

**Energy Code Essentials:  
Based on the 2021 *International  
Energy Conservation Code*<sup>®</sup>**

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# Preface

**R**egulating energy use in buildings is a relatively new concept in the design and code enforcement industry. Designers, tradespeople and administrators have long been testing and teaching safe building practices that suit local climates and utilize local materials, with the common goals of keeping out dust, rain, threatening animals and bugs, and letting in light and fresh air. The codes adopted by governmental agencies have been refined over time so that building structures withstand the forces of nature, protect the building occupants and provide safe, clean water and air.

As the fire-resistant, plumbing and ventilation systems of buildings became more reliable and the cost of energy increased, building and design professionals began to focus on reducing energy consumption. As a result, the earliest versions of the *International Energy Conservation Code*® (IECC®) were created to provide design guidelines for the effective use and conservation of energy in commercial and residential buildings. The provisions of the IECC have changed throughout the years to incorporate the advancements of materials, methods and equipment that impact the energy use of buildings.



*Energy Code Essentials* captures these provisions and is written to provide a readable and user-friendly overview of the IECC. This book is directed to readers familiar with basic construction, architectural and building system principles but with a limited knowledge of energy code requirements and provisions. The content of *Energy Code Essentials* is organized into commercial and residential building provisions, and it discusses the administrative responsibilities that a code official in the building department will apply to enforce the energy regulations. Full-color photos and illustrations are included to help the reader visualize and understand the application of the code requirements. Practical examples, simplified tables and highlights of particularly useful information clarify the basic requirements of the code and assist the reader in determining compliance.

While this book provides extensive coverage of the requirements of the IECC, it is not intended to explain all commercial and residential energy code provisions or all acceptable materials and methods of construction. Instead, it focuses on the most common and used provisions applicable to many conditions in residential and commercial construction. This book should be used alongside the 2021 IECC; references to the applicable sections of the IECC are included to easily locate the code section for more detail and exact code language.

This is the fourth edition of this publication, updated for the 2021 IECC. Other editions include the 2012, 2015 and 2018 *Energy Code Essentials* and the 2018 *CARICOM Energy Code Essentials*.

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## ABOUT THE INTERNATIONAL ENERGY CONSERVATION CODE

The IECC is a comprehensive model code that regulates minimum energy-efficient provisions for new buildings and additions and alterations to existing buildings. The IECC contains two separate sets of provisions—commercial and residential. These provisions apply to the building thermal envelope and mechanical, service water heating and electrical power and lighting systems of applicable building types. Administrative provisions and definitions specific to each set of requirements are also included. The IECC integrates easy-to-understand prescriptive provisions for compliance as well as performance criteria that make possible the use of new and innovative materials, equipment and building designs.

The IECC is one of 15 codes in the family of International Codes published by the International Code Council® (ICC®). These codes are maintained and updated through an open code development process and are available internationally for adoption by the governing authority to provide consistent and enforceable regulations for the built environment.

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The 2021 edition has been substantially reorganized, expanded and updated by Jerica Stacey, ICC Energy Code Specialist. Ms. Stacey would like to extend a special thank you to Eric Makela for dedicating over 30 years to advancing building energy codes and for providing unwavering mentorship to the next generation, and to Dr. Allen Lee for offering innovative and forward-thinking solutions to the energy efficiency industry and for supporting the careers of so many others.

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## ABOUT THE INTERNATIONAL CODE COUNCIL

The International Code Council is the leading global source of model codes and standards and building safety solutions that include product evaluation, accreditation, technology, codification, training and certification. The Code Council's codes, standards and solutions are used to ensure safe, affordable and sustainable communities and buildings worldwide. The International Code Council family of solutions includes the ICC Evaluation Service, the International Accreditation Service, General Code, S. K. Ghosh Associates, NTA Inc., ICC Community Development Solutions and the Alliance for National & Community Resilience. The Code Council is the largest international association of building safety professionals and is the trusted source of model codes and standards that establish the baseline for building safety globally and creating a level playing field for designers, builders and manufacturers.

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