Green Walls In High Rise Buildings

Recognizing the showing off ways to acquire this book **Green Walls In High Rise Buildings** is additionally useful. You have remained in right site to begin getting this info. get the Green Walls In High Rise Buildings link that we give here and check out the link.

You could buy guide Green Walls In High Rise Buildings or get it as soon as feasible. You could speedily download this Green Walls In High Rise Buildings after getting deal. So, in imitation of you require the book swiftly, you can straight get it. Its appropriately unquestionably simple and therefore fats, isnt it? You have to favor to in this proclaim

Proceedings of 3rd International Sustainable Buildings Symposium (ISBS 2017) - Seyhan Fırat 2018-03-30
This book describes the latest advances, innovations, and applications in the field of building design, environmental engineering and sustainability as presented by leading international researchers, engineers, architects and urban planners at the 3rd International Sustainable Buildings Symposium (ISBS), held in Dubai, UAE from 15 to 17 March 2017. It covers highly diverse topics, including smart cities, sustainable building and construction design, sustainable urban planning, infrastructure development, structural resilience under natural hazards, water and waste management, energy efficiency, climate change impacts, life cycle assessment, environmental policies, and strengthening and rehabilitation of structures. The contributions amply demonstrate that sustainable building design is key to protecting and preserving natural resources, economic growth, cultural heritage and public health. The contributions were selected by means of a rigorous peer-review process and highlight many exciting ideas that will spur novel research directions and foster multidisciplinary collaboration among different specialists.
Innovative Biosystems Engineering for Sustainable Agriculture, Forestry and Food Production - Antonio Coppola 2020-03-19
This book gathers the latest advances, innovations, and applications in the field of innovative biosystems engineering for sustainable agriculture, forestry and food production. Focusing on the challenges of implementing sustainability in various contexts in the fields of biosystems engineering, it shows how the research has addressed the sustainable use of renewable and non-renewable resources. It also presents possible solutions to help achieve sustainable production. The Mid-Term Conference of the Italian Association of Agricultural Engineering (AIIA) is part of a series of conferences, seminars and meetings that the AIIA organizes, together with other public and private stakeholders, to promote the creation and dissemination of new knowledge in the sector. The contributions included in the book were selected by means of a rigorous peer-review process, and offer an extensive and multidisciplinary overview of interesting solutions in the field of innovative biosystems engineering for sustainable agriculture.
Bioregional Planning and Design: Volume I - David Fanfani 2020-07-20
This book provides a review of the bioregionalist theory in the field of spatial planning and design as a suitable approach to cope with the growing concerns about the negative effects of metropolization processes and the need for a sustainable transition. The book starts out with a section on rethinking places for community life, and discusses the reframing of regional governance and development as well as social justice in spatial planning. It introduces the concept of the urban bioregion, a pivotal concept that underpins balanced polycentric spatial patterns and supports self-reliant and fair local development. The second part of the book focuses on planning, and particularly on the issues that arise from the ‘circular’ recovery of the relation between city and agro-ecosystems for integrated planning and resilience of

settlements and discusses topics such as foodshed planning, biophilic urbanism and the integration of rural development and spatial planning. This volume sets out the reference framework for Volume II which deals with more specific and operational issues related to spatial policies and settlement design.

Greening Affordable Housing - Abdullateef Olanrewaju 2019-02-05

Books on green building theories, principles and strategies applicable to life cycles of all kinds of buildings and building types are already widely available. However, those specifically on greening affordable housing that guide various housing stakeholders at different life cycles are still very limited. This book intends to fill this gap. Integrating green building enables stakeholders to address the environmental component that has not traditionally been seen as an integral part of affordable housing development. The book presents theories and principles with practical methods, strategies and processes not only to make affordable housing green but also to support economic stability and social equity.

Vertical Gardens - Hattie Klotz 2018-03-05

Do you have limited space but love the idea of a lush green garden on your balcony, your rooftop or your courtyard? Vertical Gardens is the ideal low maintenance, space-saving, water-smart solution! Vertical gardening is a fun, creative way to grow plants. All you need is a blank wall, a bare fence or an area that needs a green and flowering element to pretty it up and turn your bare spaces into gorgeous living walls. Follow the step by step instructions on how to create and customise your vertical garden to suit your own personal environment or need. Why not grow fresh herbs, or display annuals, even perennials, within your vertical garden. Vertical gardens are perfect for compact living spaces such as balcony gardens, rooftops, outdoor BBQ or dining areas, and courtyards. They also make great privacy screens in high density living environments, they're low to maintain, with water saving methods, Being practical, the leafy surrounds of the vertical garden can create a cooling and shade-enhancing effect to unsheltered balconies and help reduce heat in summer.

