

Creating Resilience

The Green Transformation of Logistics Real Estate: A Practical Guide for Owners and Investors

VIEWPOINT

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Introduction

Almost 70% of transportation and logistics companies on the Fortune 500 have set a net zero carbon target, with around half aiming to achieve this objective by 2030 or earlier¹. This growing emphasis on environmental footprint is beginning to influence logistics occupiers’ real estate decision-making worldwide.

In Asia Pacific, an increasing number of logistics occupiers are demanding more environmentally friendly warehouses and distribution centres. CBRE’s June 2024 Asia Pacific Leasing Sentiment Survey found that energy-related features, particularly renewable energy supply and energy efficiency management, are most preferred. More than half of survey respondents stated that occupiers prefer facilities possessing some form of green certification, while just over a quarter highlighted the need for properties to provide charging infrastructure for electric vehicles.

With more occupiers embedding sustainability into real estate strategy, landlords and investors must accelerate the greening of their Asia Pacific logistics portfolios. This Viewpoint identifies occupiers’ most sought-after green features and explains how asset owners in the region should respond to rising demand for environmentally friendly logistics real estate.



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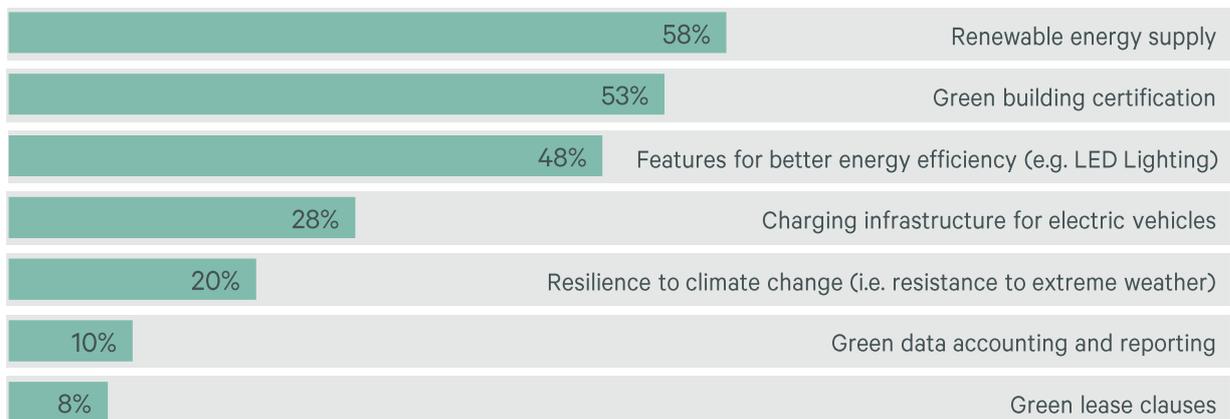
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¹Climate Impact Partners, September 2023 [Link](#)

Figure 1: Most preferred green features among Asia Pacific logistics occupiers



Note: Multiple answers allowed
Source: Asia Pacific Leasing Sentiment Survey, June 2024.

#1: Renewable energy supply

The limited availability of green electricity supply in Asia Pacific poses a significant obstacle to achieving net zero carbon emissions. Coal-fired electricity plants, which are the most carbon intensive energy source, account for 57.8% of power generation in the region, but less than 20% in Europe and the U.S.. Occupiers in this region therefore rank renewable energy supply as their preferred green feature.

