SASB STANDARDS

Now part of IFRS Foundation

Real Estate

Sustainability Accounting Standard

INFRASTRUCTURE SECTOR

Sustainable Industry Classification System® (SICS®) IF-RE

Under Stewardship of the International Sustainability Standards Board

INDUSTRY STANDARD | VERSION 2023-06

IFRS Sustainability

sasb.org

About the SASB Standards

As of August 2022, the International Sustainability Standards Board (ISSB) of the IFRS Foundation assumed responsibility for the SASB Standards. The ISSB has committed to maintain, enhance and evolve the SASB Standards and encourages preparers and investors to continue to use the SASB Standards.

IFRS S1 *General Requirements for Disclosure of Sustainability-related Financial Information* (IFRS S1) requires entities to refer to and consider the applicability of disclosure topics in the SASB Standards when identifying sustainability-related risks and opportunities that could reasonably be expected to affect an entity's prospects. Similarly, IFRS S1 requires entities to refer to and consider the applicability of metrics in the SASB Standards when determining what information to disclose regarding sustainability-related risks and opportunities.

The SASB Standards have been revised to align with the industry-based guidance accompanying IFRS S2 *Climate-related Disclosures*.

Effective Date

This version 2023-06 of the Standard is effective for all entities for annual periods beginning or after January 1, 2024. Early adoption is permitted for all entities.

Table of Contents

INTRODUCTION

Overview of SASB Standards

The SASB Standards are a set of 77 industry-specific sustainability accounting standards ("SASB Standards" or "Industry Standards"), categorised pursuant to the Sustainable Industry Classification System® (SICS®).

SASB Standards include:

1. **Industry descriptions** – which are intended to help entities identify applicable industry guidance by describing the business models, associated activities and other common features that characterise participation in the industry.

2. **Disclosure topics** – which describe specific sustainability-related risks or opportunities associated with the activities conducted by entities within a particular industry.

3. **Metrics** – which accompany disclosure topics and are designed to, either individually or as part of a set, provide useful information regarding an entity's performance for a specific disclosure topic.

4. **Technical protocols** – which provide guidance on definitions, scope, implementation and presentation of associated metrics.

5. **Activity metrics** – which quantify the scale of specific activities or operations by an entity and are intended for use in conjunction with the metrics referred to in point 3 to normalise data and facilitate comparison.

Entities using the SASB Standards as part of their implementation of ISSB Standards should consider the relevant ISSB application guidance.

For entities using the SASB Standards independently from ISSB Standards, the *SASB Standards Application Guidance* establishes guidance applicable to the use of all Industry Standards and is considered part of the Standards. Unless otherwise specified in the technical protocols contained in the Industry Standards, the guidance in the SASB Standards Application Guidance applies to the definitions, scope, implementation, compilation and presentation of the metrics in the Industry Standards.

Historically, the *SASB Conceptual Framework* set out the basic concepts, principles, definitions and objectives that guided the SASB Standards Board in its approach to setting standards for sustainability accounting.

Use of the Standards

SASB Standards are intended to aid entities in disclosing information about sustainability-related risks and opportunities that could reasonably be expected to affect the entity's cash flows, its access to finance or cost of capital over the short, medium or long term. An entity determines which Industry Standard(s) and which disclosure topics are relevant to its business, and which associated metrics to report. In general, an entity should use the SASB Standard specific to its primary industry as identified in SICS® . However, companies with substantial business in multiple SICS® industries should refer to and consider the applicability of the disclosure topics and associated metrics in additional SASB Standards.

The disclosure topics and associated metrics contained in this Standard have been identified as those that are likely to be useful to investors. However, the responsibility for making materiality judgements and determinations rests with the reporting entity.

Industry Description

Real Estate industry entities own, develop and operate income-producing real estate assets. Entities in this industry commonly are structured as real estate investment trusts (REITs) and operate in a wide range of real estate industry segments, including residential, retail, office, health care, industrial and hotel properties. REITs typically participate in direct real estate asset ownership, thereby providing investors with the opportunity to obtain real estate exposure without direct asset ownership and management. Although REITs often concentrate on individual Real Estate industry segments, many REITs diversify investments across multiple property types.

SUSTAINABILITY DISCLOSURE TOPICS & METRICS

Table 1. Sustainability Disclosure Topics & Metrics

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Energy Management	Energy consumption data coverage as a percentage of total floor area, by property sector	Quantitative	Percentage (%) by floor area	IF-RE-130a.1
	(1) Total energy consumed by portfolio area with data coverage, (2) percentage grid electricity and (3) percentage renewable, by property sector	Quantitative	Gigajoules (GJ), Percentage (%)	IF-RE-130a.2
	Like-for-like percentage change in energy consumption for the portfolio area with data coverage, by property sector	Quantitative	Percentage (%)	IF-RE-130a.3
	Percentage of eligible portfolio that (1) has an energy rating and (2) is certified to ENERGY STAR, by property sector	Quantitative	Percentage (%) by floor area	IF-RE-130a.4
	Description of how building energy management considerations are integrated into property investment analysis and operational strategy	Discussion and Analysis	n/a	IF-RE-130a.5
Water Management	Water withdrawal data coverage as a percentage of (1) total floor area and (2) floor area in regions with High or Extremely High Baseline Water Stress, by property sector	Quantitative	Percentage (%) by floor area	IF-RE-140a.1
	(1) Total water withdrawn by portfolio area with data coverage and (2) percentage in regions with High or Extremely High Baseline Water Stress, by property sector	Quantitative	Thousand cubic metres (m^3), Percentage (%)	IF-RE-140a.2
	Like-for-like percentage change in water withdrawn for portfolio area with data coverage, by property sector	Quantitative	Percentage (%)	IF-RE-140a.3
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	n/a	IF-RE-140a.4
Management of Tenant Sustainability Impacts	(1) Percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements and (2) associated leased floor area, by property sector	Quantitative	Percentage (%) by floor area, Square metres (m^2)	IF-RE-410a.1
	Percentage of tenants that are separately metered or submetered for (1) grid electricity consumption and (2) water withdrawals, by property sector	Quantitative	Percentage (%) by floor area	IF-RE-410a.2
	Discussion of approach to measuring, incentivising and improving sustainability impacts of tenants	Discussion and Analysis	n/a	IF-RE-410a.3

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Climate Change Adaptation	Area of properties located in 100-year flood zones, by property sector	Quantitative	Square metres (m²)	IF-RE-450a.1
	Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks	Discussion and Analysis	n/a	IF-RE-450a.2

Table 2. Activity Metrics

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of assets, by property sector[1]	Quantitative	Number	IF-RE-000.A
Leasable floor area, by property sector[2]	Quantitative	Square metres (m²)	IF-RE-000.B
Percentage of indirectly managed assets, by property sector[3]	Quantitative	Percentage (%) by floor area	IF-RE-000.C
Average occupancy rate, by property sector[4]	Quantitative	Percentage (%)	IF-RE-000.D

[1] Note to **IF-RE-000.A** – Number of assets shall include the number of distinct real estate property or building assets and is aligned with the 2018 GRESB Real Estate Assessment Reference Guide. Number of assets shall be disclosed separately for each portion of the entity's portfolio where properties are classified into sectors that are aligned with the FTSE Nareit Classification Structure. The total number of assets reported across all sectors can exceed the actual number of assets due to the fact that mixed-use assets can be reported in multiple sectors.

