

EXPLAINER

Why Real Estate Investors Must Adopt Sustainable Design



Sustainable buildings efficiently react to environment and local climate. Photo credit: Primavera.
Integrating renewable energy features with architecture can help property developers save a lot of money over time.

Introduction

According to the 2018 joint report of UN Global Compact and the Royal Institute of Chartered Surveyors, real estate can be a powerful driver for corporate sustainability and for making the Sustainable Development Goals a reality.

For Romolo V. Nati, Executive Chairman and CEO of Itaipinas Development Corporation, progressive developers play a huge role in realizing the potential of the real estate sector in building a more sustainable, resilient, and inclusive future for emerging cities that will manage the environmental impact of human developments, and ensure the sustained growth of the sector.

He shares the potential of sustainable design in making real estate projects climate resilient and cost-efficient.

How does climate change affect real estate investments?

Climate change brings with it shifts in the landscape of real estate investment. Now more than ever, investors must consider environmental and geographical information, such as flooding susceptibility and risks of rising sea levels in coastal areas, when making real estate investment decisions. Assessing project location should not only be about the current snapshot of the economic landscape. It should also project the possible effects of environmental factors.

Climate change requires real estate investments to have adaptive measures either through architectural and design approaches, or through climate change adaptation strategies such as retreat, respond, or reclaim (particularly relevant for low lying areas).

On the other hand, it also opens opportunities to discover, explore, and develop new areas for economic growth.

What does sustainable development mean in the real estate sector?

Sustainable development and climate resiliency work hand in hand. Resilient buildings are becoming a must in the real estate sector. With the environment as the basic parameter, a design framework must integrate the necessities of climate change adaptation and incorporate sustainable features such as rainwater harvesting, solar power, and passive green design in building structures. As such, sustainable development in the real estate sector should mean the emergence of green buildings as part of the industry landscape.

Sustainable Development Goal 11, which focuses on making cities and human settlements inclusive, safe, resilient, and sustainable, highlights the practice of adaptive architecture and green design. These approaches must be synced with environmental planning and urban design.

How do you design and build a sustainable building?

The designs are characterized by fully integrating renewable energy features – passive for saving and active for generating power – with architecture. This integration begins during the conceptualization process and extends to the design, construction, and building maintenance. The process is created using performance-based design strategies that make use of parametric and generative architectural software.

At the onset of the design process is a detailed analysis of the existing data of natural weather conditions of the site location, optimizing the use of natural elements to shape the design of the building—the same “thinking model” used by nature.

Italpinas' designed structures, as examples, demonstrate building integration within the site, efficiently reacting to the environment and local climate. They can be considered as a living organism and not just a mere construction. This is made possible through the application of the best principles of passive house technology: shadow control, wind cooling, and indirect light exposition maximization. The south facades are designed in a way to use the building components, floors, slabs, projections, and balconies as shading devices for windows or terraces dimensioned appropriately to minimize the overheating and glare effect with a reduction of up to 80% than conventional residences.

The internal vertical atrium, found in the towers, is an efficient natural ventilation system that integrates the vertical and horizontal distribution of air throughout the buildings, contributing to the passive cooling of units by using a natural chimney effect. At the same time, the void serves to optimize natural light, allowing sunlight (and moonlight) to enter the central section of each tower to illuminate the common areas.

What are the cost implications of designing for sustainability?

Compared to traditional construction costs, the majority of green-certified buildings show a 4% increase in upfront capital expenditure. However, designing for sustainability actually help businesses save a huge amount of money over time with the reduction of building maintenance expenses and energy and water costs.

Certified by World Bank's International Finance Corporation with Excellence in Design for Greater Efficiencies (EDGE) in 2015, Italpinas' Primavera Residences has a predictive savings of 33% for energy, 37% for water, and 32% less embodied energy in materials.

What lessons can you share from your experience in real estate development in the Philippines - a country prone to typhoons and earthquakes?

It is a must to always consider the vulnerability of a country or a place to typhoons, earthquakes, and other exogenous events, including those brought about by climate change. Italpinas was the first development company to build a condominium away from the main downtown area of Cagayan de Oro City, which is at the mouth of the Cagayan River, and close to sea level. The site where Italpinas' Primavera was erected was 110 feet above sea level. When Washi, a severe tropical storm, caused a catastrophic event in the city in late 2011, the upper part of the city where Primavera is located, was one of the least affected areas compared to the downtown area which was heavily hit by flooding.

Resources

United Nations Global Impact and RICS. 2018. *Advancing Responsible Business in Land, Construction and Real Estate Use and Investment – Making the Sustainable Development Goals a Reality.*

Sustainable Development Goals Knowledge Platform. *Sustainable Development Goal 11.*

IDC-Italpinas Development Corporation. *Strategy.*



Romolo V. Nati

Executive Chairman and CEO, Italpinas Development Corporation, Philippines

Romolo Valentino Nati is a multi-awarded Italian architect and currently the Executive Chairman and CEO of Italpinas Development Corporation, a publicly listed Italian-Filipino real estate development company that specializes in the design and development of sustainable buildings in emerging cities across the Philippines.

He is the vice chairman of the Philippine renewable energy company Constellation Energy Corporation (CEC) that focuses on acquiring, financing, and developing small to medium-scale renewable energy projects across the Philippines. He is also the chairman of Damiani Property Management Incorporated (DPMI), a company engaged in property management of green buildings in the Philippines.

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