- Credits
- Energy & atmosphere
  - Awareness & education
  - Energy & atmosphere
  - Indoor environmental quality
  - Innovation & design process
  - Location & linkages
  - Material & resources
  - Sustainable sites
  - Water efficiency
- EA905 | Optimize energy performance
  - EA1 | Optimize energy performance
  - EA10 | District heating and cooling
  - EA101 | Fundamental commissioning and verification
  - EA101 | Fundamental commissioning and verification
  - EA101 | Fundamental commissioning and verification
  - EA102 | Energy efficiency best management practices
  - EA102 | Energy efficiency best management practices
  - EA103 | Minimum energy performance
  - EA103 | Minimum energy performance
  - EA103 | Minimum energy performance
  - EA104 | Minimum energy performance
  - EA104 | Minimum energy performance
  - EA105 | Minimum energy performance
  - EA106 | Building-level energy metering
  - EA106 | Building-level energy metering
  - EA107 | Building-level energy metering
  - EA108 | Fundamental refrigerant management
  - EA108 | Fundamental refrigerant management
  - EA109 | Fundamental refrigerant management
  - EA11 | Infrastructure energy efficiency
  - EA110 | Enhanced commissioning
  - EA110 | Enhanced commissioning
  - EA110 | Enhanced commissioning
  - EA112 | Existing building commissioning—analysis
  - EA112 | Existing building commissioning—analysis
  - EA113 | Existing building commissioning—implementation
  - EA114 | Ongoing commissioning
  - EA118 | Advanced energy metering
  - EA118 | Advanced energy metering
  - EA118 | Advanced energy metering
  - EA120 | Advanced energy metering
  - EA121 | Demand response
  - EA122 | Demand response
  - EA123 | Renewable energy production
  - EA123 | Renewable energy production
  - EA125 | Renewable energy and carbon offsets
  - EA126 | Enhanced refrigerant management
  - EA126 | Enhanced refrigerant management
  - EA126 | Enhanced refrigerant management
  - EA126 | Enhanced refrigerant management
  - EA127 | Enhanced refrigerant management
  - EA127 | Enhanced refrigerant management
  - EA128 | Green power and carbon offsets
  - EA128 | Green power and carbon offsets
  - EA128 | Green power and carbon offsets
  - EA2.1 | New construction commissioning
  - EA2.2 | Existing building commissioning
  - EA2.3 | Ongoing & monitoring-based commissioning
  - EA3.1 | Energy metering
  - EA3.2 | Measurement & verfication
  - EA4 | Demand response
  - EA5 | Renewable energy
  - EA5.1 | Solar orientation
  - EA6 | Green power
  - EA7 | Refrigerant management
  - EA8 | Emissions reduction reporting
  - EA9 | Community contaminant prevention - airborne releases
  - EA903 | Optimize energy performance
  - EA903 | Optimize energy performance
  - EA903 | Optimize energy performance
  - EA903 | Optimize energy performance
  - EA903 | Optimize energy performance
  - EA904 | Optimize energy performance
  - EA904 | Optimize energy performance
  - EA905 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy efficiency performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy efficiency performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Optimize energy performance
  - EAc1 | Annual energy use