The Skycourt and Skygarden - Jason Pomeroy 2013-11-20

Population increases, advances in technology and the continued trend towards inner-city migration have transformed the traditional city of spaces into the modern city of objects. This has necessitated alternative spatial and technological solutions to replenish those environments that were once so intrinsic to society's day-to-day interactions and communal activities. This book considers skycourts and skygardens as 'alternative social spaces' that form part of a broader multi-level urban infrastructure – seeking to make good the loss of open space within the built environment. Jason Pomeroy begins the discussion with the decline of the public realm, and how the semi-public realm has been incorporated into a spatial hierarchy that supports the primary figurative spaces on the ground or, in their absence, creates them in the sky. He then considers skycourts and skygardens in terms of the social, cultural, economic, environmental, technological and spatial benefits that they provide to the urban habitat. Pomeroy concludes by advocating a new hybrid that can harness the social characteristics of the public domain, but be placed within buildings as an alternative communal space for the 21st century. Using graphics and full colour images throughout, the author explores 40 current and forthcoming skycourt and skygarden projects from around the world, including the Shard (London), Marina Bay Sands (Singapore), the Shanghai Tower (China) and the Lotte Tower (South Korea).

Living Architecture - Graeme Hopkins 2011-05-16

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.

Building in Hot and Humid Regions - Napoleon Enteria 2019-04-26

This book presents an in-depth analysis covering climatic and weather conditions, house and building development history, construction methods and technologies, and environmental conditions. It provides relevant house and building information and highlights recent advances in hot and humid regions, as well as developments in other regions that are relevant to hot and humid climates. The countries in hot and humid regions, which include the tropical countries, the Middle Eastern countries around the Mediterranean, and many countries of Central Asia and Africa, are home to some of the most challenging conditions in the world in terms of house and building design and construction, and in terms of maintaining indoor thermal comfort and air quality in an energy-efficient way. The book's respective chapters, prepared by expert contributors, cover essential concepts, designs, and construction methodologies for houses and commercial buildings. As such, the book offers a valuable resource for undergraduate and graduate students in architecture and engineering, house and building designers, and building sciences researchers. Building contractors, manufacturers and distributors of building equipment and devices, and government policymakers and legislators will also benefit from the information provided in this book.

Urban Health Issues: Exploring the Impacts of Big-City Living - Richard V. Crume 2019-04-30

Living in an urban environment can have a major influence—both positive and negative—on one's physical health and mental well-being. This book examines more than 20 key issues related to city living and what's being done to address them. • Focuses on an area of public health that is of increasing importance, as urbanization rates continue to rise around the world • Provide real-world insights for readers through interviews with experts working in urban areas across the globe • Illustrates in city case studies how particular metropolitan areas around the world are working to address particular urban health issues • Offers readers living in cities practical suggestions for staying healthy and avoiding urban hazards such as air and noise pollution

Bird-Friendly Building Design - Christine Sheppard 2015-11-01

The Vertical Garden - Patrick Blanc 2008

A botanical tapestry artist for such sites as the Marithé & François Giraud boutique in Manhattan, the Siam Paragon mall in Bangkok, and the 21st Century Museum of Contemporary Art in Japan explains how to cultivate more than one thousand plant varieties on vertical surfaces.

