COMMERCIAL BUILDING ENERGY ASSET SCORE

SUMMARY

BUILDING INFORMATION

Example Building
2000 A St.,
Chicago, IL 60601

Building Type: **Mixed-Use**
Gross Floor Area: **140,000 ft²**
Year Built: **2005**

Report #: **IL-1234567**
Score Date: **02/2013**
Building ID #: **XXXXX**

ASSET SCORE DATA LEVEL:

- ☐ **Simple Score**
- ☐ **Advanced Score**
- ☐ **Verified Advanced Score**

BUILDING ASSET SCORE:

Current Score **62**

Potential Score **84**

BUILDING USE TYPES:

Office: **100,000 ft²**
Retail: **40,000 ft²**

This report includes a Score for the entire building as well as individual Scores for each of the separate use types.

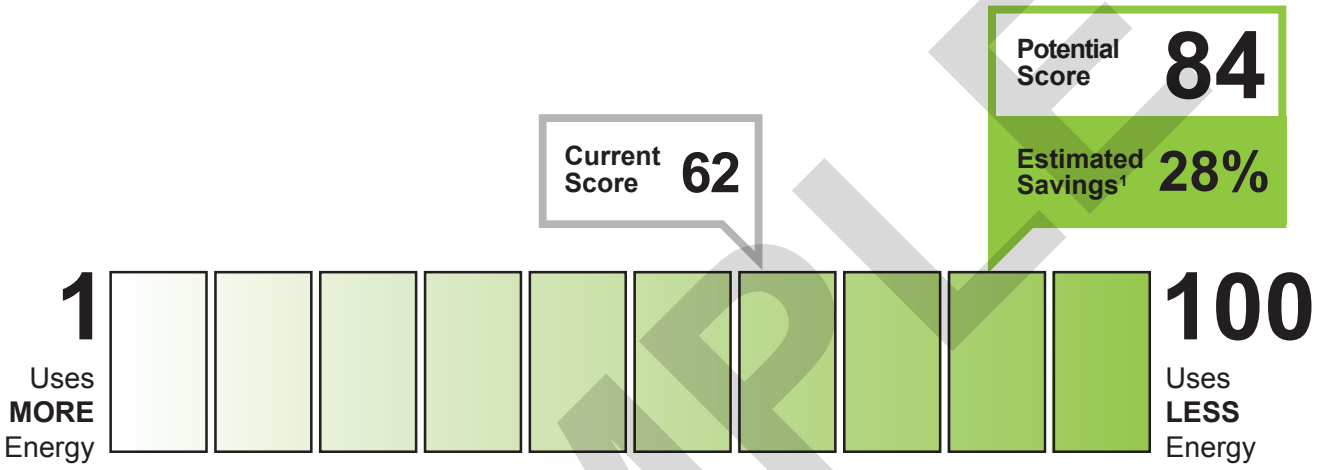
CONTENTS

The **Commercial Building Energy Asset Score** is a national rating system developed by the U.S. Department of Energy. The **Score** reflects the energy efficiency of a commercial building based on the building's structure, heating, cooling, ventilation, and hot water systems. The building's **Structure and Systems** are individually evaluated and ranked. The **Opportunities** page provides recommendations for how to improve the building's energy efficiency, increase the building's Asset Score, and save money.

COMMERCIAL BUILDING
ENERGY ASSET SCORE
OVERALL BUILDING SCORE

Building ID #: **XXXXX**

Gross Floor Area: **140,000 ft²**



Assumed Occupancy and Operating Conditions	Estimated Source Energy Use[2] (kBtu/ft²)		Energy Use Intensity by Fuel Type
Each portion of the building assumes standard occupancy and operating conditions based on building type as listed on pages 3 and 4.	Current Building	**200**	Site Energy Use (kBtu/ft²)
	Upgraded Building	**154**	17.8 / 54.2
			Source Energy Use (kBtu/ft²)
			18.6 / 181.0
			Fuel Oil, Gas, Electricity, District Heating, District Cooling

[1] Savings reflect the reduction in source energy that would result from undertaking all of the efficiency improvements identified on the **Opportunities** page. Actual savings will depend on a variety of factors including actual operating conditions.

