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Real Estate Investment and ESG

A guide and toolkit for practitioners
across the globe

HAUFE

5.4 Real estate investment funds and ESG

Vivien Teu⁴⁸⁷

5.4.1 Introduction to #5.4

Real estate investment funds pool capital from multiple investors to acquire, manage, and profit from property-related assets, which may include office, residential, industrial, logistics and retail real estate. There are also numerous secondary sectors, including hospitality, self-storage, student accommodation, retirement housing, and other special purpose buildings. The establishment and operation of real estate investment funds enable investors to gain exposure to real estate markets without owning physical properties, offering diversification, professional management, and potentially lower entry barriers compared to buying real estate outright.

There are different types or forms of vehicles for channeling capital into the real estate market, each tailored to investor type, liquidity needs, and regulatory requirements. Most real estate funds in the market are private equity real estate («**PERE**») funds, which are structured as limited partnerships with the promoter as general partner and investors subscribing for fund interests as limited partners, or other corresponding structures understood as such. As further discussed below, PERE funds are typically available to a select, limited number of investors on a private placement basis. Another common form of real estate investment fund is the real estate investment trust («**REIT**»), which is listed on stock exchanges and accessible to retail investors. In the public markets, REITs offer an alternative or complementary way to gain exposure to the real estate sector besides investing in the listed securities of real estate groups.

#5.4 real estate investment funds & ESG	#5.4.1 – intro to #5.4
	#5.4.2 – strategies of real estate investment funds
	#5.4.3 – PERE and REITs
	#5.4.4 – real estate investment funds' ESG

This subchapter #5.4 on **real estate investment funds and ESG** covers strategies of real estate investment funds (#5.4.2), Private Equity Real Estate («PERE») and Real Estate Investment Trusts («REITs») (#5.4.3), as well as real estate investment funds ESG (#5.4.4).

487 Please see chapter #6.3 on Asia, including deeper dive into examples of real estate investment funds ESG initiatives in Asia.

5.4.2 Strategies of real estate investment funds

Real estate funds vary across a spectrum, ranging from the low-risk, income-focused »**core funds**« to the high-risk, development-driven »**opportunistic**« strategies. Core funds tend to hold anchor portfolios, investing mainly in existing income-producing buildings. They use low leverage and have no or very low development exposure and generate a high proportion of returns through income. At the other end of the spectrum, development funds may seek out-sized gains by building from scratch or repositioning properties. Development funds typically employ higher leverage and are exposed to development risks, as well as risks relating to existing buildings requiring significant improvements and asset management. Such funds aim to deliver returns primarily in the form of capital appreciation. Each point on the spectrum has its own profile of asset quality, cash flow stability, return expectations, holding period and investor suitability.

A report published by Realfin⁴⁸⁸ suggests that the first half of 2025 saw the lowest number of real estate fund launches and the lowest amount of targeted capital since 2017. This continues the negative trend that started in the wake of the recent pandemic. However, opportunistic fundraising recorded the highest level since the first half of 2023, with general partners attracting \$43.9 billion in limited partner commitments. It is also worth noting that **real estate debt funds** recorded the biggest increase in private real estate capital raising, which is consistent with a global growth trend in private credit, while core funds attracted only \$2.7 billion of capital commitments in the first half of 2025, which is the lowest figure in the last 10 years.

5.4.3 Private Equity Real Estate («PERE») and Real Estate Investment Trusts («REITs»)

As mentioned previously, PERE funds and REITs are the two main types of real estate investment funds. These can be considered as offering investors complementary paths to real estate exposure.

PERE funds are predominantly closed-end vehicles that pool capital from institutional and high-net-worth investors seeking active value creation and higher return targets in exchange for long-term, illiquid investment and greater concentration risk, to acquire, develop, and reposition property assets. Managers typically call committed capital over a defined investment period (often three to five years) and fund a term of between seven and⁴⁸⁹ twelve years to execute opportunistic strategies. PERE funds also usually employ significant leverage to enhance equity returns, which amplifies downside risk if asset values decline, presenting a risk-return profile that is more appropriate for sophisticated institutional or professional investors.

488 Realfin State of the Market Report Global Real Estate H1 2025.

489 GRESB, GRESB Public Results, <https://www.gresb.com/nl-en/gresb-public-results/>, accessed 01.09.2025.

REITs are publicly offered vehicles that own, operate, or finance income-producing real estate across sectors such as retail, office, industrial, and residential. By pooling capital from retail investors and investing across various property sectors, REITs offer broad diversification and professional management, offering access to real estate investment opportunities to investors without having to buy or manage buildings directly. In Hong Kong, REITs authorized by the Securities and Futures Commission must distribute at least 90% of their audited annual income after tax each year, as required by the Code on Real Estate Investment Trusts. A defining feature of REITs is liquidity, which allows investors to buy or sell shares daily, capturing dividend yields (commonly 4–8%) plus any appreciation in market price.

5.4.4 Real estate investment funds' ESG

Since its launch in 2009 with three original investor members, GRESB has been growing in membership of real estate companies, fund managers and asset operators, institutional investors, asset owners, as well as consultants and industry bodies, covering 208,250 real estate assets and 3,145 infrastructure facilities in more than 80 markets in 2024. It is generally considered as the authoritative ESG benchmark for real estate, while its adoption and use have been largely voluntary, representing industry best practice.

Under the EU Green Deal and the EU Taxonomy, the introduction of the **EU Sustainable Finance Disclosure Regulation (SFDR)** has imposed mandatory disclosure and reporting requirements on the sustainability practices of investment managers and funds as financial market participants, including real estate investment managers and funds within scope. The convergence of market standards and regulatory requirements in this area is well illustrated by GRESB's support of the industry through its Real Estate Assessment methodology aligning with international reporting frameworks (such as TCFD, GRI and PRI), along with its SFDR Real Estate Assessment tool for reporting on sustainability data and the **Principal Adverse Impacts (PAIs)** to comply with SFDR.

However, there are concerns in the industry that the SFDR's implementation has proven to be complex and costly and there is a lack of legal clarity on key concepts, which poses particular challenges in the real estate industry due to its sector-specific complexities, such as issues linked to data availability, inadequate accommodation of environmental, or impact-focused transition strategies. There is a need for a more tailored application of the rules.⁴⁹⁰ Overall, sustainability and long-term resilience are integral to the real estate sector. Investor and stakeholder expectations may drive the ESG focus more than regulations. Arguably, regulatory requirements should not create an unnecessary compliance burden for real estate investment managers and funds or add to the difficulties of additional compliance costs borne by fund investors.

490 INREV, Response to European Commission Call for Evidence on the Sustainable Finance Disclosure Regulation (SFDR), <https://www.inrev.org/system/files/2025-06/INREV-Response-to-European-Commission-Call-for-Evidence-on-SFDR.pdf>, accessed 01.09.2025.

6.2.7 Conclusion

Africa's real estate sector is undergoing a transformative shift as countries adopt ESG principles across their legal, financial, and operational systems, supported by reforms and global standards. From South Africa to Nigeria, Ghana, and Kenya, a growing body of laws and regulations are establishing a structured, transparent environment for real estate investment. These frameworks enhance investor confidence by ensuring title security, promoting sustainable development, and enabling participation in property governance. Financial innovation is accelerating as well, with instruments such as green bonds, sustainability-linked loans, and sovereign green bonds providing access to ESG aligned capital. These tools mitigate environmental and social risks while providing competitive advantages for developers and investors. Moreover, the rise of ESG disclosure guidelines signals a continent-wide commitment to transparency and accountability. Together, these developments position Africa as a resilient and attractive destination for sustainable real estate investment.

