

ASSESSMENT

7 November 2024



Contacts

Muhammad Ibrahim,
CFA
Associate Lead Analyst-Sustainable Finance
muhammad.ibrahim@moodys.com

Jiahuan Liu
Sustainable Fin Associate
jiahuan.liu@moodys.com

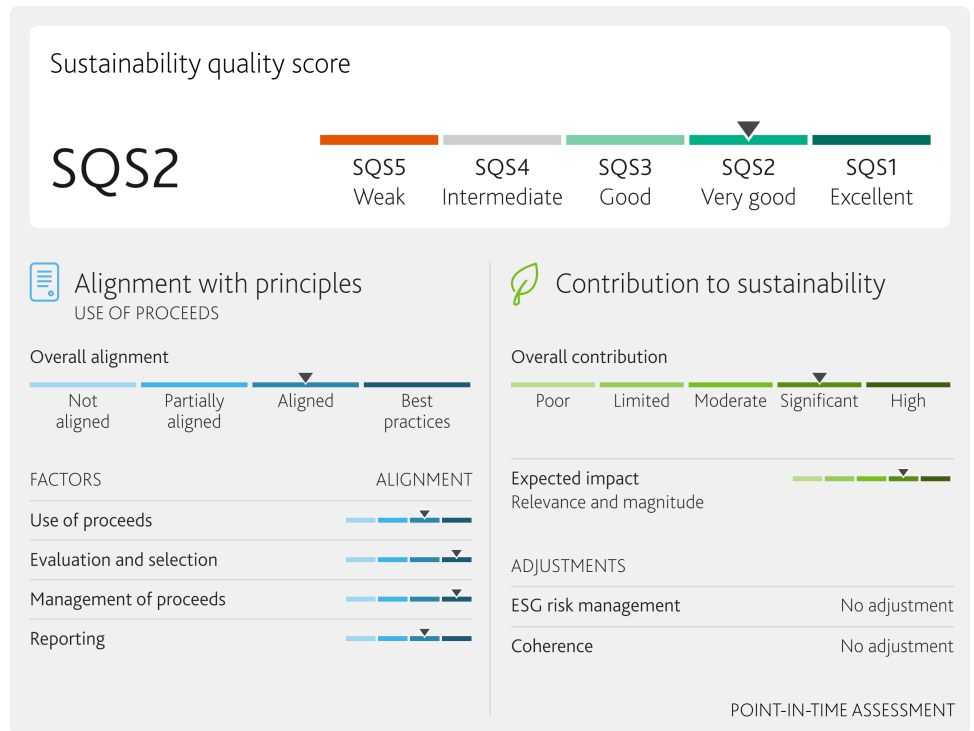
Jeffrey Lee
SVP-Sustainable Finance
sukjoonjeffrey.lee@moodys.com

CapitaLand Ascendas REIT

Second Party Opinion – Green Finance Framework Assigned SQS2 Sustainability Quality Score

Summary

We have assigned an SQS2 Sustainability Quality Score (very good) to CapitaLand Ascendas REIT's (CLAR) green finance framework dated October 2024. CLAR has established its use-of-proceeds framework with the aim of financing projects across six eligible green categories. The framework is aligned with the four core components of the International Capital Market Association's (ICMA) Green Bond Principles (GBP) 2021 (including the June 2022 Appendix 1), and the Loan Market Association, the Asia Pacific Loan Market Association and the Loan Syndications and Trading Association's (LMA/APLMA/LSTA) Green Loan Principles (GLP) 2023. The framework also demonstrates a significant contribution to sustainability.



Scope

We have provided a Second Party Opinion (SPO) on the sustainability credentials of CLAR's green finance framework, including the framework's alignment with the ICMA's GBP 2021 (including the June 2022 Appendix 1) and the LMA/APLMA/LSTA's GLP 2023. Under its framework, the issuer plans to finance projects across six green categories, as outlined in Appendix 2 of this report.

Our assessment is based on the last updated version of the framework received on October 2024, and our opinion reflects our point-in-time assessment¹ of the details contained in this version of the framework, as well as other public and non-public information provided by the issuer.

