

## Tenant's Role with LEED EB:OM



RCBC Plaza, Leading you  
to a Greener Environment

Dean Barone, LEED AP BD+C, ID+C, O+M, ISSP-SA

LEED for Existing Buildings :  
Operations & Maintenance  
Barone International



## LEED® EB:OM Categories and Points

### Sustainable Sites

- 26 Points

### Water Efficiency

- 14 Points

### Energy and Atmosphere

- 35 Points

### Materials & Resources

- 10 Points

### Indoor Environmental Quality

- 15 Points

### Innovation in Operations

- 6 Points



**66 Points**

Tenants  
contribute  
16 points



## Transportation Survey



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### Sustainable Sites

3 – 15 Points

#### Alternative Commuting Transportation

- **All** building occupants to complete a survey indicating how you commute to RCBC Plaza
  - Typical 5 day work week
  - Using an Online Survey
  - Easy to complete – 15 minutes using Google Maps

Need  
**80%**  
Participation

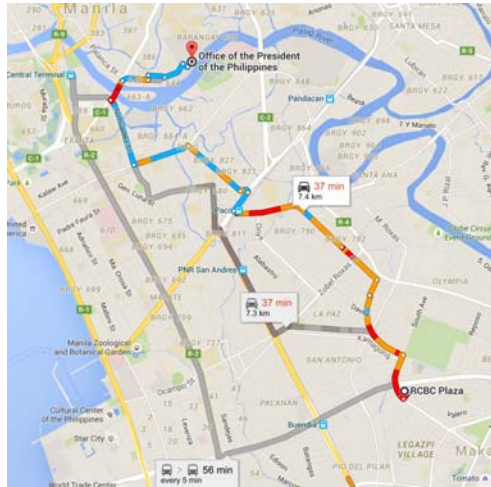
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### Sustainable Sites

3 – 15 Points

#### Alternative Commuting Transportation

- Calculate your travel distance from your home to RCBC Plaza



### Sustainable Sites

3 – 15 Points

#### Indicate the type of transportation



### Sustainable Sites

3 – 15 Points

#### Alternative Commuting Transportation

- Indicate the type of transportation with longest commuting distance

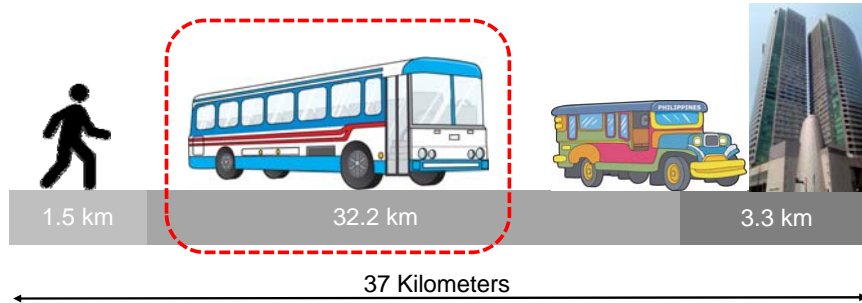


Table 1. Check only 1 Mode of Transportation used daily.

Transportation Mode (from Home to Work)	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
A. Drive Alone														
B. 2 persons in private vehicle														
C. 3 persons in private vehicle														
D. 4 persons in private vehicle														
E. 5 persons in private vehicle														
F. 6 persons in private vehicle														
G. 7 persons in private vehicle														
H. 8 persons in private vehicle														
I. 9 persons in private vehicle														
J. 10 persons in private vehicle														
K. 11 persons in private vehicle														
L. 12 persons in private vehicle														
M. 13 persons in private vehicle														
N. 14 persons in private vehicle														
O. 15 persons in private vehicle														
P. Company Shuttle Bus or Van														
Q. Public Utility Bus	✓	✓	✓	✓	✓	✓	✓	✓						
R. Public Utility Jeepney														
S. Train/Rail														
T. Tricycle														
U. Motorcycle														
V. Bicycle														
W. Walk														
X. FX (Public AUV/Van)														
Y. Telecommute (reduction of more than 50% of trip)									✓	✓				
Z. Zero Emission Vehicle														