6.3 Asia: Sustainable finance and real estate ESG

Vivien Teu

6.3.1 Introduction to #6.3



Unlike the EU, Asia Pacific does not have a single common framework, but most jurisdictions in Asia are seeking to align with international standards in order to build resilience and maintain the competitiveness of their domestic companies and markets. Regulators as well as investors increasingly expect companies to adopt strong ESG practices and sustainable supply chains. This shift is also driven by the growing recognition in Asia, particularly the Global South and emerging markets, that sustainability is essential for long-term success and that addressing climate change is a necessity.

The real estate industry is a key sector in Asia's transition to a low-carbon economy. Buildings contribute significantly to greenhouse gas (GHG) emissions, resource consumption (particularly energy and water), and also waste generation in the built environment. In response, governments, financial institutions, investors and real estate developers across Asia are aligning with global initiatives in addressing climate risks and climate change, through the development of sustainable finance frameworks to accelerate the green transformation of real estate and

infrastructure, and the establishment of more concrete green policies, regulations, and best practices.

#6.3	#6.3.1 – intro to #6.3
Mapping	#6.3.2 – taxonomies and policy support
Asia –	#6.3.3 – green bonds and real estate financing
sustainable	#6.3.4 – real estate investment funds & REITs
finance &	#6.3.5 – real estate transition finance
real estate	#6.3.6 – Asia data center green initiatives
	#6.3.7 – real estate ESG contract clauses
	#6.3.8 – conclusion & outlook

In this subchapter #6.3, we introduce Asia with a focus on sustainable finance and real estate, looking into taxonomies and policy support (#6.3.2), green bonds and real estate financing (#6.3.3), real estate investment funds and REITs (#6.3.4), real estate transition finance (#6.3.5), data center

green initiatives (#6.3.6), real estate ESG contract clauses (#6.3.7), to then close with concluding remarks and an outlook (#6.3.8).

6.3.2 Taxonomies and policy support

(a) Introduction to taxonomies in Asia

One of the cornerstones of sustainable finance in Asia is the development of **taxonomies** that define what qualifies as sustainable economic activity. The **International Platform on Sustainable Finance (IPSF)** has published the **Common Ground Taxonomy (CGT)** which aligns the EU Taxonomy with **China’s Green Bond Endorsed Project Catalogue (2021 edition)**, while countries such as Singapore, Malaysia and the ASEAN region have made significant progress in formulating green taxonomies that align with international standards, as well as local or regional economic and environmental contexts.

(b) Examples for real estate

The following examples from selected taxonomies provide guidance to developers, lenders and investors around green real estate, facilitating greater flows of capital in the market into green buildings and infrastructure:

China’s Green Bond Endorsed Project Catalogue (2021 edition) emphasizes low-carbon buildings, green urban infrastructure, and energy-efficient retrofitting.

The Hong Kong Taxonomy, published by the Hong Kong Monetary Authority (HKMA) in May 2024, initially covers four sectors and 12 economic activities, including construction and renovation of buildings for energy efficiency, green buildings and climate change mitigation.

Singapore’s Green Finance Industry Taskforce (GFIT) has launched a taxonomy for environmental sustainability that includes the construction and real estate sectors.

The ASEAN Taxonomy for Sustainable Finance, supported by regional finance ministries and regulators, is emerging as a harmonizing tool across Southeast Asia.

(c) Multi-jurisdiction evolution (M-CGT)

In November 2024, an expanded version of the CGT – the **Multi-Jurisdiction Common Ground Taxonomy (M-CGT)** was released, bridging the EU, China, and Singapore’s (Singapore-Asia Taxonomy) frameworks. This extension supports greater interoperability in cross-border investment flows across real estate and construction sectors by mapping the comparability of included activities and assessing overlaps in criteria.

The **table 31** below provides a brief **comparative summary of the Hong Kong Taxonomy and the CGT/M-CGT** regarding construction and real estate activities. This information can help investors and developers assess regional and global alignment.

Comparative summary		
Feature	Hong Kong Taxonomy	Common Ground Taxonomy (CGT/M-CGT)
Includes real estate?	Yes – under construction/renovation sector	Yes – via construction sector (aligned with ISIC codes)
Detail level	Moderate – broad sector with supplemental guidance	Analytical – compares technical criteria across taxonomies
Environmental scope	Focused on climate mitigation (with adaptation in development)	Climate mitigation only (no DNSH/minimal safeguards)
Goal	Encourage green finance in Hong Kong and reduce greenwashing	Facilitate interoperability across the EU, China, and Singapore taxonomies
Cross-border alignment	Designed for interoperability	Core purpose: taxonomy alignment

Table 31: Comparative summary of the Hong Kong Taxonomy and the CGT/M-CGT

(d) ASEAN taxonomy – technical screening criteria for real estate, classification of buildings

For Asia, it is also important to consider the **ASEAN Taxonomy for Sustainable Finance**⁵³⁸, which provides detailed coverage of the real estate sector. The **ASEAN Taxonomy Version 3**, effective 20 December 2024, extends its Plus Standard (PS) by adding Construction and Real Estate as one of its Focus Sectors alongside Transportation & Storage.⁵³⁹

The taxonomy’s **Technical Screening Criteria (TSC)** for this sector explicitly cover:

- Construction of new buildings (ISIC 410)
- Renovation of existing buildings (ISIC 410)
- Demolition and site preparation (ISIC 431)

538 Asean Taxonomy Board, Asean Taxonomy for Sustainable Finance Version 3, 2024, <https://asean.org/wp-content/uploads/2024/12/ASEAN-Taxonomy-Finalised-Version-3-4.pdf>, accessed 06.09.2025.

539 <https://keuanganberkelanjutan.ojk.go.id/keuanganberkelanjutan/en/newsmedia/detailpressconference/3481/asean-taxonomy-board-atb-menerbitkan-asean-taxonomy-for-sustainable-finance-version-3-untuk-sektor-transportation-storage-dan-construction-real-estate>.

- Acquisition and ownership of buildings (ISIC 681)

Also included are measures such as building-level EV charging, energy-efficient equipment, building management systems (BMS)/measurement and control, on-site renewables, and early-warning systems.

The ASEAN Taxonomy employs a multi-tiered »**traffic-light**« system, in which the »Green« tier encompasses activities that meet rigorous environmental thresholds and are aligned with recognized international green building certifications (e.g., LEED, BEAM Plus), whereas the »Amber« tier covers transitional activities that are gradually moving toward green standards.

Additionally, the **updated annexes of the ASEAN Taxonomy** now include:

- Life Cycle Assessment (LCA) worked examples
- Climate Risk and Vulnerability Assessment (CRVA) examples
- Updated national environmental and social regulations for certain ASEAN member states (AMS), such as Indonesia, Malaysia, and the Philippines.

These additions highlight ASEAN's commitment to directing capital toward sustainable real estate development throughout the region.

Classification of buildings (Green and Amber)

Version 3 (**ASEAN Taxonomy**) introduces improved definitions and a non-exhaustive list of local and global green building certifications, and more clarity on the criteria that qualify an activity for the Green Tier.

ASEAN Taxonomy – classification of buildings (Green and Amber)		
	Green (Tier 1)	Amber (Tier 2)
Acquisition & ownership of buildings (ISIC 681) under Climate Change Mitigation (EO1):	• If built before December 31, 2023, the building has an advanced level of certification from a recognized GBC program; or • If built after December 31, 2023: the building meets the criteria specified under Tier 1 (Green) in »Construction of New Buildings« criteria; and • For large non-residential buildings (HVAC or combined system > 290 kW), there is energy performance monitoring and assessment in operation.	• If the building was built before December 31, 2023, it has certification from a recognized GBC program, and • An Energy Efficiency Improvement Plan that will reduce Energy Use Intensity (EUI) when implemented.

