Contents

List of contributors vii

Foreword xv
Kevin Anderson

1 Retrofitting the built environment: An introduction 1
Will Swan and Philip Brown

PART 1 Understanding the problem 5

2 Achieving 'systemic' urban retrofit: A framework for action 7
Tim May, Mike Hodson, Simon Marvin and Beth Perry

3 Openness in household energy use: The new Housing Energy Fact File 20
Jason Palmer, Ian Cooper and Martin Hughes

4 Retrofit innovation in the UK social housing sector: A socio-technical perspective 36
Will Swan

PART 2 Policy and regulation 53

5 A roadmap to significant reductions in energy use for existing buildings: The long view 55
Stephen Morgan

6 Thermal retrofit and building regulations for dwellings in the UK 67
Stephen Todd

7 Retrofitting existing dwellings: Lessons from the policy instruments of front-runners 81
Lorraine Murphy

PART 3 Implementing and evaluating retrofit 97

8 Make no assumptions: The selection of domestic retrofit improvements 99

9 Life cycle assessment of refurbishment strategies for historical buildings 113
Gianluca Ruggieri, Giovanni Dotelli, Paco Melià and Sergio Sabbadini

10 FutureFit: Lessons for the Green Deal from a retrofit large-scale project in UK social housing 128
Alexandra Willey
11 Energy monitoring in retrofit projects: Strategies, tools and practices
Richard Fitton

PART 4 Peoples and communities

12 Engaging residents in multifamily building retrofits: Reducing energy consumption and enhancing resident satisfaction
Patricia Gee and Lucrezia Chiappetta

13 Ensuring energy efficiency at the individual level: Getting psychologically informed
Philip Brown

14 Barriers to domestic retrofit: Learning from past home improvement experiences
Becky Mallaband, Victoria Haines and Val Mitchell

15 Low-energy design for non-experts: Usability in whole house retrofit
Marianne Heaslip

Index

225