Single occupancy vehicle	438
Fuel efficient/alternative fuel vehicle	0
Total trips avoided due to telecommuting	0
Total trips avoided due to compressed work week	0
Self powered mode (walk, bicycle, etc.)	342
Public transportation (bus, train, light rail, ferry, etc.)	200
Other alternative transportation	206
number of commute trips made by building occupants via a:	
2 person carpool/vanpool	246
3 person carpool/vanpool	32
4 person carpool/vanpool	18
5 person carpool/vanpool	0
6 person carpool/vanpool	60
7 person carpool/vanpool	10
8 person carpool/vanpool	0
9 person carpool/vanpool	0
10+ person carpool/vanpool	7226
Total trips not taken due to absences (sick, vacation, jury duty, etc.)	3232
Total number of maximum theoretical commute trips = total number of survey respondents * 2 trips per day * 5 days	12010
Total number of data entries in table above	12010
Total number of actual commute trips = theoretical trips - absences	8778
Total SOV commute trips	1310
Total alternative commute trips	7468
<b>STEP 3: Calculate Reduction in Conventional Commuting Trips</b>	
Occupant response rate	77.73%
Raw rate of alternative commuting trips (survey respondents only)	85.07%
Extrapolation factor for survey non-respondents	1.00
Total alternative commute trips from survey	7468
Total alternative commute trips from extrapolation to non-respondents (for Approach 1 only)	5676
Overall alternative commute trips (for Approach 1 only)	13144
Demonstrated RCCT	85.07%
<small>note: determine number of points earned the "points" tab</small>	

>75% = 15 points





## Indoor Environmental Quality

### Occupant Survey

- **Assessment of building occupants' comfort**
  - Thermal comfort
  - Acoustics
  - Indoor air quality (IAQ)
  - Lighting levels
  - Building cleanliness
  - Other comfort issues

## 1 Point

Need

# 30%

Participation




## Indoor Environmental Quality

### Thermal Comfort

## 1 Point

11. How satisfied are you with the temperature in your work space today?

	Response Percent	Response Count
Very Satisfied	8.8%	49
Mostly Satisfied	14.3%	80
Somewhat Satisfied	16.5%	92
<b>Neutral</b>	<b>41.4%</b>	<b>231</b>
Somewhat Dissatisfied	11.8%	66
Mostly Dissatisfied	4.5%	25
Very Dissatisfied	2.7%	15
<b>answered question</b>		<b>558</b>
<b>skipped question</b>		<b>9</b>



## Indoor Environmental Quality

1 Point

### Acoustics

22. How satisfied are you with the sound privacy in your workspace (ability to have conversations without neighbors overhearing and vice versa)?

		Response Percent	Response Count
Very Satisfied		4.3%	23
Mostly Satisfied		27.5%	149
<b>Somewhat Satisfied</b>		<b>34.6%</b>	<b>187</b>
Neutral		18.9%	102
Somewhat Dissatisfied		8.7%	47
Mostly Dissatisfied		4.1%	22
Very Dissatisfied		2.0%	11
answered question			541
skipped question			26



## Indoor Environmental Quality

1 Point

### Lighting Levels

26. How satisfied are you with the amount of light provided in your workspace?

		Response Percent	Response Count
Very Satisfied		22.8%	124
<b>Mostly Satisfied</b>		<b>27.9%</b>	<b>152</b>
Somewhat Satisfied		18.5%	101
Neutral		23.7%	129
Somewhat Dissatisfied		5.0%	27
Mostly Dissatisfied		1.1%	6
Very Dissatisfied		1.1%	6
answered question			545
skipped question			22



