



Michaels Engineering LEED® Brief

RENEWABLE ENERGY AND LEED®

SUGGESTIONS...

Do you have certain LEED® topics you'd like to know more about? Send an email with your suggestion to the author listed below and your topic might become a future LEED® Brief!

DID YOU KNOW...

...Applying renewable energy to your next facility is an excellent way to raise your facility in the LEED® rating system.

...Renewable technologies add to the sustainability of your facility, reduce operating expenses, and enhance the image of the facility.

MEET THE AUTHOR



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→ DO YOU HAVE ENOUGH POINTS TO GO PLATINUM? WANT TO BE SUPER GREEN?

Incorporating renewable energy into your LEED® design can raise your facility to the next level or beyond. This Brief focuses on commercial LEED® building design incorporating renewable energy.

Site-generated renewable energy can add points in two ways. First, installing a renewable energy generation system on site can add one to three points all by itself - Energy and Atmosphere Credit 2. Second, renewable energy counts toward energy optimization - Credit 1.

→ RENEWABLE ENERGY SYSTEMS ELIGIBLE FOR POINTS

LEED® points are awarded for on-site renewable energy generation depending on what percentage of the facility's electric consumption is generated by the renewable source. Generating 2.5% of the annual energy with the renewable source adds one point, 7.5% adds two points, and 12.5% adds three points. Eligible on-site renewable energy generation systems include solar, wind, hydro, and biomass.

Solar photovoltaic systems are the most common. Typically these systems currently range from \$7 to \$8.5 per Watt installed, depending on application. Cost can be higher for difficult applications or lower for larger, simpler systems.

Solar hot water heating could also be used. These systems utilize existing technology and are very cost effective if the thermal load can be utilized. The hot water can be used for service hot water or space heating.

Wind generation is generally limited to larger installations in rural environments with good wind resources.

Hydro generation systems, including wave and tidal, are limited to proximity to a water resource. Except for unusual situations, these systems are expensive compared to other options.

Biomass generation systems include biomass cogeneration systems and biogas from landfills and anaerobic digestion at wastewater treatment plants or agricultural or process waste. These applications provide a very cost effective method of acquiring additional LEED® points with proven technology.

Other technologies and methods incorporating sustainability are available in other categories. These include passive solar heating and daylighting. However, these architectural features are not eligible for renewable energy credits.

→ WHY RENEWABLE ENERGY?

Applying renewable energy to your next facility is an excellent way to raise your facility in the LEED® rating system. These technologies also add to the sustainability of your facility, reduce operating expenses, and enhance the image of the facility. However, care must be taken to insure the right technology is matched with the facility in order to realize these benefits.

Future briefs will cover specific technologies and design considerations.