We produced this SPO based on our [Framework to Provide Second Party Opinions on Sustainable Debt](#), published in October 2022.

Issuer profile

[CapitaLand Ascendas REIT](#) (CLAR) was listed on the Singapore Stock Exchange in November 2002. As of 30 June 2024, the trust had a diversified portfolio of 97 properties in Singapore, 34 properties in Australia, 48 properties in the United States and 50 properties in the United Kingdom/Europe. The trust was formerly known as Ascendas Real Estate Investment Trust and was renamed CLAR in 2022.

CLAR owns properties mainly in three key segments, covering i) business space and life sciences, ii) logistics, and iii) industrial and data centres.

Strengths

- » Most of the proceeds are likely to be allocated to green buildings that achieve the Green Mark Gold^{PLUS} or higher certification, which is in line with the Singapore-Asia Taxonomy's green classification.
- » Objectives set are defined, relevant and coherent for all project categories, and benefits are measurable and will be quantified.
- » Environmental Health & Safety Impact Assessment will be conducted during the feasibility study of development and redevelopment projects.

Challenges

- » Thresholds of eligibility are not well defined for some project categories, such as energy efficiency and waste management.
- » Reporting will be conducted until full allocation of proceeds and in case of material changes but not until the maturity of the bond or repayment of the loan.

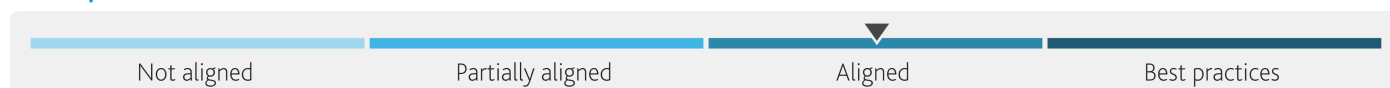
This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody's.com> for the most updated credit rating action information and rating history.

Alignment with principles

CLAR's green finance framework is aligned with the four core components of the ICMA's GBP 2021 (including the June 2022 Appendix 1) and the LMA/APLMA/LSTA's GLP 2023:

- Green Bond Principles (GBP)
- Social Bond Principles (SBP)
- Green Loan Principles (GLP)
- Social Loan Principles (SLP)
- Sustainability-Linked Bond Principles (SLBP)
- Sustainability Linked Loan Principles (SLLP)

Use of proceeds



Clarity of the eligible categories - ALIGNED

CLAR has clearly communicated the nature of expenditures, eligibility and exclusion criteria for the eligible categories. The eligible projects will be located in Singapore, Australia, the US, the UK and Europe. For the green buildings category, the issuer has shared the key building certification schemes to be used as well as the certification levels to be achieved. However, some categories do not have clearly stated eligibility thresholds, notably energy efficiency, waste management and sustainable water management.

Clarity of the environmental objectives – BEST PRACTICES

CLAR has clearly outlined the relevant environmental objectives associated with the eligible categories. The issuer has referenced the United Nations' (UN) Sustainable Development Goals (SDGs) in articulating the objectives of the eligible categories, and the objectives are coherent with these recognized international standards.

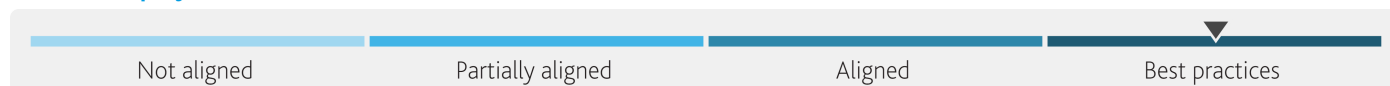
Clarity of the expected benefits – ALIGNED

CLAR has identified relevant expected environmental benefits for most of the eligible categories, except for the green buildings category. The identified benefits are measurable and will be quantified in the issuer's impact reporting. The issuer has committed to transparently communicate the estimated share of refinancing where feasible, however, it has not committed to a look-back period.

