

# Enerphit A Step By Step Guide To Low Energy Retro

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## Residential Retrofit - Marion Baeli 2014

The essence of sustainability in buildings is their capability to adapt to change over time. The UK has a large housing stock that has been developed and evolved over generations, and become the fabric and character of our cities, towns and neighbourhoods. The capability of buildings to adapt to changing lifestyles is the root of their sustainability. When buildings do not adapt they are disposed of, since it is only active use that confers value. It is only value that provides necessary investment for renewal. This book presents a series of innovative and best practice case studies of residential low energy retrofit projects, and illustrates what has been achieved in practice in the UK. The book: Offers examples of residential retrofit which can effectively address major issues raised by the UK existing housing stock, such as: major CO2 emissions; energy efficiency; ageing building fabric; uncomfortable internal environments; and fuel poverty Increases the construction industry's understanding of residential retrofits Increases the confidence of professionals and homeowners to undertake low energy retrofits Informs home owners and social landlords of the financial implications and whole life costing of low energy retrofit Illustrates strategies available for different construction types Explains the main issues to look out for in a retrofit project, through the experience of the various case study teams Provides building energy monitoring data to confirm the potential real energy savings.

## **Phpp Illustrated** - Sarah Lewis 2017-11

Concise, user-friendly and illustrated, this step-by-step book is ideal for practitioners and students looking to utilise the Passive House Planning Package (PHPP) as a design tool. Readers will be empowered as they better understand the essential criteria for all low energy building schemes, including: the impact of orientation, envelop to treated-floor ratios, and shading effects on the energy balance.

## *Pretty Good House* - Michael Maines 2022-05-24

*Pretty Good House* provides a framework and set of guidelines for building or renovating a high-performance home that focus on its inhabitants and the environment--but keeps in mind that few people have pockets deep enough to achieve a "perfect" solution. The essential idea is for homeowners to work within their financial and practical constraints both to meet their own needs and do as much for the planet as possible. A *Pretty Good House* is: \* A house that's as small as possible \* Simple and durable, but also well designed \* Insulated and air-sealed \* Above all, it is affordable, healthy, responsible, and resilient.

## *Chudley and Greeno's Building Construction Handbook* - Roy Chudley 2020-03-31

The 12th edition of Chudley and Greeno's *Building Construction Handbook* remains THE authoritative reference for all construction students and professionals. The principles and processes of construction are explained with the concepts of design included where appropriate. Extensive coverage of building construction

practice, techniques and regulations representing both traditional procedures and modern developments are included to provide the most comprehensive and easy to understand guide to building construction. This new edition has been updated to reflect recent changes to the building regulations, as well as new material on modern methods of construction, greater emphasis on sustainability and a new look interior. Chudley and Greeno's Building Construction Handbook is the essential, easy-to-use resource for undergraduate and vocational students on a wide range of courses including NVQ and BTEC National, through to Higher National Certificate and Diploma, to Foundation and three-year Degree level. It is also a useful practical reference for building designers, contractors and others engaged in the construction industry.

Cost-Effective Energy Efficient Building Retrofitting - Fernando Pacheco-Torgal 2017-01-03

Cost-Effective Energy Efficient Building Retrofitting: Materials, Technologies, Optimization and Case Studies provides essential knowledge for civil engineers, architects, and other professionals working in the field of cost-effective energy efficient building retrofitting. The building sector is responsible for high energy consumption and its global demand is expected to grow as each day there are approximately 200,000 new inhabitants on planet Earth. The majority of electric energy will continue to be generated from the combustion of fossil fuels releasing not only carbon dioxide, but also methane and nitrous oxide. Energy efficiency measures are therefore crucial to reduce greenhouse gas emissions of the building sector. Energy efficient building retrofitting needs to not only be technically feasible, but also economically viable. New building materials and advanced technologies already exist, but the knowledge to integrate all active components is still scarce and far from being widespread among building industry stakeholders. Emphasizes cost-effective methods for the refurbishment of existing buildings, presenting state-of-the-art technologies Includes detailed case studies that explain various methods and Net Zero Energy Explains optimal analysis and prioritization of

cost effective strategies

**Architecture as a Global System** - Peter Raisbeck 2019-11-08

This book provides a clear-sighted analysis which suggests that architectural design may yet shape and order the future of cities. A clear argument that emerges is that to retain their future agency, architects must understand the contours and ecologies of practice that constitute the global system of architectural production.

