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BUILDING ENERGY MODELING STEP-BY-STEP PROCEDURES FOR LEED CERTIFICATION

ONLINE PROFESSIONAL COURSES LED BY
THE WORLD'S TOP SPECIALISTS

ONLINE TRAINING BY KRISHNAJI PAWAR

LEED AP(BD+C), GSAS CGP, GCP, ISO 14001

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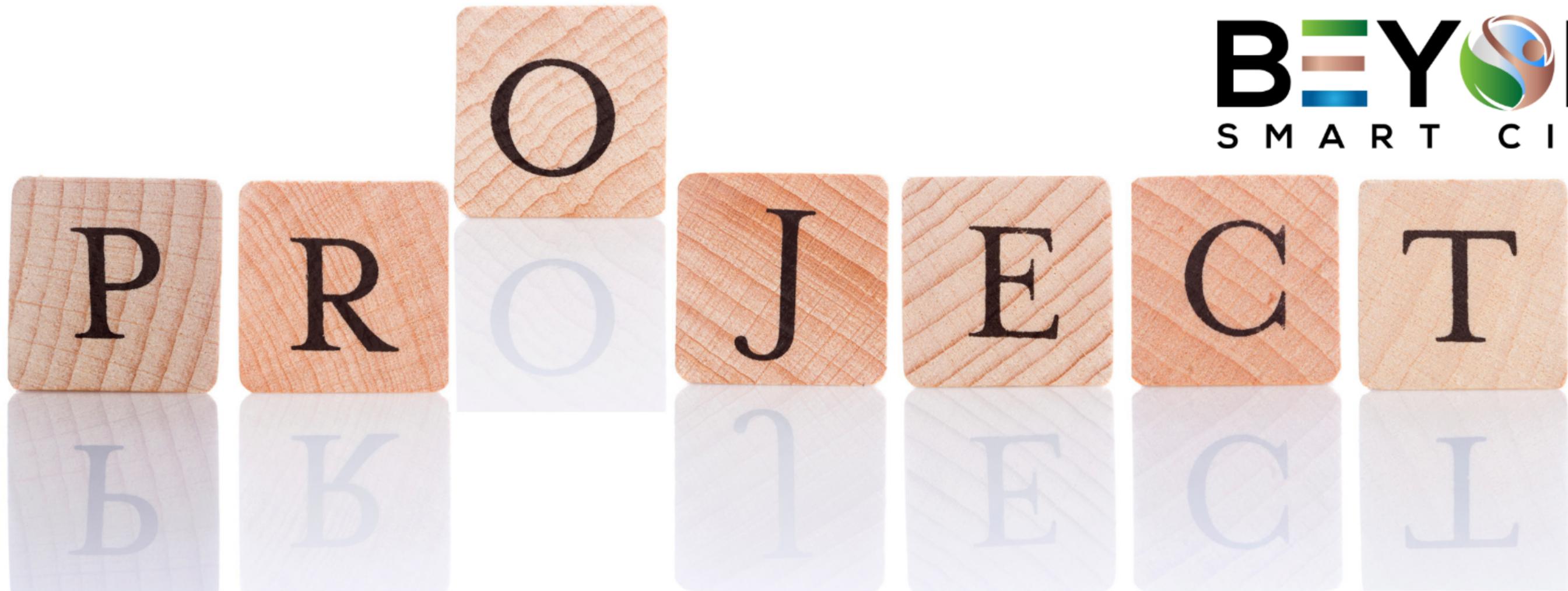
Sample Owner Project Requirements(OPR)

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BUILDING ENERGY MODELING : STEP-BY-STEP PROCEDURES FOR LEED CERTIFICATION

The OPR is not a static document but evolves throughout the project lifecycle. It serves as a guiding framework for design decisions and may be revisited and refined based on stakeholder feedback, regulatory changes, or evolving owner needs. This iterative process ensures that the final built environment is functional and aesthetically pleasing while aligning with the owner's original vision and operational goals.

