

CEE “Ask the Experts Workshop”

Benchmarking Your Way to Better Customer Relationships and Energy Savings

NYSERDA Focus on Commercial Real Estate

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June 2, 2009



HRA Advisors, Inc. – \$3,000,000 – 5 Years

Contract effort began Feb 2007

- **Task 1: Benchmarking Tool , Scoping, and M&V**
- **Task 2: CRE Pilots**
- **Task 3: Address the Split Incentive**
- **Task 4: Develop Partnerships**
- **Task 5: Training**
- **Task 6: Reporting and Metrics**

NYSERDA Focus Program Goals

Establish
customer
relationships

Streamline project
implementation

Feed program
pipeline

Offer sector-based
resources and
tools

NYSERDA Focus Program Goals

Incorporate
benchmarking as first
step in EE projects

Achieve deeper
savings through
whole building
projects

Support streamlined
measurement and
verification

Develop infrastructure
to track progress

Greater Public Benefit – Policy Goals

Mapping of Statewide
energy usage
patterns

Cost and time
savings in technical
assistance and
diagnostic work

Efficient identification
of poor performing
properties for
program support

Improvement tracking
against 2015/2030
and program goals

NYC Key Target

Sector-specific Data for NYC (Based on RPAD data)	Residential	Commercial	Industrial	Institutional	Public
# Buildings	9,310	2,194	1,327	1,823	108
Total Square Footage	1,465,551,571	604,628,568	206,701,868	331,006,782	38,088,137

425 million SF - Commercial Office

Partnerships

- US EPA
- New York City – NYCEDC, OLTPS
- REBNY
- Urban Land Institute
- IOUs (National Grid, Con Edison, etc.)
- NRDC
- Clinton Global Initiative (CGI)
- Rocky Mountain Institute – CGI
- BOMA - NYC

Focus CRE proposes a five step process to respond to needs of the commercial office market.

Benchmark and prioritize buildings



Identify savings opportunities



Evaluate ROI and identify funding



Develop and implement an Action Plan



Measure improvement

focus on commercial real estate



Benchmarking is Step #1

Website: CRE.nyserda.org

NEW YORK STATE

NYSERDA New York State Energy Research and Development Authority

FOCUS
on commercial real estate

Technical Expertise | Building Diagnostics | Financial Incentives | Measurable Results

Who Are You? | Owner/Manager | Consultant

Translate energy efficiency into higher asset value.

The New York State Energy Research and Development Authority (NYSERDA)'s Focus on Commercial Real Estate (Focus CRE) is New York State's new business focused initiative to enable commercial building owners/managers and consultants to maximize their return on investment by going green.

Progress meter: \$1,393,000 sf of commercial space has been benchmarked to date.

New York State Energy Research and Development Authority - Windows Internet Explorer

http://fcrstaging.psdconsulting.com/manager/building_prop.aspx?action=add&id=00000000-0000-0000-0000-000000000000&sourceid=9e40f65c-a04f-49a9-b8c7-9c09c4f3744c

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New York State Energy Research and Development A...

FOCUS
on commercial real estate

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Add a Building

[<< return](#)

Building name:

Address:

Address 2:

City:

State:

Zip:

Owner:

Phone:

Year Building Was Constructed:

Floors Above Grade:

Floors Below Grade:

Gross Floor Area:

Average Number of Workers in Daytime:

Conditioned Area

Only Heated (sf):

Only Cooled (sf):

Heated & Cooled (sf):

HVAC Building Systems

Heating Plant Equipment Type:

Cooling Plant Equipment Parameters

Cooling Plant Equipment Type:

Number of cooling plant units:

Total Cooling Capacity All Units (tons):

NYSERDA: FOCUS ON COMMERCIAL REAL ESTATE BENCHMARK SCORECARD

59

Broadway

Broadway
ny, NY 10036

Owner: Anyone

Year Built: 1970

Square Footage: 1,970,730 sq. ft.

