

Instructor Guide

This information provides discussion questions and follow up activities for a course on [Education @USGBC](#). For any questions about the content itself, please contact the course creator.

Course:	LEED v4 Rating System Review (O+M): Energy & Atmosphere
Course creator:	U.S. Green Building Council
Primary subjects/ topics:	<ul style="list-style-type: none"> • LEED • Energy & Atmosphere • Existing buildings • Establishment/Performance • Energy efficiency • Energy performance • ENERGY STAR • Metering • Refrigerant management • Commissioning • Demand response • Renewable energy • Carbon offsets • Recertification
Content Description	Explore the LEED Energy & Atmosphere credits, which approach energy from a holistic perspective, addressing the reduction of energy use, ongoing system performance, and renewable energy applications to improve building operations.
Content Length:	<p>1.5 hours (14 videos)</p> <ul style="list-style-type: none"> - Series Introduction (00:02:07) - Energy & Atmosphere Introduction (00:02:43) - Prerequisite: Energy efficiency best management practices (00:14:16) - Prerequisite: Minimum energy performance + Credit: Optimize energy performance (00:19:38) - Prerequisite: Building-level energy metering; + Credit: Advanced energy metering (00:07:34) - Prerequisite: Fundamental refrigerant management + Credit: Enhanced refrigerant management (00:06:48) - Credit: Existing building commissioning – analysis (00:07:55) - Credit: Existing building commissioning – implementation (00:03:16) - Credit: Ongoing commissioning (00:07:23) - Q&A: Importance of commissioning in LEED O+M (00:03:20) - Credit: Demand response (00:06:52) - Credit: Renewable energy and carbon offsets (00:06:55) - Synergies (00:02:15) - Recertification Tips + Summary (00:03:54)

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Learning objective(s):	<ol style="list-style-type: none"> 1. Identify the intent, requirements, and strategies for success with Energy & Atmosphere credits 2. Recognize how a holistic approach of addressing the reduction of energy use, ongoing system performance, and renewable energy applications are reflected in the credits 3. Recognize how to implement energy metering to support better energy management 4. Identify synergies between multiple credits
Related discussion questions:	<p>Q. How do the Energy & Atmosphere credits in LEED v4 Operations and Maintenance (O+M) lead to better performing buildings and communities?</p> <p>Q. What are synergies among the Energy & Atmosphere credits in LEED v4 O+M? With other credit categories?</p> <p>Q. How can a LEED existing building project maximize points earned from Energy & Atmosphere credits?</p> <p>Q. What challenges do you see complying with Energy & Atmosphere LEED v4 O+M credit requirements? How can these be overcome?</p> <p>Q. How does energy metering in LEED v4 O+M support better energy management?</p>
Suggested activities to help apply this new knowledge:	<p>Read the Energy & Atmosphere section of the LEED O+M Rating System or explore the credits in the LEED credit library (links below).</p> <p>Locate a LEED v4 O+M certified project in your area. Explore which Energy & Atmosphere credits they achieved. What strategies did they incorporate on their project to earn these credits?</p> <p>Explore a building in your area. What would it have to do (or has done) to earn LEED v4 O+M Energy & Atmosphere credits? What could it have done to achieve credits not earned?</p> <p>Explore the pilot credits (links below). How do these credits enhance the existing LEED v4 O+M Energy & Atmosphere credits?</p> <p>Explore the LEED v4 Credit Tutorials: Energy & Atmosphere (O+M) Series for additional videos and resources related to EA credits (link below).</p>
Related external content	<p>LEEDv4 for Building Operations + Maintenance Rating System http://www.usgbc.org/resources/leed-v4-building-operations-and-maintenance-current-version</p>

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	<p>LEED v4 Credit Tutorials: Energy & Atmosphere (O+M): http://www.usgbc.org/education/sessions/leed-v4-credit-tutorials-energy-atmosphere-om-10341255</p> <p>LEED project directory: www.usgbc.org/projects</p> <p>LEED credit library: www.usgbc.org/credits</p> <p>LEED v4 Submittal Tips O+M: https://www.usgbc.org/resources/leed-v4-submittal-tips-om</p> <p>Energy & Atmosphere LEED v4 O+M pilot credits Energy Jumpstart http://www.usgbc.org/node/4561964</p> <p>ISO50002 Energy Audit http://www.usgbc.org/node/10192403</p> <p>Renewable energy – distributed generation http://www.usgbc.org/node/4561943</p> <p>Community containment prevention – airborne releases http://www.usgbc.org/node/4561958</p> <p>LEED v4 Q&A Energy & Atmosphere: http://www.usgbc.org/resources/leed-v4-energy-and-atmosphere</p> <p>ENERGY STAR Portfolio Manager: https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager</p> <p>The ENERGY STAR Guidelines for Energy Management: https://www.energystar.gov/buildings/about-us/how-can-we-help-you/build-energy-program/guidelines</p> <p>Green-e website: http://green-e.org/</p>
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