

CERTIFICATION STUDY GUIDE

BUILDING ENERGY MODELING PROFESSIONAL (BEMP)

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SPECIAL NOTE

Following an industry-wide job task analysis, BEMP exam content outline updates will take effect **beginning June 1, 2025**. Updates include a new “Greenhouse Gas (GHG) Emissions Analyses” subdomain and new "Simulation Comparisons" subdomain tasks. Altogether, 7 of the 71 job tasks tested on the BEMP exam are new.

For a detailed overview of all updates, see the Supplement to *Certification Study Guide: Building Energy Modeling Professional (BEMP)* available at www.ashrae.org/publicationupdates. An updated BEMP Study Guide that includes these new job tasks is planned for the 2025–26 Society Year.

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INTRODUCTION

ASHRAE is an international membership society committed to the advancement of the arts and sciences of heating, ventilation, **air-conditioning**, and refrigeration to serve humanity and promote a sustainable world. The Building Energy Modeling Professional (BEMP) certification program supports this mission by validating job competency as understood in internationally recognized technical information, reflecting the best practices that lead our industry.

PURPOSE OF THE BEMP CERTIFICATION

The BEMP certification program validates competency of the building energy modeling professional to do the following:

Model new and existing buildings and systems with the full range of physics; and evaluate, select, use, calibrate and interpret the results of energy modeling software where applied to building and systems energy performance and economics.

More information about the BEMP credential and eligibility criteria can be found on the ASHRAE website and in the BEMP Candidate Guidebook.

This Study Guide provides a framework and tools to help you self-assess your knowledge in building energy modeling and create a customized, self-paced study plan for the BEMP exam. ASHRAE offers numerous resources in the field. The Study Guide will help you target which resources are most beneficial based on your own professional development needs.

In this Study Guide, you, the candidate, are expected to evaluate your personal skills and qualifications against numerous Tasks broken down into individual Domains.

Depending on your experience level, some of these Tasks may be daunting and unfamiliar. If that is the case, consider it an opportunity for growth and devote extra attention to these matters. David Underwood, P. Eng., 2015-2016 ASHRAE President, once said that “we in the engineering community are in the solutions industry.” Based on this statement, it is your job to identify problems and produce solutions. The Tasks included in Domains 1-4 represent the knowledge, skills, and abilities necessary to model new and existing buildings and systems, and produce solutions for optimal building and systems energy performance, and this Study Guide represents your opportunity to fill gaps in your knowledge or experience base.

Using navigation buttons at top of screen: The buttons located at the top of each page allow you to navigate through this document. Click on these buttons to take you Back to view the last page you were on or to the First Page, Previous Page, Next Page, or Last Page. The Glossary button provides a direct link to the full glossary.

THE OVERARCHING GOALS OF THE STUDY GUIDE ARE TO:

- Provide a framework and tools for customized, self-paced exam preparation
- Focus your review on key elements of recommended exam preparation resources
- Review knowledge needed to model new and existing buildings and systems
- Build knowledge and skills across the four (4) Domains of the BEMP exam, which are:

I **Domain I:** Establishing the Modeling Scope

II **Domain II:** Components of Building and Energy Systems

III **Domain III:** Applications of Energy Models for Buildings

IV **Domain IV:** Interpretations of Energy Model Results

- Identify key terms and concepts used by building energy modeling professionals
- Provide the opportunity for you to test your acumen and readiness for the BEMP exam
- Help you assess your own individual core content strengths and weaknesses, and build a study map customized for your needs

How to Use This Study Guide

This Study Guide is designed as a workbook that contains tools you can use to assess what you need to focus on as you prepare to take the exam.

The Study Guide is organized by Domains, Subdomains, and Tasks. There are four Domains total, all of which have numerous Subdomains and Tasks, so we've broken them down into segments. The BEMP certification exam was developed to assess your competence to perform each of these Tasks as organized under each Domain, so this is a great way to organize your study leading up to the exam and to also build and validate your knowledge, skills, and abilities as a building energy modeling professional.

ASHRAE offers numerous resources to help you study for the BEMP certification exam; however, which resources do you need to review to prepare for the exam? The tools in this Study Guide link the Domains and Tasks with the resources available from ASHRAE to help you review and study the content. The tools will also help you determine which Tasks you need to focus on. So, for example, if through the Self-assessment and Quick Quiz contained herein you discover that you have limited knowledge of Domain 1: Establishing the Modeling Scope, Task I.B.2: "Evaluate mathematical modeling methods for building components," the Study Guide will direct you to the 2021 *Fundamentals Handbook, Ch. 19, Section 1.1.*

ASHRAE Resources are listed in this Study Guide and are available in the ASHRAE Bookstore