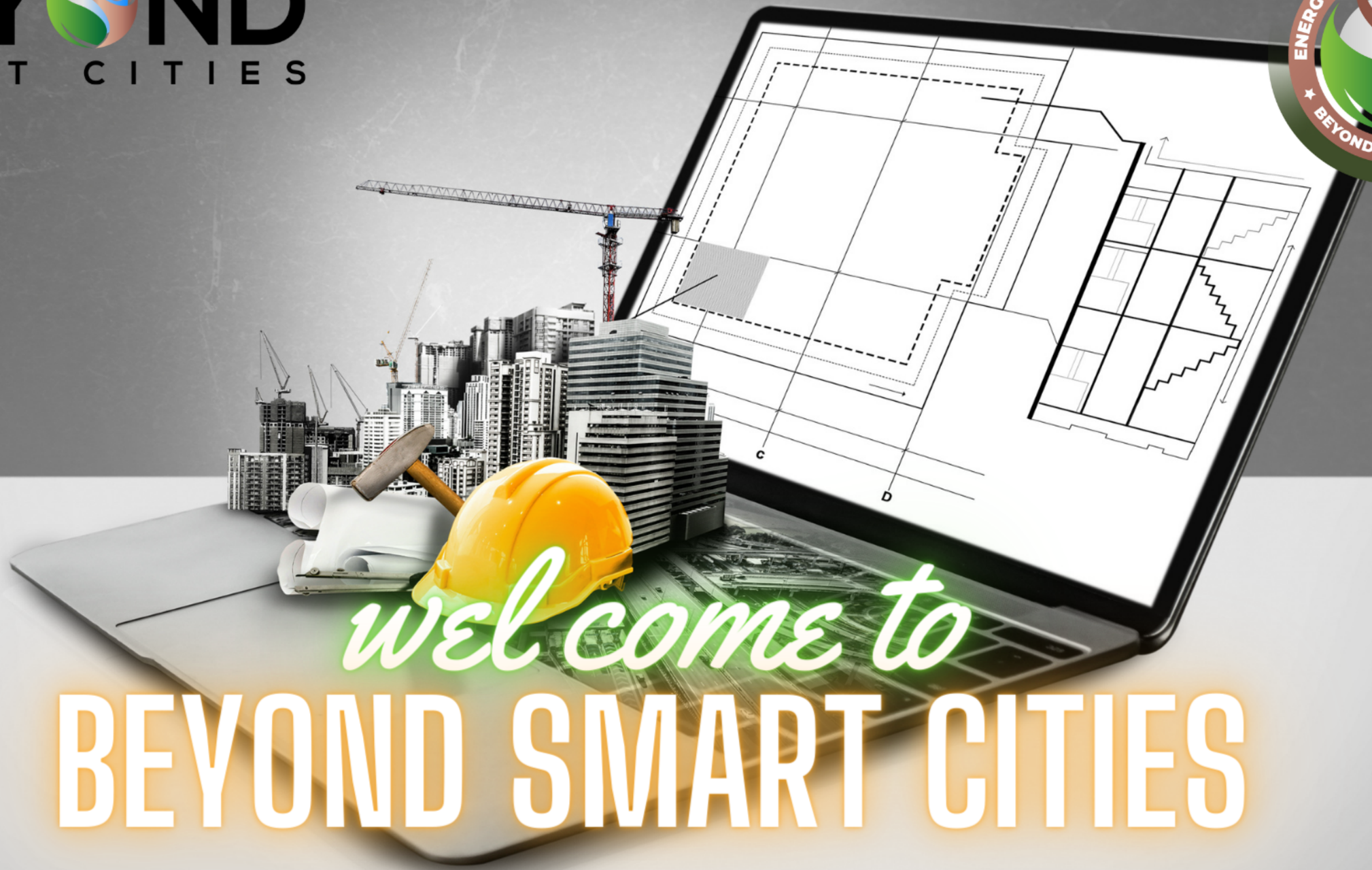
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BASICS OF BUILDING ENERGY MODELING - BEM
ONLINE PROFESSIONAL COURSES LED BY THE WORLD'S TOP SPECIALISTS
ONLINE TRAINING BY KRISHNAJI PAWAR
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MODULE 3

Building Energy Codes and Standards



KRISHNAJI PAWAR - CEO & FOUNDER

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BASICS OF BUILDING ENERGY MODELING - BEM

Energy codes and standards play a vital role by setting minimum requirements for energy-efficient design and construction. They outline uniform requirements for new buildings as well as additions and renovations.

Learning Objectives

- Introduction
- What is Building Energy Modeling (BEM)?
- Building Energy Codes and Standards
- Building Energy Modeling Tools
- LEED and Building Energy Modeling
- Building Energy Modeling and Commissioning
- Benefits of Building Energy Modeling
- Professional energy modeling specialist certification
- Summary and Resources
- Basics of BEM Quiz_Test Your Knowledge!

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INTRODUCTION

- Energy Codes and Standards
- The International Energy
- Conservation Code
- Scope of Relevant ASHRAE Standards (55.1, 90.1, 135, 189, 62.1)
- How ASHRAE Standards Affect Green Energy and Federal Building Energy Codes
- Certifications and Rating Systems

ENERGY CODES AND STANDARDS

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Energy codes –

- **Specify how buildings must be constructed or perform, and are written in mandatory, enforceable language.**
- **Regional or local governments adopt and enforce energy codes for their jurisdictions.**

Energy standards –

- **Describe how buildings should be constructed to save energy cost-effectively. They are published by professional organizations such as the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).**
- **They are not mandatory, but serve as national recommendations, with some variation for regional climate.**



STANDARDS ORGANIZATIONS AND CODE ORGANIZATIONS

American Society of Heating and Air-Conditioning Engineers (ASHAE)

180 Technology Parkway NW Peachtree Corners, GA 30092
https://www.ashrae.org

ICC - International Code Council - ICC
500 New Jersey Avenue, NW 6th Floor, Washington, DC 20001.

https://www.iccsafe.org



AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS (ASHRAE)

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Guidelines

- ASHRAE Guideline 14-2014 - Measurement of Energy and Demand Savings
- ASHRAE Guideline 36-2021 - High-Performance Sequences of Operation for HVAC System

Resources from Other Organizations

- Heat and Mass Transfer in Building Services Design
- IESNA Lighting Handbook
- Mechanical and Electrical Equipment for Buildings
- Solar Radiation and Daylight Models

WHAT IS A GREEN BUILDING RATING SYSTEM?

A Quantitative System to evaluate and measure the environmental impact of a building on the environment.

- **Site**
- **Water**
- **Materials**
- **Energy**
- **Indoor Environment**

It evaluates the “whole building”

The Most Widely Used Rating System is LEED



GREEN BUILDING RATING SYSTEM

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THANK YOU