Dense + Green - Thomas Schröpfer 2015-12-14

The integration of nature in architecture is a key concern of sustainability. However, all too often sustainable design is reduced to improving the energetic performance of buildings and the ornamental application of natural green. Dense + Green explores new architectural typologies that emerge from the integration of green components such as sky terraces, vertical parks and green facades, in high-density buildings. The book describes green strategies in a comparison across different design tasks and climate conditions. In-depth case studies on the most relevant building types, consistently presented with analytical drawings made exclusively for this book, are complemented by expert essays that demonstrate the current paradigm shift in the sustainable urban environment. From the Contents: •Dense + Green Building Types, by

Thomas Schröpfer, architect, Singapore University of Technology and Design •Dense + Green Building Technology, by Atelier Ten, environmental design consultants and building services engineers, New York, NY •Dense + Green Landscape Design, by Herbert Dreiseitl, landscape architect, Atelier Dreiseitl/Rambøll Liveable Cities Lab, Überlingen/Singapore/Portland, OR •Dense + Green Botanical Design, by Jean Yong, plant eco-physiologist, Singapore University of Technology and Design •Dense + Green Urbanism, by Kees Christiaanse, urban planner, ETH Zurich •25 in-depth case studies from Europe, Asia and the USA •Practice Reports by Foster + Partners, WOHA, Ken Yeang, MVRDV and others

Urban Green Space, Health Economics and Air Pollution in Delhi - Swati Rajput 2021-03-31

This book looks at the ecological stress on cities and engages with challenges of reducing vulnerabilities and risks of pollution on the health, well-being and livelihoods of people living in developing countries. Cities are the world's highest energy consumers and the biggest producers of toxic wastes and pollutants. With an emphasis on the environmental issues facing the city of Delhi, the volume focuses on steps to preserve and manage the city's urban green spaces. It explores the concept of urban green spaces and their economic, social, health, and psychological significance in cities. Drawing from their fieldwork and research in Delhi, the authors identify the sources of pollution in the city and access the role of urban green spaces in countering adverse effects. They further examine the relationship between green spaces and social and economic development, urban health, and urban governance. They highlight the good practices followed by other global cities. The volume also offers suggestions and policy recommendations to reverse and recover ecological balance in cities. This book will be of interest to students and researchers of environment and ecology, public health, urban planning and governance, development studies, urban geography, urban sociology, resource management and health economics. It will also be useful for policy makers, and NGOs working in the areas of sustainability, urban planning and management and environmental preservation.

The Sustainable Tall Building - Philip Oldfield 2019-03-27

The Sustainable Tall Building: A Design Primer is an accessible and highly illustrated guide, which primes those involved in the design and research of tall buildings to dramatically improve their performance. Using a mixture of original research and analysis, best-practice design thinking and a detailed look at exemplar case studies, author Philip Oldfield takes the reader through the architectural ideas, engineering strategies and cutting-edge technologies that are available to the tall building design team. The book takes a global perspective, examining high-rise design in different climates, cultures and contexts. It considers common functions such as high-rise housing and offices, to more radical designs such as vertical farming and vertical cemeteries. Innovation is provided by examining not only the environmental performance of tall buildings but also their social sustainability, guiding the reader through strategies to create successful communities at height. The book starts by critically appraising the sustainability of tall building architecture past and present, before demonstrating innovative ways for future tall buildings to be designed. These include themes such as climatically responsive architecture, siting a tall building in the city, zero-carbon towers, skygardens and community spaces at height, sustainable structural systems and novel façades. In doing so, the book provides essential reading for architects, engineers, consultants, developers, researchers and students engaged with sustainable design and high-rise architecture.

Green Urbanism in Asia - Peter Newman 2013

The world is facing an age of scarcity which will challenge all cities to reduce their resource footprint, especially carbon, improve biodiversity and at the same time continue to create economic opportunities and liveable places. This is green urbanism. Asian urban growth is leading the world in the rapidity of its change but how is it doing on green urbanism? This book finds emerging innovations and first signs of green urbanism in Asia and suggests they may be the guiding light for the rest of the world. The authors highlight seven archetypal cities exhibiting green urbanism: the renewable

energy city, the bioregional carbon neutral city, the distributed city, the biophilic city, the eco-efficient city, the place-based city and the sustainable transport city. The book is a must-read for all who are concerned with the future of our cities as it instills hope that a greener urban future is possible.