End Date of Evaluation Period : 12/1/2006

Region : New York City



EPA
Portfolio Manager
Score

■ Passed CRE data checks □ Data verified by Engineer

Scoring Date:
04.08.08

Your Building: Compared to the Portfolio Manager Score of other Focus CRE buildings that have recieved initial QA/ QC



Implementation Contractor for NYSERDA's Focus on Commercial Real Estate Program: HR&A Advisors, Inc.
For more information, call 1-866-NYSERDA, or email: FocusCRE@nyserdera.org



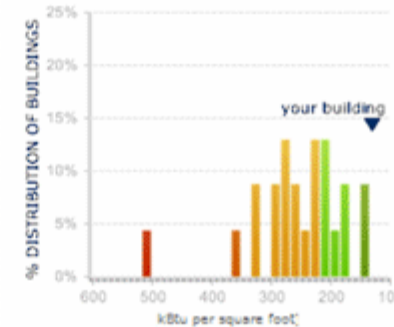
REGIONAL PERFORMANCE COMPARISON

Source Energy Consumption

This graph shows you buildings source energy consumption compared to other Focus CRE buildings that have passed initial QA/QC. The conversion factors used are from the "Inventory of New York City Greenhouse Gas Emissions (April 2007) for additional information on source energy refer to Discussion of Source Energy

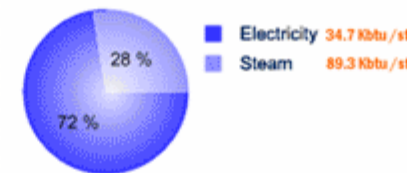
Total Annual Source Energy Consumption

Building: 244,145,135 kbtu(Thousand Btu)
124 kbtu per square foot



ANNUAL SOURCE ENERGY CONSUMPTION

SOURCE ENERGY
(kbtu per square foot)



New York City building metrics reflect New York City specific source energy conversion factors

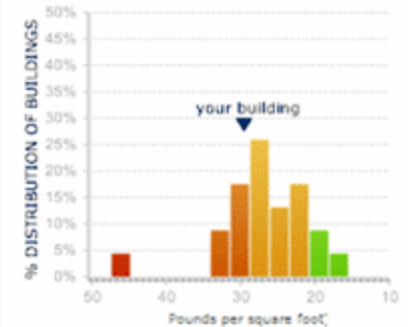
REGIONAL PERFORMANCE COMPARISON

Carbon Dioxide Impact

This graph shows you buildings Carbon impact compared to other Focus CRE buildings that have passed initial QA/QC. The conversion factors used are from the "Inventory of New York City Greenhouse Gas Emissions (April 2007)