Best practices identified - use of proceeds

- » Objectives set are defined, relevant and coherent for all project categories
- » Benefits are measurable and quantified for most projects, either ex-ante with clear baselines or with a commitment to do so in future reporting
- » Commitment to transparently disclose the share of proceeds used for refinancing where feasible

Process for project evaluation and selection



Transparency and quality of the process for defining eligible projects – BEST PRACTICES

CLAR has established a clear process for determining the eligibility of projects, with detailed decision-making criteria formalized in its framework that will be made public. The Sustainability Working Committee (SWC) reviews and shortlists eligible projects, and the Sustainability Committee (SC) approves those projects and ensures their compliance with environmental and social (E&S) guidelines. Both SWC and SC comprise members with relevant expertise. In addition to the appointed Property Managers, SWC will keep track of the expiry date of green building certifications, to support the SC in monitoring continued compliance. The SC will document all discussions, decisions and approvals through meeting minutes.

Environmental and social risk mitigation process – BEST PRACTICES

The E&S risks and opportunities are integrated into the Environmental Risk Management framework, which is disclosed in the annual sustainability report. An Environment Health and Safety Impact Assessment (EHSIA) is carried out during the feasibility study, as part of the due diligence stage for new acquisitions. The EHSIA focuses on identifying any environmental threats or opportunities related to the project sites and their surroundings, covering areas such as floods, biodiversity, air quality, noise, connectivity, heritage and resources including an analysis of mitigation measures for the associated risks. ESG factors are also considered in the design, procurement, construction and operations at the outset for development or redevelopment projects. Monitoring will be conducted throughout the life of a green financing instrument.

Best practices identified - process for project evaluation and selection

- » The roles and responsibilities for project evaluation and selection are clearly defined and include relevant expertise
- » There is evidence of continuity in the selection and evaluation process through the life of the financial instrument(s), including compliance verification and procedures to undertake mitigating actions when needed
- » The process for project evaluation and selection is traceable
- » Material environmental and social risks for most project categories are identified
- » Presence of corrective measures to address environmental and social risks across projects
- » ESG controversies are monitored

Management of proceeds



Allocation and tracking of proceeds – BEST PRACTICES

There is a clear process for the management and allocation of proceeds from the green finance proceeds, as per the information shared by CLAR. These proceeds will be placed in the issuer's general treasury and tracked periodically through the green project register. Adjustments will be made quarterly, or as required, to match allocations to eligible projects made during that period. In case a project is postponed, canceled or divested, or it fails to meet the eligibility criteria, the proceeds will be reallocated to other eligible projects. The allocation period is set as 12 months or less.

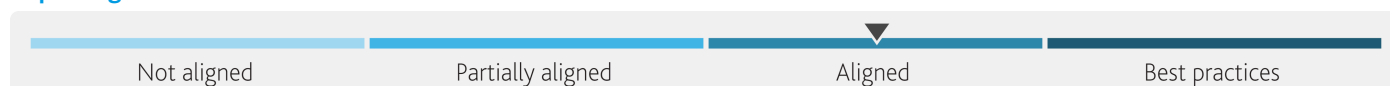
Management of unallocated proceeds – BEST PRACTICES

The issuer has indicated that unallocated proceeds will not be used for activities that fall under exclusion criteria or with E&S controversies. Temporarily unallocated proceeds may be invested in accordance with CLAR's treasury policy for short-term investments, such as cash or cash-equivalent instruments. In the event of divestment or if a project no longer meets the eligibility criteria for green projects, the issuer will reallocate the funds to other eligible green projects.

Best practices identified - management of proceeds

- » Broad disclosure of a clearly articulated and comprehensive management of proceeds policy to external stakeholders; bondholders or lenders at a minimum
- » Short allocation period, for example typically less than 24 months
- » Disclosure on temporary placement and presence of exclusion criteria toward environmentally or socially harmful activities
- » Commitment to reallocate proceeds to projects that are compliant with the framework