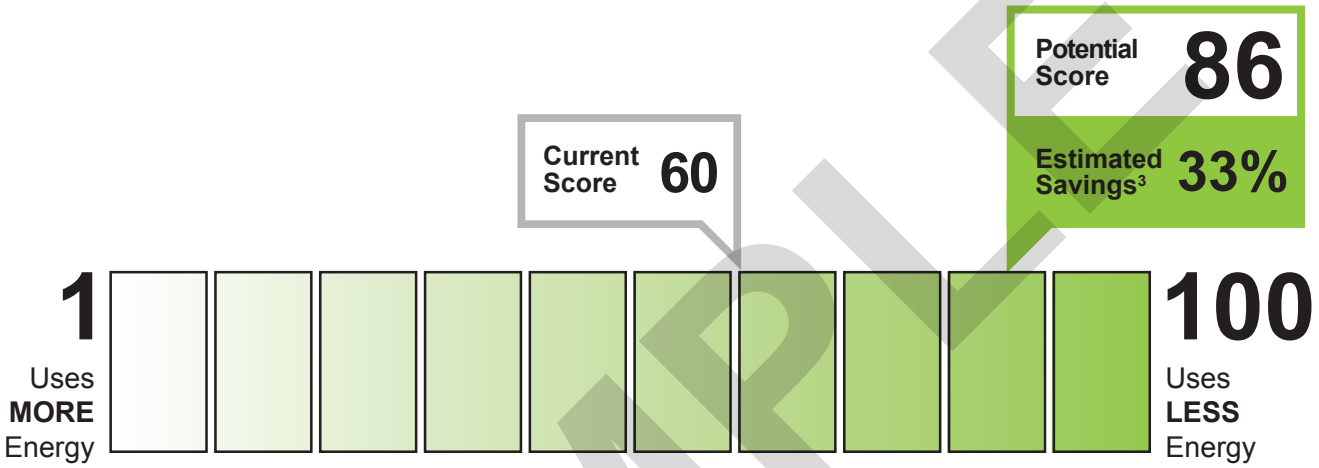
[2] Estimates are calculated using information provided about the building's characteristics as well as standard assumptions about operations and weather.

U.S. DEPARTMENT OF ENERGY

COMMERCIAL BUILDING
ENERGY ASSET SCORE
SCORE: OFFICE PORTION

Building ID #: **XXXXX**

Gross Floor Area: **100,000 ft²**



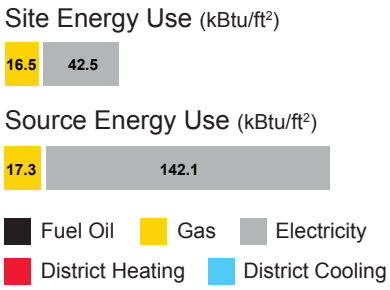
Assumed Occupancy and Operating Conditions

Number of Assumed Occupants	500
Hours of Operation	**49 hrs/wk**
Cooling Set Point	**73°F**
Heating Set Point	**70°F**
Misc. Energy Loads	**0.75 W/ft²**

Estimated Source Energy Use[4] (kBtu/ft²)

Current Building	**159**
Upgraded Building	**107**

Energy Use Intensity by Fuel Type



[3] Savings reflect the reduction in source energy that would result from undertaking all of the efficiency improvements identified on the **Opportunities** page. Actual savings will depend on a variety of factors including actual operating conditions.

[4] Estimates are calculated using information provided about the building's characteristics as well as standard assumptions about operations and weather.

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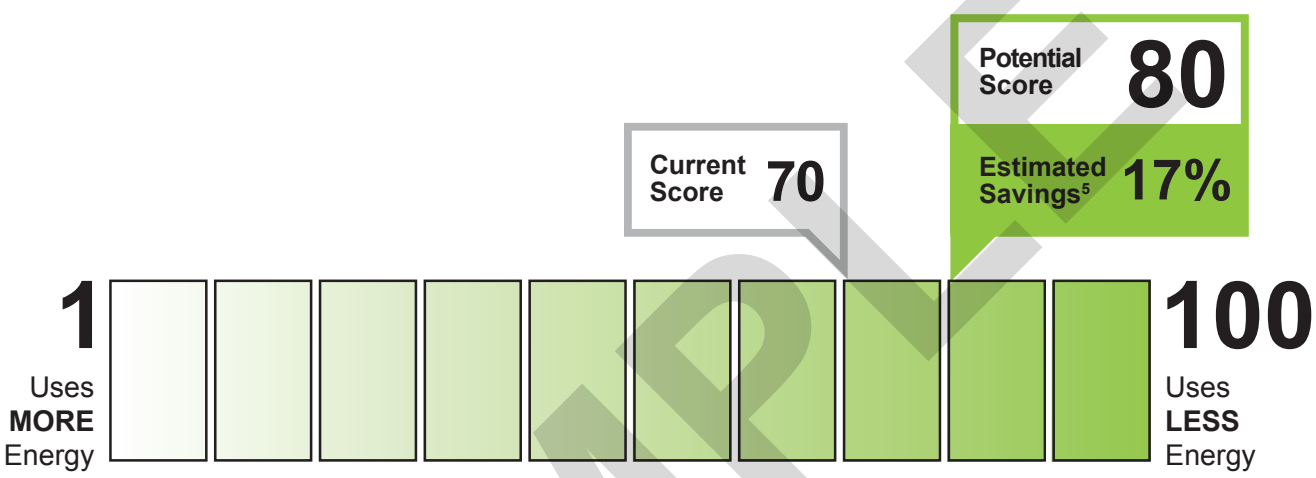
COMMERCIAL BUILDING
ENERGY ASSET SCORE
SCORE: RETAIL PORTION

