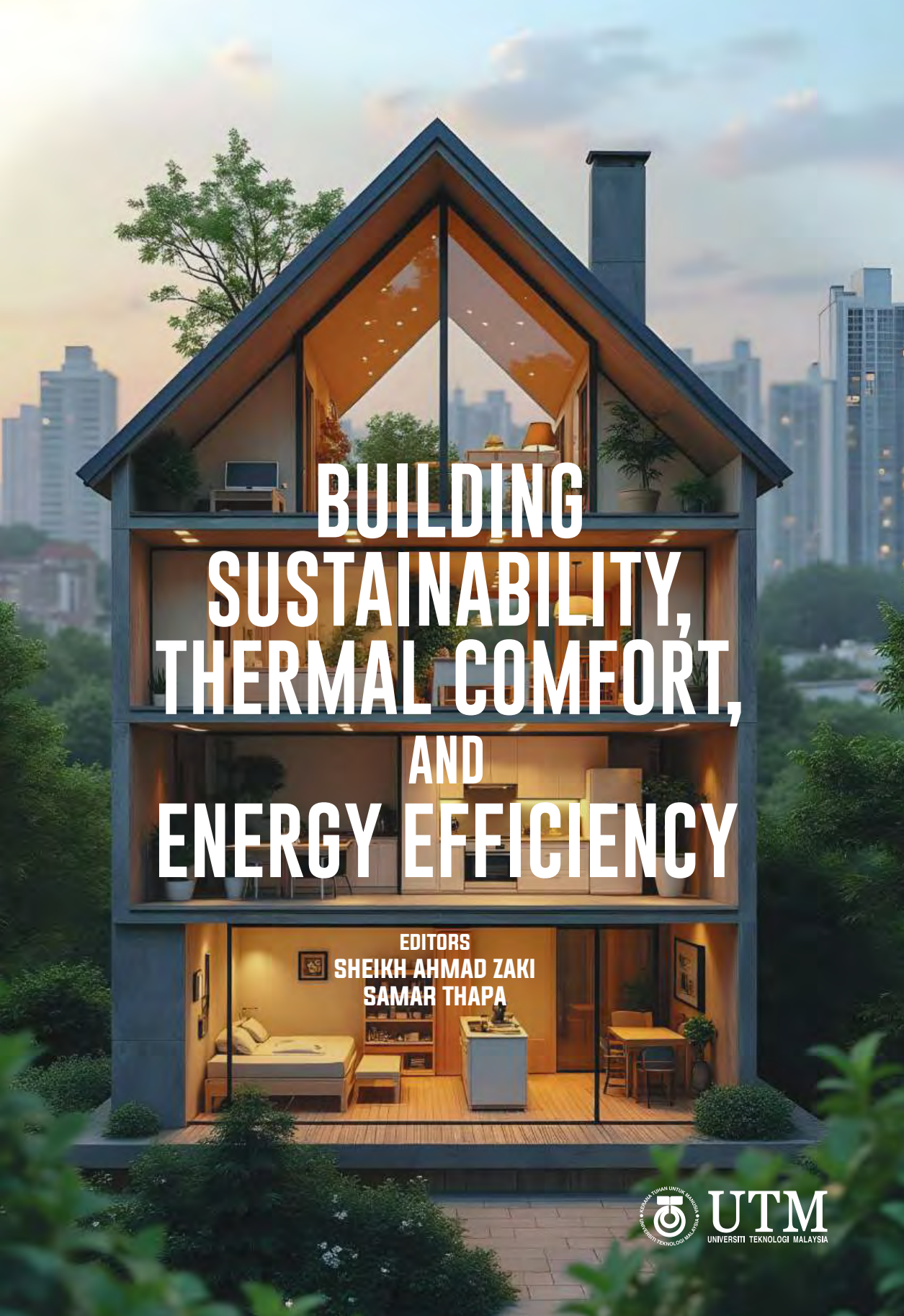

BUILDING SUSTAINABILITY, THERMAL COMFORT, AND ENERGY EFFICIENCY

EDITORS
SHEIKH AHMAD ZAKI
SAMAR THAPA

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

BUILDING SUSTAINABILITY, THERMAL COMFORT, AND ENERGY EFFICIENCY

In an era of climate change and rapid urbanisation, Building Sustainability, Thermal Comfort, and Energy Efficiency explores the critical intersection of energy consumption, thermal comfort, and sustainable design. This comprehensive volume brings together cutting-edge research from diverse geographic contexts, including Malaysia, Japan, Turkey, Nigeria, and Australia.

Each chapter provides profound insights and practical strategies for creating energy-efficient, comfortable living and working environments. From understanding how socioeconomic factors influence energy use in Malaysian homes to advocating for renewable energy solutions in the tropics, this book offers a holistic view of sustainable architecture and urban planning.

Ideal for architects, urban planners, policymakers, and researchers, this book emphasises the need for integrative and inclusive approaches to building design. By leveraging technological innovations and fostering community engagement paves the way for a future where sustainability and comfort coexist harmoniously, creating liveable and thriving communities for all.

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PREFACE

In an era where the impacts of climate change are becoming increasingly evident, the need to create sustainable and comfortable built environments has never been more urgent. *Building Sustainability, Thermal Comfort and Energy Efficiency* emerge as a timely and essential contribution to architecture, urban planning, and environmental science. This book brings together a collection of research studies that delve into the intricate relationship between energy consumption and thermal comfort – moreover, sustainable design, offering profound and practical insights.

The genesis of this book lies in the recognition that achieving sustainability in the built environment is a multifaceted challenge. It requires an integrative approach considering diverse geographic, climatic, and socioeconomic contexts. The studies presented here span a wide range of locations, from the tropical climates of Malaysia and Australia to the temperate regions of Japan, each providing unique perspectives on how different environments influence energy use and occupant comfort.

The first chapter, *Balancing Comfort and Sustainability in Buildings,* which is an editorial, sets the stage for the subsequent chapters, highlighting the significance of the research and contributions it makes to advance our understanding of sustainable and comfortable built environments. It underscores the urgency and relevance of the book's themes, inviting readers to engage with the studies and apply the insights to their contexts and practices.

As the world grapples with the dual challenges of climate change and urbanisation, the insights and strategies outlined in this book are indispensable for architects, urban planners, policymakers, and

researchers. By embracing innovative design principles, leveraging intelligent technologies, and fostering community engagement, one can create energy-efficient built environments and enhance the comfort and well-being of the occupants.

Building Sustainability, Thermal Comfort and Energy Efficiency is a testament to the power of interdisciplinary research and collaboration. It advocates for a vision of sustainable comfort that prioritises adaptability, resilience, and inclusivity, ensuring that our built environments are equipped to meet the needs of present and future generations. Through the collective efforts of the contributors and the broader community, we can move towards a future where sustainability and comfort coexist harmoniously, creating liveable and thriving communities for all.

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