*Parametric Design for Architecture* - Wassim Jabi 2013-09-15

Architects use CAD to help them visualize their ideas. Parametric design is a fast-growing development of CAD that lets architects and designers specify the key parameters of their model and make changes interactively. Whenever changes are made the rest of the model updates automatically. Through a detailed description of various parametric, generative and algorithmic techniques, this book provides a practical guide to generating geometric and topological solutions for various situations, including explicit step-by-step tutorials. While the techniques and algorithms can be generalized to suit to any parametric environment, the book illustrates its concepts using the scripting languages of one of the most powerful 3D visualization and animation design software systems (Autodesk 3ds Max MAXScript), one of the most popular open-source Java-based scripting environments (Processing), and a brand new language specifically tailored for parametric and generative design (Autodesk DesignScript). This clear, accessible book will have a wide appeal to students and practitioners who would like to experiment with parametric techniques.

*The Environmental Design Pocketbook* - Sofie Pelsmakers 2019-10-23

The Environmental Design Pocketbook 2nd ed places the information you need for sustainable, low energy building design at your fingertips. Packed with diagrams, tools and tips, it cuts through the complex mass of technical data and legislation that faces the designer, and distils all the key guidance into a single reference that is quick, easy to use and points to the facts, figures and performance data that are most important. This 2nd edition is now fully up-to-date with the

latest Building Regulations Part L and F legislation (England and Wales), RIBA Plan of Work 2013, new information on the Green Deal and Zero Carbon and contains revised references and further reading sections throughout. Whether used in the classroom, office or on-site, the book guides the designer through the entire process; from the fundamentals to the building details. From future-proofing for a changing climate to rainwater harvesting, retrofit, and zero-carbon technologies - the Pocketbook has got it covered.

Energy-Smart Buildings - Jacob J. Lamb  
2020-04-02

Energy-Smart Buildings intends to provide a brief research source for building technology and regulations in terms of energy efficiency, as well as discussing fundamental aspects and cutting-edge trends for new buildings and retrofitting the current building stock. Additionally, sources of renewable and sustainable energy production and storage are reviewed, with case studies of such systems on buildings in a cold climate. This volume provides industry professionals, researchers and students with the most updated review on modern building ideas, and renewable energy technologies that can be coupled with them. It is especially valuable for those starting on a new topic of research or coming into the field.

**Architizer: the World's Best Architecture Practices 2021** - Architizer 2021-11-04

Celebrates winners of Architizer's inaugural A+Firm Awards with the work of the most outstanding contemporary architects Architizer: The World's Best Architecture Practices accompanies Architizer's inaugural A+Firm Awards program, which honors an inspiring and remarkably varied selection of the most world's most innovative architects. Chosen by an international panel of experts, the winners include industry stars, such as Adjaye Associates, Zaha Hadid Architects, and Bjarke Ingles Group, alongside emerging talents like Tatiana Bilbao and Buro Koray Duman. The ultimate accolade for collaborative creativity, recipients include architecture firms, landscape architects, engineers, interior designers, photographers and real estate developers.

Passive House Design - Gonzalo Roberto 2014-06  
The passive house standard is developing more

and more into the international key currency of energy-efficient construction. Passive houses are being erected in almost all parts of the world and for all types of users. "Plus energy" buildings and entire zero-energy districts show that the passive house standard is also a sound basis for advanced efficiency strategies. At the same time, many architects are unsure about the specifics: What do passive houses really deliver, and what errors need to be avoided during planning? The book "Passive House Design" gives readers confidence in dealing with the passive house standard from the very first design draft. It shows how much scope for design there is in passive houses and explains design strategies that lead to better passive buildings. Detailed documentations of both residential and non-residential buildings illustrate how design, construction and building technology combine in passive houses. Chapters on building physics, building services engineering and energy balancing provide the required detailed knowledge for being able to implement your own passive house projects.