Reporting



Transparency of reporting – ALIGNED

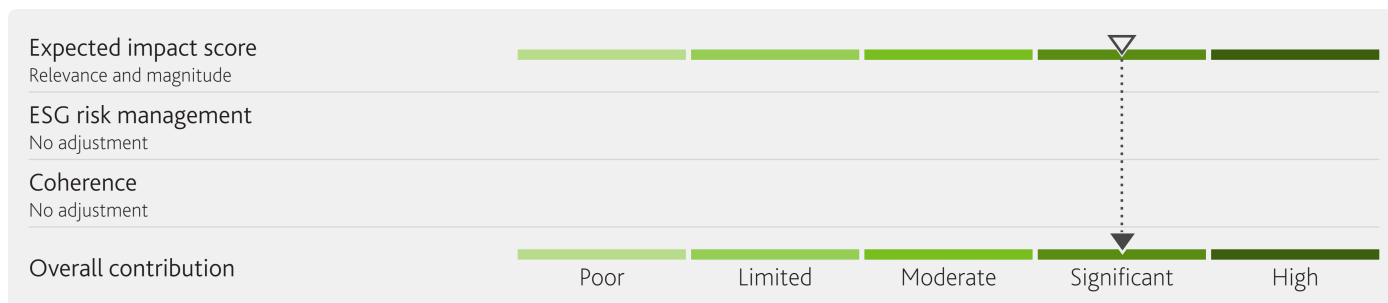
CLAR is committed to providing an allocation report on an annual basis until all the net proceeds have been allocated. This information will be disclosed in its annual integrated sustainability report. As shared by CLAR, allocation reporting will be conducted at the category level, and will include description of projects, and the amount of proceeds allocated to each eligible category. Impact reporting will also be carried out at the category level, and the issuer has identified relevant impact reporting indicators for nearly all the eligible categories. The issuer will provide the methodology and underlying assumptions for the E&S impacts in its annual integrated sustainability report. However, there is no clear commitment as to whether allocation and impact reporting will be externally verified.

Best practices identified - reporting

- » Reporting on allocation of proceeds and benefits done at least at eligible category level
- » Disclosure of reporting methodology and calculation assumptions to bondholders or lenders at a minimum

Contribution to sustainability

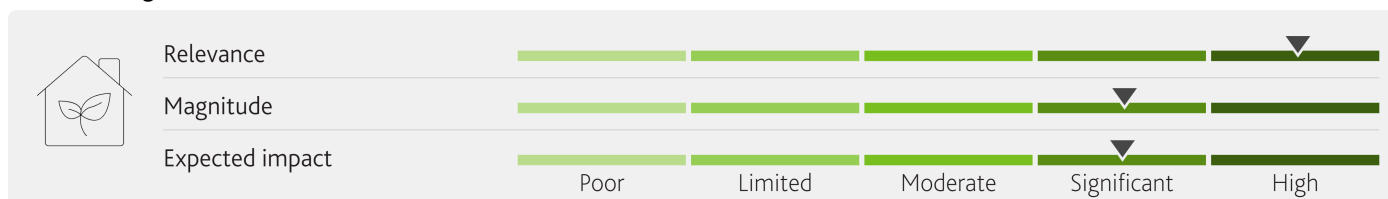
The framework demonstrates a significant overall contribution to sustainability.



Expected impact

The expected impact of the eligible projects on green objectives is significant. Based on information provided by CLAR, we expect most of the proceeds to be allocated to the green buildings category. In line with this, we have assigned the highest weight to the green buildings category when assessing the overall contribution to sustainability. A detailed assessment by eligible category is provided below.

