PREFACE

The growing demand for sustainable, resilient, and intelligent healthcare infrastructure has accelerated the integration of renewable energy solutions into medical facilities. This book explores innovative technologies, strategies, and case studies that demonstrate how solar, wind, hydrogen, and bioenergy systems are transforming healthcare environments into smart, energy-efficient ecosystems. Addressing the dual imperatives of energy security and carbon reduction, the chapters provide interdisciplinary insights into system design, energy management, and digital integration tailored to clinical settings. This compilation serves as a vital reference for researchers, engineers, policymakers, and healthcare administrators aiming to build greener, smarter, and more sustainable medical facilities worldwide.