



Building Energy Codes

RESOURCE CENTER

Software Tools for LEED Certification and Energy Credits

To have a building certified by the U.S. Green Building Council, architects and designers can use several tools to demonstrate that the building complies with various sustainable design requirements. The Council certifies the building through the Leadership in Energy and Environmental Design (LEED) Green Building Rating System®. This is a voluntary, consensus-based performance rating system.

The LEED rating system is organized into five major credit categories, including energy and atmosphere. The energy and atmosphere credit category provides the opportunity for energyefficient buildings to qualify for up to 10 of the total 69 possible LEED-NC V2.2 credit points for new construction.



Each credit category consists of mandatory prerequisites and optional credit requirements for LEED certification. One of the prerequisites for the energy and atmosphere credit requires the proposed building to comply with American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Standard 90.1, as the minimum energy performance. To verify the compliance with the Standard 90.1, designers can use [COMcheck](#) ; or EnvStd 4.0.

If the proposed design exceeds the baseline design per ASHRAE 90.1-2004 Appendix G, additional energy credit points can be obtained depending on the percentage of energy cost savings. To obtain the additional credits, energy simulation tools are required.

The U.S. Department of Energy provides a catalog of most of the available building simulation tools (see the [Building Energy Software Tools Directory](#)). Designers can use the available energy simulation software and model the proposed building and the baseline building.



See [Desktop Tools For Sustainable Design](#) for additional information.

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