



**Real Estate Investment Association**

Networking, Information Sharing & Resources  
for Private Real Estate Investors, Lenders,  
and Real Estate Developers

***Show Me the Gr\$\$n in Green!***

**REIA – Real Estate Investment Association  
March 19, 2009**

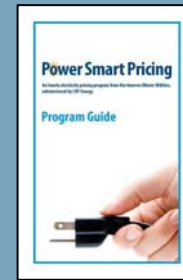


**Rachel Scheu**

*Center for Neighborhood Technology*

# Center for Neighborhood Technology (CNT)

- 30 year old non-profit organization in Chicago: a 'think & do' tank
- Supports environmentally sustainable economic development through:
  - Research
  - Advocacy & public policy
  - Demonstration projects & tools



- CNT Portfolios
  - Energy & Climate Change
  - Transportation & Community Development
  - Natural Resources (Stormwater management)

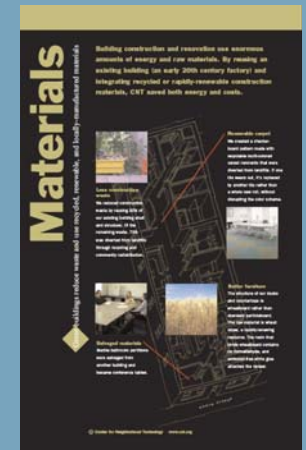


- Practice what we preach: Green 15,000 sf office in renovated textile factory: LEED® Platinum & Energy Star



- Dual perspective for REIA presentation: Building owner and Researcher

# CNT building



- \$ 82/sf construction cost
- Energy: tight envelope, efficient systems, high levels of insulation

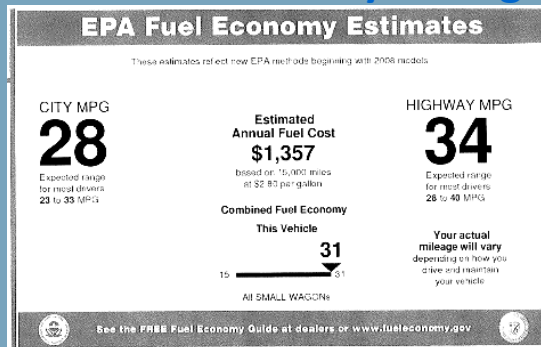
# Why measure performance?

