Specification Language for Pursuing Energy Efficiency Goals and Designed to Earn the ENERGY STAR® Recognition for Commercial New Construction Projects

This document provides language for specifying energy efficiency goals and achieving ENERGY STAR recognition for commercial new construction/major renovations projects, and existing buildings.

The U.S. Environmental Protection Agency's (EPA's) energy performance criteria to achieve Designed to Earn the ENERGY STAR recognition denotes that the building is designed to perform in the top 20 percent for energy efficiency as compared to similar buildings throughout the U.S. Once the project is constructed, operated, and occupied these buildings are intended to earn the ENERGY STAR certification.

Instructions

This document may be modified to suit various transactions, such as using it in a request for proposal (RFP), in the contractual arrangement between the client and architecture firm, in construction documents, or in a lease agreement to specify an energy goal or pursuing ENERGY STAR certification. When included in construction documents, the specification may be incorporated as a drawing specification or within the General Requirements section of the project manual. The specification includes language applicable to the project design phase, construction phase, and performance of the occupied building. ***See Figure 1*** *Graphic diagraming all stages of a property's lifecycle using ENERGY STAR*.

Achieving ENERGY STAR is taking a simple step towards designing, constructing, and operating a building with superior energy performance — one whose energy use, greenhouse gas emissions, and costs-to-operate are lower than comparable buildings nationwide.

Recommended language for architect's scope of work or request for proposal

Environmental and Sustainability Goals

The goal for the commercial new construction/major renovation project is to achieve the ENERGY STAR recognition for design projects. The project designer [Architect of Record] shall use the EPA's Target

Finder™ or Portfolio Manager® online tool to determine if the project's estimated (modeled) total annual energy use of the design achieves a minimum ENERGY STAR score of 80, (to specify target for project's not eligible for a score, see footnote).[1] The designer shall prepare and submit application to EPA on projects eligible for EPA's Designed to Earn the ENERGY STAR recognition during construction document phase.

Upon EPA's award of the Designed to Earn the ENERGY STAR recognition, the designer shall provide document of proof of recognition to [the project owner] and, transfer the Designed to Earn the ENERGY STAR project record to [the project owner's] Portfolio Manager account. A copy of the original *Statement of Energy Design Intent*, signed and sealed by a licensed engineer or registered architect, shall be provided to [the project owner] as evidence that the energy design intent met or exceeded the minimum ENERGY STAR score of 80.

Pre-Design and Programming Phase

The design team shall conduct a charrette with a multidisciplinary team, including but not limited to the architect, mechanical engineer, building energy modeler, commissioning agent, building owner, construction manager, and contractors to address a comprehensive approach to energy efficiency through an integrated design process. The design team shall assist the owner in developing a scope of work, project budget and schedule, and a whole-building energy performance target that meets or exceeds an ENERGY STAR score of 80 generated by the EPA's Target Finder or Portfolio Manager tool. The design team shall consult with the building owner to develop accurate estimates for the anticipated occupancy and use of the property with the understanding that some these variables will impact the ENERGY STAR score. All references for use of the ENERGY STAR score are dependent on Property Types Eligible to Receive a 1-100 ENERGY STAR Score.

[1] For property types not eligible for an ENERGY STAR score, the Portfolio Manager and Target Finder tools may be used to specify and document an energy use intensity (EUI) target. You may replace the ENERGY STAR ***score specification language*** with ***target EUI language***: "***to achieve an EUI target of XX kBtu/sf/year" is calculated by selecting the percent better than median source EUI in the tools.*** However, property types not eligible for an ENERGY STAR score are not eligible for certification.

Schematic Design

Design team members shall explore strategies and develop an energy model where whole-building energy use is calculated for energy efficiency measures to achieve an ENERGY STAR score of 80 or greater. Energy measures of the schematic design shall be adjusted and evaluated to determine if the design is on track to achieve the goals established in the pre-design phase using Target Finder or Portfolio Manager.

Design Development

Design team members shall fine-tune original design strategies and methodologies. Energy efficiency strategies and property use details shall be adjusted per input from the building owner and all design team members and evaluated using Target Finder or Portfolio Manager to achieve an ENERGY STAR score of 80 or greater during design development.

Construction Documents

Design team members shall fully develop and document energy efficiency strategies and methodologies for the project. The design team shall review progress and adjust strategies and systems to meet or exceed the ENERGY STAR score established for building design. If not previously completed, the design team shall create a property record in Portfolio Manager[2] to apply for Designed to Earn the ENERGY STAR recognition. Reference How to Apply for Designed to Earn the ENERGY STAR Recognition for instructions on submitting projects to EPA.