ASEAN Taxonomy – classification of buildings (Green and Amber)		
	Green (Tier 1)	Amber (Tier 2)
Acquisition & ownership of buildings under Climate Change Adaptation (EO2):	• Material physical climate risks are addressed via adaptation solutions, as evidenced by an advanced GBC adaptation category, and/or • A CRVA is performed according to the guidance in the Annex, and/or • The assessment of climate risks and impacts is based on best practices and available guidance, and/or • The adaptation solutions do not adversely affect the effectiveness and climate resilience of other stakeholders, • The implemented adaptation solutions are consistent with local or national strategies, and/or • The adaptation solutions ensure monitoring and measurement against pre-defined indicators, and remedial action is considered where the indicators are not met.	
Construction of New Buildings (ISIC 410) under Climate Change Mitigation:	• The building is certified under a national GBC program recognized by an AMS or the relevant industry association in that jurisdiction, and achieves an advanced level of certification applicable to climate change mitigation, or • The building is certified under an internationally recognized GBC program (e.g., LEED, BREEAM), and has achieved an advanced level of certification specifically applicable to climate change mitigation.	• The building is certified under a national GBC program recognized by an AMS or relevant industry association in that jurisdiction that includes criteria relevant to climate change mitigation, or • The building is certified under one of the internationally recognized GBC programs, and • An Energy Efficiency Improvement Plan for the building has been prepared and provided that, upon implementation, will lead to a reduction of the current EUI.

Table 32: ASEAN Taxonomy – classification of buildings (Green and Amber)

Definitions: Recognized GBC and Advanced Level of Certification

A »**recognized GBC program**« refers to national and international GBC programs that are credible and accepted, such as Green Mark and LEED.

An »**advanced level of certification**« means achieving a performance level that is above average in a country within a given recognized GBC program, or lower as long as the building in question represents a marked improvement on common practices in the country and is explicitly above the lowest available tier.

6.3.3 Green bonds and real estate financing

The issuance of **green bonds** by real estate developers has expanded rapidly across Asia. In particular, the Hong Kong Monetary Authority's (HKMA) Green and Sustainable Finance Grant Scheme has incentivized green and sustainable finance, by providing subsidies to costs related to the structuring, issuance, and assurance (including legal, audit, listing, arrangement fees, and pre-issuance or post-issuance external review expenses) of eligible green and sustainable loans or bonds, extended in May 2024 to cover transition bonds and loans. Notable issuers and borrowers in the real estate industry include Link REIT, Swire Properties, New World Development and Greentown China Holdings Ltd. By far, most bond issuances are use-of-proceeds green bonds, but there has also been growing use of sustainability-linked loans besides green loans in the market.

For example, Link REIT issued the first green bond in Hong Kong in 2016, becoming the first property issuer to tap into green financing in the Asia Pacific region.⁵⁴⁰ Link REIT is a constituent of the Hong Kong securities market benchmark, the Hang Seng Index, and is recognized for its sustainability efforts as a component of the Dow Jones Sustainability Asia Pacific Index, the FTSE4Good Index Series, and the Hang Seng Corporate Sustainability Index. The use-of-proceeds requirements for its green bonds issued in 2016 and 2019 covered green building certification, energy efficiency, pollution prevention and control, sustainable water management and wastewater management, and clean transportation, and renewable energy to improve climate change resilience. Regarding sustainability-linked loans, the Sustainable Finance Framework⁵⁴¹ requires all such transactions to include, at a minimum, one target under each of the environmental, social and governance aspects, intended to support the organization's broader sustainability goals, including achieving net-zero carbon emissions by 2035.

Another notable example is the Green SRI Sukuk, valued at up to RM2 billion, which was issued by PNB Merdeka Ventures Sdn Bhd to fund the construction of the Merdeka 118 Tower, now recognized by the Council on Tall Buildings and Urban Habitat as the second tallest building in the world.⁵⁴² The Merdeka Green SRI Sukuk was successfully issued on December 27, 2017, as the first adopter of the ASEAN Green Bond Standards and it also met the requirements of the Sustainable Responsible Investment Sukuk Framework of the Malaysia Securities Commission. The building stands at 678.9 meters with 118 stories, a development area of 19 Acres and a

540 LinkReit.com, Sustainable Finance, <https://www.linkreit.com/en/sustainability/sustainability-governance/sustainable-finance/>, accessed 06.09.2025.

541 LinkReit.com, Sustainable Finance Framework, 2022, https://www.linkreit.com/-/media/linkreit/sustainability/sustainability-governance/sustainable-finance/link-sf-framework_web_final.pdf?rev=dce6ef2b6a544b2eae7e7eebadafecbd, accessed 06.09.2025.

542 Council on Tall Buildings and Urban Habitat (CTBUH), Merdeka 118, <https://www.skyscrapercenter.com/building/merdeka-118/10115>, accessed 06.09.2025.

built-area of 3.1 million square feet. It achieved LEED Platinum certification. Its framework emphasizes sustainability features, including sustainable site planning and management, water efficiency, optimization of energy performance and atmosphere, material resource conservation, indoor environmental quality and sustainable construction.⁵⁴³

According to the OECD's Asia Capital Markets Report 2025⁵⁴⁴, most corporate green bonds in Asia are use-of-proceeds instruments. This allows issuers to direct funds toward new or existing eligible green projects, and the practice commonly includes refinancing existing green assets.

Importantly, many bond prospectuses and green or sustainable finance frameworks explicitly permit refinancing via green bonds.

As the use-of-proceeds remains the dominant structure, real estate developers channel green bonds or loan funds toward eligible assets. Refinancing is fully permitted and common, and **frameworks often tie proceeds to certified green buildings or developments**. As issuers disclose environmental performance and restrict proceeds within green frameworks, transparency is increasingly expected, and its quality and rigor are rising, thereby reinforcing investor trust while aligning with ICMA guidelines.

Merdeka 118 Sustainability



Targeting the first »Triple Green Platinum« Certification in Malaysia
Sustainability features

- High-performance façade glazing
- District cooling plant
- Smart air recycling in the car park
- Rainwater harvesting system
- Reuse of rainwater and gray water
- Hotel hot water generated from rooftop solar panels
- Solar cells on the foyer roof

Targeting »WELL« Certification



AIR



WATER



NOURISHMENT



LIGHT



MOVEMENT



THERMAL COMFORT



SOUND



MATERIALS



MIND



COMMUNITY

543 Onsite visit to Merdeka 118 and immersive learning opportunity in July 2025 organized by the Malaysia Securities Industry Development Corporation.

544 OECD, Asia Capital Markets Report 2025, 2025, https://www.oecd.org/en/publications/asia-capital-markets-report-2025_02172cdc-en/full-report/sustainable-bonds_21e9a353.html, accessed 06.09.2025.

6.3.4 Real estate investment funds and REITs

While central banks and supervisory bodies, including the efforts of the **Network for Greening the Financial System (NGFS)**, continue to develop climate- and environment-related risk management strategies to mobilize mainstream finance for the transition to a sustainable economy⁵⁴⁵, investors, including asset owners (sovereign wealth funds, pension funds, insurance companies) and in this connection the investment management industry as asset managers are increasingly attracted to sustainable real estate assets, driven by ESG mandates and risk mitigation concerns around climate impacts and regulatory compliance. In addition to regulatory expectations, such as the requirements of the **Hong Kong Securities & Futures Commission** that licensed fund managers incorporate climate-related risks into their governance, strategy, risk management, metrics, and targets using a TCFD-aligned framework, and the Guidelines on Environmental Risk Management for Asset Managers⁵⁴⁶ issued by the **Monetary Authority of Singapore**, it is particularly apparent in the real estate investment sector that the industry has long recognized the critical importance of the resilience to physical climate risks in real estate assets, adopting voluntary frameworks, such as GRESB and/or the PRI in its guides or tools for real estate.⁵⁴⁷ The investment management industry has also responded to climate-related opportunities through sustainability efforts enhancing real estate value.