[2] Note to **IF-RE-000.B** – Leasable floor area shall be disclosed separately for each portion of the entity's portfolio where properties are classified into sectors that are aligned with the FTSE Nareit Classification Structure. Number of units may be used in place of floor area in the Apartments and Lodging/Resorts property sectors when floor area is not available.

[3] Note to **IF-RE-000.C** –The definition of "indirectly managed assets" is solely based on the landlord/tenant relationship and is aligned with the 2018 GRESB Real Estate Assessment Reference Guide: "Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so [the asset] should be considered to be an Indirectly Managed Asset." Percentage of indirectly managed assets shall be disclosed separately for each portion of the entity's portfolio where properties are classified into sectors that are aligned with the FTSE Nareit Classification Structure.

[4] Note to **IF-RE-000.D** – Average occupancy rate shall be disclosed separately for each portion of the entity's portfolio where properties are classified into sectors that are aligned with the FTSE Nareit Classification Structure.

Energy Management

Topic Summary

Real estate assets consume significant amounts of energy for space heating, ventilating, air conditioning, water heating, lighting and using equipment and appliances. The type and magnitude of energy used and strategies for energy management are dependent upon the real estate asset class, among other factors. Generally, grid electricity is the predominant form of consumed energy, though on-site fuel combustion and renewable energy production also serve important roles. Energy costs may be borne by entities or property occupants; either way, energy management is a significant industry issue. To the extent that the real estate owner assumes direct responsibility for energy costs, such costs often represent significant operating costs, indicating the importance of energy management. Energy pricing volatility and a general trend of electricity price increases, energy-related regulations, potentially wide variations in energy performance in existing building stock, and opportunities for efficiency improvements through economically attractive capital investments all show the importance of energy management. Energy costs assumed by occupants, either in whole or in part, are nonetheless likely to affect entities through various channels. Building energy performance is a notable driver of tenant demand, because it allows them to control operating costs, mitigate potential environmental impacts, and, often just as importantly, maintain a reputation for resource conservation. Additionally, real estate owners may be exposed to energy-related regulations even if energy costs are the occupants' responsibility. Overall, entities that effectively manage asset energy performance may realise reduced operating costs and regulatory risks, as well as increased tenant demand, rental rates and occupancy rates– all of which drive revenue and asset value appreciation. Improving energy performance is dependent upon property type and location, target tenant market, local building codes, physical and legal opportunities to deploy distributed renewable energy, the ability to measure consumption, and existing building stock, among other factors.

Metrics

IF-RE-130a.1. Energy consumption data coverage as a percentage of total floor area, by property sector

1 The entity shall disclose the percentage of its portfolio, based on total gross floor area, with complete energy consumption data coverage.

1.1 Gross floor area is defined as the total property area in square metres, measured between the principal exterior surfaces of the enclosing fixed walls of the building(s).

1.1.1 Leasable floor area may be used in place of gross floor area if gross floor area is not available for the relevant area of the portfolio (for example, a building with an unknown gross floor but a known leasable floor area).

1.1.2 Number of units may be used in place of floor area in the Apartments and Lodging/Resorts property sectors.

1.2 Floor area is considered to have complete energy consumption data coverage when the entity obtains energy consumption data (for example, energy types and amounts consumed) for all types of energy consumed in the relevant floor area during the reporting period, regardless of when such data was obtained.

1.2.1 If such data is unavailable for one or more types of energy consumed, the relevant floor area shall be considered to have incomplete energy consumption data coverage.

1.3 The percentage shall be calculated as the portfolio gross floor area with complete energy consumption data coverage divided by the total portfolio gross floor area for which energy is used.

1.4 The scope of energy consumption includes energy from all sources, including energy purchased from sources external to the entity and its tenants, and energy produced by the entity or its tenants (self-generated). For example, direct fuel use, purchased electricity and heating, cooling and steam energy are all included within the scope of energy consumption.

2 The entity shall disclose energy consumption data coverage separately for each property type in its portfolio, where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification system.

3 The entity may discuss the data coverage comprehensiveness if there are coverage variations by energy type. For example, if a portion of floor area consumes electricity and natural gas and the entity has energy consumption data coverage for electricity but not natural gas, the entity has incomplete energy consumption data coverage. However, the entity may disclose the portion of total portfolio gross floor area that has partial energy consumption data coverage.

4 The entity may describe energy consumption data coverage variations, including the factors that influence them.

4.1 Variations in energy consumption data coverage may occur based on distinctions which may include:

4.1.1 Base Building, Tenant Space and Whole Building

4.1.2 Energy Purchased by the Landlord and energy Purchased by Tenants

4.1.3 Managed Assets and Indirectly Managed Assets

4.1.4 Geographical markets

4.2 Relevant factors that influence energy consumption data coverage may include:

4.2.1 Geographical markets and the applicable enabling or inhibiting laws, regulations and policies within such markets, including utilities policies

4.2.2 Administrative or logistical barriers to obtaining energy consumption data (for example, lack of integration of utilities' data reporting systems)

4.2.3 Tenant demands around privacy or the proprietary nature of energy consumption data

4.2.4 Property sectors or other more nuanced classifications of property types

4.2.5 Lease structures, including the length of leases, access to energy consumption data by the entity, and the entity's ability to influence energy management performance of Tenant Spaces

4.2.6 The entity's belief that obtaining Tenant Space energy consumption data may negatively impact tenant demand

5 The following terms are defined according to the 2018 GRESB Real Estate Assessment Reference Guide:

5.1 Base Building is defined as the energy consumed in supplying central building services to lettable/leasable areas and common areas.

5.2 Tenant Space is defined as the lettable floor area (both vacant and let/leased areas) that is, or can be, occupied by tenants.

5.3 Whole Building is defined as the energy used by tenants and Base Building services to lettable/leasable and common spaces. This should include all energy supplied to the building for the operation of the building and the tenant space.

5.4 Purchased by Landlord is defined as the energy purchased by the landlord but consumed by the tenant. This can include energy purchased by the landlord but used for vacant space.

5.5 Purchased by Tenant is defined as the energy purchased by the tenant. Typically, this is data outside the entity's immediate control.

5.6 Managed Assets and Indirectly Managed Assets are defined as follows: 'This definition of Managed assets and the definition of Indirectly Managed assets are solely based on the landlord/tenant relationship. [Managed and Indirectly Managed Assets are] assets or buildings for which the landlord is determined to have 'operational control', where operational control is defined as having the ability to introduce and implement operating and/or environmental policies and measures. In case both the landlord and tenant have the authority to introduce and implement any or all the policies mentioned above, the asset or building should be reported as a Managed asset. Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so it should be considered to be an Indirectly Managed asset.'

6 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-130a.2. (1) Total energy consumed by portfolio area with data coverage, (2) percentage grid electricity and (3) percentage renewable, by property sector

1 The entity shall disclose (1) total energy consumption by the portfolio area for which energy consumption data coverage is available as an aggregate figure, in gigajoules (GJ) or their multiples, where:

1.1 The scope of disclosure includes all property area in the entity's portfolio for which energy consumption data coverage is available, regardless of whether the Tenant Space or Base Building consumes the energy (including outdoor, exterior and parking areas) and which party pays for energy expenses.

1.2 The scope of disclosure excludes the portion of energy consumed by the portfolio area for which energy consumption data is unavailable.

