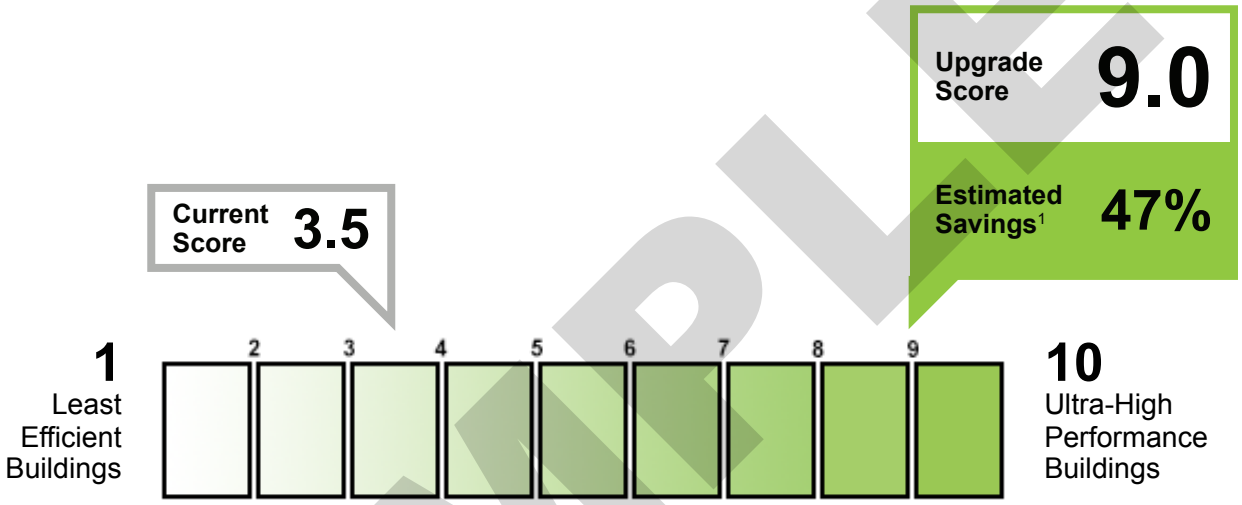
BUILDING ENERGY ASSET SCORE
U.S. DEPARTMENT OF ENERGY

OVERALL BUILDING SCORE

BUILDING INFORMATION

Example Building - Mixed Use
123 Example Street
Chicago, IL 60606

Building Type:	**Mixed Use**	Score Date:	**04/21/2020**
Gross Floor Area:	**40,000 ft²**	Building ID #:	**XXXXX**
Year Built:	**1980**	Software Release:	2020.1.0.1310



Building Use Types

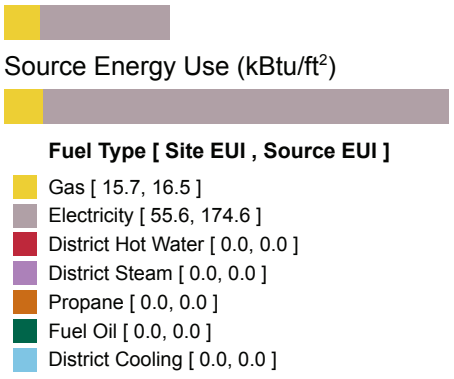
Office:	**32,000 ft²**
Retail:	**8,000 ft²**

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

Estimated Source Energy Use (kBtu/ft²)

Current Building	**191**
Upgraded Building	**102**

Energy Use Intensity by Fuel Type



The **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 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 **Upgrade Opportunities** page provides recommendations for how to improve the building's energy efficiency, increase the building's Asset Score, and save money.

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

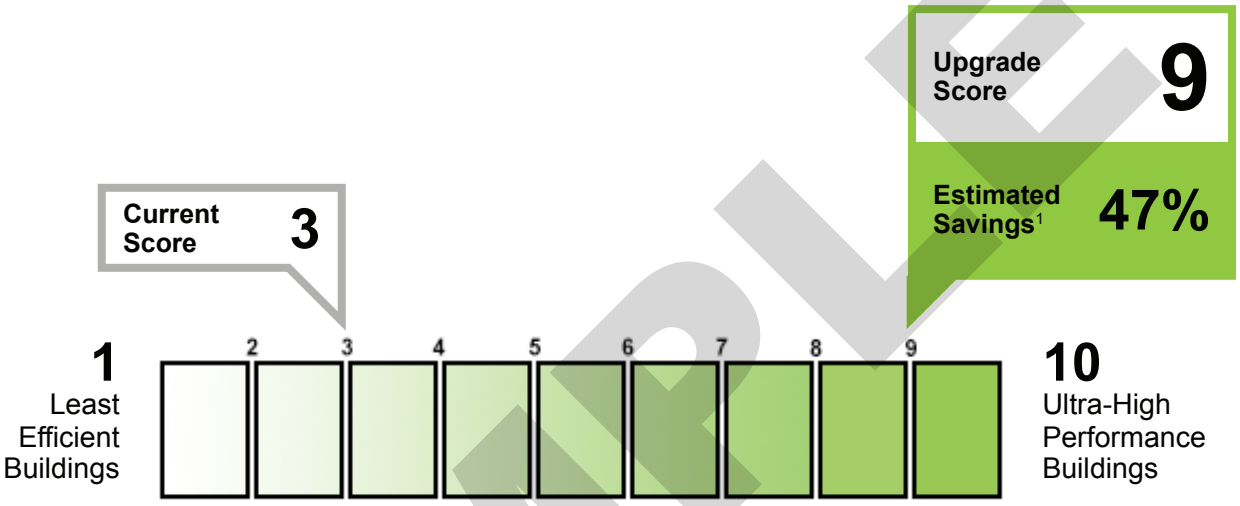
This report is based on self-reported building information. http://energy.gov/eere/buildings/building-energy-asset-score