There are numerous examples of Asian real estate investment funds using GRESB, as outlined below and extracted from publicly available information:

- Keppel Capital's Alpha Asia Macro Trends Fund III, Keppel Asia Macro Trends Fund IV, and Keppel Education Asset Fund submitted to GRESB 2024 and achieved GRESB »Green Star« status. Its listed vehicles (Keppel REIT, Keppel DC REIT) also achieved this status.⁵⁴⁸
- Gaw Capital Partners (Hong Kong) participates in GRESB to report fund sustainability performance and aligns monthly asset-level reporting with GRESB performance indicators across its Gateway Asia funds.⁵⁴⁹
- ESR Group (Hong Kong), one of Asia's largest global real estate investment managers, has 49 participating entities (up from 45 in 2023) comprising its listed REITs and private funds, with 66 submissions (up from 56 in 2023). According to ESR⁵⁵⁰ its average GRESB score and rating are 84.24 out of 100 and 3.41 out of 5 respectively, which exceed the targets set in the Group's ESG 2030 Roadmap.

545 Network of Central Banks and Supervisors for Greening the Financial System (NGFS), <https://www.ngfs.net/en>, accessed 06.09.2025.

546 Monetary Authority of Singapore, Guidelines on Environmental Risk Management for Asset Managers, <https://www.mas.gov.sg/regulation/guidelines/guidelines-on-environmental-risk-management-for-asset-managers>, accessed 06.09.2025.

547 Please refer to #5.4.

548 Keppel Ltd., Keppel's sustainability performance recognized at GRESB 2024, <https://www.keppel.com/media/keppels-sustainability-performance-recognised-at-gresb-2024/>, accessed 06.09.2025.

549 GAW Capital Partners, Responsible Investment Policy, <https://www.gawcapital.com/srdisclosure/responsible-investment-policy/>, accessed 06.09.2025.

550 ESR Group, ESR Group achieves outstanding performance across global ESG benchmarks, <https://www.esr.com/news/esr-group-achieves-outstanding-performance-across-global-esg-benchmarks/>, accessed 06.09.2025.

- CapitaLand Investment (Singapore) reports that its platform and listed business trusts achieved leading positions in the 2024 GRESB and that it has also pegged sustainability-linked loans to GRESB rankings.⁵⁵¹

Another example is the Invesco Real Estate Asia Fund (FCP-SIF)⁵⁵², which is Invesco's »Asia Core Real Estate Strategy«, which was launched in 2014. The fund has been benchmarked against GRESB, achieving a 5-Star, #1 ranking for ESG+Resilience. This highlights its sustainable real estate management, through embedding due diligence and ongoing monitoring processes in its investment lifecycle. While the fund does not qualify as Article 9 under the SFDR due to the absence of an explicit sustainable investment objective, the fund is committed to achieving **net-zero carbon emissions by 2050 or sooner**, through adoption of the **IIGCC Paris Aligned Investment Initiative (PAII)** framework for real estate. Adopting the IIGCC PAII suggests a forward-looking decarbonization pathway consistent with industry best practices and meaningful net-zero alignment, while the fund is integrated into Invesco's global ESG operational framework and is intended to support long-term transition goals.

In Singapore, the UOB APAC Green REIT ETF tracks the iEdge-UOB APAC Yield Focus Green REIT index, an index which highlights the performance of Real Estate Investment Trusts (REITs) that are listed across the Asia-Pacific and Oceania regions, with a specific focus on yield-based selection process and a weighting method that favors the environmental attributes of real estate assets.⁵⁵³

Several prominent REITs in Asia have adopted concrete sustainability frameworks and standards, aligning their financing and reporting practices with global benchmarks. Apart from Link REIT referred to above, other examples include Keppel REIT (Singapore), Fortune REIT (Hong Kong and Singapore), and Star Asia REIT (Japan). Star Asia has crafted a Green Finance Framework targeting environmentally beneficial projects, including the acquisitions or refinancing of green-certified real estate, aligning use of proceeds accordingly.⁵⁵⁴

According to the Fortune REIT's 2024 ESG Report⁵⁵⁵, over 60% of its loan portfolio consists of sustainability-linked loans due to extensive use. Under these agreements, Fortune REIT earns interest-rate reductions by meeting ESG performance benchmarks, and it has reported a 41.3%

551 PR Newswire, CapitaLand Investment advances Sustainability leadership in 2024 by progressing toward decarbonization milestones and recognition in leading global indexes, <https://en.prnasia.com/releases/apac/capitaland-investment-advances-sustainability-leadership-in-2024-by-progressing-toward-decarbonisation-milestones-and-recognition-in-leading-global-indexes-474468.shtml>, accessed 06.09.2025.

552 Invesco, Invesco Real Estate Asia Fund FCP-SIF (the »Fund«), <https://www.invesco.com/content/dam/invesco/emea/en/real-estate-sustainability-disclosures/invesco-real-estate-asia-fund-fcp-sif-invesco-sustainability-full-disclosure.pdf>, accessed 06.09.2025.

553 Singapore Exchange, iEdge-UOB APAC Yield Focus Green REIT Index [SGD] (NTR), <https://www.sgx.com/indices/products/agreitsn>, accessed 06.09.2025.

554 Starasia, Green Finance Framework, <https://starasia-reit.com/en/esg/greenfinance.html>, accessed 06.09.2025.

555 Fortune Reit, Environmental, Social and Governance Report 2024, https://www.fortunereit.com/wp-content/uploads/2025/04/ESG-Report_EW00778.pdf, accessed 06.09.2025.

reduction in Scope 1 & 2 emissions in 2024 versus a 2019 baseline. It has set science-based targets to cut emissions by 46% by 2030 (Scope 1 & 2) and engages tenants via green lease clauses to reduce Scope 3 emissions. Furthermore, the Report is produced in accordance with the ESG Reporting Guide of the Hong Kong Stock Exchange for listed companies and aligns with the IFRS S2 disclosure standard and the GRI.⁵⁵⁶

Meanwhile, the local regulatory infrastructure for sustainability reporting varies across the region. Some countries have had mandatory disclosure and reporting requirements on environmental, social, and governance issues for some time, such as the stock exchange rules of Hong Kong and Taiwan. These rules reflect international guidelines like the TCFD⁵⁵⁷ and GRI, whereas others are less prescriptive. However, following the issuance of the ISSB standards, which are intended to serve as a global baseline for corporate sustainability reporting, Asia has trended towards adopting and adapting them into local requirements. As companies in Asia are required to comply with the ISSB standards for sustainability reporting, the market should see corporations more concretely and strategically assessing climate-related risks and opportunities in their business models, activities, and value chains. Companies should adopt more robust climate risk management, specific decarbonization metrics, and target settings that support the transition to a low-carbon economy.

6.3.5 Real estate transition finance

Transition finance supports high-carbon sectors with credible, time-bound plans to decarbonize. In real estate, this covers existing building portfolios that may not yet meet »green« standards, but which can transition through staged upgrades, such as low-carbon materials and retrofitting. Existing buildings in Asia are a major source of emissions, and as many assets cannot be replaced immediately, retrofitting and operational improvements are the main decarbonization strategies. Transition finance provides capital for upgrading brown assets, and eligibility is not limited to those that are already green-certified, often with interim performance targets.

