| v2 - LEED 2.2

Optimize energy performance

EAc1 | Possible 10 points

Glossary

Intent

Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

Requirements

Select one of the four compliance path options described below. Project teams documenting achievement using any of these options are assumed to be in compliance with EA prerequisite 2.

NOTE: LEED for New Construction projects registered after June 26th, 2007 are required to achieve at least two (2) points under EAc1.

Option 1 — whole building energy simulation (1–10 points)

Demonstrate a percentage improvement in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004 by a whole building project simulation using the Building Performance Rating Method in Appendix G of the Standard. The minimum energy cost savings percentage for each point threshold is as follows:

New Buildings	Existing Building Renovations	Points
10.5%	3.5%	1
14%	7%	2
17.5%	10.5%	3
21%	14%	4
24.5%	17.5%	5
28%	21%	6
31.5%	24.5%	7
35%	28%	8
38.5%	31.5%	9
42%	35%	10

** Note: Only projects registered prior to June 26, 2007 may pursue 1 point under EAc1.*

Appendix G of Standard 90.1-2004 requires that the energy analysis done for the Building Performance Rating Method include ALL of the energy costs within and associated with the building project. To achieve points using this credit, the proposed design—

- must comply with the mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) in Standard 90.1-2004;
- must include all the energy costs within and associated with the building project; and
- must be compared against a baseline building that complies with Appendix G to Standard 90.1-2004. The default process energy cost is 25% of the total energy cost for the baseline building. For buildings where the process energy cost is less than 25% of the baseline building energy cost, the LEED submittal must include supporting documentation substantiating that process energy inputs are appropriate.

For the purpose of this analysis, process energy is considered to include, but is not limited to, office and general miscellaneous equipment, computers, elevators and escalators, kitchen cooking and refrigeration, laundry washing and drying, lighting exempt from the lighting power allowance (e.g., lighting integral to medical equipment) and other (e.g., waterfall pumps). Regulated (non-process) energy includes lighting (such as for the interior, parking garage, surface parking, façade, or building grounds, except as noted above), HVAC (such as for space heating, space cooling, fans, pumps, toilet exhaust, parking garage ventilation, kitchen hood exhaust, etc.), and service water heating for domestic or space heating purposes.

For EA Credit 1, process loads shall be identical for both the baseline building performance rating and for the proposed building performance rating. However, project teams may follow the Exceptional Calculation Method (ASHRAE 90.1-2004 G2.5) to document measures that reduce process loads. Documentation of process load energy savings shall include a list of the assumptions made for both the base and proposed design, and theoretical or empirical information supporting these assumptions.

OR

Option 2 — prescriptive compliance path: ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (4 Points)

Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004. The following restrictions apply:

- Buildings must be under 20,000 square feet.
- Buildings must be office occupancy.
- Project teams must fully comply with all applicable criteria as established in the Advanced Energy Design Guide for the climate zone in which the building is located. Teams must also provide additional documentation, such as relevant detailed drawings, cut sheets, mechanical/electrical schedules, section of specifications or other documentation to demonstrate compliance with this standard.

OR

Option 3 — prescriptive compliance path: Advanced Buildings™ Core Performance™ Guide (2-5 Points)

Comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute. The following restrictions apply:

- Buildings must be under 100,000 square feet.
- Buildings may NOT be health care, warehouse or laboratory projects.
- Project teams must fully comply with Sections One, Design Process Strategies, and Two, Core Performance Requirements.

Minimum points achieved under Option 3 (2-3 points):

- Three (3) points are available for all office, school, public assembly, and retail projects under 100,000 square feet that comply with Sections One and Two of the Core Performance Guide.
- Two (2) points are available for all other project types under 100,000 square feet (except health care, warehouse, or laboratory projects) that implement the basic requirements of the Core Performance Guide

Additional points available under Option 3 (up to 2 additional points):

Up to two (2) additional points are available to projects that implement performance strategies listed in Section Three, Enhanced Performance. For every three strategies implemented from this section, one point is available.

- Any strategies applicable to the project may be implemented except:
  - 3.1-Cool Roofs
  - 3.8-Night Venting
  - 3.13-Additional Commissioning

These strategies are addressed by different aspects of the LEED program and are not eligible for additional points under EA Credit 1.

OR

Option 4 — prescriptive compliance path: Advanced Buildings Benchmark™ Basic Criteria and Prescriptive Measures (1 Point)

Note: projects registered after June 26, 2007 may not use this option

Comply with the Basic Criteria and Prescriptive Measures of the Advanced Buildings Benchmark™ Version 1.1 with the exception of the following sections: 1.7 Monitoring and Trend-logging, 1.11 Indoor Air Quality, and 1.14 Networked Computer Monitor Control. The following restrictions apply:

- Project teams must fully comply with all applicable criteria as established in Advanced Buildings Benchmark for the climate zone in which the building is located.