U.S. DEPARTMENT OF ENERGY

SCORE: OFFICE PORTION

Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **32,000 ft²**



Standard Occupancy and Operating Conditions	
Number of Assumed Occupants	**159**
Hours of Operation	**48.6 hrs/wk**
Cooling Set Point	**75° F**
Heating Set Point	**70° F**
Misc. Energy Loads	**0.75 W/ft²**

Estimated Source Energy Use (kBtu/ft²)	
Current Building	**190**
Upgraded Building	**101**

Energy Use Intensity by Fuel Type

Site Energy Use (kBtu/ft²)

Source Energy Use (kBtu/ft²)

Fuel Type [Site EUI , Source EUI]

- Gas [13.8, 14.5]
- Electricity [55.9, 175.6]
- District Hot Water [0.0, 0.0]
- District Steam [0.0, 0.0]
- Propane [0.0, 0.0]
- Fuel Oil [0.0, 0.0]
- District Cooling [0.0, 0.0]

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

This report is based on self-reported building information. http://energy.gov/eere/buildings/building-energy-asset-score

SCORE: RETAIL PORTION

Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **8,000 ft²**

Upgrade Score **10**

Estimated Savings[1] **46%**

Current Score **5.5**

1 Least Efficient Buildings

2 3 4 5 6 7 8 9

10 Ultra-High Performance Buildings

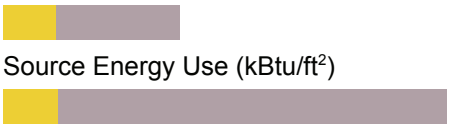
Standard Occupancy and Operating Conditions

Number of Assumed Occupants	**119**
Hours of Operation	**46.3 hrs/wk**
Cooling Set Point	**75° F**
Heating Set Point	**70° F**
Misc. Energy Loads	**0.30 W/ft²**

Estimated Source Energy Use (kBtu/ft²)

Current Building	**195**
Upgraded Building	**105**

Energy Use Intensity by Fuel Type



Fuel Type [Site EUI , Source EUI]

- Gas [23.1, 24.3]
- Electricity [54.4, 170.8]
- District Hot Water [0.0, 0.0]
- District Steam [0.0, 0.0]
- Propane [0.0, 0.0]
- Fuel Oil [0.0, 0.0]
- District Cooling [0.0, 0.0]

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

This report is based on self-reported building information. http://energy.gov/eere/buildings/building-energy-asset-score

UPGRADE OPPORTUNITIES

Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **40,000 ft²**

Cost Effective Upgrade Opportunities	Energy Savings [3]	Cost[4]
Building Envelope		
• Add air barrier to reduce building air leakage.† - *Learn More*	Low	$$
• Upgrade the window Office windows in Office Block.† - *Learn More*	Medium	$$-$$$
• Add insulation to roof Roof 1 in Retail Block and Office Block.† - *Learn More*	Low	$-$$
• Add insulation to wall Wall 1 in Retail Block and Office Block.† - *Learn More*	Low	$$-$$$
Lighting Systems		
• Replace existing lighting for Fixture 1 to LED lighting in Office Block and Retail Block.† - *Learn More*	Medium	$
• Install occupancy sensors for interior lighting control in Office Block - *Learn More*	Low	$-$$
HVAC Systems and Controls		
• Add air-side economizer in Office Block, Retail Block - *Learn More*	Medium	$-$$
• Implement demand controlled ventilation (DCV) in Retail Block - *Learn More*	Medium	$$
• Add variable frequency drive to supply fans in Office Block, Retail Block - *Learn More*	Medium	$$
Service Hot Water Systems		
• Add low flow faucets in Office Block, Retail Block - *Learn More*	Low	$$