Building ID #: **XXXXX**

Gross Floor Area: **40,000 ft²**



Assumed Occupancy and Operating Conditions

Number of Assumed Occupants	597
Hours of Operation	**46 hrs/wk**
Cooling Set Point	**73°F**
Heating Set Point	**70°F**
Misc. Energy Loads	**1.01 W/ft²**

Estimated Source Energy Use[6] (kBtu/ft²)

Current Building	**240**
Upgraded Building	**200**

Energy Use Intensity by Fuel Type

Site Energy Use (kBtu/ft²)

Source Energy Use (kBtu/ft²)

Fuel Oil · Gas · Electricity · District Heating · District Cooling

[5] Savings reflect the reduction in source energy that would result from undertaking all of the efficiency improvements identified on the **Opportunities** page. Actual savings will depend on a variety of factors including actual operating conditions.

[6] Estimates are calculated using information provided about the building's characteristics as well as standard assumptions about operations and weather.

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COMMERCIAL BUILDING ENERGY ASSET SCORE

UPGRADE OPPORTUNITIES

Building ID #: **XXXXX**

Gross Floor Area: **140,000 ft²**

COST EFFECTIVE UPGRADE OPPORTUNITIES

	Energy Savings[7]	Simple Pay Back
Building Envelope		
• Add roof insulation in Office and Retail	5 - 10%	15 - 25 yrs
• Upgrade windows in Office with high performance double pane windows	5 - 10%	10 - 15 yrs
Interior Lighting		
• Upgrade incandescent lighting in Office and Retail to compact fluorescent lighting	10 - 15%	1.5 - 5 yrs
HVAC Systems		
• Upgrade cooling system in Office and Retail with high efficiency electric DX	10 -15%	5 - 10 yrs
Hot Water Systems		
• Upgrade service hot water system in Office and Retail with improved system efficiency	0 - 5%	< 1.5 yrs

[7] The percent savings range reflects the expected incremental savings for the overall building associated with the specific efficiency upgrade opportunity assuming all other recommended upgrades have already been implemented. This assumption is made to avoid double counting of savings. The estimated savings reflect site energy savings and are based on standard operating assumptions, unless actual operating conditions are provided by the user.

COMMERCIAL BUILDING ENERGY ASSET SCORE

STRUCTURE AND SYSTEMS

Building ID #: **XXXXX**

Gross Floor Area: **140,000 ft²**

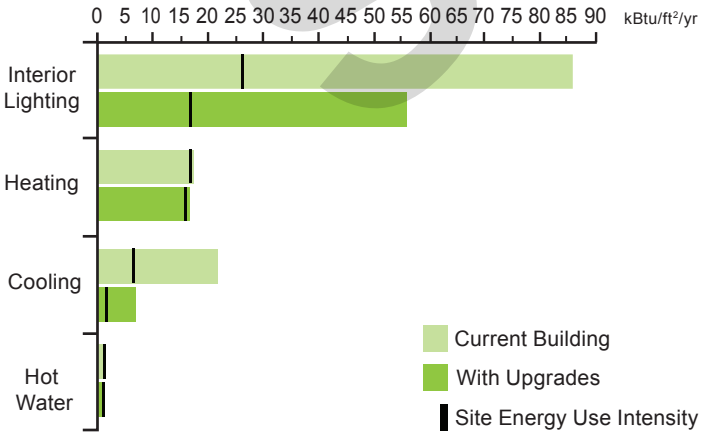
ABOUT THE BUILDING ENVELOPE

	Current Building	Ranking[8]	Upgrade Opportunity Identified
Roof U-Value, Non-Attic (Btu/ft² h °F)	0.056	Good	✔
Floor U-Value, Mass (Btu/ft² h °F)	0.052	Good	
Walls U-Value, Framed (Btu/ft² h °F)	0.077*	Good	
Windows U-Value (Btu/ft² h °F)	0.68	Fair	✔
Walls + Windows U-Value (Btu/ft² h °F)	0.38	Fair	
Window Solar Heat Gain Coefficient	0.60	Fair	