**Designed to Perform** - Tom Dollard 2019-07-25

This book is an illustrated practical design guide to delivering better energy performance in all types of new build homes. It takes the form of an annotated details book, with photos taken from live construction sites, with the content based around diagrams, drawings and photos by the author, which demonstrates valuable best practice knowledge and advice. Chapter 1 is an introduction to the performance gap and the quality of design and construction in new build homes, explaining the typical construction sequence of homebuilding, and highlights common issues that designers need to engage with. Chapters 2-7 look at each construction fabric in turn, including a series of detailed drawings, diagrams and photos illustrating the key elements of good design. Chapter 8 contains a checklist of all performance gap issues that designers need to look for. This book will provide valuable guidance to architects and designers on how to improve their detailing at construction stage, and therefore the overall quality of design and performance of new homes.

**Sustainable Renovation** - Chris Morgan 2018

Facade Refurbishment Toolbox - Thaleia Konstantinou 2014-08-24

The starting point of the research is the need to refurbish existing residential building stock, in order to reduce its energy demand, which accounts for over one fourth of the energy consumption in the European Union.

Refurbishment is a necessary step to reach the ambitious energy and decarbonisation targets for 2020 and 2050 that require an eventual reduction up to 90% in CO2 emissions. In this context, the rate and depth of refurbishment need to grow. The number of buildings to be renovated every year should increase, while the energy savings in renovated buildings should be over 60% reduction to current energy demand. To achieve that, not only is it necessary to find politics and incentives, but also to enable the building industry to design and construct effective refurbishment strategies. This research focuses on refurbishment of the building envelope, as it is very influential with regard to energy reduction.

**Old House Eco Handbook** - Roger Hunt 2019-09-17

How should we go about making old houses energy efficient without devaluing future sustainability or the appeal and character of old homes by the use of inappropriate solutions? This practical and essential guide to retrofitting for energy efficiency seeks to provide answers to this and other the questions homeowners of old houses are asking. Whether your house is medieval and timber-framed or a Georgian, Victorian or Edwardian terrace, it can be made more energy efficient and sustainable, and this practical and comprehensive handbook will show you how. Revised and updated throughout, and with a foreword by Kevin McCloud, *Old House Eco Handbook* includes chapters on the building envelope; roofs and ceilings; windows and doors; walls; floors; paints; energy, air and water; plus a brand new chapter on retrofit materials. In association with The Society for the Protection of Ancient Buildings, this is a must have for owners of old houses looking to make their homes more energy efficient and sustainable. Chapters Include: 1. Old houses can be green 2. Old house to eco house 3. The building envelope 4. Retrofit materials 5. Roofs and ceilings 6. Windows and doors 7. Walls 8. Floors 9. Paints

10. Energy, air and water 11. Old house for the future

*Building Energy Simulation* - Vishal Garg 2020-08-17

The second edition of *Building Energy Simulation* includes studies of various components and systems of buildings and their effect on energy consumption, with the help of DesignBuilder™, a front-end for the EnergyPlus simulation engine, supported by examples and exercises. The book employs a "learning by doing" methodology. It explains simulation-input parameters and how-to-do analysis of the simulation output, in the process explaining building physics and energy simulation. Divided into three sections, it covers the fundamentals of energy simulation followed by advanced topics in energy simulation and simulation for compliance with building codes and detailed case studies for comprehensive building energy simulation. Features: Focuses on learning building energy simulation while being interactive through examples and exercises. Explains the building physics and the science behind the energy performance of buildings. Encourages an integrated design approach by explaining the interactions between various building systems and their effect on energy performance of building. Discusses a how-to model for building energy code compliance including three projects to practice whole building simulation. Provides hands-on training of building energy simulation tools:

DesignBuilder™ and EnergyPlus. Includes practical projects problems, appendices and CAD files in the e-resources section. *Building Energy Simulation* is intended for students and researchers in building energy courses, energy simulation professionals, and architects.

*Architect's Pocket Book* - Ann Ross 2011-04-11 This pocket book includes everyday information which the architect/designer has to find from a wide variety of sources. The book includes data about planning, structure, services, building elements, materials and useful addresses.

