



Synergies between PEER and LEED

MAY 2021

INTRODUCTION

PEER is a leadership standard that focuses on improving power system performance and electricity infrastructure. PEER's focus on resilience and power reliability aims to improve global grid modernization efforts and to inspire, influence, and enable the energy sector to truly build a real 21st century infrastructure. LEED is the most widely used green building rating system in the world and an international symbol of excellence in green building. LEED certification ensures electricity cost savings, lower carbon emissions and healthier environments for the places we live, work, learn, and play. PEER and LEED are complementary and can be used independently or in tandem. A LEED project can benefit if it is located within a PEER project boundary and similarly a PEER project also has an advantage when it is located within a LEED project boundary.

PEER SYNERGIES WITH LEED

LEED and PEER work hand in hand. For power distribution infrastructure within a LEED project boundary, some achieved LEED credits can also earn PEER credits. In addition, some achieved PEER credits can contribute to LEED credits. The tables on the following pages provide guidance for projects seeking to leverage the synergies between PEER and LEED. For purposes of this document, PEER refers to **PEER Version 2.0**, and LEED refers to **LEED Version 4.1 (BD+C, O+M)**.

APPLICABILITY

The synergies between PEER and LEED projects are applicable under the following scenarios:

1. LEED to PEER Synergies: LEED Certified Project hosts PEER Project

- The PEER project must be within the LEED project boundary.
- PEER and LEED project applications may be submitted for review simultaneously, but the LEED certification must first be awarded by GBCI for substitution to be valid.
- The LEED project name and project ID must be included within the PEER documentation.
- All *Requirements* listed in the tables must be met.
- PEER credits automatically awarded if equivalent requirements met through LEED.

2. PEER to LEED Synergies: PEER Certified Project hosts LEED Project

- The LEED project must be within the PEER project boundary.
- PEER and LEED project applications may be submitted for review simultaneously, but the PEER credits must first be awarded by GBCI for substitution to be valid.
- The PEER project name and project ID must be included within the LEED documentation.
- All *Requirements* listed in the tables must be met.
- Achievement of LEED credits dependent on GBCI review to determine compliance with applicable LEED requirements.

1. LEED to PEER Synergies: LEED certified Project hosts PEER Project

The LEED to PEER synergies vary depending on whether PEER project is located within a LEED BD+C project or LEED O+M project.


a. PEER v2 Project located within a LEED v4.1 BD+C project boundary

If a project is applying for PEER v2 certification and is located within a LEED v4.1 BD+C project boundary, then the PEER project can achieve a maximum of **13 Points** across several common credits as listed below. The credit will only need to be documented in the LEED v4.1 BD+C project submittal.

LEED v4.1 BD+C Credits	PEER v2 Credits	Additional Notes	PEER v2 Points Range (depending upon thresholds or requirements met)
EA - Renewable Energy <ul style="list-style-type: none"> Tier 1: 2%-20% Tier 2: 10%-50% Tier 3: 35%-100% 	EE - Renewable energy & carbon offsets - Minimum Threshold must be 20%	<i>Considering Tier 2, and 3</i>	1-4
	And/Or		
	RR - Alternative sources of supply (Option 1: Alternative supply) - alternate source is generated outside the boundary (offsite renewable as backup with overall backup of 40%)	<i>Consider Tier 2 and 3-offsite renewable energy generation</i>	1-2
	And/Or		
	EE - Distributed energy resources (Option 1: local renewables and clean generation –Minimum threshold must be 10%)	<i>Only Tier 1-onsite renewable energy generation</i>	1-2
EA - Grid Harmonization (Case 1 or Case 2)	GS - Demand response (Option 1 or Option 2)	-	1-2
Or			
EA - Grid Harmonization (Case-3 Load Flexibility and Management Strategies)	GS - Demand side management (Option-2: load management)	<i>Peak load optimization / flexible operating scenarios on-site thermal or electricity storage strategies</i>	1
	And/Or		
	EE - Distributed energy resources (Option-2: Local energy storage)	<i>Storage reduces peak load by 10%</i>	1
EE - Environment Performance Improvement & SEEC Improvement	EA- Pilot credit - District Energy systems -Minimum energy performance prerequisite must be met	<ul style="list-style-type: none"> GBCI verification /certification letter with DES project name, PEER ID. Cost analysis using ASHRAE 90.1 	1-3

b. PEER v2 project is located within a LEED v4.1 O+M project boundary

If a project is applying for PEER v2 certification and is located within a LEED v4.1 O+M project boundary, then the PEER project can achieve maximum **5 Points** across several common credits as listed below. The credit will only need to be documented in the LEED v4.1 O+M project submittal.