1.2.1 If energy consumption data is unavailable for Tenant Space or Whole Building for a property but is available for the Base Building, then the entity shall disclose this energy consumption data.

1.3 The scope of energy consumption includes energy from all sources, including energy purchased from sources external to the entity and its tenants, and energy produced by the entity or its tenants (self-generated). For example, direct fuel use, purchased electricity, and heating, cooling and steam energy all are included within the scope of energy consumption.

1.4 In calculating energy consumption from fuels and biofuels, the entity shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC).

2 The entity shall disclose (2) the percentage of energy consumed that was supplied from grid electricity.

2.1 The percentage shall be calculated as purchased grid electricity consumption divided by total energy consumption.

3 The entity shall disclose (3) the percentage of energy it consumed that was renewable energy.

3.1 Renewable energy is defined as energy from sources that are replenished at a rate greater than or equal to their rate of depletion, such as geothermal, wind, solar, hydro and biomass.

3.2 The percentage shall be calculated as renewable energy consumed divided by total energy consumed.

3.3 The scope of renewable energy includes renewable fuel the entity consumed, renewable energy the entity directly produced and renewable energy the entity purchased, if purchased through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs) or Guarantees of Origin (GOs), a Green-e Energy Certified utility or supplier program, or other green power products that explicitly include RECs or GOs, or for which Green-e Energy Certified RECs are paired with grid electricity.

3.3.1 For any renewable electricity generated on-site, any RECs and GOs must be retained (not sold) and retired or cancelled on behalf of the entity for the entity to claim them as renewable energy.

3.3.2 For renewable PPAs and green power products, the agreement must explicitly include and convey that RECs and GOs be retained or replaced and retired or cancelled on behalf of the entity for the entity to claim them as renewable energy.

3.3.3 The renewable portion of the electricity grid mix that is outside of the control or influence of the entity is excluded from the scope of renewable energy.

3.4 For the purposes of this disclosure, the scope of renewable energy from biomass sources is limited to: materials certified to a third-party standard (for example, Forest Stewardship Council, Sustainable Forest Initiative, Programme for the Endorsement of Forest Certification, or American Tree Farm System), materials considered eligible sources of supply according to the *Green-e Framework for Renewable Energy Certification, Version 1.0* (2017) or Green-e regional standards, or materials eligible for an applicable jurisdictional renewable portfolio standard.

4 The entity shall apply conversion factors consistently for all data reported under this disclosure, such as the use of HHVs for fuel usage (including biofuels) and conversion of kilowatt hours (kWh) to GJ (for energy data, including electricity from solar or wind energy).

5 Energy consumption data shall be disclosed by (a) Base Building and (b) Tenant Space, or (c) Whole Building, or a combination of these.

6 The entity shall disclose (1) total energy consumption, (2) percentage grid electricity, and (3) percentage renewable energy, separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification system.

7 The entity may describe the variations in energy consumption.

7.1 Variations in energy consumption data coverage may occur based on distinctions which may include:

7.1.1 Base Building, Tenant Space and Whole Building

7.1.2 Energy Purchased by the Landlord and energy Purchased by Tenants

7.1.3 Managed Assets and Indirectly Managed Assets

7.1.4 Geographical markets

8 The following terms are defined according to the 2018 GRESB Real Estate Assessment Reference Guide:

8.1 Base Building is defined as the energy consumed in supplying central building services to lettable/leasable areas and common areas.

8.2 Tenant Space is defined as the lettable floor area (both vacant and let/leased areas) that is, or can be, occupied by tenants.

8.3 Whole Building is defined as the energy used by tenants and Base Building services to lettable/leasable and common spaces. This should include all energy supplied to the building for the operation of the building and the tenant space.

8.4 Purchased by Landlord is defined as the energy purchased by the landlord but consumed by the tenant. This can include energy purchased by the landlord but used for vacant space.

8.5 Purchased by Tenant is defined as the energy purchased by the tenant. Typically, this is data outside the entity's immediate control.

8.6 Managed Assets and Indirectly Managed Assets are defined as follows: 'This definition of Managed assets and the definition of Indirectly Managed assets are solely based on the landlord/tenant relationship. [Managed and Indirectly Managed Assets are] assets or buildings for which the landlord is determined to have 'operational control', where operational control is defined as having the ability to introduce and implement operating and/or environmental policies and measures. In case both the landlord and tenant have the authority to introduce and implement any or all the policies mentioned above, the asset or building should be reported as a Managed asset. Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so it should be considered to be an Indirectly Managed asset.'

9 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-130a.3. Like-for-like percentage change in energy consumption for the portfolio area with data coverage, by property sector

1 The entity shall disclose the like-for-like percentage change in energy consumption for the portfolio area with data coverage.

1.1 The percentage shall be calculated as energy consumed in the reporting period divided by the energy consumed in the immediately prior reporting period minus one.

1.2 The scope of energy consumption included in the calculation shall be aligned with the 2018 GRESB Real Estate Assessment Reference Guide ('Like-for-like Comparison') as including all energy consumed by properties in the entity's portfolio for both the full reporting period and the immediately prior full reporting period.

1.2.1 Energy consumed by properties acquired, sold, under development or have undergone a major renovation during the reporting period or the immediately prior reporting period shall be excluded.

1.2.2 No correction for changes in the occupancy rate is needed and properties with a high variation in vacancy rates shall be included.

1.2.3 If energy consumption data coverage is unavailable for either (or both) the reporting period or the immediately prior reporting period, the energy consumed by that relevant portfolio floor area is excluded from the numerator and the denominator in the calculation.

2 The scope, methodology and calculations of energy consumption shall be consistent with IF-RE-130a.2.

3 Like-for-like change in energy consumption shall be disclosed by (a) Base Building and (b) Tenant Space, or (c) Whole Building, or a combination of these.

3.1 If like-for-like change in energy consumption data is not available for Tenant Space or Whole Building for a property but is available for the Base Building, then the entity shall disclose this like-for-like change in energy consumption data.

4 The entity shall disclose like-for-like change in energy consumption separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification system.

5 The entity may disclose the floor area, in square metres, included in the scope of like-for-like percentage change in energy consumption if the scope significantly diverges from the floor area of energy consumption data coverage.

6 Like-for-like data collection, analysis and disclosure may be consistent with the approach with which the entity discloses its financial reporting data.

6.1 If the entity discloses its financial reporting data using a concept and methodology similar to 'Like-for-like Comparison', the entity shall describe divergences between the scope of assets or floor area used in financial reporting and like-for-like change in energy consumption. For example, if additional assets are excluded from the like-for-like change in energy consumption relative to like-for-like financial reporting because of data coverage limitations, such inconsistencies shall be described.

7 The entity may additionally present like-for-like percentage change in energy consumption on a normalised basis.

7.1 Normalisation factors and methodologies may include the following, which are presented in the 2018 GRESB Real Estate Assessment Reference Guide:

7.1.1 Air conditioning or natural ventilation

7.1.2 Building age

7.1.3 Degree days

7.1.4 Footfall

7.1.5 Occupancy rate

7.1.6 Operational hours

7.1.7 Weather conditions

7.1.8 Other

7.2 If the entity chooses to additionally disclose normalised like-for-like percentage change in energy consumption, the entity shall provide a brief description of the normalisation factor and methodology or its use of a third-party methodology.