In Asia, the **retrofitting of existing buildings** is gaining momentum, especially in dense urban centers where demolition and reconstruction are costly and disruptive. Retrofitting and adaptive reuse create direct and indirect business benefits, including lower acquisition costs and an attractive investment case for sustainability-minded investors. In response to the 2025/2026 Budget of the Hong Kong government, which commits to developing a green city and promoting Hong Kong's green industries, the Hong Kong Green Building Council (HKGBC) has launched the »HKGBC Retrofitting Guidebook«, and is in the process of creating an online Retrofitting and

556 Global Reporting Initiative, <https://www.globalreporting.org/>, accessed 06.09.2025.

557 Task Force on Climate-related Financial Disclosures, <https://www.fsb-tcf.org/>, accessed 06.09.2025.

Technology Hub at the time of this writing. The Council aims to incorporate green technologies to formulate retrofitting strategies and scale up applications across existing buildings.⁵⁵⁸

Furthermore, the construction industry is increasingly adopting **low-carbon building materials** such as **low-emission cement and concrete**, or alternatives like fly ash, slag, **recycled steel, timber, and sustainable prefabricated components**, which reduce onsite waste and energy use. The Malaysian government has promoted the implementation of green practices, specifically incorporating sustainable building products and the principles of the circular economy within the construction sector⁵⁵⁹, ultimately aiming to increase the number of buildings certified under the Green Building Index (GBI) since its introduction in 2009. In particular, the Penang Green Council (PGC) published the »Penang Green Agenda 2030« in 2020, recommending that all new buildings in Penang be GBI certified by 2030, to make green buildings or townships mandatory for certain types of development, encourage the use of recycled materials and modular building practices.⁵⁶⁰ In 2025, it was also announced that all new buildings in Penang must meet Building Energy Intensity (BEI) requirements and new mandatory requirements were introduced for public buildings to increase the use of renewable energy.⁵⁶¹ These regulations mark significant strides in Malaysia's journey to achieving its sustainability goals.

In **Japan**, major developers have committed to using carbon-neutral concrete⁵⁶², while **South Korea** has expanded the adoption of renewable energy sources, through incentives in the form of subsidies for the installation of solar panels and hydrogen fuel cells. More than 1500 public buildings are to be retrofitted by 2050 under the Green Remodelling Project.⁵⁶³ Finally, India is promoting the use of fly ash bricks⁵⁶⁴, as well as active remodeling, through its Smart Cities initiative.⁵⁶⁵

As outlined above, the ASEAN Taxonomy Version 3 includes »Amber« tiers for construction and real estate, where assets are on a path to meet, but have not yet achieved »Green« criteria (e.g., non-advanced GBC certification plus energy improvement plan). Japan's Green Bond and

558 Hong Kong Green Building Council, Hong Kong Green Building Council's Response to 2025/26 Budget, <https://www.hkgbc.org.hk/eng/news-events/news/2025/20250226.jsp>, accessed 06.09.2025.

559 MGTC, Steady increase of »green buildings«, <https://www.mgtc.gov.my/2024/12/steady-increase-of-green-buildings/>, accessed 06.09.2025.

560 Penang Green Council, PENANG GREEN AGENDA 2030, 2020, https://www.pgc.com.my/2020/wp-content/uploads/2020/09/6_PGA-Sectoral-Formatted-Final-Report_GBT.pdf, accessed 06.09.2025.

561 <https://www.penangpropertytalk.com/2025/03/new-public-buildings-in-penang-to-adopt-renewable-energy-by-requirement/>.

562 The Government of Japan, Carbon-Negative Concrete: A Game Changer for a Sustainable Future, https://www.japan.go.jp/kizuna/2022/08/carbon-negative_concrete.html, accessed 06.09.2025.

563 Local Governments for Sustainability, Promoting Renewable Energy Consumption. The Cases of Kitakyushu and Seoul, <https://eastasia.iclei.org/wp-content/uploads/2023/12/Promoting-Renewable-Energy-Consumption-1205.pdf>, accessed 06.09.2025.

564 NBCC (India) Limited, Use of Fly Ash, <https://nbccindia.in/webEnglish/FlyAsh>, accessed 06.09.2025.

565 Government of India Ministry of Housing and Urban Affairs, Vision Of Smart Cities Mission, <https://smartcities.gov.in>, accessed 06.09.2025.

Sustainability-Linked Bond Guidelines (2024) identify green retrofitting and construction as eligible green projects if they align with national carbon neutrality targets.⁵⁶⁶

Transition finance is poised to fill a key gap for Asia's large number of non-green certified buildings, especially in markets with aggressive net-zero targets but limited green asset supply. Both use-of-proceeds instruments and sustainability-linked loans or bonds can be adopted for transition finance. Common forms include sustainability-linked loans with interest rates linked to improvements in energy intensity, certification levels, or carbon footprints; while transition bonds apply proceeds toward a defined decarbonization roadmap for a building or portfolio. Hybrid structures may involve features such as applying the first tranche of proceeds toward an initial retrofit, with subsequent tranches contingent on meeting agreed-upon milestones or targets.

For example, Japanese developers such as Mitsubishi Estate and Nomura Real Estate, use transition-linked loans, sustainability bonds, and green bonds backed by Japanese banks to finance multi-year retrofits.⁵⁶⁷ These products support the electrification and decarbonization of businesses, ultimately aiming to achieve carbon neutrality.⁵⁶⁸ Mapletree (Singapore) uses sustainability-linked loans for industrial and logistics assets, tying KPIs to achieving Green Mark or LEED improvements over time.⁵⁶⁹

To enhance credibility and avoid greenwashing, transition finance frameworks should incorporate science-based targets (e.g., SBTi for buildings)⁵⁷⁰, set concrete milestones such as measurable percentage improvements in EUI, emissions, or certification level within 3–5 years with technical or technological feasibility. These targets should be coupled with robust disclosure, reporting and verification, encompassing requirements of annual reporting, third-party assurance, and linking finance terms to actual performance.

The following **tables 33 to 35** provide **examples of transition finance for real estate in Asia**, consider relevant instruments, KPIs and covenants, drawing on real-world examples from publicly available information. The tables also show how these may align with regional taxonomies and guidance.

566 Ministry of the Environment Japan, Green Bond and Sustainability Linked Bond Guidelines. Green Loan and Sustainability Linked Loan Guidelines, 2024, https://greenfinanceportal.env.go.jp/pdf/greenbond_guideline_eng.pdf, accessed 06.09.2025.

567 Mitsubishi Heavy Industries, Transition Bonds, <https://www.mhi.com/finance/stock/esg/transitionbond.html>, accessed 06.09.2025.

568 Nomura Real Estate Holding, Sustainable Finance, <https://www.nomura-re-hd.co.jp/english/sustainability/finance/#section02>, accessed 06.09.2025.

569 Mapletree, Stewarding Sustainability, https://www.mapletree.com.sg/uploads/2025/07/MIPL_SR25_Final-July-14-1.pdf, accessed 06.09.2025.

