

United States Green Building Council (USGBC) and Leadership in Energy and Environmental Design (LEED®)

The Council is a national nonprofit organization that was formed in 1993. Its quickly growing membership includes representation from organizations across the building industry. The membership is a diverse group including; architecture firms, engineering firms, builders, manufacturers, service contractors, government entities (federal, state, and local), real estate developers and owners, financial institutions, universities, retail companies, nonprofit associations, utilities, and others.

USGBC serves its members and the community through the development of industry standards, design practices and tools, policy advocacy, information exchange, and education. The primary and most influential tool developed to date is the LEED® rating system.

The Leadership in Energy and Environmental Design rating system

The LEED® rating system is broken down into five distinct categories. These constitute design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants in the following broad areas:

- Sustainable site planning
- Safeguarding water and water efficiency
- Energy efficiency and renewable energy
- Conservation of materials and resources
- Indoor environmental quality

LEED defines a threshold for green buildings and introduces a tool to promote and guide comprehensive and integrated building design. LEED is performance-based where possible, compatible with standard design processes, self-evaluating, self-documenting, but not self-certifying. Certification is solely done by the USGBC.

Credits are given for specific categories within the 5 distinct areas, for example;

EA Credit 1 (Optimize Energy Performance)

- The intent of this section is to achieve energy performance above the prerequisite standards to reduce environmental impacts associated with excessive energy use.
- Credits: 1 – 10
- In this case both Nysan and Arc Structures have products with thermal reduction characteristics (external shading systems, reflective GreenScreen fabrics, etc.) which can reduce the energy use of HVAC

systems. Credits are available for as little as a 5% reduction in measurable energy usage.

It is important to note that **no** specific products or design strategies can be credited. The entire project or building is credited and eventually certified never a particular product. The intent is that the building as a whole uses a variety of design strategies and products that together contribute to “green” building. Two Gold rated buildings may use completely different systems and strategies.

The individual credits contribute to give the project and overall rating as follows;

Four levels of LEED-NC certification:

- Certified Level 26 - 32 points
- Silver Level 33 - 38 points
- Gold Level 39 - 51 points
- Platinum Level 52+ points (69 possible)

Most projects are at the Certified and Silver level, Gold and Platinum buildings are the “prestige” green buildings and in practice are difficult to obtain.

The process of certification is;

1. Register the Project to initiate a relationship with USGBC and receive orientation materials. Registration during pre-design phase is highly recommended.
2. Technical Support comes in the form of the *Reference Guide* and Credit Rulings. In some cases, the design team may encounter questions about the application of a LEED prerequisite or credit to the specifics of their project. The project contact should first thoroughly consult the *Reference Guide*. If questions remain, the contact should use the following credit interpretation procedure:
 - The project contact reviews the *intent* of the credit or prerequisite in question to self-evaluate whether their project meets this *intent*.
 - The project contact reviews the LEED Credit Rulings Page for a previously logged credit interpretation request (CIR) that may assist in answering their particular question. All LEED project contacts have access to this page.
 - If no similar or relevant credit interpretation has been logged, then the project contact may submit an on-line CIR to the USGBC.
 - Within two to five weeks, the USGBC Credit Ruling Committee posts its decision on the Credit Rulings Page.
3. Apply for certification. Application review can take anywhere from six weeks to several months. There are several opportunities for response and appeal throughout the review stages (administrative, preliminary technical and final technical reviews).

Economic Benefits and ROI

Reduce operating costs

- Lower utility costs significantly

Optimize life-cycle economic performance

Increase building valuation and ROI

- Using the income-capitalization method: asset value = net operating income (NOI) divided by the capitalization rate (return). If the cap rate is 7%, divide the reduction in annual operating costs by 7% to calculate the increase in the building's asset value
- Quantify financial benefit in terms of Return On Investment (ROI) instead of payback time.

Decrease vacancy, improve retention

- Marketing advantages

Reduce liability

- Improve risk management
- Insurance companies are using climate change protection activities as a means to manage risk and maintain profitability