**The Passivhaus Designer's Manual** - Christina J. Hopfe 2015-10-05

Passivhaus is the fastest growing energy performance standard in the world, with almost 50,000 buildings realised to date. Applicable to both domestic and non-domestic building types,

the strength of Passivhaus lies in the simplicity of the concept. As European and global energy directives move ever closer towards Zero (fossil) Energy standards, Passivhaus provides a robust 'fabric first' approach from which to make the next step. The Passivhaus Designers Manual is the most comprehensive technical guide available to those wishing to design and build Passivhaus and Zero Energy Buildings. As a technical reference for architects, engineers and construction professionals The Passivhaus Designers Manual provides: State of the art guidance for anyone designing or working on a Passivhaus project; In depth information on building services, including high performance ventilation systems and ultra-low energy heating and cooling systems; Holistic design guidance encompassing: daylight design, ecological materials, thermal comfort, indoor air quality and economics; Practical advice on procurement methods, project management and quality assurance; Renewable energy systems suitable for Passivhaus and Zero Energy Buildings; Practical case studies from the UK, USA, and Germany amongst others; Detailed worked examples to show you how it's done and what to look out for; Expert advice from 20 world renowned Passivhaus designers, architects, building physicists and engineers. Lavishly illustrated with nearly 200 full colour illustrations, and presented by two highly experienced specialists, this is your one-stop shop for comprehensive practical information on Passivhaus and Zero Energy buildings.

Reclaimed Wood - Alan Solomon 2019-10-01

Wood reclaimed from old houses, factories, barns, water tanks, and boardwalks has become a valuable commodity, treasured for the patina that gives witness to its history. Our ancestors built well, using locally sourced lumber that expressed the culture and natural history of their region: oak and pine in the Northeast; hickory and cypress in the South; Douglas fir and redwood in the West. Reclaimed Wood: A Field Guide is the first complete visual handbook to this popular resource, covering history, culture, salvage, sources, contemporary uses (in buildings and furniture), and practical advice.

**Sustainable Home Refurbishment** - Dave Thorpe 2010

A retro-fit offers many benefits: cutting

electricity and heating bills, increasing the resale value of homes, slashing carbon emissions and creating a healthier place to live. This book is the guide to making it happen. It looks at: draught-proofing, insulation and damp ventilation, heating and cooling electrical efficiency and renewable energy water use and re-use materials' life cycles and incorporating nature protection from climate change impacts - modelling energy flows and embodied energy how we can meet the need to cut carbon emissions from dwellings by eighty percent by 2050. Projects can apply to apartment blocks, recent builds and older, solid-walled properties. Enlivened with helpful diagrams and photographs, plus plenty of pointers for further information, it provides a comprehensive resource handbook for any building professional and contractor, students - or any homeowner serious about efficiency (cash and carbon) savings.

Thinking Like a Climate - Hannah Knox 2020-09-11

In Thinking Like a Climate Hannah Knox confronts the challenges that climate change poses to knowledge production and modern politics. Drawing on ethnographic fieldwork among policy makers, politicians, activists, scholars, and the public in Manchester, England—birthplace of the Industrial Revolution—Knox explores the city's strategies for understanding and responding to deteriorating environmental conditions. Climate science, Knox argues, frames climate change as a very particular kind of social problem that confronts the limits of administrative and bureaucratic techniques of knowing people, places, and things. Exceeding these limits requires forging new modes of relating to climate in ways that reimagine the social in climatological terms. Knox contends that the day-to-day work of crafting and implementing climate policy and translating climate knowledge into the work of governance demonstrates that local responses to climate change can be scaled up to effect change on a global scale.

**Architectural Inventions** - Matt Bua 2012-10-22

Born out of the drawingbuilding.org online archive, Architectural Inventions presents a stunning visual study of impossible or

speculative structures that exist only on paper. Soliciting the work of architects, designers, and artists of renown –as well as emerging talents from all over the world –Maximilian Goldfarb and Matt Bua have gathered an array of works that convey architectural alternatives, through products, expansions, or critiques of our inhabited environments. From abstract and conceptual visual interpretations of structures to more traditional architectural renderings, the featured work is divided into thematic chapters, ranging from 'Adapt/Reuse' to 'Clandestine' 'Mobile' 'Radical Lifestyle', 'Techno-Sustainable', and 'Worship'. Along with arresting and awe-inspiring illustrated content, every chapter also features an essay exploring its respective themes. Highlighting visions that exist outside of established channels of production and conventions of design, Architectural Inventions showcases a wide scope in concept and vision, fantasy and innovation.