570 Science Based Targets, Buildings, <https://sciencebasedtargets.org/sectors/buildings>, accessed 06.09.2025.

(a) Instrument map

Instrument	Use case	Deal features	When to use
Sustainability-Linked Loan (SLL)	Portfolio-wide retrofit programs and stepwise energy/carbon intensity reductions	Margin ratchets tied to KPIs (e.g., EUI ↓, GHG ↓, certification upgrades); annual testing; external verification	Brown-to-green journeys where assets are not yet eligible for »green« use-of-proceeds financing
Transition loan/bond	CapEx for deep retrofits (HVAC replacement, envelope upgrades, electrification, on-site renewables) under a published roadmap	Use-of-proceeds governed by a transition finance framework; interim milestones; failure leads to step-up margin/coupon	Whole-building pathways with clear, multi-year decarbonization plans
Hybrid facilities (Tranche A green/ Tranche B transition)	Blend of already-green assets and to-be-improved assets	Allocation reporting split by tranche; harmonized KPIs at portfolio level	Mixed portfolios with staggered readiness levels
Sustainability-Linked Derivatives (SLDs)	Hedge linked to ESG performance to reinforce incentives	Coupon/settlement adjustments based on KPI outcomes	To complement SLLs/ transition bonds where hedging is needed

Table 33: Transition finance for real estate in Asia – instruments

(b) Illustrative Asia transactions and programs

Sponsor/Market	Asset type	Instrument	Transition use of funds/KPI focus	Notes
Fortune REIT (HK)	Retail malls	SLL portfolio facilities	Energy intensity reduction vs. the 2019 baseline; green lease rollout; waste diversion improvements	The majority of loans SLL; supports progressive retrofits and tenant engagement
Mapletree (SG/Asia)	Logistics & industrial	SLLs/hybrid structures	Achieve BCA Green Mark/LEED upgrades; LED & HVAC replacement; submetering and BMS installation	Portfolio program with supplier/tenant data-sharing covenants
Mitsubishi Estate/ Nomura Real Estate(JP)	Offices (legacy stock)	Transition loans	ZEB Ready targets; electrification and heat pump conversion; façade/insulation upgrades	Bank-led frameworks aligned with national transition guidelines

Table 34: Transition finance for real estate in Asia – transactions and programs

(c) Typical KPIs, testing, and covenants

KPI/Covenant	Indicative thresholds (Examples)	Measurement & assurance
Energy Use Intensity (EUI) reduction	–10–15% by Year 3; –25–35% by Year 5 (vs. 2019/2022 baseline)	Utility metering/submetering; independent engineer verification; annual audit
GHG emissions intensity reduction (kgCO₂e/m²)	–20–30% by Year 5; alignment to SBTi buildings pathway	Supplier-specific emission factors where available; third-party assurance
Green building certification upgrade	Achieve/maintain BEAM Plus Gold/BCA Green Mark GoldPLUS/LEED Gold; or one-tier uplift	Certification body award/annual surveillance reports
Electrification milestones	x% of boilers replaced with heat pumps by Y3; gas intensity ↓ ≥50% by Y5	Completion certificates; commissioning reports
Renewable energy adoption	≥10–20% onsite/contracted green electricity by Y3; 100% by Y10 (market dependent)	REC/IGA documentation; PPA records
Waste & water performance	≥70% waste diversion; water intensity ↓ ≥10–20% by Y5	Waste hauler statements; water bills; sampling protocols

Table 35: Transition finance for real estate in Asia – KPIs, testing and covenants**6.3.6 Asia data center green initiatives**

With unprecedented growth in cloud computing and artificial intelligence technologies over recent years, data center facilities have experienced a surge in global demand to support the booming digital economy.⁵⁷¹ Alongside the current global push to protect the environment, considerable focus has been placed on making traditionally energy-intensive data centers more sustainable. This approach is reflected in Asia’s data center sector, which has seen an increase in green initiatives spanning renewable energy, efficiency technologies, and policy frameworks.

There has been a steady flow of large deals involving sustainable debt to finance new data center facilities in Asia, indicating a promising commitment to sustainability. For example, Singtel secured a S\$643 million (~\$476 million) five-year green loan that is backed by major banks to develop the 58-megawatt DC Tuas data center in Singapore. This move aligns with the corporation’s goal of reducing its carbon footprint and achieving their net zero.⁵⁷² Meanwhile, tech giant

571 World Economic Forum, This is the state of play in the global data centre gold rush, 2025, <https://www.weforum.org/stories/2025/04/data-centre-gold-rush-ai/>, accessed 06.09.2025.

572 Reuters, SingTel secures \$476 million green loan to develop data centre, 2025, <https://www.reuters.com/sustainability/sustainable-finance-reporting/singtel-secures-476-million-green-loan-develop-data-centre-2025-02-06/>, accessed 06.09.2025.

Google is set to invest a record \$6 billion in a 1-gigawatt data center in India, of which \$2 billion is committed to building renewable energy infrastructure that will power the facility.⁵⁷³

The practice of incorporating on-site renewable energy infrastructure reflects a growing trend among new data center facilities, particularly those in Malaysia. For example, AirTrunk (Malaysia) installed a 1-megawatt rooftop solar generation system at its Johor Bahru data center facility as part of its larger 30-megawatt virtual power purchase agreement (VPPA). This is the first time that data centers have achieved this level of renewable energy under Malaysia's corporate green energy scheme.⁵⁷⁴ Additionally, a RM15 billion project by YTL Green Data Centre Park (Malaysia) in Johor features the first solar-powered data center campus (500 MW) in Malaysia. This will be particularly attractive to customers looking for green data centers in the region.⁵⁷⁵

Furthermore, new data center facilities in the region are adopting energy-efficient and innovative cooling technologies to become more sustainable. For example, Digital Edge has launched green-ready colocation sites in Manila and Jakarta using Statepoint® liquid cooling, which is a state-of-the-art membrane-based evaporative cooling technology that significantly lowers both annual power and water use.⁵⁷⁶ Meanwhile, the Infocomm Media Development Authority in Singapore introduced the Green Data Centre (DC) Roadmap to support the growth of sustainable data centers. This initiative aims to improve energy efficiency (PUE of 1.3 or lower) at both hardware and software levels while accelerating the adoption of green energy by data centers. For example, it involves using best-in-class technologies to provide liquid cooling solutions, allowing energy savings and operating temperatures to be safely increased.⁵⁷⁷

At the regional ASEAN level, there has been sector collaboration and policy support among the Southeast Asian countries. For example, the recent Innovative Finance Clinic for Green Data Centers held in Singapore brought together policymakers, financiers, operators, and technology providers from seven Southeast Asian governments to promote energy efficiency, water use, and renewable energy in regulatory frameworks and financial structures in Southeast Asia. A key aim of the event was to encourage collaboration between the public and private sectors in

573 Varadhan, Sudarshan, Google to invest \$6 billion in southern India data centre, sources say, <https://www.reuters.com/sustainability/boards-policy-regulation/google-invest-6-billion-southern-india-data-centre-sources-say-2025-07-30/>, accessed 06.09.2025.

574 Airtrunk, AirTrunk and Pekat Solar to develop rooftop solar at AirTrunk's Johor Bahru data centre, JHB1, 2024, <https://airtrunk.com/airtrunk-and-pekats-solar-to-develop-rooftop-solar-at-airtrunks-johor-bahru-data-centre-jhb1/>, accessed 06.09.2025.

575 YTL Beyond, YTL Green Data Center Park launches in Johor, the First Integrated Data Center Park Powered by Renewable Solar Energy in Malaysia, <https://www.ytl.com/press-releases/ytl-green-data-center-park-launches-in-johor-the-first-integrated-data-center-park-powered-by-renewable-solar-energy-in-malaysia-2/>, accessed 06.09.2025.

576 Digital Edge DC, Construction of Green Data Centers in Asia, <https://www.digitaledgedc.com/construction-of-green-data-centers-in-asia/>, accessed 06.09.2025.

577 Infocomm Media Development Authority, Charting green growth pathways at scale for data centres in Singapore, 2024, <https://www.imda.gov.sg/resources/press-releases-factsheets-and-speeches/factsheets/2024/charting-green-growth-for-data-centres-in-sg>, accessed 06.09.2025.

advancing sustainable data center development.⁵⁷⁸ Meanwhile, governments across Southeast Asia are offering grants, tax incentives (e.g., the Philippines), and selective approval processes (e.g., Singapore's DC-CFA scheme) that favor energy-efficient, green-powered data center projects. These initiatives work hand-in-hand with lower construction costs and electricity tariffs, fueling the ASEAN region's growing market as a global data center hotspot and attracting giant tech firms such as Google, Amazon Web Services, and Microsoft.⁵⁷⁹

Evidently, Asia's data center sector is steadily advancing its environmental footprint by blending renewable energy, energy-efficient technology, and targeted green financing. Its future greatly depends on the success of grid decarbonization, smarter load balancing, and the widespread adoption of best-in-class technologies to ensure the sustainability of digital infrastructure.