8 The entity may describe the variations in like-for-like percentage change in energy consumption.

8.1 Variations in energy consumption may occur based on distinctions which may include:

8.1.1 Base Building, Tenant Space and Whole Building

8.1.2 Energy Purchased by the Landlord and energy Purchased by Tenant

8.1.3 Managed Assets and Indirectly Managed Assets

8.1.4 Geographical markets

9 The following terms are defined according to the 2018 GRESB Real Estate Assessment Reference Guide:

9.1 Base Building is defined as the energy consumed in supplying central building services to lettable/leasable areas and common areas.

9.2 Tenant Space is defined as the lettable floor area (both vacant and let/leased areas) that is, or can be, occupied by tenants.

9.3 Whole Building is defined as the energy used by tenants and base building services to lettable/leasable and common spaces. This should include all energy supplied to the building for the operation of the building and the tenant space.

9.4 Purchased by Landlord is defined as the energy purchased by the landlord but consumed by the tenant. This may include energy purchased by the landlord but used for vacant space.

9.5 Purchased by Tenant is defined as the energy purchased by the tenant. Typically, this is data outside the entity's immediate control.

9.6 Managed Assets and Indirectly Managed Assets are defined as follows: 'This definition of Managed assets and the definition of Indirectly Managed assets are solely based on the landlord/tenant relationship. [Managed and Indirectly Managed Assets are] assets or buildings for which the landlord is determined to have 'operational control' where operational control is defined as having the ability to introduce and implement operating and/or environmental policies and measures. In case both the landlord and tenant have the authority to introduce and implement any or all the policies mentioned above, the asset or building should be reported as a Managed asset. Where a single tenant has the sole authority to introduce and implement operating and/or

environmental policies and measures, the tenant should be assumed to have operational control, so it should be considered to be an Indirectly Managed asset.'

10 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-130a.4. Percentage of eligible portfolio that (1) has an energy rating and (2) is certified to ENERGY STAR, by property sector

1 The entity shall disclose the percentage of the portfolio that has a valid or current energy rating, by gross floor area, where:

1.1 Gross floor area is defined as the total property square footage, measured between the principal exterior surfaces of the enclosing fixed walls of the building(s).

1.2 An energy rating is defined according to the 2018 GRESB Real Estate Assessment Reference Guide as a scheme that measures the energy performance of buildings, including schemes solely concerned with measuring energy efficiency performance as well as cases in which an energy rating is an element of a broader scheme measuring environmental performance.

1.3 The percentage shall be calculated as the portfolio gross floor area that has an energy rating divided by the total portfolio gross floor area.

1.3.1 The entity may exclude from the denominator the portfolio gross floor area that is ineligible to receive an energy rating based on the property sector, location (for example, located in a region in which energy ratings are unavailable), or other specific use characteristics that cause the property to be ineligible.

1.4 The scope of energy rating schemes includes:

1.4.1 ENERGY STAR® for operations in the U.S. and Canada

1.4.2 EU Energy Performance Certificates (EPC) for operations in the European Union

1.4.3 National Australian Built Environment Rating System (NABERS) Energy for operations in Australia

1.4.4 NABERSNZ for operations in New Zealand

1.4.5 Other energy rating schemes that can be demonstrated to have substantially equivalent criteria, methodology and presentation of results as those schemes stated above

1.5 The scope of energy rating schemes is aligned with the 2018 GRESB Real Estate Assessment Reference Guide in that it 'only include[s] energy ratings that were awarded before or during the reporting period (pre-

assessments or other unofficial rating schemes are not valid). Some energy ratings are valid for a limited period only– the rating should be officially in effect during the reporting period.'

2 The entity may additionally disclose the percentage(s) by energy rating scheme.

3 The entity shall (2) disclose the percentage of its portfolio certified to ENERGY STAR®.

3.1 The percentage shall be calculated as the portfolio gross floor area certified to ENERGY STAR® in the US divided by the total portfolio gross floor area in the US.

3.1.1 For a property to qualify as certified to ENERGY STAR®, the certification must be officially in effect during the reporting period (as aligned with the 2018 GRESB Real Estate Assessment Reference Guide).

3.1.2 The entity may exclude from the denominator the portfolio gross floor area that is ineligible to be certified to ENERGY STAR® based on the property sector or other specific use characteristics that cause the property to be ineligible.

3.2 If property is located in Canada, the entity may separately disclose the percentage of the portfolio in Canada that is certified to ENERGY STAR®.

3.2.1 The percentage shall be calculated as the portfolio gross floor area that is certified to ENERGY STAR® in Canada divided by the total portfolio gross floor area in Canada.

4 The entity shall disclose (1) the percentage of its portfolio that has an energy rating, and (2) the percentage of its portfolio that is certified to ENERGY STAR®, separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

5 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-130a.5. Description of how building energy management considerations are integrated into property investment analysis and operational strategy

1 The entity shall describe its strategic approach and the operational processes used to integrate energy-related considerations into the analysis of current and future property investments.

2 The entity shall describe the following elements of its strategic approach, where relevant:

2.1 The use of energy-reduction targets and performance against those targets

2.2 The integration of property energy performance into the property acquisition due diligence process– for example, if these measures are qualitative (for example, whether the building has an energy rating) or quantitative (for example, the entity adjusts occupancy rate projections based on energy performance data)

2.3 Entity-level energy consumption and management policies, applicable across the entity's portfolio (aligned with 2018 GRESB Real Estate Assessment Q8)

3 The entity shall discuss the operational processes used, which may include:

3.1 Management of the technical energy performance of its portfolio

3.2 The integration of renewable energy into its portfolio.

4 Relevant elements of its technical approach may include:

4.1 Use of technical building assessments to identify energy efficiency opportunities– including whether such assessments are in-house or external and the general portfolio coverage of such assessments during the last four years (aligned with 2018 GRESB Real Estate Assessment Q16)

4.2 Measures implemented to improve the energy efficiency of the portfolio– including specific measures taken, general portfolio coverage of such measures and estimated energy savings (aligned with 2018 GRESB Real Estate Assessment Q17)

4.3 Approach to retrocommissioning– including applicability to the entity's portfolio, the comprehensiveness of retrocommissioning conducted, general portfolio coverage and estimated energy savings

4.4 Use of environmental management systems to measure, manage and improve the energy performance of buildings and such systems' alignment with third-party standards or verification (aligned with 2018 GRESB Real Estate Assessment Q21, 'Environmental Management Systems')

4.5 Use of data management systems to monitor, analyse and benchmark energy performance of individual buildings, and such systems' alignment with third-party standards or verification (aligned with 2018 GRESB Real Estate Assessment Q22, 'Data Management Systems')

5 The entity shall discuss its strategies relating to energy ratings, benchmarking and certifications, including:

5.1 Impact on tenant demand within the entity's target market(s)

5.2 Relevance to the property types in its portfolio, such as the sector(s), locations and construction (new versus existing stock)

5.3 Costs and benefits associated with obtaining and maintaining an energy rating, benchmark and certification

5.4 If applicable, whether the entity prefers certifications based on ongoing performance or performance-modelled design objectives

6 The entity shall describe its approach to renewable energy generation, which may include:

6.1 The relevance of on-site and off-site renewable energy generation to the portfolio and energy management strategy

6.2 Technical or legal limitations on the ability to incorporate renewable energy into its portfolio and energy management strategy

6.3 The energy generated from on-site and off-site renewable energy (aligned with 2018 GRESB Real Estate Assessment Q25.3)

7 If the entity participates in new construction or major renovations, it shall discuss whether and how it incorporates energy efficiency strategies into design and development.

