

Greened Architecture impresses with its modern, aesthetic appearance and offers significant sustainability advantages. Its integrated, attached, or built-on nature helps cool indoor and outdoor spaces, ensures sustainable rainwater management, and positively affects biodiversity, health, and quality of life.

The 256-page volume of *Greened Architecture* presents 52 projects with a total of 572 Illustrations from all over the world, including family homes and large office buildings. It demonstrate the full range of green building designs, including large and small green roofs, classic and avant-garde façades, and lushly planted interiors. Regional and design differences are clearly highlighted. Essays on fundamental questions and technical issues introduce the topic.

CRADLE Books, in collaboration with *CRADLE MAGAZINE*, explores individual topics related to sustainable, contemporary architecture. The single-topic volumes present exemplary projects with detailed texts, facts, plans, and images that highlight the technical diversity and design integration of the respective approaches.



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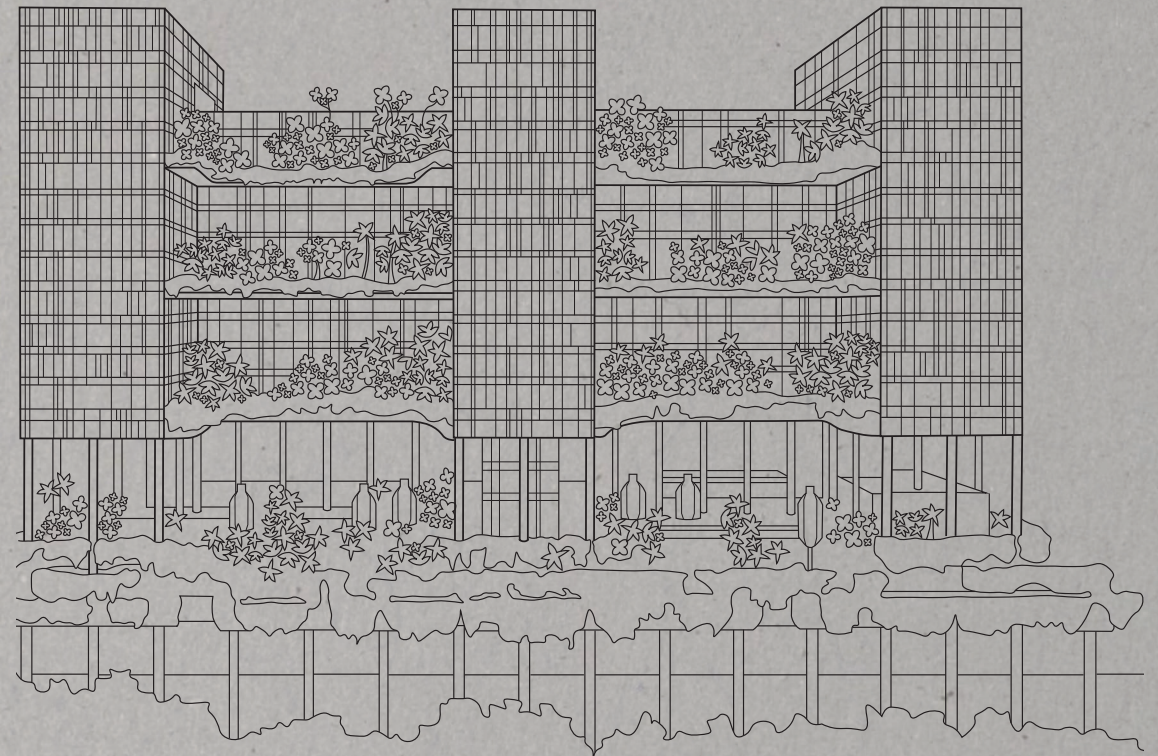
Greened Architecture



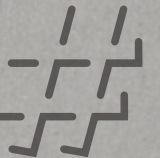
CRADLE Book

Greened Architecture

Façade Greening
Roof Greening
Interior Greening



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The roof garden restores the ground area covered by the building to the city.

Le Corbusier with Pierre Jeanneret.
Five Points of a New Architecture 1927



of sustainable architecture. Paolo Soleri's Arcosanti in Arizona was both a vision and a laboratory for a city that consumes only what it produces. A milestone in building greening, Emilio Ambasz's works of the 1980s combined topography and architecture, completely covering buildings with vegetation: "Green over Grey" became the catchphrase for a unity of technology and growth.