## Indoor Environmental Quality

1 Point

### Indoor Air Quality

32. How satisfied are you with the air quality in your workspace (i.e. dusty, stuffy/stale air, cleanliness, odors)

		Response Percent	Response Count
Very Satisfied		9.6%	51
<b>Mostly Satisfied</b>		<b>32.0%</b>	<b>170</b>
Somewhat Satisfied		14.3%	76
Neutral		30.5%	162
Somewhat Dissatisfied		8.5%	45
Mostly Dissatisfied		3.6%	19
Very Dissatisfied		1.5%	8
answered question			531
skipped question			36



## Indoor Environmental Quality

1 Point

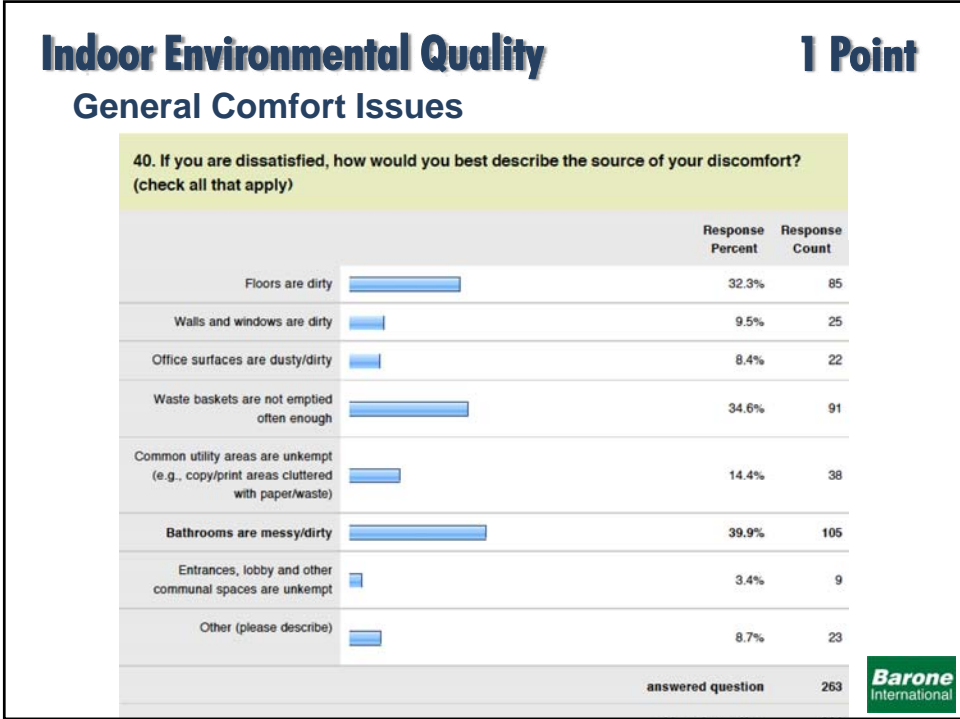
### Cleanliness

36. How satisfied are you with general building cleanliness?

		Response Percent	Response Count
Very Satisfied		11.5%	62
<b>Mostly Satisfied</b>		<b>35.4%</b>	<b>191</b>
Somewhat Satisfied		22.4%	121
Neutral		25.9%	140
Somewhat Dissatisfied		3.9%	21
Mostly Dissatisfied		0.2%	1
Very Dissatisfied		0.7%	4
answered question			540
skipped question			27