Theme Cities: Solutions for Urban Problems - Wayne K.D. Davies 2015-03-23

This book reviews a series of new urban ideas or themes designed to help make cities more liveable, sustainable, safe and inclusive. Featuring examples drawn from cities all over the world, the various chapters provide critical assessments of each of the various approaches and their potential to improve urban life. New Urbanism: creating new areas based on a more humane scale with neighbourhood cohesion Just Cities: creating more fairness in decision-making so all residents can participate and benefit. Green Cities: helping places become greener with environmental rehabilitation and protection Sustainable Cities: avoiding the waste of resources and harmful pollution in settlements Transition Towns: developing local initiatives for more sustainable actions Winter Cities: making cities in cold climates more comfortable and enjoyable Resilient Cities: strengthening cities to better enable them to withstand natural hazards Creative Cities: supporting cultural industries and attracting talented individuals Knowledge Cities: creating, renewing and spreading knowledge and innovation Safe Cities: ensuring that citizens are better protected against criminal actions Healthy Cities: making improvements in the health of people in cities Festive Cities: rediscovering the utility of festive events in settlements Slow Cities: enhancing locally unique activities, such as local cuisines and community interactions This volume offers a host of approaches designed to give a new direction and focus to planning policies, helping readers to fully understand the advantages and disadvantages of each potential idea. It seeks to solve the many current problems associated with urban developments, making it a valuable resource for university and college students in urban geography, urban planning, urban sociology and urban studies as well as to planners and the general public.

Handbook of Biophilic City Planning & Design - Timothy Beatley 2016

"This publication offers practical advice and inspiration for ensuring that nature in the city is more than infrastructure--that it also promotes well-being and creates an emotional connection to the earth among urban residents. Divided into six parts, the Handbook begins by introducing key ideas, literature, and theory about biophilic urbanism. Chapters highlight urban biophilic innovations in more than a dozen global cities. The final part concludes with lessons on how to advance an agenda for urban biophilia and an extensive list of resources."--Publisher.

Planting Green Roofs and Living Walls - Nigel Dunnett 2004

This book introduces a revolutionary new concept to gardeners. Planting on roofs and walls began in Europe, but it is now becoming popular all over the world. Green roofs and walls reduce pollution and run-off, and also help insulate and reduce the maintenance needs of buildings. Planting Green Roofs and Living Walls discusses the practical techniques required to make planting on roofs and walls a reality. It describes how roofs may be modified to bear the weight of vegetation, considers the different options for drainage layers and growing media, and lists the plants suitable for different climates and environments. This informative book will encourage gardeners everywhere to consider the enormous benefits to be gained from planting on their roofs and walls.

Greening The Urban Habitat: A Quantitative And Empirical Approach - Ho David Kim Hin 2020-01-08

This book is a good reference book for city planners, architects and civil engineers involved in the conceptualisation, design and building of urban habitations, who aspire to increase the liveability of their cities. It introduces the Singapore Green Plot Ratio (GnPR) as an Urban Planning Metric to promote the widespread and intensive use of greenery for new and existing buildings in towns and cities like Singapore — a former third world city that has transformed into one of the world's most liveable metropolises.Increasing urban greenery has been observed to enhance the quality of our built environment, and in turn, the quality of life of its inhabitants. The book shows readers how to do so using the GnPR, which it presents as an

important urban complement of the leaf area ratio (LAI) concept, through an in-depth discussion of three key aspects of the GnPR. It proposes optimal levels of GnPR for various land-use types and how these levels are benchmarked against current levels of greenery provision; stipulates the greenery quantum which encourages the concentration of some plants, especially native trees and certain local species; and advocates the development of ecological or natural landscapes over manicured gardens. The book also discusses the impact of various levels of GnPR provision with the inevitable capital and maintenance costs of greening built environments, and how they affect the application of the GnPR guidelines.