- EAc1 | Annual energy use
- EAc1 | Optimize energy performance
- EAc1 | Optimize energy performance
- EAc1 | Optimize energy performance
- EAc1.1 | Optimize energy performance - lighting power
- EAc1.1 | Optimize energy performance - lighting power
- EAc1.1 | Optimize energy performance, lighting power
- EAc1.1-1.5 | Optimize energy performance
- EAc1.2 | Optimize energy performance - lighting controls
- EAc1.2 | Optimize energy performance - lighting controls
- EAc1.2 | Optimize energy performance, lighting controls
- EAc1.3 | Optimize energy performance - HVAC
- EAc1.3 | Optimize energy performance - HVAC
- EAc1.3 | Optimize energy performance, HVAC
- EAc1.4 | Optimize energy performance - equipment and appliances
- EAc1.4 | Optimize energy performance - equipment and appliances
- EAc1.4 | Optimize energy performance, equipment & appliances
- EAc1.5 | Optimize energy performance - building envelope
- EAc1.5 | Optimize energy performance, envelope
- EAc10 | Renewable energy
- EAc10 | Space heating and cooling equipment
- EAc11 | Residential refrigerant management
- EAc11 | Heating and cooling distribution systems
- EAc12 | Efficient domestic hot water equipment
- EAc13 | Lighting
- EAc14 | High-efficiency appliances
- EAc15 | Renewable energy
- EAc2 | Enhanced commissioning
- EAc2 | On-site renewable energy
- EAc2 | On-site renewable energy
- EAc2 | On-site renewable energy
- EAc2 | On-site renewable energy
- EAc2 | Insulation
- EAc2 | On-site renewable energy
- EAc2 | Enhanced commissioning
- EAc2 | On-site and off-site renewable energy
- EAc2 | On-site renewable energy
- EAc2 | On-site renewable energy
- EAc2 | Efficient hot water distribution system
- EAc2 | On-site renewable energy
- EAc2 | Enhanced commissioning
- EAc2 | On-site renewable energy
- EAc2 | On-site renewable energy, 1%
- EAc2.1 | Existing building commissioning - investigation and analysis
- EAc2.1 | Existing building commissioning - investigation and analysis
- EAc2.1 | Renewable energy - 5%
- EAc2.1-2.3 | Renewable energy
- EAc2.2 | Existing building commissioning - implementation
- EAc2.2 | Existing building commissioning - implementation
- EAc2.2 | Renewable energy - 10%
- EAc2.3 | Existing building commissioning - ongoing commissioning
- EAc2.3 | Existing building commissioning - ongoing commissioning
- EAc2.3 | Renewable energy - 20%
- EAc3 | Enhanced commissioning
- EAc3 | Enhanced commissioning
- EAc3 | Measurement and verification
- EAc3 | Air infiltration
- EAc3 | Enhanced commissioning
- EAc3 | Energy use, measurement and payment accountability
- EAc3 | Enhanced commissioning
- EAc3 | Enhanced commissioning
- EAc3 | Additional commissioning
- EAc3 | Additional commissioning
- EAc3 | Advanced utility tracking
- EAc3 | Enhanced commissioning
- EAc3 | Energy use, measurement & payment accountability
- EAc3 | Enhanced commissioning
- EAc3.1 | Performance measurement - building automation system
- EAc3.1 | Performance measurement - building automation system
- EAc3.1 | Building operations and maintenance - staff education
- EAc3.2 | Performance measurement - system-level metering
- EAc3.2 | Performance measurement - system-level metering
- EAc3.2 | Building operations and maintenance - building systems maintenance
- EAc3.3 | Building operations and maintenance - building systems monitoring
- EAc3.3 | Performance measurement - system-level metering
- EAc4 | Enhanced refrigerant management
- EAc4 | Enhanced refrigerant management
- EAc4 | Green power
- EAc4 | On-site and off-site renewable energy
- EAc4 | Green power
- EAc4 | Windows
- EAc4 | Enhanced refrigerant management
- EAc4 | Enhanced refrigerant management
- EAc4 | Green power
- EAc4 | Additional ozone protection
- EAc4 | Enhanced refrigerant management
- EAc4 | Enhanced refrigerant management
- EAc4 | Ozone protection
- EAc4 | Ozone depletion
- EAc4 | Enhanced refrigerant management
- EAc4 | Active solar-ready design
- EAc4 | Enhanced refrigerant management
- EAc4 | Green power
- EAc4 | Enhanced refrigerant management

- EAc4.1 | On-site and off-site renewable energy
- EAc4.2 | On-site and off-site renewable energy
- EAc4.3 | On-site and off-site renewable energy
- EAc4.4 | On-site and off-site renewable energy
- EAc5 | Measurement and verification
- EAc5 | Measurement and verification
- EAc5 | Measurement and verification
- EAc5 | Measurement and verification
- EAc5 | Enhanced refrigerant management
- EAc5 | On-site renewable energy
- EAc5 | Heating and cooling distribution system
- EAc5 | Measurement and verification
- EAc5 | Refrigerant management
- EAc5 | Measurement and verification
- EAc5 | Measurement and verification
- EAc5 | Measurement and verification
- EAc5 | HVAC Start-up credentialing
- EAc5 | Measurement and verification
- EAc5 | On-site renewable energy
- EAc5 | Measurement and verification
- EAc5.1 | Measurement and verification - base building
- EAc5.1 | Performance measurement - enhanced metering
- EAc5.1 | Measurement and verification - base building
- EAc5.1 | Measurement and verification - base building
- EAc5.2 | Measurement and verification - tenant submetering
- EAc5.2 | Measurement and verification - tenant submetering
- EAc5.2 | Performance measurement - enhanced metering
- EAc5.2 | Measurement and verification - tenant submetering
- EAc5.3 | Performance measurement - enhanced metering
- EAc5.4 | Performance measurement - emission reduction reporting
- EAc6 | Emissions reduction reporting
- EAc6 | Green power
- EAc6 | Green power
- EAc6 | Green power
- EAc6 | Green power
- EAc6 | Space heating and cooling equipment
- EAc6 | Green power
- EAc6 | Emissions reduction reporting
- EAc6 | Documenting sustainable building cost impacts
- EAc6 | Green power
- EAc6 | Green power
- EAc6 | Green power
- EAc6 | Green power
- EAc6 | Building orientation for passive solar
- EAc6 | Green power
- EAc6 | Green power
- EAc7 | Community contaminant prevention - airborne releases
- EAc7 | Water heating
- EAc7 | Air infiltration
- EAc8 | Lighting
- EAc8 | Envelope Insulation
- EAc9 | Appliances
- EAc9 | Windows
- EAp1 | Fundamental commissioning of building energy systems
- EAp1 | Fundamental commissioning of building energy systems
- EAp1 | Energy efficiency best management practices - planning, documentation and opportunity assessment
- EAp1 | Fundamental commissioning of building energy systems
- EAp1 | Fundamental commissioning of the building energy systems
- EAp1 | Energy efficiency best management practices - planning, documentation and opportunity assessment
- EAp1 | Fundamental commissioning
- EAp1 | Existing building commissioning
- EAp1 | Fundamental commissioning of the building energy systems
- EAp1 | Fundamental commissioning of the building energy systems
- EAp1 | Fundamental building systems commissioning
- EAp1 | Fundamental building systems commissioning
- EAp1 | Minimum energy performance
- EAp1 | Minimum energy performance
- EAp1 | Fundamental commissioning of the building energy systems
- EAp1 | Fundamental Commissioning
- EAp1 | Fundamental commissioning of building energy systems
- EAp1 | Fundamental commissioning of building energy systems
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy efficiency performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy efficiency performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Energy metering
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp2 | Minimum energy performance
- EAp3 | Fundamental refrigerant management
- EAp3 | Fundamental refrigerant management
- EAp3 | Fundamental refrigerant management
- EAp3 | Fundamental refrigerant management
- EAp3 | Refrigerant management - ozone protection

