

Green Roof Case Studies City Of London

Extensively illustrated with photographs and drawings, Living Architecture highlights the most exciting green roof and living wall projects in Australia and New Zealand within an international context. Cities around the world are becoming denser, with greater built form resulting in more hard surfaces and less green space, leaving little room for vegetation or habitat. One way of creating more natural environments within cities is to incorporate green roofs and walls in new buildings or to retrofit them in existing structures. This practice has long been established in Europe and elsewhere, and now Australia and New Zealand have begun to embrace it. The installation of green roofs and walls has many benefits, including the management of stormwater and improved water quality by retaining and filtering rainwater through the plants' soil and root uptake zone; reducing the 'urban heat island effect' in cities; increasing real estate values around green roofs and reducing energy consumption within the interior space by shading, insulation and reducing noise level from outside; and providing

biodiversity opportunities via a vertical link between the roof and the ground. This book will appeal to a wide range of readers, from students and practitioners of architecture, landscape architecture, urban planning and ecology, through to members of the community interested in how they can more effectively use the rooftops and walls of their homes or workplaces to increase green open space in the urban environment.

Green roofs—the ultimate in sustainable building practices—continue to generate enormous interest and enthusiasm among architects, landscape designers, and urban planners. Increasingly strict stormwater regulations and the appeal of LEED-related projects have also boosted the popularity and desirability of green roofs. Those who want to build green roofs, however, have few resources to guide them. Until now, no book has taken a comprehensive look at how to effectively adapt green-roof technology to the variable and extreme North American climate, and how to design projects that will function and endure as successfully as those in Germany, Switzerland, and other European countries. This book fills the gap by providing

an overview of practices and techniques that have been effective in North America. The authors offer options regarding structure, function, horticulture, and logistics, as well as surveys of actual projects and analyses of why they have or haven't succeeded. Approachable and reader-friendly, the manual clearly explains how these complex systems function and how to plan and carry out projects successfully from concept through construction and maintenance. Ideally suited to professionals (including architects, landscape architects, engineers, and designers) and their clients, it brings together key lessons from leaders in the field. Numerous photographs highlight the range of design possibilities and show green roofs both during construction and at various stages of maturity. At last, those seeking basic information about how to design and build green roofs have a concise, authoritative guide to this exciting new technology.

Simple green roof design and installation for the do-it-yourself builder Essential Green Roof Construction is a comprehensive, in-depth guide to building simple green roofs for houses and small buildings. Packed with detailed photos, illustrations, case

studies, and code compliance advice, it offers clear step-by-step instructions necessary to create your own living roof on a new build or as a retrofit. Coverage includes: The benefits of a green roof The basics of planning and design Assessing site conditions such as aspect, slope, and loads Navigating building codes and working with building officials Material options, including professional grade and economical or local alternatives Planting suggestions for different roof climates and conditions, including food production When to call on professionals to ensure safety and integrity Step-by-step guidance for safe roof installation and detailing Annual green roof maintenance. Where common sense meets beauty – a green roof is a system of layers that work together to support plant life, insulate homes, and make the world a greener place. Essential Green Roof Construction will give you the knowledge and confidence to install your own green roof.

Green Roof Systems goes beyond the fashionable green roof movement and provides solid information on building accessible space, often as important public space, over structure. It offers brief coverage of the entire process, including planning

and collaboration, and focuses on the technical aspects of these roof systems, their components, and their applications.

Building Urban Resilience

Considering Research

Urban Agriculture

Living Architecture

Small-Scale Urban Greening

Challenges and Opportunities of Urban Land Use Planning and Green Infrastructure

Towards the Application of the Green Roof in a Master Planned Community (its Benefits on the Upscale Development of Bonifacio Global City)

Urban populations are projected to increase from 54% to 66% of the global population by 2050, with close to 90% of the increase concentrated in Asia and Africa. Cities and towns---a growing source of greenhouse gas emissions---will need to address challenges posed by climate change. A nature-based approach in identifying climate change vulnerabilities and developing relevant adaptation options

was conducted in three towns of the Greater Mekong Subregion. Working with local governments, nongovernment organizations, women's groups, and professional associations, town-wide adaptation measures were defined by overlaying climate change projections on town plans and zoning schemes for strategic infrastructure. This publication captures valuable experience and lessons from the project.