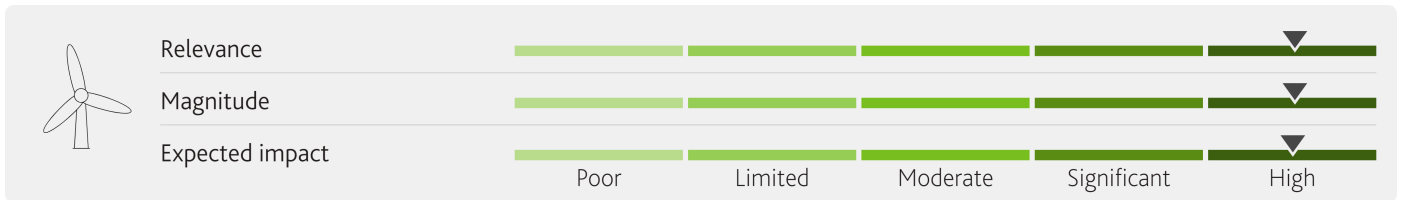
Green buildings



Projects financed under this category are highly relevant because CLAR, as Singapore's largest listed business space and industrial REIT, is intrinsically linked to this sustainability topic. Globally, the building sector is one of the largest energy consumers and greenhouse gas (GHG) emitters, accounting for 30% of final energy consumption and 26% of energy-related emissions in 2022, according to the International Energy Agency (IEA)². CLAR's portfolio spans Singapore, Australia, the US, the UK and Europe, regions where the building sector accounts for a considerable portion of national/regional GHG emissions.

The magnitude of this category is significant because the specified green building certifications and rating levels in the eligibility criteria are likely to contribute substantially to GHG emissions reduction. As indicated by the issuer, green building certification is pursued mainly for CLAR's owned and managed properties and a large portion of this portfolio is located in Singapore - thus we expect the Green Mark certification to be predominantly adopted. Buildings certified under this scheme are likely to demonstrate strong energy performance, given the mandatory Energy Use Intensity requirements for various building types. This provides us with a certain degree of visibility into the potential energy performance of these buildings. Furthermore, buildings that achieve Green Mark Gold^{PLUS} or higher certification are in line with the green classification of the Singapore-Asia Taxonomy, and those rated Green Star 5-star, registered after 2023, align with the Climate Bonds Initiative (CBI). However, some of the other green building certifications types may not sufficiently reveal the actual environmental impact, because the point scoring system may allow buildings to achieve a certain score level without adequately focusing on crucial environmental aspects like energy efficiency.

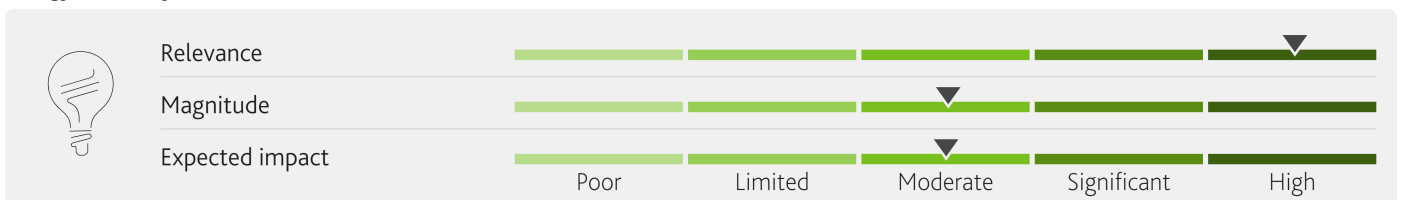
Renewable energy



Financing projects in this category holds high relevance due to the substantial electricity consumption by buildings, which accounted for nearly a third of the global final energy consumption in 2022³. The energy infrastructure of the issuer's primary building locations, predominantly in Singapore, relies significantly on fossil fuels. Therefore, increasing the use of renewable energy sources is crucial for the real estate sector and for the regions where potential projects will be located.

Projects within this category demonstrate high magnitude as renewable energy financing is aimed at long-term emissions reduction without negative lock-ins. Proceeds from this category will be used for the installation of solar photovoltaic (PV) panels. These panels are currently among the best available technologies, notably for their lack of negative lock-in effects and minimal E&S externalities. Moreover, CLAR's portfolio consists of light industrial, logistics buildings and warehouses, which often have extensive roof spaces, providing scalability in solar PV panels installations.