LEED v4.1 O+M Credits 	PEER v2 Credits	Additional Notes	PEER v2 Points (depending upon thresholds or requirements met)
EA - Pilot credit- District energy systems	EE - SEEC Improvement	Submit the data inputs populated in the “ <i>PEER points for DES performance V2</i> ” calculator.	1-2
EA - Grid Harmonization (Case 1 or Case 2)	GS - Demand response (Option 1 or Option2)	-	1-2
Or			
EA - Grid harmonization (Case-3 Load Flexibility and Management Strategies)	GS - Demand side Management (Option 2- Load management)	<i>Peak load optimization / flexible operating scenarios.</i>	1

2. PEER to LEED Synergies: PEER certified project hosts LEED project

The PEER to LEED synergies varies depending on whether the LEED project located within a PEER project boundary is BD+C project or LEED O+M project.

a. LEED v4.1 BD+C Project located within a PEER v2 project boundary


If a project applying for LEED v4.1 BD+C certification is located within a PEER certified project boundary, implemented PEER strategies may support achieving up to a maximum **25 Points** across several common credits as listed in the table below. Achievement of LEED credits is dependent on GBCI review to determine compliance with applicable requirements.

PEER v2 Credits 	LEED v4.1 BD+C Credits	Additional Notes	LEED v4.1 Points Range (depending upon thresholds or requirements met)
GS - Demand Response (Option 1 or Option 2)	EA - Grid Harmonization (Case -1 Demand Response Program Available and Participation or Case- 2 Demand Response capable building)	-	1 – 2
Or			
GS- Demand side management (Option-2: load management)	EA - Grid Harmonization (Case- 3 Load Flexibility and Management Strategies)	<i>Must meet threshold of 10% peak-load shedding/shifting</i>	
Or			
EE - Distributed energy resources (Option-2: Local energy storage)	EA - Grid Harmonization (Case- 3 Load Flexibility and Management Strategies)	<i>Onsite thermal / electricity storage and flexible operating scenarios or peak load optimization has to be demonstrated.</i>	1 – 5 (Project can achieve maximum of 5 points)
Or			
RR - Power Surety and Resilience	EA - Renewable Energy	<i>Calculation of % onsite renewable (Tier-1) energy utilization (Threshold of 2% onsite renewables must be met)</i>	
Or			
EE - Distribution Energy Resources (Option 1: Local renewables and clean generation)		<i>Calculation of % onsite renewable (Tier-1) energy utilization (Threshold of 2% onsite renewables must be met)</i>	
And/Or			
RR - Alternative Sources of Supply (Option 1: Alternative supply)		<i>Calculation of procurement % of Tier</i>	

		2 and 3. (Capacity should be \geq 40%.)	
And/Or		And/Or	
EE - Renewable Energy (RE) and Carbon Offsets		Calculating % of offsite RE procurement as per Tier 2, and 3 (for at least 5 years)	
EE - Environment Performance Improvement & SEEC Improvement	EA- Pilot credit - District Energy Systems (DES) - Minimum energy performance prerequisite must met. - See additional information about documenting this credit in section below.	<ul style="list-style-type: none"> GBCI verification /certification letter with DES project name, PEER ID. Cost analysis using ASHRAE 90.1 	1-18

b. LEED v4.1 O+M project located within a PEER v2 project boundary

If a project is applying for a LEED v4.1 O+M certification, and is located within a PEER certified project boundary, implemented PEER strategies may support achieving up to a maximum of **21 Points** across several common credits as listed in the table below. Achievement of LEED credits is dependent on GBCI review to determine compliance with applicable requirements

PEER v2 Credits 	LEED v4.1 O+M Credits	Additional Notes	LEED v4.1 Points Range
EE - Environment Performance Improvement & SEEC Improvement	EA- Pilot credit - District Energy Systems (DES) - Minimum energy performance prerequisite must met. - See additional information about documenting this credit in section below.	<ul style="list-style-type: none"> GBCI verification /certification letter with DES project name, PEER ID. Cost analysis using ASHRAE 90.1 	1-20
GS - Demand Response (Option 1 or Option 2)	EA - Grid Harmonization (Case 1 or Case 2)	-	1
Or			
GS - Demand side Management (Option 2-Load management)	EA - Grid harmonization (Case 3 Load flexibility and management strategies)	Must meet threshold of 10% peak-load shedding/shifting permanently	

Additional information about documenting the LEED EA Pilot Credit - DES

A PEER project may have multiple buildings within its boundary. Energy (electricity, cooling, heating) can be supplied from a centralized district energy system. Buildings applying for LEED certification (BD+C or O+M) can choose the District Energy pilot credit as an alternative metric for documenting additional performance improvement for EA Prerequisite Minimum Energy Performance / EA Credit Optimize Energy Performance, Option 1 Whole Building Simulation.