ABOUT THE BUILDING SYSTEMS

	Current Building			Ranking[8]	Upgrade Opportunity Identified
	Load (kBtu/ft²/yr)	Source Energy Use (kBtu/ft²/yr)	Efficiency[9]		
Interior Lighting	NA	86.5	NA	Fair	✔
Heating	12.4	17.1	0.73	Good	
Cooling	10.9	21.7	0.50	Good	✔
Overall HVAC Systems	17.8	38.8	0.46	Good	
Hot Water	1.0	1.6	0.65	Fair	✔

ENERGY USE INTENSITY BY END USE



[8] **Fair:** less efficient than ASHRAE 90.1-2004
Good: at least as efficient as ASHRAE 90.1-2004, but not more efficient than ASHRAE 90.1-2010 (Systems) or ASHRAE 90.1-2013 (Envelope)
Superior: more efficient than ASHRAE 90.1-2010 (Systems) or ASHRAE 90.1-2013 (Envelope)

[9] All values listed in this column are ratios (load divided by source energy use) generated by the Asset Scoring Tool. Higher values (close to 1 or greater) indicate a more efficient system. More information on how these ratios are calculated can be found in the Program Overview and Technical Protocol at http://www1.eere.energy.gov/buildings/commercial/assetscore_development.html.

*This value was not directly entered by the user. It was generated by the Asset Scoring Tool based on other building data provided. The user can re-score the building using actual information about this building characteristic if available.

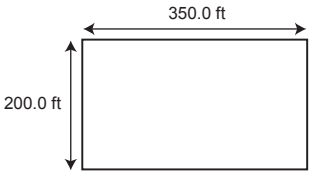
U.S. DEPARTMENT OF ENERGY

Building ID #: **XXXXX**

Gross Floor Area: **140,000 ft²**

BUILDING SYSTEM CHARACTERISTICS SUMMARY

Geometry



Above Ground:	2 floor
Below Ground:	0 floor
Floor-to-Floor Height	
• Floor 1:	14 ft
• Floor 2:	10 ft
Drop Ceiling Installed:	No
Floor-to-Ceiling Height:	9 ft
Orientation:	0.0° from North

	Current Building
Roof	
Roof Type:	Built-up/EPDM w/metal deck
Roof U-Value:	U-0.056
Wall	
Exterior Wall Type:	Mass Wall–8" HW Concrete
Wall U-Value:	U-0.077*
Floor	
Ground Coupling:	Slab
Carpet Installed:	No

	Current Building
Windows	
Window Frame Type:	Metal
Glass Type:	Single pane
Gas Fill Type:	None
Operable Windows:	No
Window Layout:	Discrete
Window to Wall Ratio:	0.4
Window U-Value:	U-0.68
Window SHGC:	0.6
Window VT:	0.7*
Shading	
Exterior Shading Type:	External overhang
Height Above Window:	0 ft
Projection:	2 ft
Skylight	
Skylights Installed:	No
Indoor Lighting	
Lighting Type:	Incandescent
Mounting Type:	Recessed
Percent of Total Floor Area Served:	100%
Occupancy Controls:	Yes
Daylighting Controls:	No
Lighting Power Density:	2 W/ft²*

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Building ID #: **XXXXX**

Gross Floor Area: **140,000 ft²**

BUILDING SYSTEM CHARACTERISTICS SUMMARY

	Current Building
Cooling	
Cooling Type:	Packaged single zone DX
Year of Manufacture:	2005
Efficiency (COP):	2.54*
Heating	
Heating Type:	Boiler
Year of Manufacture:	2005
# Pieces of Equipment:	1
Efficiency:	82%
Fuel Type:	Gas
Ventilation	
Fan Efficiency:	80%
Service Hot Water	
Fuel Type:	Gas
Heat Pump Installed:	No
Distribution Type:	Distributed
Water Heater Efficiency:	80%
Tank Volume:	80 Gallon*
Tank Insulation Thickness:	2 in.*

Facility Operation

The information in this section is not required and does not affect the current Asset Score. If provided, it is only used to identify upgrade opportunities.

Miscellaneous Electric Load:	4W/ft²
Miscellaneous Gas Load:	0 kBtu/ft²
Number of Days Open per Week:	5
Opening Time - Closing Time:	8AM – 7PM
Total Occupants:	450
Setpoint, Heating:	72°F
Setpoint, Cooling:	76°F

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