The Vertical Farm - Dr. Dickson Despommier 2010-10-12

"The vertical farm is a world-changing innovation whose time has come. Dickson Despommier's visionary book provides a blueprint for securing the world's food supply and at the same time solving one of the gravest environmental crises facing us today."--Sting Imagine a world where every town has their own local food source, grown in the safest way possible, where no drop of water or particle of light is wasted, and where a simple elevator ride can transport you to nature's grocery store - imagine the world of the vertical farm. When Columbia professor Dickson Despommier set out to solve America's food, water, and energy crises, he didn't just think big - he thought up. Despommier's stroke of genius, the vertical farm, has excited scientists, architects, and politicians around the globe. Now, in this groundbreaking book, Despommier explains how the vertical farm will have an incredible impact on changing the face of this planet for future generations. Despommier takes readers on an incredible journey inside the vertical farm, buildings filled with fruits and vegetables that will provide local food sources for entire cities. Vertical farms will allow us to: - Grow food 24 hours a day, 365 days a year - Protect crops from unpredictable and harmful weather - Re-use water collected from the indoor environment - Provide jobs for residents - Eliminate use of pesticides, fertilizers, or herbicides - Drastically reduce dependence on fossil fuels - Prevent crop loss due to shipping or storage - Stop agricultural runoff Vertical farms can be built in abandoned buildings and on deserted lots, transforming our cities into urban landscapes which will provide fresh food grown and harvested just around the corner. Possibly the most important aspect of vertical farms is that they can built by nations with little or no arable land, transforming nations which are currently unable to farm into top food producers. In the tradition of the bestselling The World Without Us, The Vertical Farm is a completely original landmark work destined to become an instant classic.

The Wiley-Blackwell Encyclopedia of Urban and Regional Studies - Anthony M. Orum 2019-04-15

Provides comprehensive coverage of major topics in urban and regional studies Under the guidance of Editor-in-Chief Anthony Orum, this definitive reference work covers central and emergent topics in the field, through an examination of urban and regional conditions and variation across the world. It also provides authoritative entries on the main conceptual tools used by anthropologists, sociologists, geographers, and political scientists in the study of cities and regions. Among such concepts are those of place and space; geographical regions; the nature of power and politics in cities; urban culture; and many others. The Wiley Blackwell Encyclopedia of Urban and Regional Studies captures the character of complex urban and regional dynamics across the globe, including timely entries on Latin America, Africa, India and China. At the same time, it contains illuminating entries on some of the current concepts that seek to grasp the essence of the global world today, such as those of Friedmann and Sassen on ‘global cities’. It also includes discussions of recent economic writings on cities and regions such as those of Richard Florida. Comprised of over 450 entries on the most important topics and from a range of theoretical perspectives Features authoritative entries on topics ranging from gender and the city to biographical profiles of figures like Frank Lloyd Wright Takes a global perspective with entries providing coverage of Latin America and Africa, India and China, and, the US and Europe Includes biographies of central figures in urban and regional studies, such as Doreen Massey, Peter Hall, Neil Smith, and Henri Lefebvre The

Wiley Blackwell Encyclopedia of Urban and Regional Studies is an indispensable reference for students and researchers in urban and regional studies, urban sociology, urban geography, and urban anthropology.

Bioclimatic Skyscrapers - Ken Yeang 1994-01-01

Projekttegninger til bygninger og bygninger under opførelse i Malaysia 1981-1993

Green Walls in High-Rise Buildings - Antony Wood, Payam Bahrami & Daniel Safarik 2014-08-29

The Council on Tall Buildings and Urban Habitat has produced four Technical Guides to date, since the series launched in late 2012. Each of these guides is the product of a CTBUH Working Group—committees formed specifically to address focused topical subjects in the industry. The intention of each guide is the same—to provide working knowledge to the typical building owner or professional who wants a better understanding of available options for improving tall buildings, and what affects their design. The object of the series is to provide a tool-kit for the creation of better-performing tall buildings, and to spread the understanding of the considerations that need to be made in designing tall. This technical guide offers an extensive overview of the use of vertical vegetation in high-rise buildings, an indepth analysis of green walls, definitions and typology, including standards, policies and incentives. It features comprehensive case studies, along with architectural theories of the public and private benefits of green walls. The book delves into architect-design considerations and limitations, the effects of green walls on energy efficiencies and includes recommendations and future research.

Progress in Digital and Physical Manufacturing - Henrique A. Almeida 2019-09-28

This book contains selected papers from the First International Conference on Progress in Digital and Physical Manufacturing (ProDPM'19), organized by the School of Technology and Management (ESTG) of the Polytechnic Institute of Leiria (IPL). It presents a significant contribution to the current advances in digital and physical manufacturing issues as it contains topical research in this field. The book content is of interest to those working on digital and physical manufacturing, promoting better links between the academia and the industry. The conference papers cover a wide range of important topics like biomanufacturing, advanced rapid prototyping technologies, rapid tooling and manufacturing, micro-fabrication, 3D CAD and data acquisition, and collaborative design.

Green Roof Systems - Susan Weiler 2011-09-28

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.