The maximum points a project can achieve from the District Energy pilot credit increases when the DES (District Energy System) is PEER certified.

- DES is PEER Certified: LEED BD+C project can achieve up to the maximum 18 points and LEED O+M project can achieve maximum 20 points.
- DES is not PEER Certified: LEED BD+C project can achieve up to the maximum 14 points and LEED O+M project can achieve maximum 16 points.

DES modeling only needs to be performed once for the PEER certification; the DES performance results can then be referenced by each building served by the DES.

Steps for achieving LEED points through this approach:

- ▶ Register for the LEED [pilot credit](#).
- ▶ Submit the completed [PEER points for DES performance.xls](#) calculator for review
- ▶ Use this performance improved benchmark results for the LEED project applying for the certification.

CASE STUDY: THE UNIVERSITY OF TEXAS AT AUSTIN

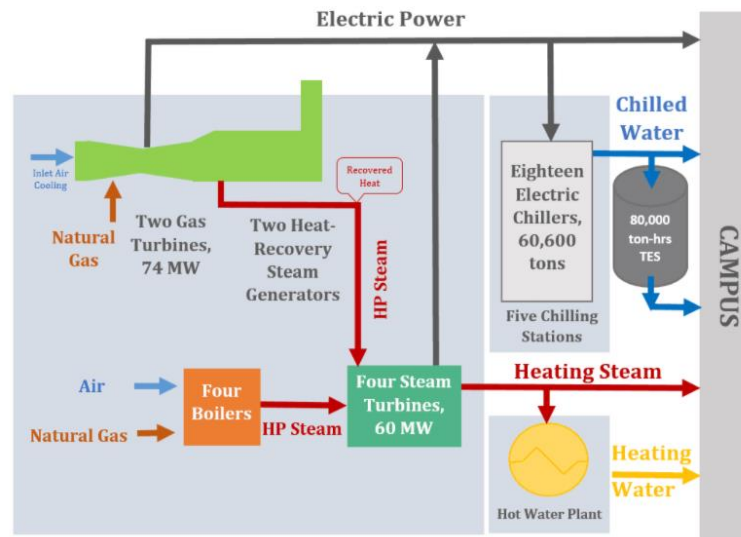
Example of a scenario where LEED projects located within a PEER certified project boundary utilized the LEED EA Pilot Credit – DES to gain additional points for EA credit Optimize Energy Performance.



Artist rendering of the Moody Arena to be built on the UT campus

(Image courtesy of UT-Austin)

Three LEED projects on the UT Austin campus garnered additional points, and increased their level of LEED certification, because they were within a PEER certified project boundary. The University of Texas at Austin is served by the Carl J. Eckhardt Combined Heating and Power plant and the entire campus is PEER Platinum certified. The power complex uses natural gas combustion turbines and steam turbines in a combined-cycle design to provide 100 percent of campus electricity and heating. The five chilling stations and 9.5 million gallons of chilled water in two thermal energy storage tanks satisfy the cooling requirements for 22 million square feet in more than 160 campus buildings, serving 74,000 faculty, students and staff. The complex provides the university with an independent utility system, with electrical ties to the City of Austin electrical grid as an emergency backup source of power.



Waste heat from the combustion turbine is recovered and output to a heat recovery steam generator. The recovered heat is then used to generate steam for power, heating, and hot water generation in campus buildings.

(Image courtesy of UT-Austin)

The customer loads, purchased energy, and air emissions data were populated in the “[PEER Points for DES Performance](#)” calculator to get the data as stated below:

- SEE (System Energy Efficiency) percentage improved above the benchmark – 23 %
- SEI (Source Energy Intensity) percentage improved above the benchmark – 23 %
- AEI (Air Emissions Index) percentage improved above the benchmark – 74.3%

The above DES performance improved benchmark results were being referenced by many buildings served by the DES. Currently the following buildings pursuing LEED certification are using this information for their performance score:

- University of Texas at Austin Energy Engineering Building
- University of Texas-Austin Moody Center Arena
- UT Basketball & Rowing Training Facility

These three projects at UT Austin have achieved higher points using the LEED DES pilot credit leading to higher level of certification.