

Sustainable Architecture

One aspect of Human / Nature



- *Sustainable architecture* seeks to minimize the negative environmental impact of buildings through efficiency and moderation in the use of materials, energy, and development space.
- *Ecological design* (sustainability) ensures that our decisions today do not adversely affect future generations.
- *Alternative natural materials* do not contain chemicals that may harm people, pets, and the environment. They do not rely heavily on natural resources.
- Alternative natural materials include rock, straw, bamboo, and sawdust

Selected Resources

AIA Names Top 10 Most Sustainable Projects of 2015

<http://www.archdaily.com/tag/cote-top-ten-green-projects>

Bergman, D. 2012. *Sustainable design: a critical guide*. New York: Princeton Architectural Press.

This book provides a concise overview of all the techniques available for reducing the energy footprint of structures and spaces. With clear, simple language and a practical "can do" approach, the author covers everything from the profession's ethical responsibility, to design structures and spaces that sustain our natural resources, to specific considerations such as rainwater harvesting, graywater recycling, passive heating techniques, solar orientation, green roofs, wind energy, daylighting, indoor air quality, material evaluation and specification, and how to work with green building certification programs.

Cleary, M. 2011. *21st century sustainable homes*. Mulgrave, Victoria, Australia: Images Publishing.

Necessity is the mother of invention, and the global necessity of facing the challenges of Climate Change has unleashed the inventive powers of architects around the world, many of whom are tackling the problem in original and highly creative ways. And yet, as the projects contained in this volume attest, sustainable design doesn't necessarily preclude style and comfort, or even a little bit of luxury.

Hes, D & Du Plessis, C. 2015. *Designing for hope: pathways to regenerative sustainability*. Abingdon, Oxon: Routledge.

A forward looking book on sustainable design that describes problems and then, by providing a different way to conceptualise design and development, leads on to examples of regenerative solutions. This book offers a hopeful response to the often frightening changes and challenges we face; arguing that we can actively create a positive and abundant future through mindful, contributive engagement that is rooted in a living systems based worldview.

Kats, G. 2010. *Greening our built world: costs, benefits, and strategies*. Washington, DC: Island Press.

This eye-opening book reports the results of a large-scale study based on extensive financial and technical analyses of more than 150 green buildings in the U.S. and ten other countries.

It provides detailed findings on the costs and financial benefits of building green. According to the study, green buildings cost roughly 2% more to build than conventional buildings--far less than previously assumed--and provide a wide range of financial, health and social benefits. In addition, green buildings reduce energy use by an average of 33%, resulting in significant cost savings.

LEED: U.S. Green Building Council

<http://www.usgbc.org/leed>

Pak, CH. 2014. *Designing the ecocity-in-the-sky: the Seoul workshop*. Mulgrave, Victoria, Australia: Images Publishing.

A comprehensive resource on vertical urbanism and how to plan and design a vertical ecocity of 100 stories. The book covers ecodesign, concepts, habitats, and designing for biodiversity. There are detailed drawings, diagrams, and photos that work through the technical, research, analytic, and engineering issues of ecotowers and ecoengineering designs. Also helpful for understanding multi-elevating concepts for multiuse towers, floor-plate designs for various usages, the effects of wind on towers, and other sustainable eco-engineering concepts.

Smith, GB & CG. Granqvist. 2011. *Green nanotechnology: solutions for sustainability and energy in the built environment*. Boca Raton, FL: CRC Press.

This book explores the science and technology of tiny structures that have a huge potential to improve quality of life while simultaneously achieving reductions in the use of fossil fuels. It examines energy flows in nature and how the optical properties of materials can be designed to harmonize with those flows. It then discusses the properties that can be achieved in real materials to take advantage of nature's energy flows.

Zamora Mola, F. 2013. *150 best sustainable home ideas* New York: HarperDesign.

Features the latest innovations in environmentally friendly home design. From heating and cooling solutions to wind energy systems, solar paneling, thermal glazing, and even Trombe walls, the ideas featured inside are complemented by photographs and architectural plans of gorgeous, sustainable houses around the world.

the world's most visited architecture website. Submit a Project Advertise. World. Brasil. Hispanoamérica. México. House 4AK / Swansilva Architecture. Architectonic & Structural Possibilities of Log Wood. Santa Elena Residence / Semillas. Rehabilitation Project for a Multi-Family Building with 8 Hous Slate School / Patriquin Architects. Cornwall Gardens House / CHANG Architects. Pipa House / Bernardes Arquitetura. Sustainable architecture and environmental issues are now a part of the agenda for businesses, as well as local and international communities. And people can't get enough of it. The word "sustainability" and the expression "sustainable architecture" are spreading in the world of design and architecture for two main reasons: functional and formal. Any object that is considered sustainable must show ecological awareness, therefore its functionality must be tied to its relationship with the environment through its appearance.  Energy-plus-houses at Freiburg-Vauban in Germany. Sustainable architecture is architecture that seeks to minimize the negative environmental impact of buildings by efficiency and moderation in the use of materials, energy, and development space and the ecosystem at large. Sustainable architecture uses a conscious approach to energy and ecological conservation in the design of the built environment.