This book provides an up-to-date coverage of green (vegetated) roof research, design, and management from an ecosystem perspective. It reviews, explains, and poses questions about monitoring, substrate, living components and the abiotic, biotic and cultural aspects connecting green roofs to the fields of community, landscape and urban ecology. The work contains examples of green roof venues that demonstrate the focus, level of detail, and techniques needed to understand the structure, function, and impact of these novel ecosystems. Representing a seminal compilation of research and technical knowledge about green roof

ecology and how functional attributes can be enhanced, it delves to explore the next wave of evolution in green technology and defines potential paths for technological advancement and research.

The concept of 'sustainable urban development' has been pushed to the forefront of policymaking and politics as the world wakes up to the impacts of climate change and the destructive effects of the Anthropocene. Climate change has emerged to be one of the biggest challenges faced by our planet today, threatening both built and natural systems with long-term consequences, which may be irreversible. While there is a vast body of literature on sustainability and sustainable urban development, there is currently limited focus on how to cohesively bring together the vital issues of the planning, development, and management of sustainable cities. Moreover, it has been widely stated that current practices and lifestyles cannot continue if we are to leave a healthy living planet to not only the next generation, but also to the generations beyond. The current

global school strikes for climate action (known as Fridays for Future) evidences this. The book advocates the view that the focus needs to rest on ways in which our cities and industries can become green enough to avoid urban ecocide. This book fills a gap in the literature by bringing together issues related to the planning, development, and management of cities and focusing on a triple-bottom-line approach to sustainability.

This book studies the application of green roofs in ecoregions of the western United States and Canada. While green roofs were intended to sustain local or regional vegetation, this volume describes how green roofs in their modern form are typically planted with a low-diversity mix of sedums from Europe or Asia. The authors demonstrate how in the western USA and Canada many green roofs have been designed with native plants and have been found to thrive. Part I of this book covers theory and an overview of ecoregions and their implications for green roofs. In Part II vegetation from prairies, deserts, montane meadows,

coastal meadows, and scrub and sub-alpine habitats are explored on seventy-three ecoregional green roofs. Case studies explore design concepts, materials, watering and maintenance, wildlife, plant species, and lessons learned. Part III covers an overview of ecoregional green roofs and a future outlook. This book is aimed at professionals, designers, researchers, students and educators with an interest in green roofs and the preservation of biodiversity.

The Complete Step-by-Step Guide

The Green Roof Manual

Potential, Design, Ecological Health, Urban Greening, Economics, Policies, and Community Perceptions

Retrofitting Cities for Tomorrow's World

Construction Safety Informatics

Cities for Smart Environmental and Energy Futures

Approaches to Water Sensitive Urban Design: Potential, Design, Ecological Health, Economics, Policies and Community Perceptions covers all aspects on the implementation of sustainable

storm water systems for urban and suburban areas whether they are labeled as WSUD, Low Impact Development (LID), Green Infrastructure (GI), Sustainable Urban Drainage Systems (SUDS) or the Sponge City Concept. These systems and approaches are becoming an integral part of developing water sensitive cities as they are considered very capable solutions in addressing issues relating to urbanization, climate change and heat island impacts in dealing with storm water issues. The book is based on research conducted in Australia and around the world, bringing in perspectives in an ecosystems approach, a water quality approach, and a sewer based approach to stormwater, all of which are uniquely covered in this single resource. Presents a holistic examination of the current knowledge on WSUD and storm water, including water quality, hydrology, social impacts, economic impacts, ecosystem health, and implementation guidelines Includes additional global approaches to WSUD, including SUDS, LID, GI and the Sponge City Concept Covers the different perspectives from Australia (ecosystem based), the USA (water quality based) and Europe (sewer based) Addresses storm water management during the civil construction stage when much of the ecological damage can be done

This book addresses international research communities concerned with conceptual, scientific, and design approaches to urban land developments and biodiversity. The main focus is on the understanding of human-environment interactions analysed by multi-disciplinary approaches. The articles in this important collection include new concepts and challenges for sustainable green space development emerging from the pressure caused by urbanisation. The concept of biophilic urbanism and the framework of urban ecosystem services are introduced and referred to by applications in different case studies in Europe.