Nihon Sekkei and Takenaka Corporation: Terraced, planted facade of the Arcos Fukuoka in Fukuoka, Japan, by Emilio Ambasz, 1994.

Edward Charles Bassett (Skidmore, Owings & Merrill, SOM) and Peter Walker (Sasaki Walker & Associates); Weyerhaeuser: Headquarters in Federal Way, WA, USA, 1971.

1990s to 2010s

Since the 1990s, green roofs and green façades have become an urban planning tool. Paris served as a testing ground. Air pollution, heat waves, and stormwater retention called for new strategies. Researchers, architects, and policymakers developed pilot projects for green roofs and green façades. Patrick Blanc created a decisive tool: the Mur Végétal. His hydroponic system enabled large-scale, wall-mounted planting. With projects such as Pershing Hall (2007) and the Musée du quai Branly (2006), Paris became the center of vertical gardens. The plants transformed the façade into a textile, breathing organism. At the same time, architects worldwide adopted this perfected technology. In Asia, cities responded to climate and density. Singapore made greening a national policy. As early as 1965, the Singapore Development Plan focused on urban ecology. Since 2009, the LUSH (Landscape for Urban Spaces and High Rises) program has been driving manda-

tory greening. In 2017, the policy was expanded to cover the entire city, resulting in exemplary architecture.

In Vietnam, the firm Vo Trong Nghia designed buildings such as Stacking Green (2011) and House for Trees (2014), in which plants are part of the building envelope – serving as natural sun protection rather than mere decoration. His approach to using build-



Beekman & Beekman: Landscaping of the IBN – Institute for Forestry and Nature Research by Behnisch Architekten in Wageningen, 1998. Friedensreich Hundertwasser: Hundertwasser House in Vienna, 1985; Moshe Safdie: Habitat 67 in Montreal, 1967.



Mauricio Ceballos x Architects

Casa Santa María del Oro

A model of green architecture, Casa Santa María del Oro integrates trees, green roofs, and native vegetation with stone and wood, blending sustainability seamlessly into the surrounding, preserved hillside landscape.

Nestled in Nayarí, Mexico, Casa Santa María del Oro's philosophy centers on coexistence between nature, community, and architecture. Located near a lake and formed within a volcanic crater, this project responds to a fragile ecosystem and a remote context with limited infrastructure.

With the delicate balance of the lake in mind, Mauricio Ceballos x Architects design approach was rooted in restraint and precision. The house has a modest street-facing concrete façade and lies embedded into the landscape, minimizing visual impact and allowing it to recede into the landscape. From many viewpoints, the

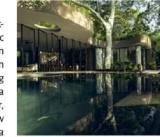
integral to the project's performance and focuses on working with existing conditions rather than imposing external solutions.

The site offers five ancestral trees which Mauricio Ceballos x Architects decided to adapt their architecture around, establishing the trees as non-negotiable design parameters. Interior courtyards organized around the trees enhance daylight and ventilation, reducing reliance on mechanical systems. Circular voids are carved from the building volume to protect the trees, creating a formal language that responds directly to site-specific conditions. Terraces emerge as the primary visible elements, opening toward the lake while remaining interwoven with native vegetation. The result is an architecture experienced from within the landscape rather than imposed upon it. Water systems are designed to protect the lake while energy consumption is minimized through low-energy equipment, passive cooling and cross-ventilation.



Detail of greenery being involved within the design.

structure becomes nearly invisible, preserving lake views and reinforcing a respectful relationship with its surroundings. Casa Santa María del Oro remains intentionally simple with three bedrooms, a central social space, and a terrace with a circular pool, allowing focus on environmental integration and spatial quality. Color choices draw an earthy palette, complemented by native landscaping and furniture crafted from plaster with window frames and recycled wood. Material use is deliberately reduced, prioritizing local stone for its durability, low environmental impact, and compatibility with local labor practices. Sustainability strategies are



Terrace with private pool and outdoor seating area.



