



Carbon-Neutral Architectural Design

By Pablo M. La Roche



Carbon-Neutral Architectural Design By Pablo M. La Roche

The energy used to operate buildings is one of the most significant sources of greenhouse gas emissions. To lessen the human impact on climate, it is necessary to reduce these building-related emissions. New legislation, as well as market and financial pressures, are driving architects and developers to create low-carbon buildings. While it is possible to achieve many of these reductions through appropriate climate-responsive design, many architects are not trained to do this.

Filling an urgent need for a design reference in this emerging field, **Carbon-Neutral Architectural Design** describes how to reduce building-related greenhouse gas emissions through appropriate design techniques. This full-color book presents strategies and methods to achieve CO₂ reductions, with an emphasis on control of energy flows through the building envelope and passive heating and cooling strategies.

Strategies for Designing Buildings with a Smaller Carbon Footprint

Examining climate change and its relationship with buildings, the book begins with a look at the sources of emissions and how these are produced as a result of interactions between buildings and the surrounding environment. It then introduces a carbon-neutral architectural design process (CNDP) and a roadmap that can be adjusted for different types of projects.

Discussing climate analysis and solar geometry, the book explores how understanding the climate where a building is located helps to identify the design strategies that are best suited to that location?whether warm and humid, warm and dry, temperate, or cold. It looks at psychrometrics and how to achieve thermal comfort with minimum emissions. The book also explains how building fabric can be used to control energy flows by conduction, radiation, and convection?helping to reduce overheating and overcooling?and how to incorporate passive cooling and heating systems through appropriate design.

The book includes useful references, equations, and illustrations, as well as a comparison of free carbon counting tools that can be used for residential building

design. Drawing on the author's extensive experience in teaching and practice, this is a valuable resource for anyone who wants to reduce the carbon footprint of buildings.

Find more study resources at the American Institute of Architects' Carbon Neutral Design Project web site.

What's next for green building? See what Dr. La Roche has to say in this video on the HMC Architects blog.

 [Download Carbon-Neutral Architectural Design ...pdf](#)

 [Read Online Carbon-Neutral Architectural Design ...pdf](#)

Carbon-Neutral Architectural Design

By Pablo M. La Roche

Carbon-Neutral Architectural Design By Pablo M. La Roche

The energy used to operate buildings is one of the most significant sources of greenhouse gas emissions. To lessen the human impact on climate, it is necessary to reduce these building-related emissions. New legislation, as well as market and financial pressures, are driving architects and developers to create low-carbon buildings. While it is possible to achieve many of these reductions through appropriate climate-responsive design, many architects are not trained to do this.

Filling an urgent need for a design reference in this emerging field, **Carbon-Neutral Architectural Design** describes how to reduce building-related greenhouse gas emissions through appropriate design techniques. This full-color book presents strategies and methods to achieve CO₂ reductions, with an emphasis on control of energy flows through the building envelope and passive heating and cooling strategies.

Strategies for Designing Buildings with a Smaller Carbon Footprint

Examining climate change and its relationship with buildings, the book begins with a look at the sources of emissions and how these are produced as a result of interactions between buildings and the surrounding environment. It then introduces a carbon-neutral architectural design process (CNDP) and a roadmap that can be adjusted for different types of projects.

Discussing climate analysis and solar geometry, the book explores how understanding the climate where a building is located helps to identify the design strategies that are best suited to that location?whether warm and humid, warm and dry, temperate, or cold. It looks at psychrometrics and how to achieve thermal comfort with minimum emissions. The book also explains how building fabric can be used to control energy flows by conduction, radiation, and convection?helping to reduce overheating and overcooling?and how to incorporate passive cooling and heating systems through appropriate design.

The book includes useful references, equations, and illustrations, as well as a comparison of free carbon counting tools that can be used for residential building design. Drawing on the author's extensive experience in teaching and practice, this is a valuable resource for anyone who wants to reduce the carbon footprint of buildings.

Find more study resources at the American Institute of Architects' Carbon Neutral Design Project web site.

What's next for green building? See what Dr. La Roche has to say in this video on the HMC Architects blog.