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Case studies also refer to the current challenges for biodiversity in different urban spaces. These spaces include the urban garden and school environments. Important human-species interactions are identified by analysing the allergenic potential of urban trees in a US city. Anthropogenic influences on the survival or local extinction of species are examined in a Mediterranean urban area. In all articles, the importance of urban planning on green infrastructure development, biodiversity conservation and management within the urban ecosystem is highlighted, and planning recommendations are given.

Ecoregional Green Roofs Theory and Application in the Western USA and Canada Springer Nature

In which ways does a "green building" contribute to the ecology of its surroundings? And how can ecologically designed urban districts, with their green and blue networks, link up with the elements and technologies of building design? All dimensions of "green building" are investigated in this book in an effort to understand and evaluate some of the most recent and innovative Dense+Green Cities in Asia, the Americas and Europe.

Approaches to Water Sensitive Urban Design

Global Cities and Transnational Lawmaking

Green Roof Systems

A Study on the Usage and Perceptions of Office Building Occupants to Green Roofs in Hong Kong

Proceedings of the 3rd GeoMEast International Congress and Exhibition, Egypt 2019 on Sustainable Civil Infrastructures – The Official International Congress of the Soil-Structure Interaction Group in Egypt (SSIGE)

The Rise of Living Architecture

Green and Smart Technologies for Smart Cities

This book provides useful information about Urban Agriculture, which includes the production of crops in small to large lots, vertical production on walls, windows (window farms), rooftops (green roofs), urban gardens, farmer's markets, economic models of urban gardening, peri-urban agricultural systems, and spatial planning and evolution of the land uses. Additionally, this book elucidates further agricultural technologies, such as the aquaculture systems.

This dissertation, "A Study on the Usage and Perceptions of Office Building Occupants to Green Roofs in Hong Kong" by Wai-man, Wyman, Tsang, [?], was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. Abstract: As Hong Kong is famous for its image of leading international

financial metropolis, many high-rise office buildings are confined inside some developed commercial districts of Hong Kong. A place for provision of greenery in such districts seems impracticable. However, greenery can exist in forms of green roof onto office buildings, it seems a practical way to embellish this concrete city. Academic studies from other countries have proven that having green roof onto buildings is able to bring numerous psychological benefits to the building occupants, but is this fact still true for office building occupants of Hong Kong? Besides, what do office building occupants think about the presence of green roof onto the building they are working inside? In this study we would like to explore the perceptions of office building occupants in Hong Kong toward green roof, as well as their mode of green roof usage in case green roof is present. The opinions on how office building occupants get satisfied with the green roof they have visited during their working time may give us a glance to the direction of green roof development in the future. What they expect on green roof is the best source of evidence in designing an optimal green roof on human-based consideration. Study result

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features that green roof on office building can provide a decent leisure place to occupants for relaxation, although they seem do not treat green roof as a vital place where they must go. Office building occupants are generally satisfied with green roof having appropriate provisions such as large variety of vegetation, attractive appearance and good management level. Some crucial characteristics of green roof have been identified in the viewpoints of office building occupants such as its aesthetic nature and location for convenient access. In considering the numerous benefits of green roof, every visitor, as office building occupants, agrees that green roof should be present for their needs. It gives positive and supportive evidence as incentive to the industry and developers for future green roof development. DOI: 10.5353/th_b5372722 Subjects: Office buildings - China - Hong Kong Green roofs (Gardening) - China - Hong Kong

This book presents recent research works related to blast resistant buildings, green roofs and sustainability, retrofit interventions with C-FRP fibers, analysis of cracking in pile cap foundation by delayed ettringite formation and acoustic

performance in buildings. It demonstrates that building pathology is a holistic approach to studying and understanding buildings, and in particular, building defects or problems and associated rehabilitation actions. Offering a systematic review of the current state of knowledge, the book serves as a valuable resource for scientists, students, practitioners, and lecturers in various scientific and engineering disciplines, including civil and materials engineering, as well as and other interested parties.