[3] The energy 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 ranges reflect site energy savings and are based on standard operating assumptions, unless actual operating conditions are provided by the user.
[4] The costs are based on Advanced Energy Retrofit Guide and RS Means. The costs are replacement costs, not incremental costs. The costs do not include local incentives. Costs are shown as a range ($ = low cost, $$ = medium cost, $$$ = high cost).
† User-selected energy efficiency measure

STRUCTURES AND SYSTEMS

Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **40,000 ft²**

ABOUT THE BUILDING SYSTEMS

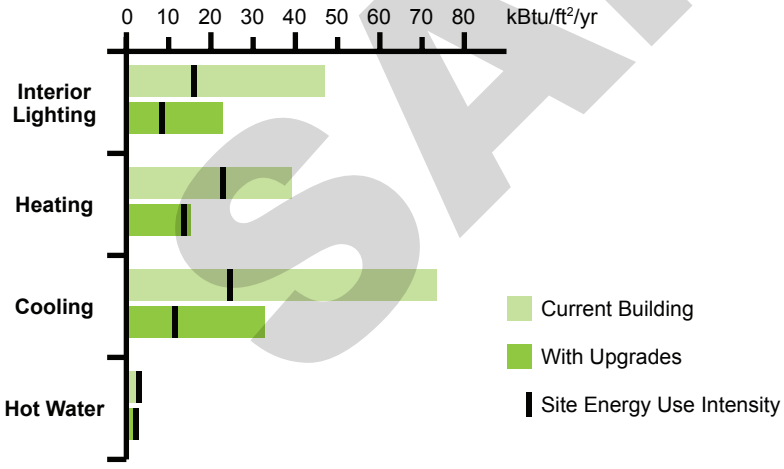
	Ranking[5]
Interior Lighting	Fair
Whole Building HVAC System TSPR	Good
Packaged Rooftop Unit	Good

ABOUT THE BUILDING ENVELOPE

	Ranking[5]
Roof U-Value, Non-Attic (Btu/ft²·h·°F)	Fair
Walls U-Value, Framed (Btu/ft²·h·°F)	Fair
Windows U-Value (Btu/ft²·h·°F)	Fair
Walls + Windows U-Value (Btu/ft²·h·°F)	Fair
Window Solar Heat Gain Coefficient	Good

*System evaluation is not based on a verified TSPR

SOURCE ENERGY USE INTENSITY BY END USE



[5] Ranking Range:
Fair: Building Envelope or Building Systems are less efficient than a typical building built to the AHSRAE 90.1-2004 energy code.
Superior: Building Envelope is more efficient than a typical building built to the AHSRAE 90.1-2013 energy code. Building Systems exceed the highest efficiency levels with market viable technologies.
Good: Building Envelope or Building Systems are between Fair and Superior.
N/A: The building does not have a heating or a cooling system, or the loads are too low for the system to be effectively ranked.

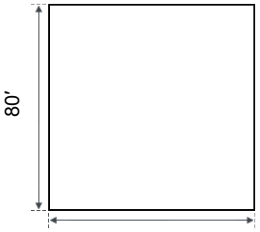
Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **8,000 ft²**

Retail Block CHARACTERISTICS SUMMARY

Geometry

Above Ground:	1 floor
Below Ground:	0 floors
Floor-to-Floor Height	15.00 ft
Floor-to-Ceiling Height:	12.00 ft
Orientation:	90.0° from North
Use Type:	Retail



Current Building

Roof

Roof	Roof 1
Roof Type	Built-up w/ metal deck
Intended Occupancy Type	Non-Residential

Skylights

No Skylights

Floor

Floor	Floor 1
Floor Type	Slab-on-Grade
Slab Insulation	Vertical Insulation
Floor R-value	30.0 °F·ft²·h/Btu

Walls and Windows

	Current Building
All Surfaces	
Wall	Wall 1
Wall Type	Brick/Stone on masonry
Wall U-value	Estimated*
Window	Retail windows
Window Framing Type	Wood/Vinyl/Fiberglass
Window Glass Type	Double Pane w/ Low-E
Window Gas Fill Type	Other
Intended Occupancy Type	Non-Residential
Window SHGC	Estimated*
Window VT	Estimated*
Window Layout	Continuous
Window-to-Wall Ratio	0.6
Exterior Shading Type	External Overhangs

Infiltration

Energy code the building complies with	Estimated*

Lighting

Lighting Power Density	1.33 W/ft²
Fixture	Fixture 2
Lighting Type	LED
Mounting Type	Recessed
Lamp Wattage	12 W/lamp
Lamps per Fixture	1
Percent Served	50.0%
Fixture	Fixture 1
Lighting Type	Fluorescent T8
Mounting Type	Pendant
Lamp Wattage	32 W/lamp
Lamps per Fixture	2
Percent Served	50.0%

Heating/Cooling

Thermal Zone Layout	Estimated*
Perimeter Zone Depth	15.0 ft
Primary Heating/Cooling System	Packaged Rooftop Unit
System Type	Pkgd AC
Cooling Equipment	
Cooling Source	Central DX
Year of Manufacture	2000
# Pieces of Equipment	4
Efficiency	2.85 COP

* 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.

