

MINIMUM ENERGY AND SUSTAINABILITY GOALS

The University at Albany signed the American College and University Presidents' Climate Commitment (ACUPCC) in 2008. The University is committed to reducing its Greenhouse Gas (GHG) emissions by at least 20% from its 2005 levels by the year 2020. In order to achieve its GHG reduction goals, the University requires minimum energy and sustainability levels in all new construction, major renovation, and gut rehabilitation projects. For all such projects, broad-based project goals shall be established and included early in the planning phase to achieve high levels of energy efficiency and sustainability. Specific goals by building systems shall be developed during the schematic and design development stages and shall include minimum performance standards/requirements for roof, wall, windows, lighting power density, HVAC system efficiency, appliances, etc. At the minimum, the following goals shall be considered in all new construction, major renovation, and gut rehabilitation projects:

1. Energy Efficiency

- Minimum 26% (for new construction) OR 19% (for major renovation/gut rehab) reduction in total energy costs when compared to a baseline building that meets ASHRAE 90.1-2004 or 2007 Energy Conservation Construction Code of NYS, whichever is more stringent
OR
- Minimum 21% (for new construction) OR 17% (for major renovation/gut rehab) reduction in total energy costs when compared to a baseline building that meets ASHRAE 90.1-2007
- Minimum five (5) points under LEED-NC v 2.2 or LEED-NC 2009 (v.3) Energy and Atmosphere Category, Credit 1: Optimize Energy Performance
- ENERGY STAR rating (a score of 75 or higher) after one year's performance (Use Energy Star Target Finder to determine target energy use intensity)
- Systems and measures with Lowest Life Cycle Costs instead of just lowest first costs

2. Water Efficiency

- Minimum 30% reduction in potable water use when compared to EPACT 1992 fixture performance requirements
- No potable water use for irrigation; use Indian Pond or captured rainwater instead

3. Renewable Energy

Project shall include proven on-site renewable energy system(s) to offset building's annual energy costs. The percentage of a building's energy offset by renewable energy technologies shall be determined by Life Cycle Costs Analysis. Note that Executive Order 111 mandates that minimum 20% of the overall electrical energy consumption by State buildings shall be met through renewable energy technologies [purchased or on-site], such as, wind, solar thermal, photovoltaics, sustainably managed biomass, tidal, geothermal, methane waste and fuel cells.

4. Commissioning

- Enhanced design and construction phase commissioning of all major building systems including envelope, HVAC, lighting, and building controls systems
- Systems manual for commissioned systems including annual recommissioning checklists and procedures for all major building systems
- Post-construction commissioning and opposite season commissioning within 10-months after substantial completion
- Building operator and occupant training
- Annual recommissioning services for minimum 3 years post-occupancy

5. Sub-metering

- Minimum building level meters to measure electricity, natural gas, water, high temperature hot water, and chilled water usage
- Additional sub-meters for any systems/equipment/spaces that consume more than 20% of the building level energy or water usage
- Sub-meters shall be tied back to the central PowerLogic system for remote data collection and monitoring

6. Sustainability

Project shall be designed and constructed to achieve minimum LEED Gold rating under LEED-NC v. 2.2 or LEED-NC 2009 (v.3). The following credits should be considered for inclusion in the project:

- Alternative Transportation, Bicycle Storage and Changing Room
- Heat Island Effect, Roof: Energy simulation model should be used to evaluate impact of roof color and white EPDM roof selected if justified based on Life Cycle Cost Assessment
- Construction Waste Management, Divert 75% from Disposal
- Recycled Content 10% (post-consumer + ½ pre-consumer)
- Construction IAQ Management Plan, During Construction and Before Occupancy
- Low Emitting Materials, including Adhesives and Sealants, Paints and Coatings, and Carpet systems
- Daylight and Views, Daylight 75% of Spaces and Views for 90% of Spaces

7. Education

Project shall be designed and constructed to serve as a learning/education tool that inspires its occupants. At the minimum, the building shall include

- For new construction, real-time energy displays tied to existing Powerlogic system in the lobby, on each floor and online
- Posters, interior signage, and/or demonstration kiosks highlighting the sustainability and energy features/measures included in the project and providing guidelines to occupants on proper use of systems to achieve maximum energy efficiency
- Posters and interior signage, as appropriate, urging occupants to take the stairs, turn off lighting and equipment and conserve energy

8. Energy and Carbon Modeling

- Provide energy simulation models of baseline and proposed designs of the project during conceptual, schematic, design development and construction document phases to estimate the energy cost savings from the project when compared to a baseline building that meets the latest version of the ASHRAE 90.1 standards or Energy Conservation Construction Code of NYS, whichever is more stringent
- Energy model shall be used as a tool to analyze various energy efficiency measures throughout the design process to help the project team make informed decisions. Energy model shall not be used solely as a documentation and reporting tool
- Provide carbon model of the baseline and proposed designs of the project to estimate the greenhouse gas emissions (reported in metric tons of CO₂-equivalent) from the proposed project and emissions reduction when compared to a baseline building. Electricity and fuel usage shall be converted to metric tons of CO₂-eq using acceptable conversion factors