However, many data centers in Southeast Asia remain heavily reliant on fossil fuel-based grids. For instance, Singapore's grid was around 92% (53 TWh) gas-powered in 2023, complicating true carbon reductions.⁵⁸⁰ Even with an increased renewable energy supply, greater deployment of battery storage and AI-led energy optimization is needed to support intermittent clean energy usage.⁵⁸¹

6.3.7 Real estate ESG contract clauses in Asia

(a) Role of contracts

Contracts are a pivotal mechanism for embedding sustainability into real estate development and financing. Key developments include **construction contracts with low-carbon procurement obligations** and waste diversion and water reuse targets, as well as **performance-based design-build contracts**. They also include incentives for contractors to exceed green performance benchmarks, **green lease clauses** that require tenants to comply with energy targets or share sustainability data, and, as outlined above, **sustainability-linked loan terms** that tie interest rates to ESG performance indicators.

Sustainability and related legal frameworks in Asia are gradually evolving to recognize and enforce these obligations. It is worth noting the growing interest in the climate contract clauses of The Chancery Lane Project (TCLP). While not limited to the real estate industry, this chapter focuses on its relevance in real estate contracts in Asia. The increased use of climate clauses

578 Southeast Asia Development Solutions (SEADS), Data Centers and the Sustainability Challenge, 2025, <https://seads.adb.org/articles/data-centers-and-sustainability-challenge>, accessed 06.09.2025.

579 EMBER, ASEAN's data centres electricity demand keeps growing, <https://ember-energy.org/chapter/setting-the-scene/>, accessed 06.09.2025.

580 Seyawati/Lolla, Regional grids key to Singapore's energy future, 2024, <https://ember-energy.org/latest-insights/regional-grids-key-to-singapores-energy-future/>, accessed 06.09.2024.

581 Fernandez, Hannah Alcosoba, A third of Southeast Asia's data centres could be powered by renewable energy by 2030: study, 2025, <https://www.eco-business.com/news/a-third-of-southeast-asias-data-centres-could-be-powered-by-renewable-energy-by-2030-study/>, accessed 06.09.2025.

and fostering of legal innovation for sustainability through contracts were highlighted by the Global Alliance of Impact Lawyers (GAIL) Asia Pacific in 2022, when it hosted two panel discussions. The first was with TCLP on bringing together a collaborative initiative of international lawyers to create contractual clauses that enable solutions to climate change. The second was with Hong Kong University's interdisciplinary and experiential program to foster Law, Innovation, Technology and Entrepreneurship (LITE Lab). The panelists discussed how practitioners can utilize TCLP resources and get involved to improve their skills and develop knowledge of sustainability and impact law in the Asia-Pacific region. Since then, a number of working groups have been established and led by LITE Lab, while being supported by private practice and in-house lawyers in Hong Kong, Singapore, and Malaysia. These groups consider and adapt selected TCLP climate clauses to local contexts and develop local toolkits.⁵⁸²

The recently published ESG Resource Library by the Law Society of Singapore compiles a collection of resources and tools for lawyers to incorporate sustainability considerations and goals into businesses. Among others, TCLP is included as part of climate-aligned legal clauses to drive environmental action.⁵⁸³

While there is no public record yet of TCLP clauses being formally embedded in real estate contracts in Asia, the project is actively localizing and promoting awareness through translated resources and practitioner networks. For real estate lawyers or ESG-focused firms across the region, adapting these clauses can push legal drafting toward more climate-responsible norms.

(b) Real estate-specific TCLP clauses

While not specifically drafted for Asia, TCLP offers several real estate-relevant clauses that can be adapted regionally. Depending on the context, appropriate references should be made to applicable local laws, such as Hong Kong's **Buildings Energy Efficiency Ordinance**⁵⁸⁴ or Singapore's **Building Control (Environmental Sustainability) Regulations**⁵⁸⁵. **Measurable targets should also be aligned with relevant local green building certification requirements.**

582 The author of this chapter, Vivien Teu, is a founding member of GAIL Asia Pacific and currently a global and regional board member. She is also a working group member and contributor to-date of the LITE Lab-TCLP climate contracting working groups for green capital markets, green loans, green buildings and construction and as lead coordinator for the green investment funds working group.

583 The Law Society of Singapore, ESG Resource Library, <https://www.lawsociety.org.sg/esg-hub/esg-resource-library/>

584 Hong Kong e-Legislation, Buildings Energy Efficiency Ordinance, <https://www.elegislation.gov.hk/hk/cap610>, accessed 06.09.2025.

585 Singapore Statutes Online, Building Control Act, 2008, <https://sso.agc.gov.sg/SL/BCA1989-S199-2008>, accessed 06.09.2025.

Clause	Application	Localization Opportunity
Commercial lease: Alterations (improve environmental performance) (Rosie's Clause)	The landlord must not unreasonably withhold consent for tenant green fit-outs	Tie consent criteria to local certifications (e.g., BEAM Plus, Green Mark) and city building codes
Green residential lease clauses (Emma's Clause)	Residential lease: tenant to operate unit efficiently, reduce emissions	Integrate with utility data-sharing requirements and incentives under the Singapore BCA Green Lease Toolkit or HK landlord schemes
Report on title: Commercial real estate (Marni's Clause)	Conveyance: disclose building's climate risk and energy performance	Embed references to local risk databases (e.g., HKMA Climate Risk Assessment, SG PUB flood maps)

Table 36: TCLP clauses (real estate) – localization opportunities

EXAMPLES OF LOCALIZED CLAUSES

Localized Emma's Clause – Singapore (Residential lease): »The Tenant shall operate the Premises in a manner that optimizes energy and water efficiency, including by maintaining air-conditioning temperature settings between 24°C and 26°C, using appliances with at least 3-tick NEA Energy Labels, and separating recyclables in accordance with the National Environment Agency's guidelines. The Landlord may offer a monthly rental rebate of 2% if the Tenant achieves an annual energy consumption at least 10% lower than the baseline measured in the first month of tenancy.«

Localized Rosie's Clause – Hong Kong (Commercial lease): »The Landlord shall not unreasonably withhold or delay consent to any alterations proposed by the Tenant that are intended to improve the environmental performance of the Premises, including measures to achieve or maintain BEAM Plus Gold or higher certification. The Tenant shall provide sufficient technical details for the Landlord's approval and ensure that any such works comply with the Buildings Energy Efficiency Ordinance (Cap. 610) and other applicable legislation.«

Localized Marni's Clause – Hong Kong (Commercial/Residential real estate): »The Seller's legal counsel shall include in the Report on Title a summary of (a) the Building's BEAM Plus or equivalent green building certification status; (b) any available energy efficiency ratings under the Buildings Energy Efficiency Ordinance (Cap. 610); and (c) known material physical climate risks affecting the Property, including a reference to the Hong Kong Climate Adaptation and Resilience Assessment Map, if available.«

Localized Green Fit-Out Guide Clause – Hong Kong & Singapore (Commercial lease): »The Tenant shall comply with the Landlord's Green Fit-Out Guide (as amended from time to time), which specifies approved materials, energy-efficient equipment, and waste separation requirements for all fit-out and alteration works. In Hong Kong, com-

pliance shall include the ›Code of Practice on Separating, Collecting and Transporting Food Waste to Organic Resources Recovery Centre Phase 1‹ and in Singapore, the Resource Sustainability Act 2019. Any deviations from the Guide require prior written consent from the Landlord.«

(c) Introduction of ESG clauses by developers and REITs

There are numerous **examples of real estate developers and REITs in Asia** that have introduced explicit green requirements into tenancy agreements (›green leases‹). Below are selected examples with reference to publicly reported clauses and initiatives.