** Standard operating assumptions are used for building optimization if no values are entered by the user.

*** 'Default' indicates the use of default assumptions for advanced system parameters not specified in the tool.

Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **8,000 ft²**

	Current Building
Capacity	10.00 tons
Heating Equipment	
Heating Source	Central Furnace
Fuel Type	Natural Gas
Thermal Efficiency	Estimated*
Distribution	
Distribution Type	Single Zone
Fan Systems	
Total System Fan Power	Default***
Fan Motor Efficiency	84.0%
Fan Mechanical Efficiency	56.0%
Fan Control	Constant Volume

Service Water Heating

Water Heater	Natural Gas
Fuel Type	Natural Gas
Water Heater Efficiency	80.00%

Operations

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, which are considered in generating the potential score.

Operation	Retail Operations
Miscellaneous Electric Load	2.0 W/ft²
Miscellaneous Gas Load	Standard**
Total Occupants	50 total occupants
Setpoint Heating	72.0 °F
Setpoint Cooling	76.0 °F
Weekdays	8:00am - 7:00pm
Saturdays	9:00am - 6:00pm
Sundays	9:00am - 6:00pm

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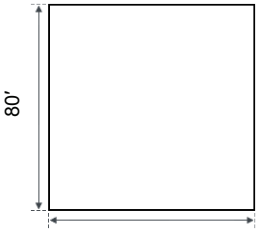
Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **32,000 ft²**

Office Block CHARACTERISTICS SUMMARY

Geometry

Above Ground:	4 floors
Below Ground:	0 floors
Floor-to-Floor Height	12.00 ft
Floor-to-Ceiling Height:	9.00 ft
Orientation:	90.0° from North
Use Type:	Office



Current Building

Roof

Roof	Roof 1
Roof Type	Built-up w/ metal deck
Intended Occupancy Type	Non-Residential

Skylights

No Skylights

Floor

Floor	Floor 1
Floor Type	Slab-on-Grade
Slab Insulation	Vertical Insulation
Floor R-value	30.0 °F·ft²·h/Btu

Walls and Windows

	Current Building
All Surfaces	
Wall	Wall 1
Wall Type	Brick/Stone on masonry
Wall U-value	Estimated*
Window	Office windows
Window Framing Type	Metal
Window Glass Type	Single Pane
Window Gas Fill Type	None
Window U-value	0.68 Btu/°F·ft²·h
Window SHGC	0.6
Window VT	Estimated*
Window Layout	Continuous
Window-to-Wall Ratio	0.4
Exterior Shading Type	No Shading

Infiltration

Energy code the building complies with	Estimated*

Lighting

Lighting Power Density	1.15 W/ft²
Fixture	Fixture 1
Lighting Type	Fluorescent T8
Mounting Type	Pendant
Lamp Wattage	32 W/lamp
Lamps per Fixture	2
Percent Served	100.0%

Heating/Cooling

Thermal Zone Layout	Perimeter and core
Perimeter Zone Depth	15.0 ft
Primary Heating/Cooling System	Packaged Rooftop Unit
System Type	Pkgd AC
Cooling Equipment	
Cooling Source	Central DX
Year of Manufacture	2000
# Pieces of Equipment	4
Efficiency	2.85 COP
Capacity	10.00 tons
Heating Equipment	
Heating Source	Central Furnace
Fuel Type	Natural Gas
Thermal Efficiency	Estimated*
Distribution	

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Building Name: **Example Building - Mixed Use 2020**

Gross Floor Area: **32,000 ft²**

	Current Building
Distribution Type	Single Zone
Fan Systems	
Total System Fan Power	Default***
Fan Motor Efficiency	84.0%
Fan Mechanical Efficiency	56.0%
Fan Control	Constant Volume

Service Water Heating

Water Heater	Natural Gas
Fuel Type	Natural Gas
Water Heater Efficiency	80.00%

Operations

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, which are considered in generating the potential score.

Operation	Office Operations
Miscellaneous Electric Load	4.0 W/ft²
Miscellaneous Gas Load	Standard**
Total Occupants	450 total occupants
Setpoint Heating	72.0 °F
Setpoint Cooling	76.0 °F
Weekdays	8:00am - 7:00pm
Elevator	Elevator 1
Elevator Type	Hydraulic
Number of Elevators	1

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