**MPG = 34 high or low?**



**MPG = miles per gallon**

## EPA Fuel Efficiency Rating



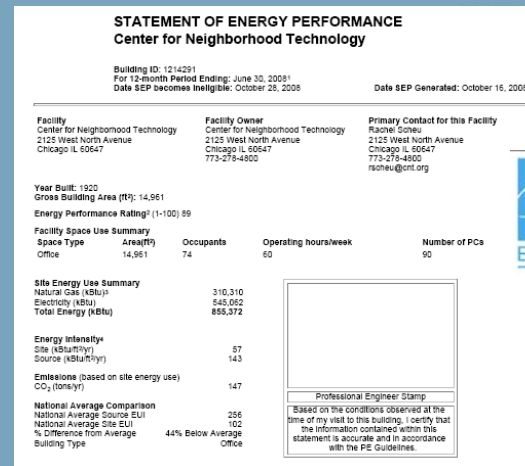
**Common knowledge**

**EUI = 100 high or low? good or bad?**



**EUI = kBtu per square foot per year**

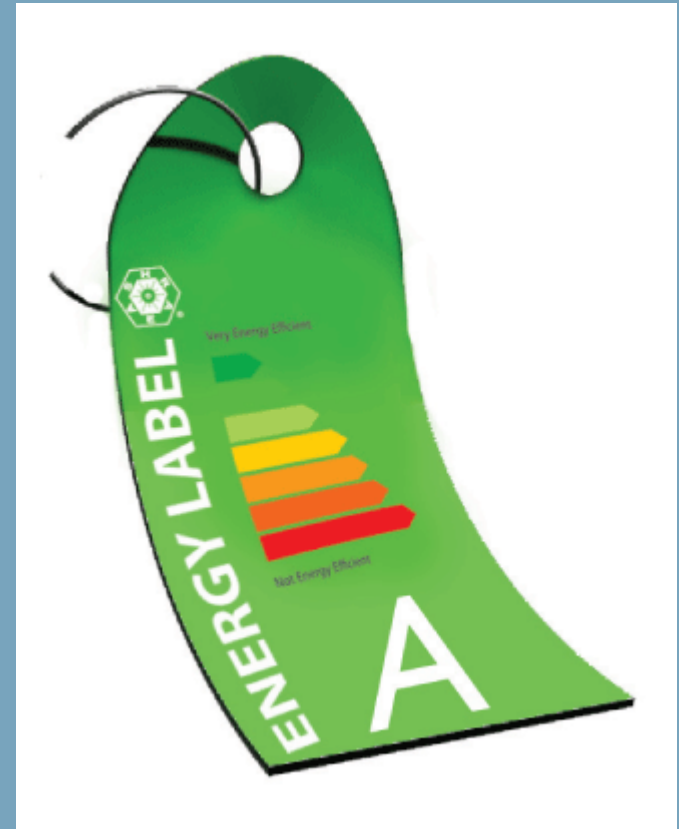
## EPA Energy Performance Rating



**Not common knowledge – many building experts don't know**

# Why measuring performance will matter:

- Mandatory commercial building performance reporting (Washington DC & CA)
- ASHRAE building labeling initiative
- Quantification of emissions reductions can provide value in carbon and electricity capacity markets
- Real estate market recognition of value in green buildings as energy prices increase



# Dashboard to Calculate, Track & Display Sustainability Performance

**goal** – create a web-based tool that displays **actual** performance for: energy, water, transportation, & carbon {purchasing, waste, occupant comfort}

- Compares to baseline (as designed and to code) and compares to other buildings
- Easy to use
- Capable of displaying different types and depth of information about building performance
- Expandable for other buildings

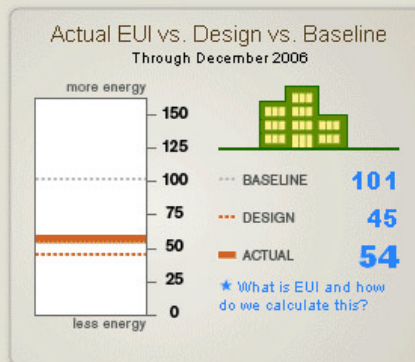
Developed in-house using Flash, PHP and SQL Server database

## Center for Neighborhood Technology 2125 W North Ave, Chicago, IL

LEED PLATINUM



[building overview](#) | [performance dashboard](#) | [charts](#)



CNT has been monitoring its building performance since receiving Platinum in 2005, and the good news is: CNT is doing pretty well. According to the US EPA Energy Star Target Finder, better than 90% of similar buildings.

CNT wanted to show that a high performing green building could be achieved 1) by renovating an existing building rather than new construction and 2) renovate to the highest LEED standard at a cost comparable to standard renovation.

CNT believes that the cornerstone of green is energy efficiency. And that a green building in an efficient location is as important as a green building itself. Therefore its building performance focuses on building energy use and from staff commute energy use.

### EnergyStar Target Finder



EnergyStar used CNT actual energy use and occupancy data to benchmark its performance compared to similar buildings.

### Building Performance Metrics

Last updated: 11/09/07

Energy Use Intensity	<b>56.18</b> kBtu/st/yr
Electricity <i>not including solar</i>	<b>10.29</b> kWh/st/yr
Gas	<b>0.21</b> therms/st/yr
SAVINGS	<b>44%</b>
Water Use Intensity	<b>5.23</b> gal/occupant/day
SAVINGS	<b>30%</b>
Building Emissions	<b>231,511</b> lbs CO <sub>2</sub> /yr
SAVINGS	<b>44%</b>
Transportation Energy Intensity	<b>38.0</b> kBtu/st/yr



Skylights provide natural daylight to CNT's office space. The open floor plan and bright colors, as well as high indoor air quality help make this an attractive work place.

# Components

- Dynamic data.
- Modular components to reflect organization's priorities.
- Updated as often as new data available.