The Vertical Garden - Patrick Blanc 2012

The inventor of the vertical garden showcases some of his favorite projects, which he has created all over the world for museums, hotels, skyscrapers, private homes and more.

Vertical Greenery - Elena Giacomello 2015

The Malaysia-Japan Model on Technology Partnership - Khairuddin Ab. Hamid 2014-07-24

The selected papers included in this proceedings on Malaysia-Japan Academic Scholar Conference (MJASC) 2013, are related to nano-science engineering, mechanical engineering, electrical and electronic engineering, computer science, information technology etc. This proceedings will be a source of research findings for Malaysia and Japan specifically, and other countries in general, especially among researchers, industry sectors and government policy makers. It will be served as a resourceful reference and platform to reflect the significant of the Look East Policy outcomes and products.

Fire Safety Challenges of Green Buildings - Brian Meacham 2013-08-05

Environmental concerns and advances in architectural technologies have lead to a greater number of green buildings or buildings with green, eco-friendly elements. However, from a practical standpoint, there is no incident reporting system in the world that tracks data on fire incidents in green buildings. Fire safety

objectives are not explicitly considered in most green rating schemes, and green design features have been associated with photovoltaic panels and roof materials, lightweight timber frame buildings, and combustible insulation materials. Fire Safety Challenges of Green Buildings is the result of an extensive global literature review that sought to identify issues related to green building elements or features and ways to ensure those issues are tracked for future improvement. The book identifies actual incidents of fires in green buildings or involving green building elements, points out issues with green building elements that would increase fire risk, clarifies reports and studies that address ways to reduce fire risk in green design elements, and compares research studies that explicitly incorporate fire safety into green building design. The authors also pinpoint gaps and specific research needs associated with understanding and addressing fire risk and hazards with green building design. Using their data, the authors developed a set of matrices relating these green attributes and potential fire hazards. With these comprehensive tools, potential mitigation strategies for addressing the relative increase in fire risk or hazard associated with the green building elements and features have been identified. Fire Safety Challenges of Green Buildings is intended for practitioners as a tool for analyzing building safety issues in green architecture and developing methods for tracking data related to green design elements and their potential hazards. Researchers working in a related field will also find the book valuable.

Design for Maintainability - Michael Yit-Lin Chew 2018-03-20

Growing Green Guide - Victoria. Department of Environment and Primary Industries 2014

The information published in this guide is provided by the Growing Green Guide partners (City of Melbourne, City of Stonnington, City of Yarra, City of Port Phillip, the State of Victoria and The University of Melbourne) to disseminate information in regards to the design, construction and maintenance of green roofs, walls and facades.

Architectural Sciences and Technology - Murat DAL 2021-04-15

Architectural Sciences and Technology

Eco-efficient Materials for Mitigating Building Cooling Needs - Fernando Pacheco-Torgal 2015-02-27

Climate change is one of the most important environmental problems faced by Planet Earth. The majority of CO2 emissions come from burning fossil fuels for energy production and improvements in energy efficiency shows the greatest potential for any single strategy to abate global greenhouse gas (GHG) emissions from the energy sector. Energy related emissions account for almost 80% of the EU's total greenhouse gas emissions. The building sector is the largest energy user responsible for about 40% of the EU’s total final energy consumption. In Europe the number of installed air conditioning systems has increased 500% over the last 20 years, but in that same period energy cooling needs have increased more than 20 times. The increase in energy cooling needs relates to the current higher living and working standards. In urban environments with low outdoor air quality (the general case) this means that in summer-time one cannot count on natural ventilation to reduce cooling needs. Do not forget the synergistic effect between heat waves and air pollution which means that outdoor air quality is worse in the summer aggravating cooling needs. Over the next few years this phenomenon will become much worse because more people will live in cities, more than 2 billion by 2050 and global warming will aggravate cooling needs. An overview of materials to lessen the impact of urban heat islands Excellent coverage of building materials to reduce air condtioning needs Innovative products discussed such as Thermo and Electrochromic materials