Learning Objectives

- Introduction and Course Outline
- Building Energy Modeling Checklists
- Scaling an imported drawing from AutoCAD
- ASHRAE Standards and Guidelines
- Zones Input Details in BEM Tools
- Setup and Running the Building Energy Modeling Simulation
- Review BEM Software Output Reports.
- **Sample Owner Project Requirements(OPR)**
- Summary and Resources
- BEMP Practice Test V.4.1



INTRODUCTION

- Developed by OWNER, OPR is a crucial document in building design and construction.
- It outlines the owner's vision and requirements for a project.
- It informs all stakeholders, including architects, engineers, contractors, and facility managers.
- The OPR is not static but evolves throughout the project lifecycle.
- It serves as a guiding framework for design decisions and may be revisited based on stakeholder feedback or evolving needs.
- Adherence to OPR principles significantly influences project success.

OWNER PROJECT REQUIREMENTS (OPR)

- OPR is a crucial document in building design and construction, especially in high-performance buildings.
- It serves as a communication tool that outlines the owner's vision and requirements for a project.
- The OPR aims to establish clear expectations that inform all stakeholders, including architects, engineers, contractors, and facility managers.
- The OPR document is structured into several sections, each addressing different aspects of the owner's requirements.



THE OPR SECTIONS INCLUDE:

- Project Description: An overview of the project, including its location, size, type, and intended use.
- Owner's Goals and Objectives: A clear articulation of the owner's vision for the project.
- Functional Requirements: Detailed specifications for how the building should function.
- Performance Requirements: Quantifiable metrics that the project must meet.
- Sustainability and Environmental Goals: Requirements related to environmental stewardship.
- Budgetary Constraints: A clear outline of the financial parameters within which the project must operate.
- Project Schedule: An outline of the critical milestones and timelines for the project.
 1. The OPR evolves throughout the project lifecycle, serving as a guiding framework for design decisions.
 2. The clarity and specificity of the OPR are paramount in navigating the complexities of modern construction.





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Owner's Project Requirements (OPR)

1.Owner and User Requirements

Walls & Floors ME FZCO is a corporate head-office already existing in the Jebel Ali Free Zone for several years. The new facility is an expansion of the current facility much required due to growth in business over a period of time. The building will house 35 full time employees in its office which includes administrative and sales staff and average 3 – 5 visitors per day. The gross land will be developed in two phases – phase - I is office and warehouse and phase - II will be an expansion of warehouse in future. The warehouse will be used to stock goods traded by the company.

2.Environmental and Sustainability Goals

We desire to construct and use the premises in the manner which is most environmental and energy friendly.

We desire to implement a Non Smoking policy.

We intend to use on site renewable energy through Solar Water Heating Systems.

We intend to encourage car/van pools within the staff.

3.Energy Efficiency Goals

- A. Project shall comply with ASHRAE 90.1-2004 building energy efficiency standards.
- B. Lighting systems offer cost effective energy savings potential, and lighting fixtures and/or controls shall be selected to exceed ASHRAE 90.1-2004 minimum efficiency requirements by 10% or greater.
- C. High efficiency HVAC equipment offers cost effective energy savings, and HVAC equipment shall be selected that exceeds ASHRAE 90.1-2004 minimum efficiency requirements by 10% or greater.
- D. Additional energy efficiency measures that provide cost effective energy savings shall be included wherever feasible.
- E. Landscaping and other open features will be developed bearing minimum use of potable water.

4.Indoor Environmental Quality Requirements

- A. Optimize daylight and reduce artificial lighting.
- B. Provide light controls to reduce energy consumption and increase occupant comfort.
- C. Maximize occupant thermal controls and design to highest thermal control standards.
- D. Provide highest possible indoor air quality and systems to maintain air quality throughout building lifecycle.
- E. Provide highest acoustic environment design standards for added occupant comfort.



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5.Equipment and Systems Expectations

- A. Design equipment that is highly efficient and easily controllable matching the high standards of suppliers like York.
- B. All systems should be integrated for easy control to optimize performance and occupant comfort.

6.Building Occupant and O&M Personnel Expectations

- A. Day-to-day HVAC operation by 35 occupants from 8.30 am to 6.00 pm.
- B. Periodic HVAC maintenance performed by Space Electromechanical Works LLC.
- C. Lighting system maintenance will be performed by Space Electromechanical Works LLC.
- D. Space Electromechanical Works LLC shall provide the occupant, maintenance training as needed to ensure all systems continue to meet design requirements and are optimized for efficiency.

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