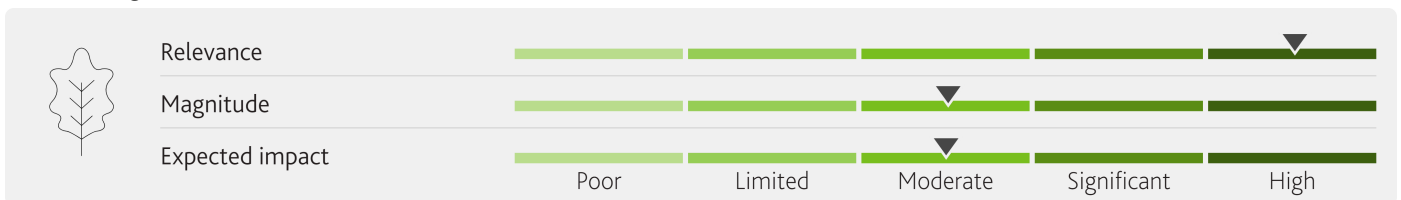
Energy efficiency



The relevance of this category is high because of the critical role that enhancing energy efficiency plays in reducing the energy demand of buildings — a need that grows with the expansion of building floor areas. The issuer intends to fund projects that aim to implement smart technologies and systems to improve energy management within buildings, such as the installation of lighting and motion sensors, and the upgrade of air-conditioning chillers and lift systems, which are among the top energy consumers.

Projects financed in this category have a moderate magnitude because we lack visibility into the extent the activities intend to improve energy efficiency, because there are no defined thresholds. The expenditures include light fittings, ventilation and greening technologies, among others, and are intended to reduce interior heat and contribute to higher energy efficiency.

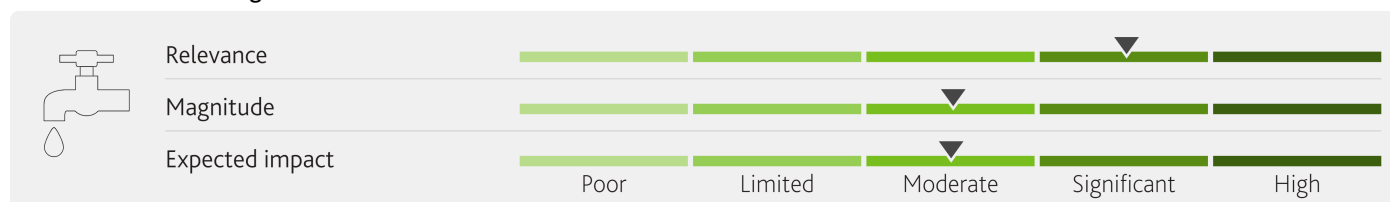
Waste management



Eligible projects under this category tackle a highly relevant sustainability challenge within the building sector as improvements in waste collection, reduction in waste generation, material reuse and recycling efforts can lead to a substantial reduction in emissions. These practices are in line with multiple national policies, including Singapore's Zero Waste Masterplan, which aims to boost the recycling rate to 70% and cut down the daily waste per person sent to landfill by 30% by 2030.⁴

The projects under this category exhibit moderate magnitude because there is lack of visibility into the extent the waste will be reduced given no performance thresholds are defined. The issuer has plans to fund various waste management initiatives, including paper and e-waste recycling, and the use of reverse vending machines and food waste digesters, and these initiatives are generally viewed as beneficial. The company will follow waste hierarchy, such as CLAR's 3R concept (reduce, reuse and recycle).

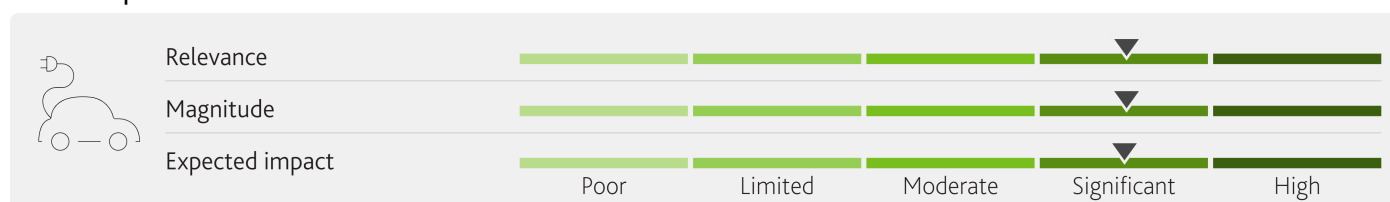
Sustainable water management



This category holds significant relevance. Water efficiency is an important aspect for the building sector, although it is considered less pertinent to the real estate sector compared with other green categories like green buildings or energy efficiency, as it does not directly tackle the sector's main sustainability issues. That said, the increasing demand for water, driven by factors such as agricultural irrigation, economic expansion, urban development and higher individual household consumption, is turning availability of water into a significant challenge.