Cities for Smart Environmental and Energy Futures presents works written by eminent international experts from a variety of disciplines including architecture, engineering and related fields. Due to the ever-increasing focus on sustainable technologies, alternative energy sources, and global social and urban issues, interest in the energy systems for cities of the future has grown in a wealth of disciplines. Some of the special features of this book include new findings on the city of the future from the macro to the micro level. These range from urban sustainability to indoor urbanism, and from strategies for cities and global climate change to material properties. The

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book is intended for graduate students and researchers active in architecture, engineering, the social and computational sciences, building physics and related fields.

Green Roofs

Green Walls Green Roofs

Ecoregional Green Roofs

Governing Climate Change

Higher Education Institutions in a Global Warming World

Green Roofs in Sustainable Landscape Design

A Guide to the Planning, Design, and Construction of Landscapes over Structure

Higher Education Institutions in a Global Warming World aims to contribute to the global debate on Sustainability in Higher Education, and in particular to the transition of Higher Education Institutions to a Low Carbon Economy. The transition of Higher Education Institutions towards a Low Carbon Economy is aligned with the Paris Agreement, and with Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts. It is also consistent with the European Commission's Climate strategies and targets and with the aims of the European Climate Change Program. Transitioning to a low carbon economy represents one of the most significant and urgent challenges we are facing, and Universities have a critical role to play in fostering a low carbon future, especially

by developing innovative solutions.

Sustainable architecture is one of the most popular trends today. With dense urban living and less green space available, green walls and roofs are helping to fill that gap. These living structures can be created with vegetation, which helps to absorb rainwater, provide insulation and lower temperatures while creating a habitat for natural flora and fauna. Green Walls Green Roofs features projects from all over the world, showing how these elements work in various climates. Ranging from the tropical houses in Singapore to inner-city buildings in North America, this beautifully illustrated book will show you how living architecture can enrich our world. Gina Tsarounas has coordinated and authored a number of travel guides for Lonely Planet before joining Images Publishing as a senior editor. Her wealth of experience is demonstrated in the beautifully designed books now being produced. Comparable Titles: Vertical Ecoinfrastructure, 9781864703863, Images Publishing Group, August 2010 The Green House, 9781568989501, Princeton Architectural Press, May 2010

Examine possibilities for city-wide green roof development using 335 color photographs, 40 in-depth building case studies, and 7 municipal case studies of Berlin, Tokyo, London, Portland, Chicago, Toronto, and New York. This book includes an opening essay by William McDonough, an architect and leader of the sustainable development movement, and details the ecological benefits, technical requirements, architectural history, and design possibilities of vegetated rooftops.

Green roofs application is part of sustainable architecture movement that can help communities mitigate problems brought about by urbanization. They are an open space development in the built or natural environment which preserve biodiversity or other aspects of a sustainable environment, and generally engage the community in recreational use. Concerns about sustainability and ecological strains have contributed to a high degree of advocacy of the benefits of green roofs which have proliferated internationally. There is a dearth of research on the challenges in developing and implementing green roofs in the Philippines where the concept is still in its infancy. This thesis explores the opportunities and challenges of its application in Bonifacio Global City (BGC). Factors likely to determine the extent to which green roofs will gain momentum in BGC include: ecological challenges; coordination thru policy development; public involvement and attitudes of stakeholders; funding; and physical barriers. Various case studies were examined in detail to illustrate issues with green roof developments and implementation in the study area. Using "Pressure-State Response" framework developed by the organization for economic cooperation and Development, application policies and guidelines was developed. It is clear from the data gathered and analyzed that Green Roofs offer distinct benefits for BGC. Consequently, the potential opportunities for green roofs in BGC were broadly categorized into three main green roof scenarios - Sky Gardens, Podium Gardens and Existing / Low Maintenance Buildings. With this, an implementation plan was formulated that consists of the proposed contents of the green roof guidelines. It

is divided into three parts and will provide guidance on planning, design, construction maintenance and management of green roof. From review of different policy approaches proposed policies suitable for BGC were developed; direct incentives thru bonus density and streamlining, and regulatory measures. The implementation plan was presented and divided into Short, Medium and Long Term Goals.