**GREEN BUILDING PERFORMANCE DATA**

Center for Neighborhood Technology  
2125 W North Ave, Chicago, IL

LEED PLATINUM

building overview | performance dashboard | charts

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CNT supports a [usable, accessible, standards-compliant](#) WWW. [Learn more about how CNT supports web standards.](#)

## Building Performance Metrics

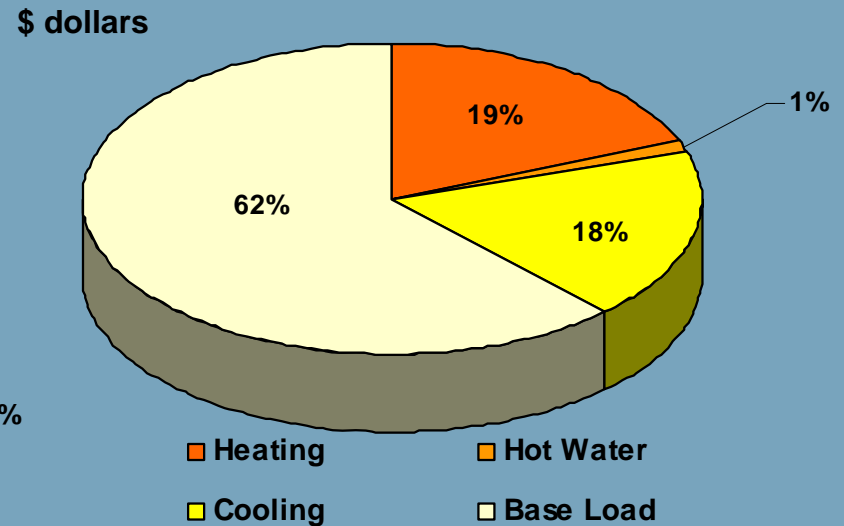
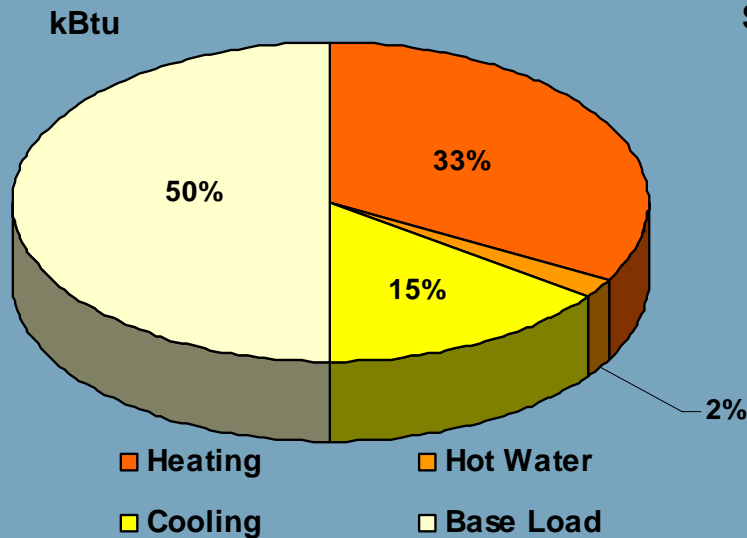
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<b>0.0</b> kBtu/sf/yr

# Lesson Learned: Understand how we use energy & how we spend money on energy





## Enter Time for Rachel Scheu

View: [My Jobs](#) [All Jobs](#)

Job:

Process:

Date:

Number of Hours:

Memo:

Commute:

Walk	Walk
Bicycle	Bicycle
Drive Alone	Drive Alone
Drive with Passenger	Drive with Passenger

[Update Time](#)

[Update and Add More](#)

[Cancel](#)

# Location Efficiency: Place Matters

CNT employees not only *live closer* to work, but they also *drive less*. Both impact the building's carbon footprint.

	National	CNT
<b>Commute distance - one way</b> miles	12.2	6.9
<b>Annual fuel consumption</b> gallons per year	273	154
<b>Transportation energy use per average employee for all VMT from commuting</b> kBtu per year	27,700	11,361
<b>Transportation energy intensity (TEI)</b> kBtu per square foot per year	121	38
<b>Operating energy use intensity (EUI)</b> kBtu per square foot per year	93	54
<b>TOTAL energy intensity</b> kBtu per square foot per year	214	92

# Conclusions

- 1. Green Can Pay – energy savings continue to provide value over time, increasing value as markets change**
- 2. Prioritize sustainability goals**
- 3. Track sustainability metrics over time - Measure and Improve**
- 4. Make the data meaningful – tie back to your goals**
- 5. Share your experience**