This category has a moderate impact due to the absence of clear thresholds and limited visibility into the extent of improvement in water efficiency. The projects financed under this category aim to enhance water usage features, such as automatic tap water sensors, to reduce both domestic and commercial water consumption. The issuer has indicated that equipment will be assessed and adopted if it meets business requirements, such as the mandatory 3-tick water efficiency rating under Water Efficiency Labelling Scheme (WELS) for the Singapore market. However, we lack visibility on whether the category includes water monitoring systems and leakage detection, which are part of best water efficiency practices⁵. Furthermore, specific eligibility thresholds have not been defined for other countries where the issuer is expanding its operations, including investments in data centers.

Clean transportation



This category has significant relevance because low-carbon transportation is an important sector, but it is not the most pressing challenge for the real estate sector to address. Transportation is one of the leading emitting sectors in the markets where the issuer has presence. Such as, in Singapore, transportation is the third-largest source of emissions, accounting for 15% of the country's emissions⁶. The installation of electric vehicle (EV) charging stations supports the Singapore Green Plan 2030 by promoting the adoption of cleaner vehicles and contributes to the Ministry of Transport's target of installing 60,000 EV charging points across Singapore by 2030⁷.

Projects financed under this category have a significant magnitude as this category focuses on activities and infrastructure that promote zero tailpipe mobility. Installation of EV charging infrastructure is likely to yield positive long-term environmental benefits, especially as the grid becomes decarbonized. However, the potential support of charging for hybrid vehicles will lead to negative lock-in effects. In addition to EV charging installations, the category covers end-of-trip facilities related to cycling, including bicycle parking.

ESG risk management

We have not incorporated a negative adjustment for ESG risk management into the expected impact score. CLAR maintains a regular process for reviewing, evaluating and providing feedback on ESG topics. Significant issues identified are reported in a corporate risk register through the annual groupwide risk and control self-assessment exercise. The issuer has identified key physical and transition risks as part of its Task Force on Climate-Related Financial Disclosures (TCFD) reporting, and disclosed measures to mitigate those risks. While CLAR's portfolio includes industrial buildings, they consist primarily of light industrial structures, which entail minimal potential ESG risks.

Coherence

We have not applied a negative adjustment for coherence to the expected impact score. CLAR's applies a double materiality assessment, covering both impact perspective and a financial perspective. CLAR also aligns its sustainability objectives with CLI's 2030 Sustainability Master Plan (SMP) to enhance the sustainable performance of its portfolio. This plan includes a commitment to support

CLI's target of achieving net zero emissions for scope 1 and 2 by 2050. Additionally, the issuer aims to source 45% of its electricity consumption from renewable sources by 2030.

Appendix 1 - Mapping eligible categories to the United Nations' Sustainable Development Goals

The six eligible categories included in CLAR's framework are likely to contribute to three of the UN's SDGs, namely:

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 7: Affordable and Clean Energy	Renewable Energy	7.2: Increase substantially the share of renewable energy in the global energy mix
	Energy Efficiency	7.3: Double the global rate of improvement in energy efficiency
GOAL 11: Sustainable Cities and Communities	Green Buildings	11.6: Reduce the adverse per capita environmental impact of cities, with special attention to air quality and waste management
	Clean Transportation	11.2: Provide access to safe, affordable, accessible and sustainable transport systems for all
GOAL 12: Responsible Consumption and Production	Waste Management	12.5: Substantially reduce waste generation through prevention, reduction, recycling and reuse
	Sustainable Water Management	12.2: Achieve the sustainable management and efficient use of natural resources

The mapping of the UN SDGs in this SPO considers the eligible project categories and associated sustainability objectives/benefits documented in the issuer's green finance framework, as well as resources and guidelines from public institutions, such as the ICMA's SDG Mapping Guidance and the UN's SDG targets and indicators.