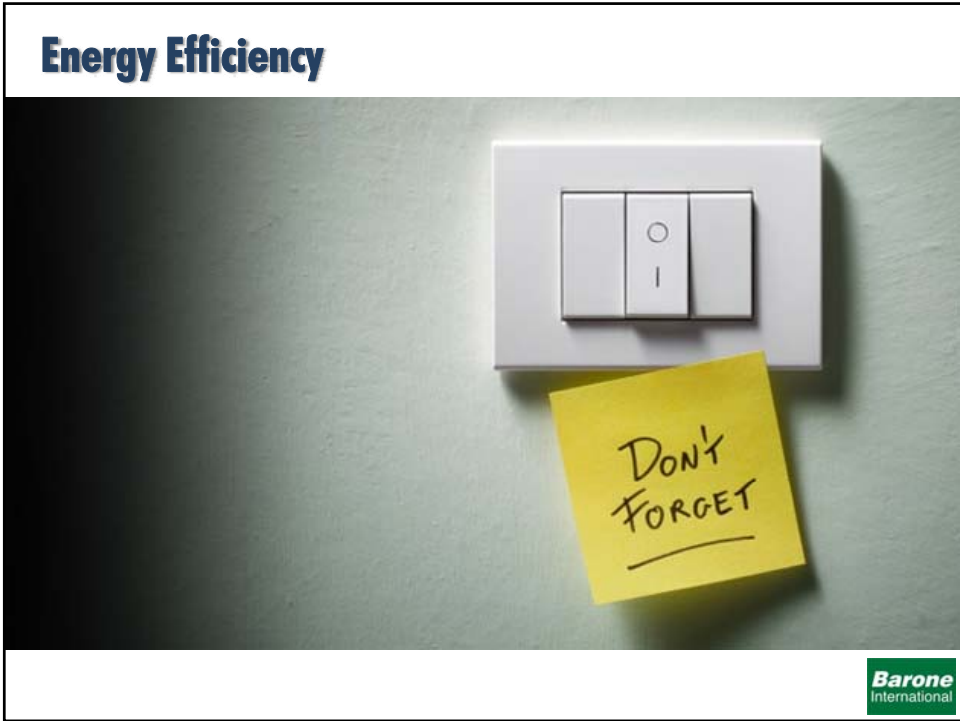


## LEED EBOM – Survey's

Survey's will be conducted October–November 2016


- Transportation Survey
- Occupant Survey



## Energy and Atmosphere 1 – 18 Points

Minimum Energy Efficiency Performance  
Optimize Energy Efficiency Performance



ENERGY STAR® Progress & Goals Report

LEARN MORE AT [energystar.gov](http://energystar.gov)

# 76

ENERGY STAR® Score<sup>1</sup>

**RCBC Plaza**

Primary Property Function: Office  
Gross Floor Area (m<sup>2</sup>): 177,990  
Built: 1996

Property Address:  
RCBC Plaza  
6819 Ayala Avenue  
Makati, Metro Manila 1226

For Year Ending: December 31, 2014  
Date Generated: August 17, 2015

Property ID: 4446719

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

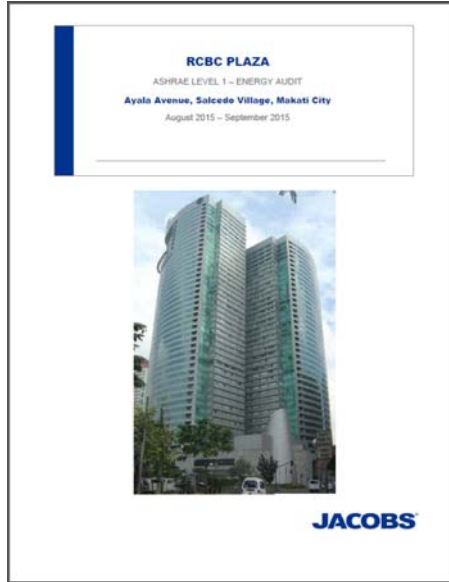
76 = 5 points

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# Energy and Atmosphere

## 1 – 18 Points

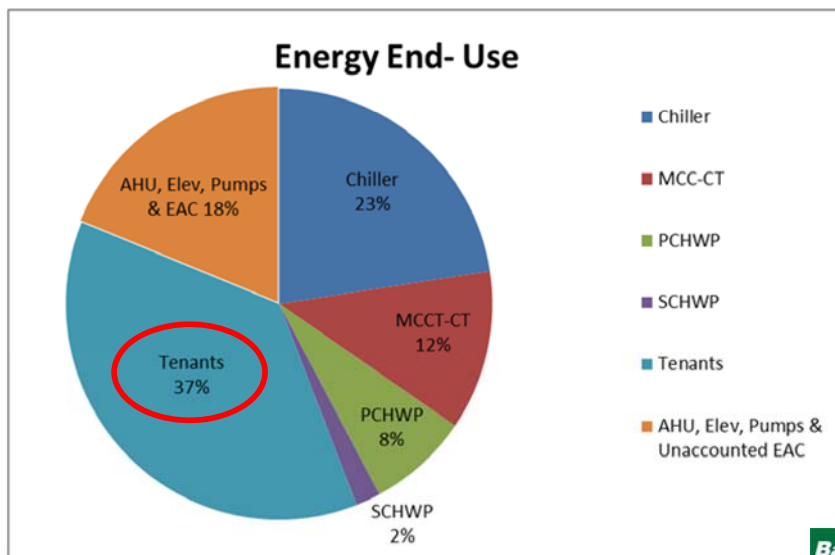
### Abbreviated Energy Audit – Sample Tenant Spaces