Material Imagination in Architecture - David Dernie 2016-07-07

Material Imagination in Architecture draws on history and the visual arts, and contemporary architecture to explore this popular theme in architectural practice and education. In the context of a discipline increasingly driven by digital production, this text explores architecture and making and the diverse influences on the material reality of architectural form: it argues that the crafts, fabrication and assemblage of its making remain

vital elements of contemporary architectural language. This broad-ranging text bridges the gap between a technical or otherwise fragmentary knowledge of materials of the specialist, and the tacit or instinctive understanding of materials that the artist, sculptor or architect may have. It identifies key material themes pertinent to contemporary architectural debate and develops a discourse about future practice that is framed by environmental imperatives and grounded in a historical understanding of the meaning and use of materials. Material iconology in architecture is a well-established tradition and this book draws on that background to investigate the possibilities, and limits, of using materials in contemporary design to communicate the themes and contexts of an architectural project, a material's relationship to context, and to the history of practices that belong to the traditions of making buildings. Each theme is explored in case studies from twelve countries around the world, including the UK, USA, Spain, Italy, Germany, Australia and China.

Biophilic Cities - Timothy Beatley 2011

Tim Beatley has long been a leader in advocating for the "greening" of cities. But too often, he notes, urban greening efforts focus on everything except nature, emphasizing such elements as public transit, renewable energy production, and energy efficient building systems. While these are important aspects of reimagining urban living, they are not enough, says Beatley. We must remember that human beings have an innate need to connect with the natural world (the biophilia hypothesis). And any vision of a sustainable urban future must place its focus squarely on nature, on the presence, conservation, and celebration of the actual green features and natural life forms. A biophilic city is more than simply a biodiverse city, says Beatley. It is a place that learns from nature and emulates natural systems, incorporates natural forms and images into its buildings and cityscapes, and designs and plans in conjunction with nature. A biophilic city cherishes the natural features that already exist but also works to restore and repair what has been lost or degraded. In Biophilic Cities Beatley not only outlines the essential elements of a biophilic city, but provides examples and stories about cities that have successfully integrated biophilic elements--from the building to the regional level--around the world. From urban ecological networks and connected systems of urban greenspace, to green rooftops and green walls and sidewalk gardens, Beatley reviews the emerging practice of biophilic urban design and planning, and tells many compelling stories of individuals and groups working hard to transform cities from grey and lifeless to green and biodiverse.

Vertical Gardening - Derek Fell 2011-04-26

Shares methods of growing vegetables, flowers, and fruits vertically with tips on choosing a site, composting, and controlling weeds, pests, and disease.

Rethinking the Skyscraper - Robert Powell 1999

A preview of the twenty-first-century city dweller's world is seen in the work of an architect whose visionary approach to skyscraper design sets new standards for high-rise construction.

Green Urbanism in Asia - Peter Newman 2012-12-17

The world is facing an age of scarcity which will challenge all cities to reduce their resource footprint, especially carbon, improve biodiversity and at the same time continue to create economic opportunities and liveable places. This is green urbanism. Asian urban growth is leading the world in the rapidity of its change but how is it doing on green urbanism? This book finds emerging innovations and first signs of green urbanism in Asia and suggests they may be the guiding light for the rest of the world. The authors highlight seven archetypal cities exhibiting green urbanism: the renewable energy city, the bioregional carbon neutral city, the distributed city, the biophilic city, the eco-efficient city, the place-based city and the sustainable transport city. The book is a must-read for all who are concerned with the future of our cities as it instills hope that a greener urban future is possible. Contents:IntroductionWhat is Green Urbanism?The Renewable Energy CityThe Bioregional Carbon Neutral CityThe Distributed CityThe Biophilic CityThe Eco-efficient CityThe Place-based CityThe Sustainable Transport CityConclusions: Will Asian Cities Take Over the Green Urbanism Agenda? Readership: Professionals in urban design, town planning,