Figure 1: Percentage of electricity production by coal in major markets

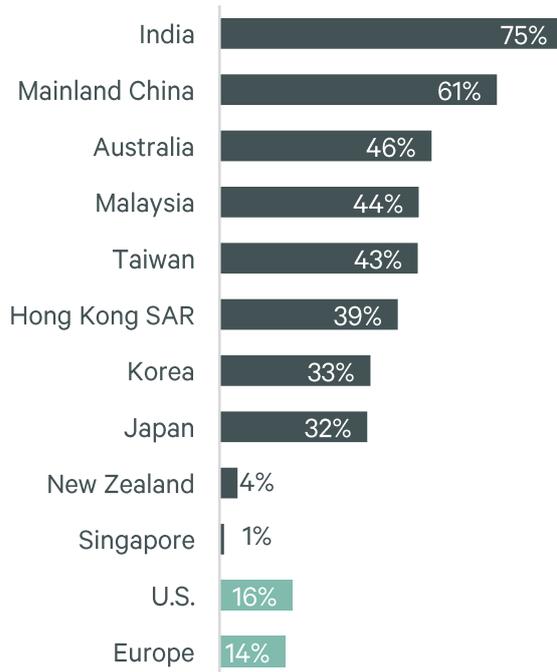
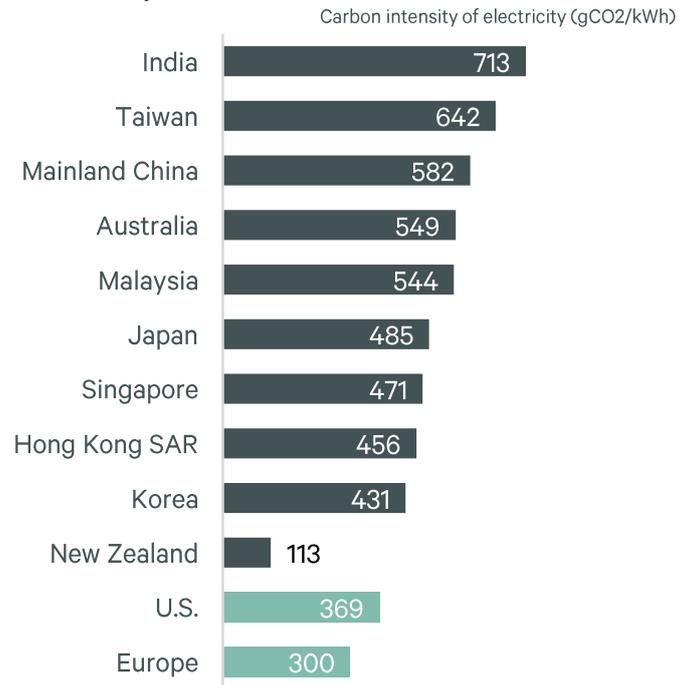


Figure 2: Carbon intensity of electricity generation in major markets



Source: Our World in Data ([Link](#)) Energy Institute - Statistical Review of World Energy (2023), Sustainability Report of Hong Kong Electric and CLP Group

Many industrial asset owners are responding to growing demand for renewable energy by enhancing their portfolio’s access to renewable energy via on-site solar energy generation and connecting to the renewable energy grid. Single-storey industrial and logistics facilities are ideal for such initiatives due to their large and flat rooftops, which are conducive for installation. Owners can either set up photovoltaic (PV) panels themselves or outsource installation and maintenance to external service providers.

Despite rising market awareness, governments are playing a crucial role in accelerating renewable energy adoption. Apart from financial support, some markets have introduced mandatory requirements related to renewable energy. In Singapore, JTC Corporation, which is a statutory board affiliated with the Ministry of Trade and Industry, has imposed mandatory solar deployment for all eligible new facilities and those with leases renewed from 2020.

The efficiency of on-site renewable energy generation depends heavily on a building’s specifications, geographical location, climate, and nearby built environment. Other major challenges include long payback periods, with Prologis estimating an average break-even point of eight years for a solar installation in the U.S.².

In addition, average renewable energy generation is often a fraction of installed capacity, as solar PV systems can only operate at maximum output on sunny days. As electricity generated is insufficient to fully offset grid-supplied energy, owners have to adopt a variety of energy saving solutions to achieve net zero emissions.

In countries with open wholesale electricity markets, such as Australia and Singapore, owners can switch to greener energy providers and/or enter into a longer-term Power Purchase Agreement (PPA). This not only enables facilities to be fully powered by renewable energy, but also facilitates landlords and occupiers in utilising other renewable energy provided.

Table 1: Business models for landlords to increase renewable energy supply in their portfolios

	Outsource/partner with solar service providers	Self-installation of solar panels	Purchase green energy from supplier
Solution	Employ an external service provider to install and maintain on-premises solar panels	Landlords take the responsibility to install and maintain solar panels	Directly purchase renewable energy from the wholesale electricity market or enter into a long term, usually 10 – 20 year, PPA with energy providers
Cost for landlords	Only maintenance cost required	Upfront investment and maintenance required	No upfront investment or maintenance expense required
Case Study	In 2023, Sabana Industrial REIT partnered with Keppel EaaS to install and maintain solar panels at its nine properties in Singapore.	All four properties under SF REIT in mainland China and Hong Kong SAR have installed rooftop solar systems.	Charter Hall has signed a PPA with ENGIE to supply 100% of electricity for its 152 sites from renewable sources (wind and solar) from 2024.