**Passive Solar Architecture Pocket Reference**  
- David Thorpe 2017-11-15

This handy pocket reference contains a wealth of information on a range of topics including the principles of passive solar building and passive house, a ten-step design and build strategy, calculating solar irradiance, factors affecting the choice of building materials, passive heating and cooling principles and techniques in different climates, the Passivhaus Standard and natural and augmented lighting and notes on technology and building occupation. The book also includes conversion factors, standards, resources and is peppered throughout with helpful illustrations, equations, explanations, and links to further online resources. Ideal for practitioners, architects, designers, consultants, planners, home builders, students and academics, and those working in development contexts, the book is intended to act as an aide memoir, a reference supplement, a resource and an overview of the field. Rich in background detail, the book also includes at-a-glance tables and diagrams, equations and key definitions.

**Innovative Houses** - Avi Friedman 2013-10-07

Housing is rapidly having to adapt to the global changes of the twenty first century. These include the transformation of the family and the rise of the non-traditional household, increases in construction costs, and concerns over climate

change and the depletion of natural resources. Designing residential environments that address these issues is an urgent priority. This book examines the latest residential design trends that have arisen in response to these challenges. Divided into four broad areas, tightly focused thematic chapters look at twenty discrete topics, such as live/work; adaptable housing; prefabrication; water efficiency; green roofs; and innovative landscaping. Each chapter includes an essay which lays out principles, methods and practices. Using text, drawings and photos from a variety of contemporary international practices, the book demonstrates how these ideas can be applied by architects. It offers a comprehensive collection of strategies and examples that will inspire a much needed housing revolution.

**An Introduction to Passive House** - Justin Bere 2019-07-25

Throughout the world, Passive House is now recognised as the best method to create comfortable, healthy, low energy buildings and it is a key component of the 21st century's green economic revolution. Written by one of the UK's leading passive house architects, this book contains essays that reveal the technical and creative secrets of Passive House design, as well as containing case studies of some of the world's best examples of beautiful, technically excellent buildings that still feel great even when the power supply is turned down to almost nothing. Whether you are an architect, client, student or construction professional, this book is an enlightening introduction to Passive House and a valuable source of inspiration.

**The Power of Existing Buildings** - Robert Sroufe 2019-11-12

In The Power of Existing Buildings, academic sustainability expert Robert Sroufe, and construction and building experts Craig Stevenson and Beth Eckenrode, explain how to realize the potential of existing buildings and make them perform like new. This step-by-step guide will help readers to: understand where to start a project; develop financial models and realize costs savings; assemble an expert team; and align goals with numerous sustainability programs. The Power of Existing Buildings will challenge you to rethink spaces where people work and play, while determining how existing

buildings can save the world. The insights and practical experience of Sroufe, Stevenson, and Eckenrode, along with the project case study examples, provide new insights on investing in existing buildings for building owners, engineers, occupants, architects, and real estate and construction professionals.

**Building Economics: Theory and Practice** - Rosalie Ruegg 2013-11-11

We no longer build buildings like we used to nor do we pay for them in the same way. Buildings today are no longer only shelter but are also life support systems, communication terminals, data manufacturing centers, and much more.

Buildings are incredibly expensive tools that must be constantly adjusted to function efficiently. The economics of building has become as complex as its design. When buildings were shelter they lasted longer than their builders. The average gothic master mason lived 35 or 40 years. Cathedrals took 3 or 4 hundred years to build. Cost estimates were verified by great great grandchildren of the original designer. Today, creative economics has become as important as creative design and creative building. The client brings builder, contractor, architect, and facilities manager to account in their life time. The cost of building can therefore no longer be left to chance or act of god. Solutions are no longer as ingeniously simple as those proposed by a Florentine builder early in the 15th century. He proposed to center the dome of S. Maria deI Fiore on a great mound of earth mixed with pennies. When the job was done street urchins would carry away the dirt in their search for the pennies. This was a serious suggestion offered by an early construction manager before Brunelleschi solved the problem more sensibly.

*EnerPHit* - James Traynor 2020-02-05

In order to meet UK Carbon reduction commitments for 2020 and 2050 building owners will be required to upgrade their buildings to meet an increasingly stringent set of energy performance requirements. In the absence of any clear advice from UK Government on how this can be achieved, the EnerPHit standard offers a very clear methodology. This is a practical guide that gives architects the tools to retrofit buildings to the highest EnerPHit standard. It equips the reader with the key

information on EnerPHit (as the most effective benchmark for performance), the practical know-how and tips to ensure effective retrofit throughout all Plan of Work stages of a project to the EnerPHit standard. Backed with real-life case studies, it enables you to understand how to achieve successful outcomes tailored to suit available budgets and programmes.

