwater Design</b> , Quantity Control				\$ -	-	
SS-6.2	<b>Stormwater Design</b> , Quality Control				\$ -	-	
SS-7.1	<b>Heat Island Effect</b> , Non-Roof				\$ -	-	
SS7-2	<b>Heat Island Effect</b> , Roof				\$ -	-	
SS-8	<b>Light Pollution Reduction</b>				\$ -	-	
<b>Water Efficiency</b>		0	0	0	\$ -		
WE-1.1	<b>Water Efficient Landscaping</b> , Reduce by 50%				\$ -	-	
WE-1.2	<b>Water Efficient Landscaping</b> , No Potable Use or No Irrigation				\$ -	-	
WE-2	<b>Innovative Wastewater Technologies</b>				\$ -	-	
WE-3.1	<b>Water Use Reduction</b> , 20% Reduction				\$ -	-	
WE-3.2	<b>Water Use Reduction</b> , 30% Reduction				\$ -	-	
<b>Energy &amp; Atmosphere</b>		0	0	0	\$ -		
EA-P1	<b>Fundamental Commissioning of the Building Energy Systems</b>	<b>PRE</b>			\$ -	-	
EA-P2	<b>Minimum Energy Performance</b>	<b>PRE</b>			\$ -	-	
EA-P3	<b>Fundamental Refrigerant Management</b>	<b>PRE</b>			\$ -	-	
EA-1	<b>Optimize Energy Performance</b>				\$ -	-	
EA-2	<b>On-Site Renewable Energy</b>				\$ -	-	
EA-3	<b>Enhanced Commissioning</b>				\$ -	-	
EA-4	<b>Enhanced Refrigerant Management</b>				\$ -	-	
EA-5	<b>Measurement &amp; Verification</b>				\$ -	-	
EA-6	<b>Green Power</b>				\$ -	-	

KEY	
<b>1</b>	Measures with no premium Measures with low cost premiums
<b>2</b>	Measures with moderate cost premiums
<b>3</b>	Measures with high cost premiums Measures with variable cost premiums
<b>4</b>	Measures not applicable to the project Measures not pursued, although technically viable

# LEED Cost Analysis

## New Construction

ID #	LEED Prerequisite or Credit	Yes	?	No	Estimated Cost	Cost Analysis	Comments
<b>Materials &amp; Resources</b>		0	0	0	\$ -		
MR-P1	<b>Storage &amp; Collection of Recyclables</b>			<b>PRE</b>	\$ -	-	
MR-1.1	<b>Building Reuse</b> , Maintain 75% of Existing Walls, Floors & Roof				\$ -	-	
MR-1.2	<b>Building Reuse</b> , Maintain 100% of Existing Walls, Floors & Roof				\$ -	-	
MR-1.3	<b>Building Reuse</b> , Maintain 50% of Interior Non-Structural Elements				\$ -	-	
MR-2.1	<b>Construction Waste Management</b> , Divert 50% from Disposal				\$ -	-	
MR-2.2	<b>Construction Waste Management</b> , Divert 75% from Disposal				\$ -	-	
MR-3.1	<b>Materials Reuse</b> , 5%				\$ -	-	
MR-3.2	<b>Materials Reuse</b> , 10%				\$ -	-	
MR-4.1	<b>Recycled Content</b> , 10% (post-consumer + ½ pre-consumer)				\$ -	-	
MR-4.2	<b>Recycled Content</b> , 20% (post-consumer + ½ pre-consumer)				\$ -	-	
MR-5.1	<b>Regional Materials</b> , 10% Extracted, Processed & Manufactured Regionally				\$ -	-	
MR-5.2	<b>Regional Materials</b> , 20% Extracted, Processed & Manufactured Regionally				\$ -	-	
MR-6	<b>Rapidly Renewable Materials</b>				\$ -	-	
MR-7	<b>Certified Wood</b>				\$ -	-	

ID #	LEED Prerequisite or Credit	Yes	?	No	Estimated Cost	Cost Analysis	Comments
<b>Indoor Environmental Quality</b>		0	0	0	\$ -		
EQ-P1	<b>Minimum IAQ Performance</b>			<b>PRE</b>	\$ -	-	
EQ-P2	<b>Environmental Tobacco Smoke (ETS) Control</b>			<b>PRE</b>	\$ -	-	
EQ-1	<b>Outdoor Air Delivery Monitoring</b>				\$ -	-	
EQ-2	<b>Increased Ventilation</b>				\$ -	-	
EQ-3.1	<b>Construction IAQ Management Plan</b> , During Construction				\$ -	-	
EQ-3.2	<b>Construction IAQ Management Plan</b> , Before Occupancy				\$ -	-	
EQ-4.1	<b>Low-Emitting Materials</b> , Adhesives & Sealants				\$ -	-	
EQ-4.2	<b>Low-Emitting Materials</b> , Paints & Coatings				\$ -	-	
EQ-4.3	<b>Low-Emitting Materials</b> , Carpet Systems				\$ -	-	
EQ-4.4	<b>Low-Emitting Materials</b> , Composite Wood & Agrifiber Products				\$ -	-	
EQ-5	<b>Indoor Chemical &amp; Pollutant Source Control</b>				\$ -	-	
EQ-6.1	<b>Controllability of Systems</b> , Lighting				\$ -	-	
EQ-6.2	<b>Controllability of Systems</b> , Thermal Comfort				\$ -	-	
EQ-7.1	<b>Thermal Comfort</b> , Design				\$ -	-	
EQ-7.2	<b>Thermal Comfort</b> , Verification				\$ -	-	
EQ-8.1	<b>Daylight &amp; Views</b> , Daylight 75% of Spaces				\$ -	-	
EQ-8.2	<b>Daylight &amp; Views</b> , Views for 90% of Spaces				\$ -	-	

ID #	LEED Prerequisite or Credit	Yes	?	No	Estimated Cost	Cost Analysis	Comments
<b>Innovation &amp; Design Process</b>		0	0	0	\$ -		
ID-1.1	<b>Innovation in Design</b> : Provide Specific Title				\$ -	-	
ID-1.2	<b>Innovation in Design</b> : Provide Specific Title				\$ -	-	
ID-1.3	<b>Innovation in Design</b> : Provide Specific Title				\$ -	-	
ID-1.4	<b>Innovation in Design</b> : Provide Specific Title				\$ -	-	
ID-2	<b>LEED® Accredited Professional</b>				\$ -	-	

<b>Project Totals (pre-certification estimates)</b>		Yes	?	No	Estimated Cost	Cost Analysis	Comments
		0	0	0	\$ -		

KEY	
<b>1</b>	Measures with no premium Measures with low cost premiums
<b>2</b>	Measures with moderate cost premiums
<b>3</b>	Measures with high cost premiums Measures with variable cost premiums
<b>4</b>	Measures not applicable to the project Measures not pursued, although technically viable



# For More Information....

Kevin Songer, JD, LEED® AP, ISA

Phone: 904.737.4100 Ext 1010

Email: [kevin.songer@avidgroup.com](mailto:kevin.songer@avidgroup.com)

Web: [www.avidgroup.com](http://www.avidgroup.com)