Green roof of the house with the interior visible through an atrium holding trees.



ings for passive climate control gave rise to a distinct architectural school. In Europe, Stefano Boeri's Bosco Verticale in Milan (2014) marked the breakthrough of green high-rise architecture. Over 900 trees and thousands of shrubs cover the balconies like small forests.

was followed in 2011 by the Biodiversity Strategy, which viewed roofs as ecological stepping stones within the urban landscape. Singapore, in turn, responded in 2011 with the Singapore Green Plan 2030, which builds on the LUSH concept. One million new trees, a fourfold increase in solar energy, and complete carbon neutrality by 2050. Green skyscrapers are not considered an

Current Developments

Since the early 2020s, green roofs have become an integral part of sustainable architecture. The discussion has shifted from a pioneering concept to a standard of urban policy. In Paris, the Plan Climat was continued through programs such as Objectif 100 hectares (2014) and Parisculteurs (2016). The goal was 100 hectares of new green roofs and façades by 2020, a third of which would be dedicated to urban agriculture. Since the mid-2010s, building codes and zoning plans have required new buildings to install green roofs or solar panels. This



Patrick Blanc: Greening of the Tower Flower by Édouard François in Paris, 2004.

Patrick Blanc: Mur Végétal in the renovation of the Pershing Hall Hotel by Andrée Putman in Paris, 2007.

Laura Gatti and Emanuela Borio: Greening of Stefano Boeri's Bosco Verticale in Milan, 2014.



Tierra Design: Greening of the Parkroyal on Pickering by WOHA Architects in Singapore, 2013. The screen print on the cover of this book also depicts this building.

exception here, but rather the standard. Shading and cooling are essential in the tropical climate; this gives rise to a vertical landscape architecture that blends the city and the ecosystem.

This trend continues indoors as well. From the Ford Foundation to contemporary atriums, plants serve as functional and emotional architectural elements: they humidify, filter, insulate against sound, and create atmosphere.

From the grass-covered roofs of Scandinavia to vertical gardens in Paris and the skyarks of Singapore, a trend toward increasing greening is taking hold. Architecture has not conquered nature, but rather integrated it. What was once considered a risk to masonry has now become a sign of intelligence and sustainability.

Text: Chris van Uffelen
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Facts and figures

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PHOTOS Rafael Camo
PROCUREMENT PROCEDURE ARCHITECTURE direct commission
PROCUREMENT PROCEDURE GREENERY direct commission
GROSS FLOOR AREA 350 m²
SIZE GREENERY 300 m²

Timeline
START OF CONSTRUCTION 2021 COMPLETION 2022 OPENING December 2023

Construction and materials architecture
BASIC CONSTRUCTION plaster with window frames, recycled wood, local materials INTERIOR WALLS recycled wood FACADE volcanic stone, stone cladding, glass ROOF flat green roof system

Building greenery

FACADE 30 m² preserved trees, climbing plants INTERIOR 90 m² trees, shrubs and ground covers ROOF 200 m² drought-tolerant native species

Structure of the planting base

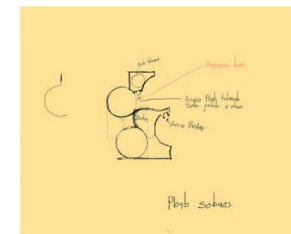
FACADE planter boxes with concrete base INTERIOR atria that hold trees ROOF green roof, soil, waterproofing layer

Irrigation

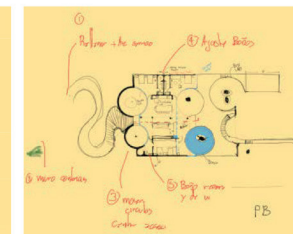
FACADE drip irrigation INTERIOR drip irrigation at soil level, natural rainfall ROOF passive and drip irrigation, rainwater harvesting

Other sustainability aspects and technical building equipment

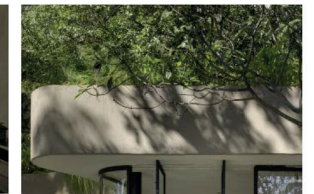
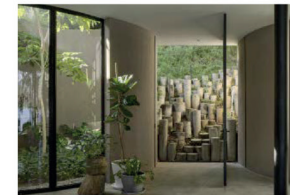
Minimal footprint, preservation of trees, cross-ventilation, no reliance on mechanical cooling, LED lighting, durable materials



Sketch of ground floor atria



Sketch of ground floor exterior and interior



Exterior view with terrace and garden connecting to nature.

Interior with glass sliding doors and water front view.

Interior with view into atrium, color scheme focused on greenery.

View into bedroom with opened glass sliding doors.