Low Carbon Cities

Theories, Strategies and Methods

Designing Sustainable Architecture

New Metropolitan Perspectives

Theory and Application in the Western USA and Canada

Cooling the Cities

Green City Planning and Practices in Asian Cities

A green roof is a green space created by adding layers of growing medium & plants on top of a traditional roofing system. This paper provides an introduction to the green roof concept and includes information on the use of green roofs in Europe, the characteristics of intensive & extensive green roofs, the public & private benefits of green roofs (economic, environmental, social), the design & implementation of a green roof, and the costs of green roofing. Three case studies are included for illustration.

Small-scale urban greening projects are changing the urban landscape,

shifting our experience and understanding of greenspaces in our cities. This book argues that including power dynamics, symbolism, and aesthetics in our understanding of the human relationship to urban nature can help us create places that nurture ecological and human health and promote successful and equitable urban communities. Using an interdisciplinary approach to current research debates and new comparative case studies on community perceptions of these urban greening projects and policies, this book explores how small-scale urban greening projects can impact our sense of place, health, creativity, and concentration while also being part of a successful urban greening program. Arguing that wildness, emotion, and sense of place are key components of our human-nature relationship, this book will be of interest to designers, academics, and policy makers. The book starts with an overview of the role of cities in climate change and environmental pollution worldwide, followed by the concept description of smart cities and their expected features, focusing on green technology innovation. This book explores the energy management strategies required to minimize the need for huge investments in high-capacity transmission lines from distant power plants. A new range of renewable energy technologies modified for installation in cities like small wind turbines, micro-CHP and heat pumps are described. The overall objective of this book is to

explore all the green and smart technologies for designing green smart cities.

"The premise of the conference was to assess the impact and relevance of contemporary paradigms in architectural research including substantial developments in technology, public consciousness and economic pressures."--Page 4 of printed paper wrapper.

Recent Developments in Pavement Engineering

Architecture as Urban Ecosystem

Living Roofs in Integrated Urban Water Systems

Essential Green Roof Construction

Creating Places of Health, Creativity, and Ecological Sustainability

Ecological Design and Construction

Planning Cities with Nature

Nature Based Strategies for Urban and Building Sustainability reviews the current state-of-the-art on the topic. In the introduction, the editors review the fundamental concepts of nature elements in the built environment, along with the strategies that are necessary for their inclusion in buildings and cities. Part One describes strategies for the urban environment, discussing urban ecosystems and ecosystem services, while Part Two covers strategies and technologies, including vertical greening systems, green roofs

and green streets. Part Three covers the quantitative benefits, results, and issues and challenges, including energy performances and outdoor comfort, air quality improvement, acoustic performance, water management and biodiversity. Provides an overview of the different strategies available to integrate nature in the built environment Presents the current state of technology concerning systems and methodologies on how to incorporate nature in buildings and cities Features the latest research results on operation and ecosystem services Covers both established and new designs, including those still in the experimental stage

Low Carbon Cities is a book for practitioners, students and scholars in architecture, urban planning and design. It features essays on ecologically sustainable cities by leading exponents of urban sustainability, case studies of the new directions low carbon cities might take and investigations of how we can mitigate urban heat stress in our cities' microclimates. The book explores the underlying dimensions of how existing cities can be transformed into low carbon urban systems and describes the design of low carbon cities in theory and practice. It considers the connections between low carbon cities and sustainable design, social and individual values, public space, housing affordability, public transport and urban microclimates. Given the rapid urbanisation underway globally, and the need for all our cities to

operate more sustainably, we need to think about how spatial planning and design can help transform urban systems to create low carbon cities, and this book provides key insights.