Specification content: The specifications in the Project Manual shall include and reference the "Statement of Energy Design Intent," generated from Portfolio Manager at the completion of the construction document phase. A copy of the original Statement of Energy Design Intent, signed and sealed by a licensed engineer or registered architect, shall be provided to [the project owner] as evidence that the energy design intent meets or exceeds ENERGY STAR established for building design.

[2] The Statement of Energy Design Intent for application to receive Designed to Earn the ENERGY STAR recognition must be generated from Portfolio Manager and not Target Finder.

Upon EPA's award for achieving recognition, the architect of record may display the Designed to Earn the ENERGY STAR graphic on the title block of architectural drawings and in promotional collateral for the recognized project.

The design property record shall be transferred and maintained in the project owner's ENERGY STAR Portfolio Manager account. The same property record shall be used for tracking energy data once the building is operating to determine if the intended energy design goal was achieved.

Recommended specification language for contractors, commissioning agents, and building managers

Construction Contractor

The contractor shall adhere to products, methods, and quality levels specified in the construction documents. Any proposed substitutions affecting building energy performance must be submitted according to the procedures defined herein. Substitutions that may alter the energy performance goals of the project, including but not limited to HVAC equipment, insulation, cladding, windows, and lighting, must be approved by the design team and building owner. Any substitutions that would render the project ineligible for ENERGY STAR recognition shall be approved by the design team and project owner before proceeding with changes.

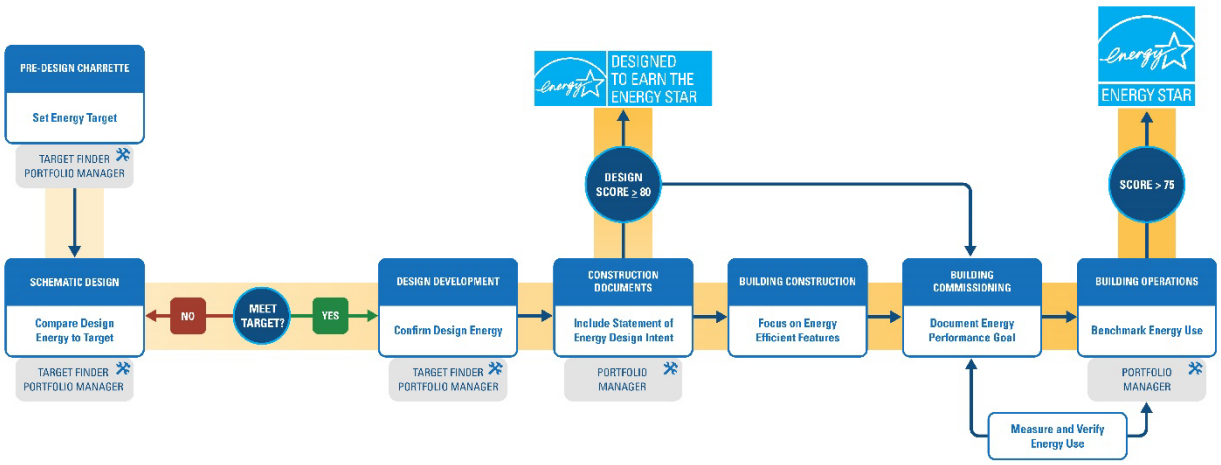
Commissioning

The owner shall employ a commissioning agent (independent of the design team) to document confirmation that the building systems function in compliance with the energy performance goals set forth in the project documents and satisfy the owner's operational goals. The commissioning agent shall perform tests and document procedures necessary to verify compliance with the intended operation of specified systems. The commissioning responsibilities are indicated within the construction documents and individual specification sections. The commissioning agent shall measure and track actual energy consumption of the building's systems to determine if the energy performance goals are being achieved and maintained. The commissioning agent shall work with the contractor to make needed adjustments and corrections prior to the expiration of the warranty period.

Building management contract or tenant lease (Post Occupancy)

The building owner shall pursue ENERGY STAR certification after building operation and meeting the property use eligibility requirements for receiving an ENERGY STAR 1 – 100 score. The building's annual energy use shall be benchmarked using ENERGY STAR's Portfolio Manager. Upon completion of the benchmarking phase, the building owner or designee shall prepare and submit the certification application in Portfolio Manager as evidence that the energy performance earns ENERGY STAR certification for the occupied building.

Figure 1: Lifecycle graphic using ENERGY STAR from design stages to operating the building.



Learn More!

- Follow the ENERGY STAR Design Guide
- ENERGY STAR for Commercial New Construction
- Questions: www.energystar.gov/buildingshelp