City Developments Limited – CDL (Singapore): CDL has been an industry pioneer in green lease partnerships⁵⁸⁶, providing green fitting-out kits to tenants since 2009. Under its longstanding program, it is reported that by May 2015, more than 80% of CDL’s commercial tenants have signed the Green Lease Memorandum of Understanding. More recently, CDL launched the City Green Tenant Bonus Programme (2024) as an extension of its green lease initiative to incentivize tenant energy reductions (Scope 3).⁵⁸⁷ The requirements focus on monitoring, managing and reducing energy, as well as broader sustainable practices.

Swire Properties (Hong Kong): In 2022, Swire Properties introduced the Green Performance Pledge (GPP), as well as a dedicated green clause in its standard tenancy agreement in Hong Kong. A major office lease renewal at Pacific Place in 2024 included this clause. Typical requirements span fit-out and operations, with targets related to energy, water and waste.⁵⁸⁸

Link REIT (Hong Kong): Link REIT updated its tenancy document suite to include green lease clauses based on international best practices. Its 2024/2025 sustainability report shows the continued rollout (including to new market tenants). The clauses cover landlord and tenant requirements, as well as ongoing engagement and education.⁵⁸⁹

CapitaLand Investment (CLI)/Ascendas (in Singapore and the region): CLI has expanded green tenant leases and ›standardising green lease implementation requirements.«⁵⁹⁰ Media coverage notes

586 Triplepundit, A new lease of life for sustainability, <https://triplepundit.com/2015/new-lease-life-sustainability/>, accessed 06.09.2025.

587 City Development Limited, CDL pilots first-of-its-kind decarbonisation initiative City Green Tenant Bonus Programme for Republic Plaza tenants, <https://www.cdl.com.sg/newsroom/cdl-pilots-first-of-its-kind-decarbonisation-initiative-city-green-tenant-bonus-programme-for-republic-plaza-tenants>, accessed 06.09.2024.

588 Swire Properties, Green Performance Pledge, <https://sd.swireproperties.com/2024/en/partners/tenants/environment>, accessed 06.09.2025.

589 Link Real Estate Investment Trust, From Strength to Strategy: SHAPING TOMORROW, TODAY, <https://www.linkreit.com/-/media/linkreit/investor-relations/financial-reports-and-presentations/financial-report/2024/annual-report-2324-e-book-3.pdf>, accessed 06.09.2025.

590 Srivastava, Vinamra, CLI Sustainability Strategy – The Way Forward, 2024, https://ir.capitalandinvest.com/newsroom/20241028_063535_9CI_3IXKOP9RIAK67EIA.1.pdf, accessed 06.09.2025.

green lease penetration has risen to 57% of tenants in China and Singapore by the end of 2023.⁵⁹¹ CapitaLand Ascendas REIT's sustainability reporting suggests use of clauses to support the group-wide pathway, including clauses on data-sharing, efficiency measures, and fit-out guidance.⁵⁹²

Mapletree (Singapore; logistics/industrial portfolios across Asia): The Mapletree Group's sustainability report for the period from April 1, 2024 to March 31, 2025, describes the active implementation of green lease clauses with tenants. These include utility, Scope 3 data sharing, waste minimization and recycling, use of green materials/services, and sustainable operations guidance. Recent updates reaffirm the portfolio-wide adoption across logistics and industrial assets.⁵⁹³

GLP J-REIT (Japan): GLP Japan Inc. is committed to include green lease clauses in all new contracts starting in fiscal year 2025, and to work with existing tenants on reducing energy/water consumption and waste, collaborating on green building certifications, and also undertaking co-financed retrofits (solar and wind power generation, LED installation, and HVAC upgrades).

At GLP Shinkiba, a dedicated facility for DHL Japan, GLP and DHL Japan renewed the lease. Through close collaboration between the two parties, both were able to contribute to sustainable environmental and social development. Specifically, GLP Japan installed solar panels and supported the installation of LED lighting. These improvements contribute to DHL's global carbon neutrality initiatives and enable DHL Japan to reduce its electricity costs. In addition, the proposal to switch facility management to GLP Japan will enable more efficient facility operations and reduce operating costs by leveraging GLP Japan's nationwide network and expertise.⁵⁹⁴

6.3.8 Conclusion and outlook

The outlook is that growing market and stakeholder expectations will lead real estate developers and managers to adopt holistic frameworks which integrate material ESG considerations throughout the business and operational life cycle. By way of example, as illustrated by CLI's sustainability strategy (October 2024)⁵⁹⁵, sustainability is intended to be integrated by tailoring ESG strategies to real estate fund product development, capital raising while taking into account investors' ESG concerns and transparent disclosure of ESG risks and opportunities. Additionally, this includes conducting environmental, health and safety impact assessments for investments

591 The Straits Times, CapitaLand Investment pushes ahead with disclosures from suppliers, more green leases, 2024, <https://www.straitstimes.com/business/capitaland-investment-pushes-ahead-with-disclosures-from-suppliers-more-green-leases>, accessed 06.09.2025.

592 Capital Ascendas Reit, INTEGRATED SUSTAINABILITY REPORT 2022, https://investor.capitaland-ascendasreit.com/newsroom/20230406_060107_A17U_ECIMIIRIYBFHU7YI.1.pdf, accessed 06.09.2025.

593 Mapletree STEWARDING SUSTAINABILITY, 2025, https://www.mapletree.com.sg/uploads/2025/07/MIPL_SR25_Final-July-14-1.pdf, accessed 06.09.2025.

594 GLP, Environmental Activities (E), <https://www.glpjreit.com/en/esg/environment.html>, accessed 06.09.2025.

595 Srivastava, Vinamra, CLI Sustainability Strategy – The Way Forward, 2024, https://ir.capitalandinvest.com/newsroom/20241028_063535_9CI_3IXKOP9RIAK67EIA.1.pdf, accessed 06.09.2025.

and developing asset-level ESG plans that cover operational and asset management expertise, while participating in internationally recognized ESG frameworks, namely GRESB.

Asia's real estate industry is at the forefront of a major sustainability shift, supported by evolving sustainable finance frameworks, material innovation, and green policy incentives. As capital markets, developers, and regulators align, the integration of sustainability into real estate development will become the norm rather than the exception. Through the right use of taxonomies, financial instruments, and legally enforceable sustainability obligations, Asia is well-positioned to construct the low-carbon cities of tomorrow.

6.4 Europe (EU & UK)

Laura Gowing/Sabine Wieduwilt

6.4.1 Introduction to #6.4



We will continue our overview with Europe, concentrating on the European Union (EU) (#6.4.2) and the United Kingdom (UK) (#6.4.3).⁵⁹⁶

⁵⁹⁶ Several countries in Europe are neither members of the European Union (EU) nor part of the United Kingdom (UK). These include: Norway, Iceland, Liechtenstein, Switzerland, Albania, Bosnia and Herzegovina, Serbia, Montenegro, North Macedonia, Kosovo, Moldova, Ukraine, Belarus, Russia, Turkey, Andorra, Monaco, San Marino, Vatican City (Holy See). Some of these countries (such as Norway, Iceland, Liechtenstein, and Switzerland) are part of the European Economic Area (EEA) or have other agreements with the EU, but are not EU members. Microstates like Andorra, Monaco, San Marino, and Vatican City are independent and not in the EU.