A deep understanding of the implications of green roof retrofit is required amongst students and practitioners to make the decisions and take the actions needed to mitigate climate changes. *Green Roof Retrofit: building urban resilience* illustrates the processes undertaken to develop this new knowledge and thereby embed a deeper level of understanding in readers. Illustrative case studies and exemplars are drawn from countries outside of the core researched areas to demonstrate the application of the knowledge more broadly. Examples are used from the Americas (North and South and Canada), Oceania, Asia and other European countries. The book describes the multiple criteria which inform decision making and how this provides a way forward for making better decisions about green roof retrofit in different countries and climates.

Contemporary Museum Architecture and Design showcases 18 diverse essays written by people who design, work in, and study museums, offering a variety of perspectives on this complex building type. Throughout, the authors emphasize new kinds of experiences that museum architecture helps create, connecting ideas about design at various levels of analysis,

from thinking about how the building sits in the city to exploring the details of technology. With sections focusing on museums as architectural icons, community engagement through design, the role of gallery spaces in the experience of museums, disability experiences, and sustainable design for museums, the collected chapters cover topics both familiar and fresh to those interested in museum architecture. Featuring over 150 color illustrations, this book celebrates successful museum architecture while the critical analysis sheds light on important issues to consider in museum design. Written by an international range of museum administrators, architects, and researchers this collection is an essential resource for understanding the social impacts of museum architecture and design for professionals, students, and museum-lovers alike.

Reflecting Upon Current Themes in Architectural Research

Theory and Practice of Place

Green Roof Ecosystems

Human-Environmental Interactions in Cities

Contemporary Museum Architecture and Design

Impacts on Architecture and Technology

Green Roofs and Walls

This book brings together scientific experts in different areas that contribute to the

railway track and transportation engineering challenges, evaluate the state of the art, identify the shortcomings and opportunities for research, and promote the interaction with the industry. In particular, scientific topics that are addressed in this book include railway ballasted track degradation/settlement problems and stabilization/reinforcement technologies, switches and crossings and related derailments causes, train-induced vibrations and mitigation measures, operations, management, and performance of ground transportation, and traffic congestion and safety procedures.

With the infrastructure to manage storm water threats in cities becoming increasingly expensive to build or repair, the design community needs to look at alternative approaches. Living roofs present an opportunity to compliment ground-level storm water control measures, contributing to a holistic, integrated urban water management system. This book offers tools to plan and design living roofs, in the context of effectively mitigating storm water. Quantitative tools for engineering calculations and qualitative discussion of potential influences and interactions of the design team and assembly elements are addressed.

First systematic study of global cities as lawmakers in the world of transnational climate change governance.

"Gives voice to more than fifty extraordinary people who are currently engaged with this transformation. These individuals form a diverse community that cuts across professional disciplines, cultural, linguistic and geographical boundaries. They share a

belief that they can make a difference through their varied efforts to expand living architectural approaches that result in biophilic, restorative buildings and healthier and more resilient communities."

Green Roof Retrofit

Transforming Urban Systems

Post COVID Dynamics: Green and Digital Transition, between Metropolitan and Return to Villages Perspectives

Dense + Green Cities

Nature Based Strategies for Urban and Building Sustainability

Planning, Development and Management of Sustainable Cities

Case Studies from the Greater Mekong Subregion

This book examines construction safety from the perspective of informatics and econometrics. It demonstrates the potential of employing various information technology approaches to share construction safety knowledge. In addition, it presents the application of econometrics in construction safety studies, such as an analytic hierarchy process used to create a construction safety index. It also discusses structure equation and dynamic panel models for the analysis of construction safety claims.

Lastly, it describes the use of mathematical and econometric models to

investigate construction practitioners' safety.

