ASIA GREEN REAL ESTATE

Asia insights

Decarbonizing existing buildings: a pathway to net zero

Reducing carbon emissions from existing buildings is a crucial step in the global transition towards net zero. With nearly 80% of the buildings that will be in use by 2050 already standing today according to the World Economic Forum, addressing their carbon footprint is essential. The real estate industry currently accounts for 39% of global energy-related carbon emissions, with 28% stemming from operational energy use—such as heating, cooling, and electricity consumption—and the remaining 11% linked to embodied carbon in materials during construction. According to the International Energy Agency, buildings emit approximately 10 billion tonnes of CO_2 annually, making them a major contributor to climate change. Improving the sustainability of existing stock through energy efficiency upgrades and the integration of renewable energy sources is crucial. Green retrofits could cut global carbon emissions by up to 5% per year, amounting to 1.8 billion tonnes—comparable to the total annual emissions of the European Union or India. Beyond lowering emissions, these retrofits can reduce operational costs and improve indoor air quality and tenant well-being.

Decarbonization initiatives in Asia

Asia is experiencing rapid urbanization, with over 400 million people expected to move into urban areas by 2030, according to the United Nations. As the region accounts for nearly half of the global real estate market and currently has over 80 billion square meters of building stock, decarbonizing the built environment has become a priority. Cities such as Singapore, Jakarta, Sydney, Bangkok, and Tokyo have been introducing policies and incentives to promote green retrofitting, aligning with national and global sustainability commitments. Beyond its environmental benefits, decarbonization also represents a significant economic opportunity. A study by the Boston Consulting Group estimates that transitioning 75% of new and existing buildings to green could unlock a USD 47 trillion opportunity for decarbonization projects in Asia's built environment. Additionally, the region's renewable energy resources offer further potential to accelerate this transition.

Singapore

Under the Green Building Masterplan, Singapore has set an ambitious goal to ensure that 80% of the nation's total building stock is "greened" by 2030. As of 2022, nearly 55% of Singapore's buildings have already undergone green upgrades. To support this transition, the Building and Construction Authority (BCA) has rolled out several initiatives, including the Green Mark Incentive Scheme for Existing Buildings 2.0. This scheme allocates SGD 63 million in funding to assist building owners with the upfront costs of energy efficiency retrofits, provided they meet higher energy performance standards—such as Super Low Energy and Zero Energy —under the Green Mark certification system. Key improvements include upgrading cooling systems, installing energy-efficient lighting, and optimizing building management systems.

Jakarta

Jakarta is facing severe air pollution challenges, with PM2.5 levels consistently exceeding WHO guidelines, posing serious health risks to residents. As a pioneer in addressing this issue, Asia Green Real Estate was among the first in the city to implement advanced technologies aimed at improving indoor air quality. Retrofitting projects, which incorporate advanced PM2.5 filtration and ventilation systems, can reduce indoor pollutant levels by up to 90%, creating healthier living and working environments. These measures align with Jakarta's sustainability goals, ensuring that buildings not only lower their carbon footprint but also enhance tenant well-being. In addition to those efforts, in 2023, Indonesia launched the Green Building Roadmap (BGH) which focuses on water and energy conservation in buildings, aiming for zero carbon emissions by 2060. The BHG outlines a strategic approach to building energy efficiency, including a 25% energy conservation target and a 10% water conservation target compared to standard buildings. This initiative is key in Indonesia's commitment to reducing emissions in the building sector, supporting both local and national sustainability goals.

Source: Asia Green Real Estate; World Economic Forum; World Green Building Council; BuiltWorlds; BCG; B Capital; Accacia; Indonesia Green Building Road Map; Building and Construction Authority Singapore; Buildings & Cities; NSW Government; Better Buildings Partnership

Sydney

Sydney is at the forefront of building decarbonization in Australia, with the commitment to reach net zero emissions by 2035. A key driver of this transformation is the Better Buildings Partnership dedicated to enhancing the sustainability and performance of existing buildings. This initiative has played a crucial role in reducing energy intensity across Sydney's commercial office buildings by more than 50% between 2006 and 2022. The New South Wales (NSW) government is further supporting sustainable retrofits through a range of incentives. It has secured AUD 175 million funding for solar panels and energy efficiency upgrades, along additional AUD 30 million to expand solar access for apartment residents. Countless NSW households and small businesses are already adopting energy-saving technologies, helping them lower emissions and save an average of AUD 2'000 per year on energy bills. Key energy-saving measures include upgrading inefficient heating, cooling, and hot water systems with more efficient alternatives, installing rooftop solar panels to generate electricity and reduce grid dependence, switching from gas to electric appliances, and retrofitting homes with insulation, draught-proofing, and double glazing to improve thermal performance. Beyond cost savings and emissions reductions, these upgrades offer additional benefits, including improved health. Homes with insulation use 19% less energy and have been linked to lower asthma rates and better overall health. By prioritizing energy efficiency, Sydney is not only advancing its decarbonization goals but also improving quality of life for residents.