8 The entity shall consider the 2018 GRESB Real Estate Assessment as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

Water Management

Topic Summary

Buildings consume significant amounts of water in their operations, through water fixtures, building equipment, appliances and irrigation. Water consumption operating costs may be significant depending on property type, tenant operations, geographical locations and other factors. Entities can be responsible for a building's water costs, or common area water costs, though entities commonly allocate all, or a portion, of these costs to occupants. In these arrangements, water management through tenant demand and regulatory exposure continues to be important. Tenants may assess real estate asset water efficiency to control operating costs, mitigate environmental impacts of operations, and, often just as importantly, develop a reputation for resource conservation. Additionally, real estate owners may comply with water-related regulations even if water costs are the occupants' responsibility. Overall, entities that effectively manage asset water efficiency, even if they bear no direct water costs, may realise reduced operating costs and regulatory exposure, as well as increased tenant demand, rental rates and occupancy rates– all of which drive revenue and asset value appreciation. Long-term historic water expense increases and expectations of continued increases because of overconsumption and constrained supplies resulting from population growth and shifts, pollution and climate change show the importance of water management. Improving asset water efficiency is dependent upon the property type, water availability, target tenant market, local building codes, the ability to measure consumption and the existing building stock, among other factors.

Metrics

IF-RE-140a.1. Water withdrawal data coverage as a percentage of (1) total floor area and (2) floor area in regions with High or Extremely High Baseline Water Stress, by property sector

1 The entity shall disclose (1) the percentage of its portfolio, based on total gross floor area, with complete water withdrawal data coverage.

1.1 Gross floor area is defined as the total property area in square metres, measured between the principal exterior surfaces of the enclosing fixed walls of the building(s).'

1.1.1 Leasable floor area may be used in place of gross floor area if gross floor area is unavailable for the relevant area of the portfolio (for example, a building with an unknown gross floor but a known leasable floor area).

1.1.2 Number of units may be used in place of floor area in the Apartments and Lodging/Resorts property sectors.

1.2 Floor area is considered to have complete water withdrawal data coverage when the entity obtains water withdrawal data (amounts withdrawn) for the relevant floor area during the reporting period, regardless of when such data was obtained.

1.3 The percentage shall be calculated as the portfolio gross floor area with complete water withdrawal data coverage divided by the total portfolio gross floor area for which water is used.

1.4 The scope of water withdrawals is aligned with the 2018 GRESB Real Estate Assessment Reference Guide, and it includes water that was withdrawn from all sources.

1.4.1 Water sources include surface water (including water from wetlands, rivers, lakes and oceans), groundwater, rainwater collected directly and stored by the entity, and water and wastewater obtained from municipal water supplies, water utilities, or other entities.

2 The entity shall disclose (2) the percentage of its portfolio, based on gross floor area, located in regions classified as High (40–80%) or Extremely High (>80%) Baseline Water Stress with complete water withdrawal data coverage.

2.1 High or Extremely High Baseline Water Stress shall be determined by the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct.

2.2 The percentage shall be calculated as the portfolio gross floor area located in regions classified as High or Extremely High Baseline Water Stress and that have complete water withdrawal data coverage, divided by the total portfolio gross floor area for which water is used in regions with High or Extremely High Baseline Water Stress.

3 The entity shall disclose (1) water withdrawal data coverage and (2) the percentage of water withdrawal data coverage in regions with High or Extremely High Baseline Water Stress, separately for each property type in its portfolio if properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

4 The entity may describe the variations in water withdrawal data coverage, including the factors that influence it.

4.1 Variations in water withdrawal data coverage may occur based on distinctions, which may include:

4.1.1 Base Building, Tenant Space and Whole Building

4.1.2 Water Purchased by the Landlord and water Purchased by Tenants

4.1.3 Managed Assets and Indirectly Managed Assets

4.1.4 Geographical markets

4.2 Relevant factors that influence water withdrawal data coverage may include:

4.2.1 Geographical markets and the applicable enabling or inhibiting laws, regulations and policies within such markets, including those policies of utilities

4.2.2 Geographical markets and the applicability of risks related to water scarcity (and related current or future regulations)

4.2.3 Administrative or logistical barriers to obtaining water withdrawal data (for example, lack of integration of utilities' data reporting systems)

4.2.4 Tenant demands around the privacy or proprietary nature of water withdrawal data

4.2.5 Property sectors or other more nuanced classifications of property types

4.2.6 Lease structures, including the length of leases, access to water withdrawal data by the entity, and the entity's ability to influence water management performance of Tenant Spaces

4.2.7 The entity's belief that obtaining Tenant Space water withdrawal data may impact tenant demand negatively

5 The following terms are defined according to the 2018 GRESB Real Estate Assessment Reference Guide:

5.1 Base Building is defined as water consumed in supplying central building services to lettable/leasable areas and common areas.

5.2 Tenant Space is defined as the lettable floor area (both vacant and let/leased areas) that is or can be occupied by tenants.

5.3 Whole Building is defined as water used by tenants and base building services to lettable/leasable and common spaces. This should include all water supplied to the building for the operation of the building and the tenant space.

5.4 Purchased by Landlord is defined as water purchased by the landlord but consumed by the tenant. This may include water purchased by the landlord but used for vacant space.

5.5 Purchased by Tenant is defined as water purchased by the tenant. Typically, this is data outside the entity's immediate control.

5.6 Managed Assets and Indirectly Managed Assets are defined as follows: 'This definition of Managed assets and the definition of Indirectly Managed assets are solely based on the landlord/tenant relationship. [Managed and Indirectly Managed Assets are] assets or buildings for which the landlord is determined to have 'operational control' where operational control is defined as having the ability to introduce and implement operating and/or environmental policies and measures. In case both the landlord and tenant have the authority to introduce and implement any or all the policies mentioned above, the asset or building should be reported as a Managed asset. Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so it should be considered to be an Indirectly Managed asset.'

6 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-140a.2. (1) Total water withdrawn by portfolio area with data coverage and (2) percentage in regions with High or Extremely High Baseline Water Stress, by property sector

1 The entity shall disclose (1) the total amount of water, in thousands of cubic metres, withdrawn by the portfolio area for which water withdrawal data coverage is available.

1.1 The scope of disclosure includes all property area in the entity's portfolio for which water withdrawal data coverage is available, regardless of whether water is consumed by the Tenant Space or Base Building (including outdoor, exterior and parking areas) or which party pays for water expenses.

1.2 The scope of disclosure excludes the portion of water consumed by the portfolio area for which water withdrawal data is unavailable.

1.2.1 If water withdrawal data is unavailable for Tenant Space or Whole Building for a property but is available for the Base Building, then the entity shall disclose this water withdrawal data.

1.3 The scope of water withdrawals is aligned with the 2018 GRESB Real Estate Assessment Reference Guide and includes water withdrawn from all sources.

1.3.1 Water sources include surface water (including water from wetlands, rivers, lakes and oceans), groundwater, rainwater collected directly and stored by the entity, and water and wastewater obtained from municipal water supplies, water utilities or other entities.

2 The entity shall disclose (2) the percentage of water withdrawn in regions with High (40–80%) or Extremely High (> 80%) Baseline Water Stress.

2.1 High or Extremely High Baseline Water Stress shall be determined by the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct.

