



Mid-Hudson Library System

103 Market Street, Poughkeepsie, New York 12601 | tel 845.471.6060 | fax 845.454.5940 | <http://midhudson.org>

A stated priority of the MHLS Board is to fund projects that **address energy conservation** in library facilities:

“Energy conservation in the context of a professional’s recommendations or with an historic preservation element. For the purposes of the board’s ranking a “professional’s recommendation” will, at least, include the results of an Energy Audit by the NYS Energy Research & Development Authority (NYSERDA).” [Approved 5.22.2014 by the MHLS Board of Trustees]

Some energy conservation projects may be part of new construction or may coincide with the replacement of a major facility system once it has reached the end of its “useful life.”

To determine how well a project meets the Board’s stated priority of energy conservation, MHLS will follow standards set by the U.S. Environmental Protection Agency (EPA)’s ENERGY STAR program: *“ENERGY STAR is a U.S. Environmental Protection Agency (EPA) voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency.”* ENERGY STAR is incorporated into top green building certification systems and listings such as:

- U.S. Green Building Council’s Leadership in Energy & Environmental Design (LEED) certification
- The Green Building Initiative’s Green Globes system
- The U.S. Guiding Principles for High Performance and Sustainable Buildings

A **“useful life maintenance project”** is defined as projects necessary to maintain existing library owned capital assets or facilities in good working condition and compliant with energy efficient standards and prevailing codes, rules, and regulations.

Energy Conservation Useful Life Replacement Projects potentially eligible for State Aid for Public Library Construction grant program are:

- ✓ New Roof
- ✓ Heating and Cooling Equipment (HVAC)
- ✓ Other Building Envelope Components such as
 - Windows
 - Doors
 - Insulation
- ✓ Lighting

New Roof:

- Materials used must be ENERGY STAR Certified Roof products
 - Solar Reflectance of Roofing Materials:



Mid-Hudson Library System

103 Market Street, Poughkeepsie, New York 12601 | tel 845.471.6060 | fax 845.454.5940 | <http://midhudson.org>

- Low Slope roofs must have an initial solar reflectance of ≥ 0.65 . After 3 years, the solar reflectance must be ≥ 0.50 .
- Steep Slope roofs must have an initial solar reflectance of ≥ 0.25 . After 3 years, the solar reflectance must be ≥ 0.15
- R-Value: Post-project, the R-value achieved by the roof system and attic insulation must be $\geq R-49$

Heating and Cooling Equipment (HVAC) Replacement / New Construction Installation:

- Equipment must be ENERGY STAR Certified
 - Target Efficiency Levels:
 - Gas furnaces require a rating of 95% AFUE or greater
 - Oil furnaces require a rating of 85% AFUE or greater
 - Boilers require a rating of 85% AFUE or greater
 - Air-Source Heat Pumps
 - require a rating of ≥ 8.2 HSPF/ ≥ 14.5 SEER*/ ≥ 12 EER for split systems.
 - require a rating of ≥ 8.0 HSPF/ ≥ 14 SEER/ ≥ 11 EER for single package equipment including gas/electric package units.
 - Central Air Conditioners
 - require a rating of ≥ 14.5 SEER/ ≥ 12 EER for split systems
 - require a rating of ≥ 14 SEER/ ≥ 11 EER for single package equipment including gas/electric package units.
 - Geothermal Heat Pumps require ratings described in the chart found at https://www.energystar.gov/index.cfm?c=geo_heat.pr_crit_geo_heat_pumps
 - Within an applicant's grant application narrative, MHLS would like to see the library's maintenance plan for upkeep of new equipment purchased with grant funds.

Other Building Envelope (windows, doors, insulation) & Lighting Projects will also be judged on how well targeted performance meets ENERGY STAR standards. ENERGY STAR standards for:

- **Lighting:** Energy Star labeled LED and fluorescent lighting.
- **Windows:** Windows require a U-Factor rating ≤ 0.30 or a U-Factor of $=0.31$ and a SHGC* rating ≥ 0.35 , or a U-Factor rating $=0.32$ and a SHCG rating ≥ 0.40



Mid-Hudson Library System

103 Market Street, Poughkeepsie, New York 12601 | tel 845.471.6060 | fax 845.454.5940 | <http://midhudson.org>

- **Doors:**
 - Opaque doors require a U-Factor rating of ≤ 0.21 .
 - $\leq \frac{1}{2}$ -Lite doors require a U-Factor rating of ≤ 0.27 and a SHGC rating of ≤ 0.30 .
 - $> \frac{1}{2}$ -Lite doors require a U-Factor rating of ≤ 0.32 and a SHGC rating of ≤ 0.30 .
- **Insulation (for existing structures):**
 - Attic insulation must be increased to $\geq R49$.
 - Floor insulation must be increased to $\geq R25$.
 - Wall insulation must be:
 - $\geq R3.6$ /inch for blown fiberglass
 - $\geq R3.8$ /inch for blown cellulose
 - $\geq R3.7$ /inch for open cell spray foam
 - $\geq R5.5$ /inch for closed cell spray foam
 - Exterior rigid foam insulation:
 - Expanded polystyrene (EPS) R4/inch
 - Extruded polystyrene (XPS) R5/inch
 - Polyisocyanurate (ISO) R6.5/inch

Energy Efficiency Projects & Historic Buildings: MHLS recommends that *The Secretary of the Interior's Standards for the Treatment of Historic Properties* should be consulted when pursuing energy efficiency themed projects in historic buildings.

Innovation Projects: The MHLS Board encourages member libraries to plan sustainably maintained, renovated and expanded facilities. Member library projects seeking certification using rating systems such as LEED Building Design and Construction (BD+C) or LEED Building Operations & Maintenance (O+M), Green Globes, Passive House or Living Building Challenge will be ranked highly in the award recommendation process at the MHLS board level. In addition, should a library plan a project that utilizes a unique sustainable design feature or uses cutting-edge green technologies the board will take that under advisement when scoring an applicant for purposes of award recommendation.