Passive House Details - Donald B. Corner 2017-08-09

Passive House Details introduces the concepts, principles, and design processes of building ultralow-energy buildings. The objective of this book is to provide design goals, research, analysis, systems, details, and inspiring images of some of the most energy-efficient, carbon-neutral, healthy, and satisfying buildings currently built in the region. Other topics included: heat transfer, moisture management, performance targets, and climatic zones. Illustrated with more than 375 color images, the book is a visual catalog of construction details, materials, and systems drawn from projects contributed from forty firms. Fourteen in-depth case studies demonstrate the most energy-efficient systems for foundations, walls, floors, roofs, windows, doors, and more.

**Understanding Passivhaus** - Emma Walshaw 2020-09-08

Understanding Passivhaus is a simple guide to the Passivhaus standard. The book explains the principles behind Passivhaus thinking, and explores numerous construction methods for achieving the Passivhaus standard. What is Passivhaus? Why design a Passivhaus? PHPP Certification Principles of Passivhaus Design Technical requirements Building fabric Form factor Insulation Thermal bridge Airtightness and air leakage Building services and ventilation Windows Solar design Shading Summer ventilation Roof lights Types of Construction Masonry construction Timber frame Structural Insulated Panels (SIPS) Insulated Concrete Formwork (ICF) Mixed methods of construction Construction Details Solid concrete with rendered external insulation Insulated concrete formwork Solid masonry with larsen trusses Masonry cavity wall Timber frame with larsen trusses Timber I joist frame SIPS construction Timber frame with external render Case Studies A selection of wonderful examples of Passivhaus

designs and construction methods, with more case studies added for this second edition.

**Energy Efficiency in Japan** - Agung Wicaksono 2008

Based on presentations on Japan's energy efficiency and conservation at ISEAS Energy Forums. Since the 1970s, Japan, which depends almost wholly on imported energy supplies from abroad, has been conducting various efforts on energy conservation and diversification of energy sources. As a result, Japan has achieved the lowest primary energy consumption per GDP in the world.

*The Tall Buildings Reference Book* - David Parker 2013-04-12

As the ever-changing skylines of cities all over the world show, tall buildings are an increasingly important solution to accommodating growth more sustainably in today's urban areas. Whether it is residential, a workplace or mixed use, the tower is both a statement of intent and the defining image for the new global city. The Tall Buildings Reference Book addresses all the issues of building tall, from the procurement stage through the design and construction process to new technologies and the building's contribution to the urban habitat. A case study section highlights the latest, the most innovative, the greenest and the most inspirational tall buildings being constructed today. A team of over fifty experts in all aspects of building tall have contributed to the making of the Tall Buildings Reference Book, creating an unparalleled source of information and inspiration for architects, engineers and developers.

**Details for Passive Houses: Renovation** - IBO Österreichisches Institut für Baubiologie und -ökologie 2017-01-01

Ecological refurbishment to Passivhaus standard requires know-how and experience. For this reason, the book has been produced as a design tool which systematically covers existing solutions. Examples relating to building physics, construction and ecology issues are presented in the same successful manner as in the Passivhaus Building Component Catalog also published by IBO/IBN (Institute for Building Biology and Ecology) using standard cross-sections and connection details in four-color scale drawings, as well as numerous tables. They have been

organized by type and period of building and can easily be used to derive individual solutions. The book is a must-have reference manual for designers and building owners who want to refurbish properties to a sustainable standard.

**Sustainable Building Adaptation** - Sara J. Wilkinson 2014-01-21

How to adapt existing building stock is a problem being addressed by local and state governments worldwide. In most developed countries we now spend more on building adaptation than on new construction and there is an urgent need for greater knowledge and awareness of what happens to commercial buildings over time. Sustainable Building Adaptation: innovations in decision-making is a significant contribution to understanding best practice in sustainable adaptations to existing commercial buildings by offering new knowledge-based theoretical and practical insights. Models used are grounded in results of case studies conducted within three collaborative construction project team settings in Australia and the Netherlands, and exemplars are drawn from the Americas, Asia, Japan, Korea and Europe to demonstrate the application of the knowledge more broadly. Results clearly demonstrate that the new models can assist with informed decision-making in adaptation that challenges some of the prevailing solutions based on empirical approaches and which do not accommodate the sustainability dimension. The emphasis is on demonstrating how the new knowledge can be applied by practitioners to deliver professionally relevant outcomes. The book offers guidance towards a balanced approach that incorporates sustainable and optimal approaches for effective management of sustainable adaptation of existing commercial buildings.