2.2 The percentage shall be calculated as the amount of water withdrawn (by volume) in regions with High or Extremely High Baseline Water Stress divided by the total amount of water withdrawn (by volume).

3 Water withdrawal data shall be disclosed by (a) Base Building and (b) Tenant Space, or (c) Whole Building, or a combination of these.

4 The entity shall disclose (1) total water withdrawn and (2) percentage in regions with High or Extremely High Baseline Water Stress, separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

5 The entity may describe the variations in water withdrawn.

5.1 Variations in water withdrawn may occur based on distinctions which may include:

5.1.1 Base Building, Tenant Space and Whole Building

5.1.2 Water Purchased by the Landlord and water Purchased by Tenant

5.1.3 Managed Assets and Indirectly Managed Assets

5.1.4 Geographical markets

6 The following terms are defined according to the 2018 GRESB Real Estate Assessment Reference Guide:

6.1 Base Building is defined as water consumed in supplying central building services to lettable/leasable areas and common areas.

6.2 Tenant Space is defined as the lettable floor area (both vacant and let/leased areas) that is or can be occupied by tenants.

6.3 Whole Building is defined as water used by tenants and base building services to lettable/leasable and common spaces. This should include all water supplied to the building for the operation of the building and the tenant space.

6.4 Purchased by Landlord is defined as water purchased by the landlord but consumed by the tenant. This may include water purchased by the landlord but used for vacant space.

6.5 Purchased by Tenant is defined as water purchased by the tenant. Typically, this is data outside the entity's immediate control.

6.6 Managed Assets and Indirectly Managed Assets are defined as follows: 'This definition of Managed assets and the definition of Indirectly Managed assets are solely based on the landlord/tenant relationship. [Managed and Indirectly Managed Assets are] assets or buildings for which the landlord is determined to have 'operational control' where operational control is defined as having the ability to introduce and implement operating and/or environmental policies and measures. In case both the landlord and tenant have the authority to introduce and implement any or all the policies mentioned above, the asset or building should be reported as a Managed asset. Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so it should be considered to be an Indirectly Managed asset.'

7 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-140a.3. Like-for-like percentage change in water withdrawn for portfolio area with data coverage, by property sector

1 The entity shall disclose the like-for-like percentage change in water withdrawn for the portfolio area with data coverage.

1.1 The percentage shall be calculated as water withdrawn (by volume) in the reporting period divided by the water withdrawn (by volume) in the immediately prior reporting period minus one.

1.2 The scope of water withdrawn included in the calculation shall be aligned with the 2018 GRESB Real Estate Assessment Reference Guide ('Like-for-like Comparison') as including all water withdrawn by properties in the entity's portfolio for both the full reporting period and the immediately prior full reporting period.

1.2.1 Water withdrawn by properties acquired, sold, under development, or that have undergone a major renovation during the reporting period or the immediately prior reporting period shall be excluded.

1.2.2 No correction for changes in the occupancy rate is needed and properties with a high variation in vacancy rates shall be included.

1.2.3 If water withdrawal data coverage is unavailable for either (or both) the reporting period or the immediately prior reporting period, the water withdrawn by that relevant portfolio floor area is excluded from the numerator and the denominator in the calculation.

2 The scope, methodology and calculations of water withdrawn shall be consistent with IF-RE-140a.2.

3 Like-for-like change in water withdrawn shall be disclosed by (a) Base Building and (b) Tenant Space, or (c) Whole Building, or a combination of these.

3.1 If like-for-like change in water withdrawal data is not available for Tenant Space or Whole Building for a property but is available for the Base Building, then the entity shall disclose this like-for-like water withdrawal data.

4 The entity shall disclose like-for-like percentage change in water withdrawn separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

5 The entity may disclose the floor area, in square metres, included in the scope of like-for-like percentage change in water withdrawn if the scope significantly diverges from the floor area of water withdrawal data coverage.

6 Like-for-like data collection, analysis and disclosure may be consistent with the approach with which the entity discloses its financial reporting data.

6.1 If the entity discloses its financial reporting data using a concept and methodology similar to 'Like-for-like Comparison', the entity shall describe divergences between the scope of assets or floor area used in financial reporting and like-for-like change in water withdrawn. For example, if additional assets are excluded from the like-for-like change in water withdrawn relative to like-for-like financial reporting because of data coverage limitations, such inconsistencies shall be described.

7 The entity may additionally present like-for-like percentage change in water withdrawn on a normalised basis.

7.1 Normalisation factors and methodologies may include the following which are presented in the 2018 GRESB Real Estate Assessment Reference Guide:

7.1.1 Air conditioning or natural ventilation

7.1.2 Building age

7.1.3 Degree days

7.1.4 Footfall

7.1.5 Occupancy rate

7.1.6 Operational hours

7.1.7 Weather conditions

7.1.8 Other

7.2 If the entity chooses to additionally disclose normalised like-for-like percentage change in water withdrawn, the entity shall provide a brief description of the normalisation factor and methodology or its use of a third-party methodology.

8 The entity may describe the variations in like-for-like percentage change in water withdrawn.

8.1 Variations in water withdrawn may occur based on distinctions which may include:

8.1.1 Base Building, Tenant Space and Whole Building

8.1.2 Water Purchased by the Landlord and water Purchased by Tenant

8.1.3 Managed Assets and Indirectly Managed Assets

8.1.4 Geographical markets

9 The following terms are defined according to the 2018 GRESB Real Estate Assessment Reference Guide:

9.1 Base Building is defined as water consumed in supplying central building services to lettable/leasable areas and common areas.

9.2 Tenant Space is defined as the lettable floor area (both vacant and let/leased areas).

9.3 Whole Building is defined as water used by tenants and base building services to lettable/leasable and common spaces. This should include all water supplied to the building for the operation of the building and the tenant space.

9.4 Purchased by Landlord is defined as water purchased by the landlord but consumed by the tenant. This may include water purchased by the landlord but used for vacant space.

9.5 Purchased by Tenant is defined as water purchased by the tenant. Typically, this is data outside the entity's immediate control.

9.6 Managed Assets and Indirectly Managed Assets are defined as follows: 'This definition of Managed assets and the definition of Indirectly Managed assets are solely based on the landlord/tenant relationship. [Managed and Indirectly Managed Assets are] assets or buildings for which the landlord is determined to have 'operational control' where operational control is defined as having the ability to introduce and implement operating and/or environmental policies and measures. In case both the landlord and tenant have the authority to introduce and implement any or all the policies mentioned above, the asset or building should be reported as a Managed asset. Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so it should be considered to be an Indirectly Managed asset.'

10 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-140a.4. Description of water management risks and discussion of strategies and practices to mitigate those risks

1 The entity shall describe its water management risks associated with water withdrawals, water consumption and discharge of water or wastewater.

1.1 Risks associated with water withdrawals and water consumption include risks to the availability of adequate, clean water resources, which include:

1.1.1 Environmental constraints– such as operating in water-stressed regions, drought, concerns of aquatic impingement or entrainment, interannual or seasonal variability, and risks from the impact of climate change

1.1.2 Regulatory and financial constraints– such as volatility in water costs, stakeholder perceptions and concerns related to water withdrawals (for example, those from local communities, non-governmental organisations and regulatory agencies), direct competition with and impact from the actions of other users (for example, commercial and municipal users), restrictions to withdrawals because of regulations, and constraints on the entity's ability to obtain and retain water rights or permits

1.2 Risks associated with the discharge of water or wastewater include the ability to obtain rights or permits related to discharges, regulatory compliance related to discharges, restrictions to discharges, the ability to maintain control over the temperature of water discharges, liabilities, reputational risks and increased operating costs because of regulation, stakeholder perceptions and concerns related to water discharges (for example, those from local communities, non-governmental organisations and regulatory agencies).