Appendix 2 - Summary of eligible categories in CapitaLand Ascendas REIT's framework

Eligible Project Category	Eligible Criteria	Environmental Objective	Impact Indicator
Green Buildings	<p>New development, existing or re-development of existing buildings that have or will receive any one of the following certification systems:</p> <ul style="list-style-type: none"> • Singapore Building and Construction Authority (BCA) Green Mark: Minimum certification of GoldPLUS or above; • Leadership in Energy and Environmental Design (LEED®): Minimum certification of Gold or above; • National Australian Built Environment Rating System (NABERS): Minimum 5-Star Energy Rating or above; • Green Building Council of Australia (GBCA) Green Star: Minimum 5-Star or above; • Building Research Establishment Environmental Assessment Method (BREEAM): Minimum certification of Excellent or above; • International Finance Corporation (IFC) Excellence in Design for Greater Efficiencies (EDGE): Minimum Certified or above; or • Any other Green Building label, that is an equivalent standard as the above. 	<p>Climate Change Mitigation</p> <p>Natural Resource Conservation</p>	<ul style="list-style-type: none"> • Number of Green Buildings (per certification system) and the level/ rating achieved • Green Buildings coverage (by Gross Floor Area) as a percentage of total portfolio
Renewable Energy	Projects relating to the installation of equipment or associated infrastructure to generate renewable energy.	Climate Change Mitigation	<ul style="list-style-type: none"> • kWh of power generated from renewable energy • Renewable energy consumed as a percentage of landlord's total electricity consumption • Tonnes of carbon dioxide (CO2) equivalent avoided
Energy Efficiency	Projects relating to adoption of smart technologies and/ or systems for optimising energy management in new and existing buildings (e.g. lighting and motion sensors) or retrofitting projects (e.g. replacing air-conditioning chiller or lift systems).	Climate Change Mitigation	<ul style="list-style-type: none"> • Energy saved per annum (kWh) • Energy intensity reduction (kWh/sq m)
Waste Management	Facilities, systems and equipment that are used for the collection, treatment, and recycling of waste (excluding landfilling).	Pollution Prevention and Control	<ul style="list-style-type: none"> • Waste reduced per annum (tonnes) • Waste that is prevented, minimised, reused, recycled or diverted from landfill as a percentage of total waste and/or in absolute amount (%)
Sustainable Water Management	Water saving features to reduce domestic and commercial water consumption.	Natural Resource Conservation	<ul style="list-style-type: none"> • Water saved per year (m³) • Water intensity (m³/sq m)
Clean Transportation	Projects that promote affordable and environmentally friendly transportation modes.	<p>Climate Change Mitigation</p> <p>Pollution Prevention and Control</p>	<ul style="list-style-type: none"> • No. of electric vehicle charging lots • No. of bicycle parking lots

Endnotes

- [1](#) The point-in-time assessment is applicable only on the date of assignment or update.
- [2](#) International Energy Agency, [Buildings](#), July 2023.
- [3](#) International Energy Agency, [Buildings](#), July 2023.
- [4](#) Ministry of the Environment and Water Resources, [Zero Waste Masterplan](#), November 2022.
- [5](#) Public Utilities Board, [Best Practice Guide in Water Efficiency - Buildings version 2](#), May 2022.
- [6](#) National Climate Change Secretariat, [Transport](#), accessed on 9 September 2024.
- [7](#) SG Green Plan, [Our Targets](#), accessed on 9 September 2024.

Moody's assigns SPOs in alignment with the main tenets of the ICMA Guidelines for Green, Social, Sustainability and Sustainability-Linked Bonds External Reviews and the LSTA/LMA/APLMA Guidance for Green, Social and Sustainability-Linked Loans External Reviews, as applicable; Moody's practices may however diverge in some respects from the practices recommended in those documents. Moody's approach to assigning SPOs is described in its Assessment Framework, and is subject to the ethical and professional principles set forth in the Moody's Investors Service Code of Professional Conduct.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

© 2024 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Materials.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V., I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Calificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

REPORT NUMBER 1420747