energy, transport, sustainable development, architecture and landscape, students studying sustainable urban design and development, as well as academics and researchers interested in cultural and urban studies. Keywords:Green Urbanism;Sustainability;Innovation Waves;Renewable Energy City;Bioregional Carbon Neutral City;Distributed City;Biophilic City;Eco-efficient City;Place-based City;Sustainable Transport City;Climate Change;Peak Oil;Resilience in CitiesKey Features:First to apply the concept of 'green urbanism' to Asian cities, extending previously written works on green urbanism from Europe and Australia to AsiaExplores the emerging trends of green urbanism in Asia, in particular, how the changing urban economy affects cities and their sustainabilityInstead of detailing sustainability problems, the authors highlight how these problems are being understood and how cities are taking steps to resolve themUses stories of hope to fire the imagination that a better future is imaginableReviews: "In Green Urbanism in Asia, Newman and Matan have produced an impressive tour de force — the first study of its kind to document and analyze the emerging green urban trends, amazing projects and wonderful stories of innovation found in Asian cities. Thoroughly researched and with remarkable detail, this path-breaking study will be the essential starting point and standard reference for years to come for anyone interested in understanding this fast-urbanizing part of the world. Newman and Matan show us what is possible, that there are compelling models for effectively integrating nature, sustainability and quality of life. These emerging green Asian tigers, so eloquently described and celebrated by Newman and Matan, point the way for cities around the world, and offer hopeful and inspiring antidotes to the sense of global gloom that often prevails." Dr Timothy Beatley Teresa Heinz Professor of Sustainable Communities, and Chair, Department of Urban and Environmental Planning, University of Virginia "Asian urbanism is THE story of the 21st century world-system: never before in history have we seen the speed, scale, and complexity of urbanisation that we are witnessing today across the whole Asian continent and island archipelagos. To date green urbanism is an oxymoron but this book promises to be part of a new wave of innovations of ideas, policy regimes, and practices that can change from an empty slogan of property developers flogging gated communities to transforming all our cities into liveable and sustainable ecosystems. We had better hope so for the long-term welfare of our world as a whole is now in the hands of this generation of Asian cities and their makers! This book is therefore not only timely but necessary. It is a handbook for students and practitioners of the urban alike. Let us all get working, book in hand!" Dr Trevor Hogan Deputy Director, Thesis Eleven Centre for Cultural Sociology, and Senior Lecturer, Faculty of Humanities and Social Sciences, La Trobe University, Australia "This book is in a class of its own. It shows that Asia is in the forefront. Most new breakthroughs take place here, populations ask for it, and politicians respond. The book takes the jump from telling that we should green our cities to demonstrate how it can be done. That is the core of the book: How to do it." Prof Joergen O Moeller Visiting Senior Research Fellow at Institute of Southeast Asian Studies, Singapore, and Adjunct Professor at Singapore Management University and Copenhagen Business School

Evergreen Architecture - gestalten 2021-06-08

Nature and architecture have never been more intertwined. As more of the earth's surface is swallowed up by the built environment, architects are increasingly up to the task of integrating flora and greenery into their creations. There are many ways to express this: green roofs, living walls, indoor courtyards and entire facades filled with plants. But where these are posed as solutions there are yet more questions. How does a skyscraper uphold the weight of hundreds of trees? How do residents keep moss-covered walls alive? Jungle Architecture explores this, and much more.

The Vertical City - K. Al-Kodmany 2018-06-25

Each century has its own unique approach toward addressing the problem of high density and the 21st century is no exception. As cities try to cope with rapid population growth - adding 2.5 billion dwellers by 2050 - and grapple with destructive sprawl, politicians, planners and architects have become increasingly interested in the vertical city paradigm.

Unfortunately, cities all over the world are grossly unprepared for integrating tall buildings, as these buildings may aggravate multidimensional sustainability challenges resulting in a “vertical sprawl” that could have worse consequences than “horizontal” sprawl. By using extensive data and numerous illustrations this book provides a comprehensive guide to the successful and sustainable integration of tall buildings into cities. A new crop of skyscrapers that employ passive design strategies, green technologies, energy-saving systems and innovative renewable energy offers significant architectural improvements. At the urban scale, the book argues that planners must integrate tall buildings with efficient mass transit, walkable neighbourhoods, cycling networks, vibrant mixed-use activities, iconic transit stations, attractive plazas, well-landscaped streets, spacious parks and engaging public art. Particularly, it proposes the Tall Building and Transit Oriented Development (TB-TOD) model as one of the sustainable options for large cities going forward. Building on the work of leaders in the fields of ecological and sustainable design, this book will open readers’ eyes to a wider range of possibilities for utilizing green, resilient, smart, and sustainable features in architecture and urban planning projects. The 20 chapters offer comprehensive reading for all those interested in the planning, design, and construction of sustainable cities.