2 The entity may describe water management risks in the context of:

2.1 How risks may vary by withdrawal source, including surface water (including water from wetlands, rivers, lakes and oceans), groundwater, rainwater collected directly and stored by the entity, and water and wastewater obtained from municipal water supplies, water utilities or other entities; and

2.2 How risks may vary by discharge destinations, including surface water, groundwater or wastewater utilities.

3 The entity may discuss the potential effects that water management risks may have on its operations and the time line over which such risks are expected to manifest.

3.1 Effects include those associated with costs, revenue, liabilities, continuity of operations and reputation.

4 The entity shall discuss its short- and long-term strategies or plans to mitigate water management risks, which include:

4.1 The scope of its strategy, plans, goals or targets, such as how they relate to various business units, geographies or water-consuming operational processes.

4.2 Any water management goals or targets it has prioritised, and an analysis of performance against those goals or targets.

4.2.1 Goals and targets include those associated with reducing water withdrawals, reducing water consumption, reducing water discharges, reducing aquatic impingements, improving the quality of water discharges and regulatory compliance.

4.3 The activities and investments required to achieve the plans, goals or targets, and any risks or limiting factors that might affect achievement of the plans or targets.

4.4 Disclosure of strategies, plans, goals or targets shall be limited to activities that were ongoing (active) or reached completion during the reporting period.

5 For water management targets, the entity shall additionally disclose:

5.1 Whether the target is absolute or intensity-based, and the metric denominator if it is an intensity-based target.

5.2 The time lines for the water management activities, including the start year, the target year and the base year.

5.3 The mechanism(s) for achieving the target, including:

5.3.1 Efficiency efforts, such as the use of water recycling or closed-loop systems;

5.3.2 Product innovations, such as redesigning products or services to require less water;

5.3.3 Process and equipment innovations, such as those that enable the reduction of aquatic impingements or entrainments;

5.3.4 Use of tools and technologies (for example, the World Wildlife Fund Water Risk Filter, the Global Water Tool and Water Footprint Network Footprint Assessment Tool) to analyse water use, risks and opportunities; and

5.3.5 Collaborations or programmes in place with the community or other organisations

5.4 The percentage reduction or improvement from the base year, in which the base year is the first year against which water management targets are evaluated towards the achievement of the target.

6 The entity shall discuss whether its water management practices result in any additional lifecycle impacts or trade-offs in its organisation, including trade-offs in land use, energy production and greenhouse gas (GHG) emissions, and why the entity chose these practices despite lifecycle trade-offs.

Management of Tenant Sustainability Impacts

Topic Summary

Real estate assets generate significant sustainability impacts, including resource consumption (energy and water), waste generation and impacts on occupant health through indoor environmental quality. While entities own real estate assets, the tenant operations of such assets dominate the sustainability impacts produced by the built environment. Tenants may design and construct leased spaces according to their operating needs. In turn, their operations consume significant amounts of energy and water, generate waste, and impact the health of those living, working, shopping, or visiting the properties. While these sustainability impacts often are often generated by tenant operations and activities, real estate owners play an important role in influencing tenant sustainability impacts. The way entities in the industry structure their agreements, contracts and relationships with tenants may be instrumental in managing the sustainability impacts of their tenants effectively, and ultimately, the impacts of their assets. Managing tenant sustainability impacts may include mitigating the problem of split incentives by aligning both parties' financial interests with sustainability outcomes, establishing systematic measurement and communication of resource consumption data, creating shared performance goals, and mandating minimum sustainability performance or design requirements, among other strategies. Effective management of tenant sustainability impacts, particularly related to energy, water and indoor environmental quality, may drive asset value appreciation, increase tenant demand and satisfaction, decrease direct operating costs, or decrease risks related to building codes and regulations.

Metrics

IF-RE-410a.1. (1) Percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements and (2) associated leased floor area, by property sector

1 The entity shall disclose (1) the percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements.

1.1 A cost recovery clause for resource efficiency-related capital improvements is defined as a clause in a lease agreement that allows the entity to invest in energy or water efficiency capital improvements to properties, while recovering all or a proportion of associated expenditures from tenants, regardless of the mechanism of cost recovery. This definition is generally aligned with:

1.1.1 The Green Lease Leaders application: 'Tenant cost recovery clause that can be used for energy efficiency-related capital improvements. This typically means that the list of operating expenses is expanded to include capital expenses intended to save energy, with the annual pass-through amount most often determined either by an amortisation schedule or projected savings.'

1.1.2 The 2018 GRESB Real Estate Assessment Reference Guide: 'Cost recovery clause for energy efficiency-related capital improvements: Allows the landlord to implement energy-efficiency measures during the lease and to recover a proportion or all of those costs from the tenant.'

1.2 The percentage shall be calculated as the portfolio newly leased floor area associated with leases that contain a cost recovery clause for resource efficiency-related capital improvements divided by total portfolio newly leased floor area.

1.2.1 Number of units may be used in place of floor area in the Apartments and Lodging/Resorts property sectors.

2 The entity shall disclose (2) the leased floor area, in square metres, associated with new leases that contain a cost recovery clause for resource efficiency-related capital improvements.

3 The scope of disclosure includes all the properties in the entity's portfolio that were newly leased during any part of the reporting period, and for which the entity and a tenant executed an associated lease.

3.1 If the entity executed lease amendments or letter agreements during the reporting period that contain a cost recovery clause for resource efficiency-related capital improvements, the associated leased floor area shall be included within the scope of disclosure.

4 The entity shall disclose (1) the percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements, and (2) the associated leased floor area, separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

5 The entity may describe whether its standard lease contracts include a cost recovery clause for resource efficiency-related capital improvements (aligned with 2018 GRESB Real Estate Assessment Q39).

6 The entity may additionally disclose the percentage of all leases (as opposed to new leases only) in effect as of the last day of the reporting period that contain a cost recovery clause for resource efficiency-related capital improvements, calculated in a manner consistent with the above calculation.

7 The entity may provide a brief description of instances when it exercised cost recovery clauses for resource efficiency-related capital improvements, including the extent throughout the portfolio and the financial implications.

8 The entity additionally may disclose the amount of actual capital expenditures associated with resource efficiency-related capital improvements recovered from tenants during the reporting period using cost recovery clauses in leases.

9 The entity shall consider the 2018 GRESB Real Estate Assessment Reference Guide as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

IF-RE-410a.2. Percentage of tenants that are separately metered or submetered for (1) grid electricity consumption and (2) water withdrawals, by property sector

1 The entity shall disclose the percentage of tenants separately metered or submetered for (1) the grid electricity use resulting from their exclusive electricity consumption.

1.1 The percentage shall be calculated as the leasable floor area leased to tenants that are separately metered or submetered for the electricity consumption resulting from their exclusive consumption divided by the total portfolio leasable floor area.

2 The entity shall disclose the percentage of tenants separately metered or submetered for (2) the water usage resulting from their exclusive water withdrawals.