# Energy and Atmosphere

## 1 – 18 Points

### Energy used by the Tenant's was unusually high



## Energy and Atmosphere

1 – 18 Points

Energy-saving strategies should be promoted to all tenants:

- Use of **Energy-Star** rated office equipment and appliances;
- **Occupancy sensors** for lighting at unassigned rooms and spaces;
- **Education** on electrical power conservation;



## Energy Awareness Programs

Office lights left on overnight use enough energy in a year to heat a home for almost 5 months.

Switch them off and you'll make all the difference.



For more ways to help combat climate change at work visit [www.carbontrust.com](http://www.carbontrust.com)


Based on typical small office floor area of 100sqm using 10 x 30W LED 18 fluorescent tubes @ 1/4 hours x 261 days = 625.5kWh. Average annual energy use for large 400sqm non-detached home = 15000kWh/12 months x 5 months = 625kWh. For full calculation see <http://www.carbontrust.com/guides>.



### Energy Awareness Programs

A photocopier left on standby overnight wastes enough energy to make 30 cups of tea.

Switch it off and you'll make all the difference.



For more ways to help combat climate change at work visit [www.carbontrust.com](http://www.carbontrust.com)

Photocopier standby = 0.042kW x 14 hours = 0.588kWh. Average cup of tea = 0.25 litres = 0.25kg. Energy used to make cup of tea = 0.25kg x heat capacity of water (4200J/kg°C) x temperature rise (90°C - 20°C) = 75,000 joules = 0.0208kWh. 0.588kWh ÷ 0.0208kWh = 28. A cup of tea. For full calculations see <http://www.carbontrust.com/energy>. PP\_120


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### Energy Awareness Programs

A computer left on overnight for a year creates enough CO<sub>2</sub> to fill a double-decker bus.

Switch it off and you'll make all the difference.



For more ways to help combat climate change at work visit [www.carbontrust.com](http://www.carbontrust.com)

Average computer use overnight for 1 year = 1.47kWh x 365 days = 0.42kgCO<sub>2</sub>/kWh = 205.14kgCO<sub>2</sub>. Volume = 205.14 / 1.8 = 114.2m<sup>3</sup> CO<sub>2</sub>. Estimated double-decker bus volume = 8.2m (L) x 2.4m (W) x 3.2m (H) = 632.16m<sup>3</sup>. For full calculations see <http://www.carbontrust.co.uk/green-operations>. PP\_120

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## Green Cleaning

- Green Cleaning Policy
- Green Cleaning - High Performance Cleaning Program



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## Sustainable Purchasing

- Purchase office supplies and paper with recycled content
- Use rechargeable batteries
- Purchase or Lease Energy Star Labeled computers and equipment
- Purchase green labeled furniture products
- Purchase locally grown – produced food
- Install Low or No mercury containing lamps



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**Your help is critical to our success !**



RCBC Plaza, Leading you  
to a Greener Environment



**Salamat Y'all**

**Barone**  
International

**Sustainability Consultants**

673 Boni Avenue, 2F Unit E

Mandaluyong City, Philippines

[dean.barone@baroneinternational.com](mailto:dean.barone@baroneinternational.com)

[www.baroneinternational.com](http://www.baroneinternational.com)