Carbon-Neutral Architectural Design By Pablo M. La Roche Bibliography

- Sales Rank: #1412413 in Books
- Published on: 2011-12-15
- Original language: English
- Number of items: 1
- Dimensions: 9.30" h x .80" w x 6.10" l, 1.55 pounds
- Binding: Hardcover
- 344 pages

 [Download Carbon-Neutral Architectural Design ...pdf](#)

 [Read Online Carbon-Neutral Architectural Design ...pdf](#)

Download and Read Free Online Carbon-Neutral Architectural Design By Pablo M. La Roche

Editorial Review

About the Author

Pablo La Roche is Professor in the Department of Architecture and Adjunct Professor at the Lyle Center for Regenerative Studies at California State Polytechnic University Pomona, where he has coordinated and taught design studios, environmental control systems, advanced electives, and seminars. In 2008 he led an interdisciplinary team of faculty and students that won the National Council of Architectural Registration Boards (NCARB) Grand Prize for the Department of Architecture.

He has a Bachelors in Architecture and a Masters of Science in Architecture from Universidad del Zulia, Venezuela, and a PhD in Architecture from the University of California, Los Angeles. Dr La Roche has extensive international experience in designing passive cooling systems, low-energy sustainable architecture, and affordable housing, and has published more than 120 papers on these topics in conferences and journals in the Americas, Europe, Asia, and Australia. He has also been a technical reviewer for many international scientific conferences in the Americas, Europe, and India. Dr. La Roche is the principal author of *Keeping Cool: Guidelines to Avoid Overheating in Buildings* (2001), the sixth book in a series published by the Passive Low Energy Architecture Association (PLEA).

Dr. La Roche is also the Director of Sustainable Design at HMC Architects, where he leads this California-based architecture firm's ArchLab group, dedicated to advancing high-performance low-carbon architecture. He is a registered architect in Venezuela and a LEED BD+C accredited professional in the USA. His projects, emphasizing sustainability and affordability, have been published or received awards in Latin America and Europe.

For more information about Dr. La Roche, see Dr. La Roche's web site at Cal Poly Pomona, Zero Carbon Design, and HMC Architects.

Users Review

From reader reviews:

Alma Miranda:

Often the book Carbon-Neutral Architectural Design will bring one to the new experience of reading a new book. The author style to explain the idea is very unique. If you try to find new book to read, this book very acceptable to you. The book Carbon-Neutral Architectural Design is much recommended to you you just read. You can also get the e-book from the official web site, so you can more easily to read the book.

Joey Mendoza:

The publication with title Carbon-Neutral Architectural Design possesses a lot of information that you can understand it. You can get a lot of help after read this book. This book exist new knowledge the information

that exist in this reserve represented the condition of the world at this point. That is important to you to find out how the improvement of the world. That book will bring you with new era of the globalization. You can read the e-book on the smart phone, so you can read this anywhere you want.

Lynn Hardie:

Reading can called thoughts hangout, why? Because when you are reading a book especially book entitled Carbon-Neutral Architectural Design your mind will drift away trough every dimension, wandering in every aspect that maybe not known for but surely might be your mind friends. Imaging each and every word written in a book then become one web form conclusion and explanation in which maybe you never get prior to. The Carbon-Neutral Architectural Design giving you one more experience more than blown away your brain but also giving you useful info for your better life in this particular era. So now let us teach you the relaxing pattern is your body and mind will probably be pleased when you are finished reading it, like winning an activity. Do you want to try this extraordinary investing spare time activity?

Donald Barber:

Carbon-Neutral Architectural Design can be one of your nice books that are good idea. We all recommend that straight away because this e-book has good vocabulary which could increase your knowledge in vocabulary, easy to understand, bit entertaining but nevertheless delivering the information. The copy writer giving his/her effort to get every word into satisfaction arrangement in writing Carbon-Neutral Architectural Design however doesn't forget the main stage, giving the reader the hottest as well as based confirm resource details that maybe you can be among it. This great information can drawn you into new stage of crucial considering.

**Download and Read Online Carbon-Neutral Architectural Design
By Pablo M. La Roche #I40YB8T5PEA**

Read Carbon-Neutral Architectural Design By Pablo M. La Roche for online ebook

Carbon-Neutral Architectural Design By Pablo M. La Roche Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Carbon-Neutral Architectural Design By Pablo M. La Roche books to read online.

Online Carbon-Neutral Architectural Design By Pablo M. La Roche ebook PDF download

Carbon-Neutral Architectural Design By Pablo M. La Roche Doc

Carbon-Neutral Architectural Design By Pablo M. La Roche Mobipocket

Carbon-Neutral Architectural Design By Pablo M. La Roche EPub