2.1 The percentage shall be calculated as the leasable floor area leased to tenants that are separately metered or submetered for the water use resulting from their exclusive withdrawals divided by the total portfolio leasable floor area.

3 Number of units may be used in place of floor area in the Apartments and Lodging/Resorts property sectors.

4 The entity shall disclose the percentage of tenants that are separately metered or submetered for their exclusive (1) grid electricity consumption, and (2) water withdrawals, separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

IF-RE-410a.3. Discussion of approach to measuring, incentivising and improving sustainability impacts of tenants

1 The entity shall discuss its strategy and process for integrating considerations of sustainability into its leases and tenant relationships (for example, tenant communication, voluntary initiatives and selection of a third-party property manager, if applicable) to measure, incentivise and improve impacts.

2 For the purposes of this disclosure, the scope of sustainability topics includes energy management, water management and the impacts of properties on tenant health, including indoor environmental quality.

3 Relevant strategies to discuss may include:

3.1 The following components, which are generally aligned with the 2018 GRESB Real Estate Assessment Q39.1:

3.1.1 Whether the entity has agreements with tenants to mutually share energy consumption or water withdrawal data

3.1.2 Whether the entity has shared energy consumption and water withdrawal targets

3.1.3 Whether the entity establishes requirements that any tenant works should meet standards provided by the entity related to energy consumption, water efficiency and indoor environmental quality

3.1.4 Whether the entity establishes requirements that tenants provide accurate information required for mandatory energy rating schemes

3.1.5 Whether the entity can prioritise sustainability requirements over minimising the costs of improvements and adjustments

3.2 Whether the entity prioritises separately metering or submetering tenant energy consumption and water withdrawals, and if so, if the entity also prioritises its own ability to measure the tenant energy consumption and water withdrawals

3.3 Whether the entity prioritises lease structures that require tenants to pay grid electricity and water utility expenses based on actual and exclusive consumption of such resources

4 The entity shall include a discussion of its support, participation and use of third-party initiatives concerning green leases.

4.1 Third-party initiatives concerning green leases may include green lease templates, principles, requirements, strategies and educational programs provided by organisations.

4.2 Examples of third-party initiatives concerning green leases may include:

4.2.1 Building Owners and Managers Association International, *Commercial Lease: Guide to Sustainable and Energy Efficient Leasing for High-Performance Buildings*

4.2.2 California Sustainability Alliance, *Green Leases Toolkit*

4.2.3 CMS, *Green Lease Clauses in Europe - A practical approach*

4.2.4 Corporate Realty, Design & Management Institute, *Model Green Lease*

4.2.5 Green Lease Leaders and Green Lease Library (programs jointly operated by the Institute for Market Transformation and the U.S. Department of Energy's Better Building Alliance)

4.2.6 Natural Resources Defence Council, *Energy Efficiency Lease Guidance*

4.2.7 Real Property Association of Canada, *Green Office Leases*

4.2.8 U.S. General Services Administration, *Green Lease Policies and Procedures*

4.2.9 U.S. Green Building Council, *Green Office Guide: Integrating LEED into Your Leasing Process" and "Greening Your Lease*

4.3 The entity shall describe whether third-party initiatives concerning green leases are integrated into standard lease contracts (generally aligned with GRESB Real Estate Assessment Q39.1).

5 The entity shall describe how the lease types used (for example, triple-net or full-service) and their provisions (for example, cost recovery clauses, tenant fit out guides, utility information sharing, mandatory participation in energy ratings) may influence or incentivise tenant behaviour related to sustainability impacts.

5.1 The entity may provide a discussion of how such lease structures may impact property values– including tenant demand and the associated rental rates and occupancy rates– over the long term.

Climate Change Adaptation

Topic Summary

Climate change affects entities in the industry via frequent or high-impact extreme weather events and changing climate patterns. How an entity structures its business model to incorporate assessments of climate change risks, and the adaptation to such risks, may increasingly be relevant to entity value over the long-term. More specifically, investment strategies with assets located on floodplains and in coastal regions exposed to inclement weather may require increased risk mitigation and business model adaptation to long-term climate change. These strategies are especially important considering the long-term challenges associated with flood insurance rates, the financial stability of government-subsidised flood insurance programs, and financing stipulations or other creditor concerns. Besides insurance, other risk mitigation measures include improvements to physical asset resiliency and lease terms that transfer risk to tenants, although these measures can create their own costs and risks for real estate entities. To ensure long-term growth, entities must implement comprehensive climate change adaptation strategies, account for trade-offs between various risk mitigation strategies, and integrate all projected cost and benefit considerations over the long-term.

Metrics

IF-RE-450a.1. Area of properties located in 100-year flood zones, by property sector

1 The entity shall disclose the total leasable floor area, in square metres, of properties in the entity's portfolio located in 100-year flood zones.

1.1 100-year flood zones are defined as land areas subject to a 1% or greater chance of flooding in any given year. Such areas also may be referenced as being subject to the 1% annual chance flood, the 1% annual exceedance probability flood, or the 100-year flood.

1.1.1 Examples of 100-year flood zones may include coastal flood plains, flood plains along major rivers and areas subject to flooding from ponding in low-lying areas.

1.2 Number of units may be used in place of floor area in the Apartments and Lodging/Resorts property sectors when floor area is not available.

2 The scope of disclosure shall include all the entity's properties located in 100-year flood zones, regardless of the jurisdiction in which they are located.

3 The entity shall disclose the total leasable floor area of properties that are located in 100-year flood zones separately for each property type in its portfolio where properties are classified into sectors aligned with the FTSE EPRA Nareit Global Real Estate Index property sector classification.

4 The entity may separately provide the planned leasable floor area of properties under development or construction that are located in 100-year flood zones.

5 The entity may disclose its risk perception and potential impacts resulting from reclassification of 100-year flood zones, including the risk of expansion of such areas into real estate property owned by the entity.

IF-RE-450a.2. Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks

1 The entity shall describe the significant risks and opportunities presented to its business by climate change scenarios.

1.1 The entity shall identify each significant risk and opportunity.

1.1.1 Risks and opportunities may include availability of water, extreme weather events, evolving regulation and legislation, impacts on regional infrastructure, impacts on tenant demand, and impacts on local economies and populations, regardless of the impact of physical risks presented to the entity's portfolio.

1.2 The entity shall discuss:

1.2.1 The time line over which such risks and opportunities are expected to manifest.

1.2.2 How such climate change scenarios may manifest (for example, effects directly on the entity or effects on the entity's tenants).

1.2.3 How risks and opportunities may differ by property sector.

1.2.4 How risks and opportunities may differ by region.

1.3 The entity shall disclose the climate change scenarios used to determine the risks and opportunities presented by climate change as defined by the International Energy Agency in its annual World Energy Outlook.

2 The entity shall describe efforts to assess and monitor the impacts of climate change and the related strategies to alleviate or adapt to any risks or use any opportunities.

2.1 Alleviation strategies may include the use of property insurance, flood insurance, lease structures and lease durations.

2.2 Adaptation strategies may include investments in physical asset resiliency and contingency plans.

2.3 The entity shall discuss:

2.3.1 How strategies may differ by property sector; and

2.3.2 How strategies may differ by region.

3 The discussion shall differentiate between physical asset risk and financial risk to focus on the risks, opportunities, and alleviation or adaptation strategies that are most likely to impact financial value.

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