Source: [Sabana Industrial REIT](#); [SF REIT](#); [Charter Hall](#).

²Prologis, [Link](#)

#2: Green building certification

Green building rating systems such as LEED, CASBEE and BEAM Plus evaluate the energy performance and material usage of a building during the design, construction, and operational stage. Additional considerations may include amenities for building users and public transportation connectivity.

Adoption in the industrial and logistics sector is still at a relatively early stage, with several green building rating systems having only recently expanded to cover warehouses. These include Australia's NABERS, which introduced a rating for warehouses and cold stores in 2022. However, the rating for these assets is solely focused on energy performance, while the office rating covers a much broader remit that includes energy, water, waste, and indoor environment.

The divergence in energy performance between various types of industrial occupiers poses a unique challenge for industrial & logistics landlords seeking to obtain green certification for their properties. The U.S. Green Building Council has stated that landlords of logistics assets, especially those newly developed for speculative lease, have limited visibility and control over future tenant build-outs. As energy demand varies between different industries and warehouse designs, an industrial building's energy performance and level of green certification is tied to sitting tenants' industry and operation.

Occupier demand for environmentally friendly industrial & logistics buildings is on the rise in Asia Pacific, with selected companies, such as Woolworths in Australia and Swire Coca-Cola in Hong Kong SAR, including the usage of green certified logistics space in their sustainability pledges.

To date, only a quarter of logistics space owned by the top three global industrial & logistics landlords³ has achieved some form of green certification globally. However, logistics developers in Asia Pacific are rapidly expanding their green portfolios. Goodman recently reported that 99.5% of its Japan logistics portfolio had achieved at least one green certification under LEED, CASBEE, BELS or DBJ.

With the large pipeline of new logistics supply in Asia Pacific set to intensify competition for tenants, assets that perform relatively poorly in terms of sustainability may be in a weaker position. CBRE expects Asia Pacific landlords to conduct cost-benefit analyses to achieve green certification for their portfolios and prioritise conversion/upgrading according to the market landscape.

³ By the value of Asset under Management (AUM)

#3: Energy conservation

Improving building energy efficiency is an essential step to achieving climate goals. A recent U.N. study⁴ suggested that real estate accounted for 30% of global final energy demand in 2022, with the bulk of power used for operational needs such as space heating and cooling, water heating and lighting. The uptick in development of refrigerated warehouses will also fuel electricity demand from industrial buildings, as such properties consume five times more electricity per sq. ft. than non-refrigerated ones⁵.

In addition to the adoption of high-performance heat pumps and HVAC, the use of power for heating and cooling can be reduced through the proper insulation of roofing and walls. Asset owners can further reduce the usage of cooling equipment by ensuring plenty of external shade and installing green walls. For refrigerated warehouses, the use of more eco-friendly refrigerants is key to reducing carbon footprint.

Conversion to LED lighting is a priority initiative in warehouses. Some landlords have embedded sensors into lighting equipment to facilitate motion-sensing controls and district lighting systems for optimal energy efficiency. From a building design perspective, owners should utilise the use of natural light via skylights, clerestory windows and building orientation.

Other key areas include water conservation and waste management, with coverage of the latter having expanded well beyond the recycling or reuse of computers or furniture. In Australia, Goodman has introduced a national green waste programme to repurpose gardening waste into mulch, soil or compost, as well as partnering with Dexion Logistics to repair and reuse leftover racking from its tenants⁶. For landlords aiming to create zero-carbon warehouses, the use of green and locally sourced building materials is essential. Some property owners are also reusing construction materials, such as incorporating rock from development sites into plaster, as well as reusing timber and steel from demolished buildings.