Bangkok

As part of its commitment to decarbonizing existing buildings, Bangkok is advancing energy efficiency initiatives to reduce carbon emissions and lower energy consumption. A key development in this effort is Thailand's launch of U-Energy, Asia's first integrated financing platform dedicated to supporting energy efficiency projects in commercial, industrial, and residential buildings. This initiative aims to address financial barriers that often hinder building owners from undertaking energy retrofits, offering flexible financing solutions. The U-Energy facilitates projects that enhance air conditioning efficiency, install rooftop solar panels, upgrade lighting to LED, and optimize energy management systems—delivering an average energy consumption reduction of 20%. These improvements not only lower operational costs but also contribute to Thailand's broader sustainability goals, including the Ministry of Energy's target of reducing energy intensity by 30% by 2037 in comparison to 2010 levels. By integrating accessible financing with technological solutions, Bangkok is taking significant steps toward creating a more energy-efficient and sustainable built environment.

Tokyo

Tokyo is intensifying its efforts to reduce the carbon footprint from the built environment, with buildings currently responsible for 70% of the city's CO_2 emissions. To meet its ambitious targets of Zero Emissions by 2050 and Carbon Half by 2030, the Tokyo Metropolitan Government (TMG) is prioritizing renewable energy integration and energy-efficient retrofits. A landmark initiative in this transition is the mandatory solar panel installation requirement, which took effect in spring 2025. To further accelerate green retrofits, TMG is offering subsidies for apartment buildings, covering essential infrastructure such as base frames, roof waterproofing, and transformer substations required for high-voltage renewable electricity adoption. Businesses installing solar panels can also benefit from leasing programs, which eliminate upfront costs and provide financial relief through reduced energy expenses. By generating clean energy, homeowners can lower their electricity costs with estimated annual savings of JPY 93'600—allowing the installation investment to be recouped in about six years with available financial grants.

The importance of decarbonization measures

To accelerate the transition to net-zero emissions, the real estate industry must focus not only on new sustainable construction but also on retrofitting existing building stock. Given that the majority of buildings that will exist in 2050 are already in use today, improving their energy efficiency is imperative. Retrofitting not only delivers significant reductions in greenhouse gas emissions but also provides tangible benefits to all stakeholders, such as lower operational costs, improved air quality, and increased asset value. Asia, with its rapidly growing economy and ongoing urbanization, holds immense potential for sustainable buildings. Local governments across the region are actively fostering the transition to net-zero emissions by offering incentives for retrofit-to green projects and implementing stringent energy efficiency regulations.

Source: Tokyo Metropolitan Government; United Overseas Bank (Thai) Pcl.; Thailand's Ministry of Energy's Energy Policy and Planning Office

ASIA GREEN REAL ESTATE

Disclaimer

This document constitutes marketing material and is for information purposes only and is not intended as an offer or solicitation for the purchase or sale of any financial instrument nor does it constitute an investment or any other type of advice in connection with any financial instrument. This document is a summary of certain indicative terms and is not intended to be complete. Material terms of the indicative transaction are subject to change prior to the consummation of the actual transaction. Investors who are interested in potentially investing with Asia Green Real Estate should obtain their own legal and tax advice. Prior to making an investment in the Fund, prospective investors should carefully consider full and final offering documents relating to a relevant Asia Green Real Estate financial instrument (e.g. Fund's Articles of Incorporation, Prospectus, and the relevant Supplement as well as the Subscription Agreement if applicable), which would be available free of charge at Asia Green Real Estate. The interests in the Fund are intended for private placement purposes only in jurisdictions where such private placements are fully allowed. Therefore, each recipient of this document warrants and agrees it has not made and will not make an offer of the interests in the Fund to the public in any jurisdiction. There is no public market for the interests in the Fund. Any reproduction or distribution of the content of this document, in whole or in part, without the prior written consent of Asia Green Real Estate, is prohibited. By reading this document, the recipient fully agrees to the foregoing. No warranty can be accepted regarding the correctness, accuracy, up-to-date, reliability, and completeness of the content of this presentation. Asia Green Real Estate expressly reserves the right to change, to delete or temporarily not to publish the contents wholly or partly at any time and without giving notice. This presentation as well as its parts are protected by copyright, and it is not permissible to copy them without prior written consent from Asia Green Real Estate.

Notice to investors in Switzerland: The distribution of Shares in Switzerland will be exclusively made to, and directed at, qualified investors ("Qualified Investors"), as defined in the Swiss Collective Investment Schemes Act of 23 June 2006, as amended and its implementing ordinance.