- EAp3 | CFC reduction in HVAC/R equipment
- EAp3 | Ozone protection
- EAp3 | Fundamental refrigerant management
- EAp3 | Fundamental refrigerant management
- EAp3 | CFC reduction in HVAC/R equipment
- EAp3 | CFC reduction in HVAC/R equipment
- EAp3 | Education of homeowner, tenant, or building manager
- EAp3 | Fundamental refrigerant management
- EAp3 | CFC reduction in HVAC&R equipment
- EAp3 | Fundamental refrigerant management
- EAp4 | Home size
- MEAc1 | Optimize energy performance in mid-rise buildings


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LEED O+M: Schools | v4 - LEED v4

Optimize energy performance

Possible 20 points

1 result in**All** .

- Glossary

Intent

To reduce environmental and economic harms associated with excessive energy use by achieving higher levels of operating energy performance.

Requirements

Establishment

None.

Performance

Demonstrate increased energy efficiency or efficiency improvement beyond EA Prerequisite Minimum Energy Performance as described below. Each building must provide actual metered energy data. A full 12 months of continuous energy data is required.

Case 1. ENERGY STAR Rating (3–20 points)

For buildings eligible to receive an energy performance rating using the EPA ENERGY STAR's Portfolio Manager tool, points are awarded for ENERGY STAR scores above 75, according to Table 1. For projects outside the U.S., consult ASHRAE/ASHRAE/IESNA Standard 90.1–2010, Appendixes B and D, to determine the appropriate climate zone.

Table 1. Points for ENERGY STAR performance ratings

ENERGY STAR rating	Points
76	3
77	4
78	5
79	6
80	7
81	8
82	9
83	10
84	11
85	12
86	13
87	14
88	15
89	16
90	17
91	18
93	19
95	20

Case 2. Projects not eligible for ENERGY STAR Rating

Projects not eligible to use EPA's rating system may compare their buildings' energy performance with that of comparable buildings, using national averages or actual buildings, or with the previous performance of the project building.

Option 1. Benchmark against typical buildings (1–20 points)

Path 1. National average data available (1–20 points)

Demonstrate energy efficiency performance that is at least 26% better than the median energy performance for typical buildings of similar type by benchmarking against national average source energy data provided in the Portfolio Manager tool. Points are awarded according to Table 2.

Table 2. Points for percentage improvement over national average (Option 1, Path 1) or comparable buildings and historical data (Option 3)

Percentage improvement	Points
26	1
27	2
28	3
29	4
30	5
31	6

32	7
33	8
34	9
35	10
36	11
37	12
38	13
39	14
40	15
41	16
42	17
43	18
44	19
45	20

Path 2. National Average Data Not Available (2–14 points)

If national average source energy data are unavailable for buildings of similar type, benchmark against the building site energy data of at least three similar buildings, normalized for climate, building use, and occupancy. Points are awarded according to Table 3.

OR

Option 2. Benchmark against historical data

If national average source energy data are unavailable, compare the building's site energy data for the previous 12 months with the data from three contiguous years of the previous five, normalized for climate, building use, and occupancy. Use Table 3 to determine points.

Table 3. Points for percentage improvement over comparable buildings (Option 1, Path 2) or historical data (Option 2)

Percentage improvement	Points
27	2
30	4
33	6
36	8
39	10
42	12
45	14

Option 3. Benchmark against both similar buildings and historical data

Follow the requirements of both Option 1, Path 2, and Option 2 to benchmark against the site energy data for the three similar buildings and the building's historic data. Use Table 2 to determine points.