⁴Global Status Report for Buildings and Construction, United Nations Environment Programme (UNEP) and Global Alliance for Buildings and Construction (GlobalABC), 2024. [Link](#)

⁵2018 Commercial Buildings Energy Consumption Survey, U.S. Energy Information Administration [Link](#)

⁶Goodman Australia [green waste recycling](#); [reuse of racking](#)

#4: Charging infrastructure for electric vehicles (EVs)

With road freight vehicles contributing 29% of global transport carbon emissions, many logistics operators are electrifying their delivery fleets. CBRE expects the adoption of EVs to drive demand for on-site charging points, especially fast DC chargers, in industrial & logistics buildings.

Electrification may go beyond delivery vans and trucks to include other logistics Material Handling Equipment (MHE). Kerry Logistics recently replaced its forklifts in Hong Kong SAR, Thailand, and Oceania with electric-powered vehicles, while Maersk is committed to fully electrifying all its indoor equipment by 2030.

Higher energy demand from EVs and MHE will require property owners to upgrade their portfolio's energy-related features such as power feed, back-up power, and energy storage systems. Landlords are also advised to collaborate with occupiers in the planning and construction of indoor battery charging stations to ensure proper fire protection safeguards are in place.

Table 2: Current and target EV adoption rate of selected logistics occupiers

	Current adoption rate	Target adoption rate
DHL	Operates more than 29,200 EVs worldwide	Aims for 60% of its pick-up and delivery vehicles to be electric by 2030
SingPost	32% of its total fleet in Singapore comprises EVs	Aims to fully electrify its owned delivery fleet by 2026
CJ Logistics	-	Plans to replace all vehicles owned by CJ Logistics with eco-friendly vehicles by 2040. Those vehicles weighing under one tonne will be replaced by EVs
Australia Post	Operates 4,635 EVs, over 30% of its delivery fleet	Aims to drive adoption of EVs in its contractor supply chain by 2030
Flipkart	Operated 3,600+ EVs in its delivery fleet as of 2022	Planning a 100% transition of its last mile fleet to EVs by 2030

Source: Sustainability report of respective companies.

#5: Other initiatives

Logistics property owners are advised to update their development and asset management guidelines to address the challenges arising from the increasing frequency of extreme weather events. CBRE advises owners to conduct regular asset-based climate risk assessments to enable more tailored initiatives suited to local climate challenges. For example, Australia faces drought and bushfires, while the main challenges in Hong Kong SAR relate to severe typhoons and flooding.

Other environmental features demanded by occupiers include green data sharing and green lease provisions. A 2023 CBRE survey⁷ revealed that 38% of global occupiers do not use scope categories when reporting their carbon emission footprint. To overcome the problem of insufficient information, occupiers are seeking to improve collaboration with landlords in the fields of environmental performance tracking and data sharing.

Green lease adoption ranges substantially across the region. As institutional landlords are more proactive in including green lease provisions, green leases are more commonly found in Japan, with Australia, Singapore and mainland China reporting rising implementation.

⁷Strengthening Value Through ESG, CBRE Research, February 2023. ([Link](#))

Recommendations

Amid growing occupier demand for environmentally friendly logistics facilities, landlords and investors are recommended to evaluate and prioritise green investment needs within their portfolios. Although older assets with limited viability for enhancement should be prioritised for disposal, owners may utilise green financing to meet growing capital demand for asset retrofitting and upgrading.

At the same time, authorities in several markets have introduced financial support programmes to stimulate real estate decarbonisation. These include Singapore, which recently launched an SGD 63 million fund (Green Mark Incentive Scheme for Existing Buildings 2.0) to encourage privately owned buildings to meet higher energy standards.

Strategies and Solutions

Occupiers	Landlords
<ul style="list-style-type: none"> Establish a corporate decarbonisation roadmap and prepare place-based action plans for each individual market Formulate a leasing strategy for green logistics facilities and identify priority green features Integrate ESG requirements and climate risk analysis into real estate planning and site selection Partner with landlords to set up sustainability targets for real estate 	<ul style="list-style-type: none"> Conduct sustainability audits to identify gaps between occupiers’ sustainability goals, climate risk challenges and building sustainability performance Research and monitor the latest green features and technologies to keep up-to-date with industry trends such as net zero buildings Engage with occupiers in formulating action plans for asset green retrofitting Prioritise the disposal of assets with limited prospects for green retrofitting Increase the use of green finance to fund the acquisition and upgrading of green buildings

Source: CBRE Research, July 2024.

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