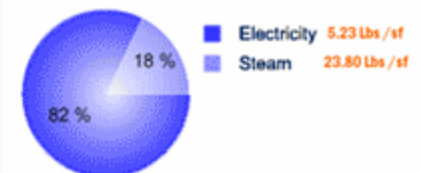
Total Annual Carbon Dioxide Impact

Building: 57,206,827 Lbs
29.03 Pounds per square foot



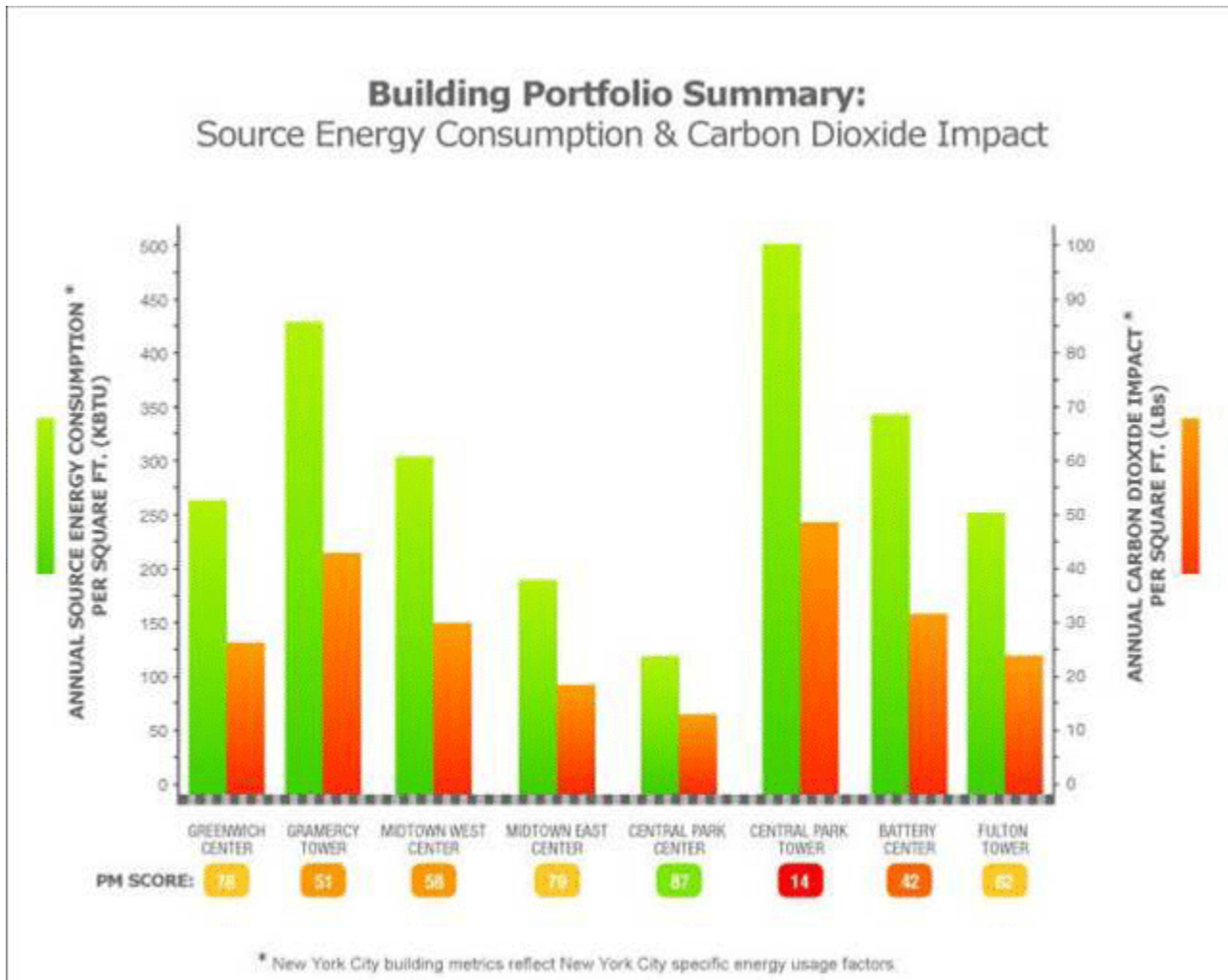
ANNUAL CARBON DIOXIDE IMPACT

GENERATION SOURCE OF CARBON EMISSIONS
(Pounds per square foot)



New York City building metrics reflect New York City specific source energy conversion factors

Portfolio Summary Report



Basic energy assessments in *Focus CRE* must:

Cover whole
building

- Including example tenant space

Show

- Energy Star benchmark, source energy, and carbon intensity post-retrofit;
- Progress against 2015/2030 goals

Quantify

- kW, kWh, MMBTU, and carbon savings
- Estimated cost of recommended measures

Include

- Base building usage profile charts

Objectives of energy assessments in *Focus CRE*.

Speed

- 1-2 month turnaround

Immediate Applicability

- Concrete near-term energy saving actions
- Follow-on studies specified separately

Volume

- NY capacity to perform large numbers of studies at once

Cost

- Owners not generally amenable to high TA costs for as-yet unidentified problems

Blend RCx, capital improvement and other approaches flexibly and cover all opportunities.



Conveying Systems



Electrical Systems



Envelope



Central HVAC



Lighting



Plumbing



Tenants (esp supplementary HVAC)

Use the report as the starting point of an RCx and retrofit process.

Meet to discuss report and implementation
(self, hard bid, ESCO)

Develop Action Plan to guide owner step by
step toward bids

Support owner in selecting firms for follow-on
studies (e.g. full RCx, cogen)

Participate in bid review, design review,
selection

Program Results: Energy Scans identified significant opportunities to reduce energy consumption

Building	Electricity Saved (kWh)	Electricity Saved (kW)	Steam Saved (Mlbs)	Gas Saved (Therms)	Square Feet
One New York Plaza	5,088,547	641		10,289	2,478,000
810 Seventh Avenue	3,215,000	510		5,999	748,000
485 Lexington Avenue	1,396,143	93		10,827	835,835
Grace Building	1,211,158	27		12,671	1,449,000
One Liberty Plaza	947,524	32		22,954	2,113,000
220 East 42nd Street	756,212	153		7,767	1,114,500
750 Third Avenue	682,517	7		17,419	766,700
54 State Street	573,800	145	21,800		175,000
55 West 125th Street	397,587	(71)	150,081		225,000
461 Fifth Avenue	225,206	38		1,583	199,690
555 West 57th Street	53,846	11		39,263	998,500
Total	14,547,540	1,586	171,881	128,772	11,103,225

Program Challenges

- Benchmarking
 - Automation w/utility partners is needed
 - Quality Assurance of Data
- Policy
 - Benchmarking mandates coming
 - Audit/retrofit mandates
- Workforce Training/Certification
- Incentives
 - Additional “carrots” possible – federal stimulus

Program Next Steps

- Continue C-Level Owner Outreach
- Expand outreach to major tenants
- Pilot automated benchmarking with utility billing and consumption records
- Implement contractor incentives
 - Energy Scan and Benchmarking
 - Commercial Diagnostics and Monitoring Systems

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