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INTERPRETATIONS OF ENERGY

MODEL RESULTS

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ONLINE TRAINING BY KRISHNAJI PAWAR

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

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MODULE
L8

Compare Outputs To Targets

KRISHNAJI PAWAR - CEO & FOUNDER

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

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INTERPRETATIONS OF ENERGY MODEL RESULTS

Building energy modeling (BEM) and energy efficiency rating programs involve comparing modeled outputs to established targets to assess a building's energy performance. This process is crucial for performance evaluation, regulatory compliance, informed decision-making, and benchmarking. BEM tools like EnergyPlus, eQuest, and TRACE 700 help create detailed models that predict energy consumption throughout a building's lifecycle.

Learning Objectives

- Introduction and Course Outline
- Verification and Fixing of Simulation Results
- **Compare Outputs To Targets**
- Economic Analysis
- Sensitivity Analysis
- Exceptional calculation methods
- Building Energy Modeling Project Deliverables
- Interpreting Model Results
- Sample Energy Modeling Report
- Summary and Resources
- BEMP Practice Test V.5.1



INTRODUCTION

- Building energy modeling (BEM) and energy efficiency rating programs assess a building's energy performance by comparing modeled outputs to established targets.
- Tools like EnergyPlus, eQuest, and TRACE 700 create detailed models that predict energy consumption throughout a building's lifecycle.
- The process involves setting targets, modeling the building, extracting outputs, comparing outputs to targets, and assessing findings.
- Analogies like a student preparing for a standardized exam can help understand the importance of comparing outputs to targets.
- Comparing practice test scores to target scores helps identify improvement areas, adjust study strategies, and enhance performance.

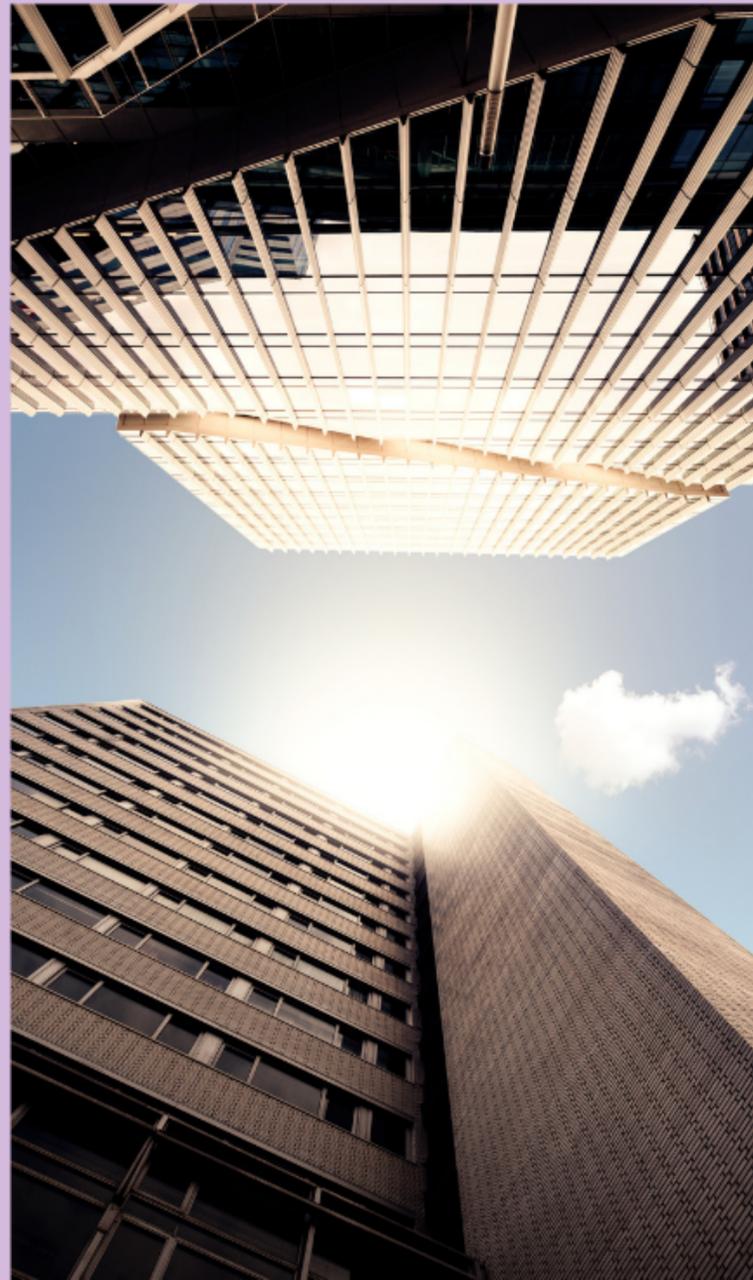
COMPARING OUTPUTS TO TARGETS IN BUILDING ENERGY MODELING AND RATING PROGRAMS

- Building energy modeling (BEM) and energy efficiency rating programs involve comparing modeled outputs to established targets.
- This process is crucial for stakeholders like building owners, designers, and policymakers to assess a building's energy performance against predefined benchmarks or standards.





IMPORTANCE OF COMPARING OUTPUTS TO TARGETS



- Performance Evaluation: Comparing outputs to targets allows for assessment of a building's energy performance against established benchmarks.
- Regulatory Compliance: This comparison is essential for compliance with local building codes and regulations.
- Informed Decision-Making: Stakeholders can make informed design and operational decisions by identifying discrepancies between modeled energy performance and targets.
- Benchmarking and Certification: Rating programs like LEED and BREEAM use target comparisons to grant certifications that signify a building's sustainability credentials.

METHODOLOGIES FOR COMPARISON

- Define Targets: Establish performance targets based on local energy codes, industry standards, or organizational goals.
- Model the Building: Utilize BEM tools to create a building model that simulates energy consumption.
- Extract Outputs: Generate energy consumption outputs from the model.
- Compare Outputs to Targets: Analyze the modeled outputs against the defined targets.
- Assess Findings: Interpret the results to determine whether the building meets, exceeds, or falls short of the targets.



DEMONSTRATIVE EXAMPLE

A hypothetical office building designed to achieve an EUI of 50 kBTU/sq. ft./year is used to illustrate the comparison process.



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CONTACT US



+91 6363032722



info@beyondsmartcities.in



learn.beyondsmartcities.in



#55,HMR Layout ,Bengaluru ,India



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