21st Century Homestead: Urban Agriculture contains everything you need to stay up to date on urban agriculture

This book explores novel theories, strategies and methods for re-naturing cities. It enables readers to learn from best practice and advances the current theoretical and empirical understanding in the field. The book also offers valuable insights into how planners and policymakers can apply this knowledge to their own cities and regions, exploring top-down, bottom-up and mixed mechanisms for the systemic re-naturing of planned and existing cities. There is considerable interest in 'naturalising' cities, since it can help address multiple global societal challenges and generate various benefits, such as the enhancement of health and well-being, sustainable urbanisation, ecosystems and their services, and resilience to climate change. This can also translate into tangible economic benefits in terms of preventing health hazards, positively affecting health-related expenditure, new job opportunities (i.e. urban farming) and the regeneration of urban areas. There is, thus, a compelling case to investigate integrative approaches to urban and natural systems that can help cities address the social, economic and environmental needs of a

growing population. How can we plan with nature? What are the models and approaches that can be used to develop more sustainable cities that provide high-quality urban green spaces?

The book aims to face the challenge of post-COVID-19 dynamics toward green and digital transition, between metropolitan and return to villages' perspectives. It presents a multi-disciplinary scientific debate on the new frontiers of strategic and spatial planning, economic programs and decision support tools, within the urban-rural areas networks and the metropolitan cities. The book focuses on six topics: inner and marginalized areas local development to re-balance territorial inequalities; knowledge and innovation ecosystem for urban regeneration and resilience; metropolitan cities and territorial dynamics; rules, governance, economy, society; green buildings, post-carbon city and ecosystem services; infrastructures and spatial information systems; cultural heritage: conservation, enhancement and management. In addition, the book hosts a Special Section: Rhegion United Nations 2020-2030. The book will benefit all researchers, practitioners and policymakers interested in the issues applied to metropolitan cities and marginal areas.

21st Century Homestead: Urban Agriculture

Case Studies of Building Rehabilitation and Design

A Professional Guide to Design, Installation, and Maintenance

Design Guidelines for Green Roofs

Sustainable Development and Smart Growth in Urban Environments

Nature-Based Solutions for Building Resilience in Towns and Cities

A popular design trend, green roofs make private and public buildings inviting and environmentally friendly.

A groundbreaking exploration of the most promising new ideas for creating the sustainable cities of tomorrow The culmination of a four-year collaborative research project undertaken by leading UK universities, in partnership with city authorities, prominent architecture firms, and major international consultants, *Retrofitting Cities for Tomorrow's World* explores the theoretical and practical aspects of the transition towards sustainability in the built environment that will occur in the years ahead. The emphasis throughout is on emerging systems innovations and new ways of imagining and re-imagining urban retrofitting, set within the context of 'futures-based' thinking. The concept of urban retrofitting has gained prominence within both the research and policy arenas in recent years. While cities are often viewed as a source of environmental stress and resource depletion they are also of learning and innovation offering enormous potential for scaling up technological

responses. But city-level action will require a major shift in thinking and a scaling up of positive responses to climate change and the associated threats of environmental and social degradation. Clearly the time has come for a more coordinated, planned, and strategic approach that will allow cities to transition to a sustainable future. This book summarizes many of the best new ideas currently in play on how to achieve those goals. Reviews the most promising ideas for how to approach planning and coordinating a more sustainable urban future by 2050 through retrofitting existing structures Explores how cities need to govern for urban retrofit and how future urban transitions and pathways can be managed, modeled, and navigated Offers inter-disciplinary insights from international contributors from both the academic and professional spheres Develops a rigorous conceptual framework for analyzing existing challenges and fostering innovative ways of addressing those challenges Retrofitting Cities for Tomorrow's World is must-reading for academic researchers, including postgraduates in sustainability, urban planning, environmental studies, economics, among other fields. It is also an important source of fresh ideas and inspiration for town planners, developers, policy advisors, and consultants working within the field of sustainability, energy, and the urban environment.

Urban planners across the world are faced with sustainable development issues

their work, especially when they are tasked with creating green cities or where sustainable and smart growth in urban settings are set as primary goals. This book introduces green city planning and practices from the three dimensions of green building innovation, community development and smart city strategies, and argues that effective implementation of green city planning are a necessary pre-condition for reaching sustainable urban development. A range of authors representing a broad disciplinary spectrum bring together the different standards of green building methods and urban design techniques and clearly sketch the roles of both spatial designers and urban researchers in the implementation of green city planning at regional, community and single-building level in order to arrive at an integrated approach across different scales.