**Robotic Building** - Gilles Retsin 2019-04

The use of robots in architecture is already commonplace: robots automate processes that were previously done manually. Complex shapes are created with the help of 3D printing while autonomous swarms of robots construct complex buildings. How does the use of robots affect the resulting structures; how does it affect the thinking of architects who work with robots? Robotic Building answers these questions with several practical examples. A final chapter

explores the idea of architect as robot, the fully-automated home and similar concepts in which the robot merges with its environment and becomes part of our experience.

**Nordic Best Practices** - Marika Bröckl 2016  
The working group on Sustainable Consumption and Production, under the Nordic Council of Ministers requested consultants from Gaia to identify, write out and publish best practice cases of sustainable consumption and production on the UNEP SCP Clearinghouse. This report presents nineteen initiatives that cover two particular themes: 1) Sustainable Lifestyles and Education and 2) Sustainable Public Procurement. The cases have also been added into the UNEP's 10 Year Framework Program (10YFP) information platform, the SCP Clearinghouse which is a concrete result of Rio+20. The objective is to enhance international cooperation in order to accelerate a shift towards sustainable consumption and production in developed and developing countries. The SCP Clearinghouse is a web-based information sharing tool, which can be used by different actors as an inspiration for advancing SCP worldwide.

*Energy, People, Buildings* - Judit Kimpian  
2021-03-01

Energy performance feedback is an essential tool in addressing the current climate crisis. However, this is not simply another theoretical text about energy performance in buildings. This book is for anyone who wants to better understand how energy is used in buildings, and how to drive down operational energy use - whether you're an architect, student, client, building services engineer, contractor, building operator or other stakeholder. Focusing on evidence from feedback on buildings in use, it explains what it takes to get them to perform as expected, as well as the reasons why they often fail. *Energy, People, Buildings* draws extensively on the findings of studies, UK government-funded building performance evaluations and on original research into seven case studies from across the UK and abroad that have achieved exemplary energy use through building performance feedback. Providing a clear roadmap to understanding aspects that impact

building users' comfort and satisfaction, it also outlines the factors behind energy use and how to track it across the life of a project to ensure that your building performs as intended. Case studies include: the Everyman Theatre, Liverpool; Rocky Mountain Institute Innovation Center, Colorado; and Carrowbreck Meadow, Norwich. Featured architects: AHMM, AHR, Architype, Hamson Barron Smith, Haworth Tompkins, Henning Larsen Architects and ZGF Architects.

*The Passivhaus Handbook* - Janet Cotterell  
2021-10-14

An essential guide to making a supremely comfortable, healthy and durable home with exceptionally low energy costs. Covers both retrofitting and new-build.

*Targeting Zero* - Simon Sturgis 2019-06-27  
Embodied and Whole Life Carbon will change the way buildings are designed, yet carbon emissions associated with the construction and life of buildings are not yet wholly understood by the profession. Energy is assumed to be the province of services engineers, yet energy from materials is as big an issue. Architects have the opportunity to take the lead in redefining how buildings are designed to achieve a low carbon future.

**The Greenest Home** - Julie Torres Moskovitz  
2013-06-04

Passive is the new green. Passive Houses—well insulated, virtually airtight buildings—can decrease home heating consumption by an astounding 90 percent, making them not only an attractive choice for prospective homeowners, but also the right choice for a sustainable future. *The Greenest Home* showcases eighteen of the world's most attractive Passive Houses by forward-thinking architects such as Bernheimer Architecture, Olson Kundig Architects, and Onion Flats, among many others. Each case study consists of a detailed project description, plans, and photographs. An appendix lists helpful technical information. Including a mix of new construction and retrofit projects built in a variety of site conditions, *The Greenest Home* is an inspiring sourcebook for architects and prospective homeowners, as well as a useful tool for students, and builders alike.