Document A: 2020 Review Period Summary

Issues Identified | Actions Taken | Outstanding Items

In 2020, GRESB introduced a new Review Period to strengthen the reliability of the benchmark results. This allowed participants an early preview of preliminary results to identify inaccurate data inputs, or errors in validation or scoring.

The Review Period has proven very helpful in a year of material change to the Assessment. Participants quickly uncovered a flaw in calculating Like-for-Like Consumption Changes where asset outliers were included in the initial Benchmark run. As the Review Period progressed, it became apparent that the extent of identified issues made it difficult for participants to properly assess the validity of their preliminary results.

Following a brief period of intense dialogue with the industry, GRESB determined the best way forward was to close the dataset, investigate and correct these issues, then re-open the Review Period on October 26 allowing participants to review their corrected preliminary results. The impact of this was the postponement of the final Results release to November 16, 2020.

To provide context and transparency to all GRESB stakeholders, we have summarized all identified issues to date stemming from 2020 participant feedback, ongoing engagement with the industry across the globe, and internal system checks.

All the errors identified below have been corrected in advance of the October 26 release of the preliminary reports as per the new Review Period, with the exception of the issues occurring from the misinterpretation of 'Gross Floor Area Reporting' reporting, as mentioned in the Outstanding Items section below. This requires corrections by participants, with the support of GRESB, and will be addressed in advance of the November 16 official release of the reports.

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1. Errors in Data Aggregation, Scoring and Validation

Issue:	Incorrect calculation causing display errors of Data Coverage percentages as aggregated to the portfolio level.
Scoring Impact:	None.
Findings:	Scores were accurately calculated. However, the data display on preliminary 2020 Benchmark Reports contained a calculation error.

This aggregated data coverage display issue did not affect scoring. However, the display of incorrect data coverage values on preliminary 2020 Benchmark reports resulted in significant Review Period confusion for entities that submitted data separately for Base Building and Tenant Spaces.

Understanding the root cause requires context regarding the methodology used to calculate and score data coverage once asset level data is aggregated to portfolio level:

The 2020 GRESB Real Estate Scoring Document explains how Data Coverage percentages are scored:

> Data Coverage percentages, based on both area and time for which data is available, are scored separately against different benchmarks for landlord and tenant controlled areas for each property sub-type, where "Landlord Controlled" and "Tenant Controlled" areas can include:
>
> > Landlord controlled areas: Landlord Controlled Whole Building, Base Building, and Landlord Controlled Tenant Spaces
> >
> > Tenant controlled areas: Tenant Controlled Whole Building, and Tenant Controlled Tenant Spaces
>
> Benchmarks are constructed for each separately scored value based on the property sub-type and location of the entity's assets. First, an attempt is made to construct a benchmark by grouping together values from the same property sub-type from other entities operating in the same country.

If there are not at least 12 values with that grouping, the specificity of the location classification and then the property type is gradually decreased. If needed, the location classification is dropped and only the property type is used. If it's still not possible to find 12 values for the benchmark, the scoring is done based on static values instead.

Note1: Please see the Entity Categorization sub-section in the Scoring Methodology section of the Reference Guide for details on the location-based classification.

Note2: For the property types, please see Appendix 3a of the GRESB Real Estate Reference Guide.

Calculation Methodology: Each score -- Tenant Controlled and Landlord Controlled -- is calculated based on how the value reported by this entity compares to the benchmark values reported by other entities. The resultant scores are then aggregated to a single score using a weighted mean with weights determined by floor area, except for base building and tenant space for which base building has a static weight of 40% and tenant space has a static weight of 60%. As tenant space can be both landlord and tenant controlled, the 60% weight has to be shared between the two, which is done based on relative floor area.

Appendix 1 includes a full description of the landlord and tenant controlled data coverage calculations.

Display Error: Following the 2020 Preliminary Score release on October 1, GRESB noted the 40/60% weight applicable to scoring was also used when calculating aggregated data coverage, resulting in these incorrectly displayed values.

Remedy: This calculation was fixed in the updated preliminary benchmark reports as reissued on October 26.

Impact: This data display issue did not affect scoring. Data coverage values, per control, are scored separately. Thus, the only affected values were data coverage per property type as shown in the 2020 preliminary Benchmark Reports.

Analysis: Display issues of this nature are the direct result of having different weighting methodologies for scored vs. non-scored values in the Benchmark Reports.

GRESB is better attuned to the potential for similar outcomes whenever aggregation calculations are performed differently from scoring calculations.

2. Incorrect Aggregation Calculations and Outliers

Issue: As part of scoring model testing prior to the 2020 Review Period, GRESB identified a series of issues with asset-to-portfolio data aggregation and outliers. GRESB communicated these issues would be fixed concurrently with the Review Period.

Impact: Display of incorrect calculations resulted in significant participant confusion, and as such, the inability to use the initial Review Period to properly evaluate / identify data issues.

Findings: Preliminary 2020 Benchmark Reports received by participants contained incorrectly aggregated data for the energy, GHG, water, and waste sections. GRESB fixed all known calculation and display issues pertaining to aggregation calculations prior to the October 26 re-release of preliminary reports.

Specifically, the following four (4) issues were identified and corrected for the October 26, 2020 preliminary score re-release:

1. Like-for-Like Eligibility: Assets Switching Status of Control

Issue: Assets that switched between operational control (tenant vs landlord) from 2018 to 2019 were mistakenly included as Like-for-Like-eligible assets.

Remedy: GRESB introduced an additional condition on the Like-for-Like eligibility requiring that the asset had the same operational control year over year.

Result: Fewer assets than otherwise were considered Like-for-Like eligible.

2. Water Consumption: “Whole Building” vs. “Base Building + Tenant Spaces”

Issue: Assets that reported water consumption breakdowns using both “Whole Building” and “Base Building + Tenant Spaces” breakdowns mistakenly had both sets of data included in the calculation.

This is generally not allowed by the validation rules. Under the specific scenario where the asset is marked as “Whole Building is Tenant Controlled”, participants could enter data into both fields. Only the “Whole Building” fields were meant to be aggregated; however, all fields were included in the aggregation calculation.

Remedy: GRESB introduced an additional check on the reported water values.

Result: A small number of entities saw their water consumption data coverage values decrease.

3. Like-for-Like Consumption Check: Outdoor Consumption Values

Issue: For assets that reported zero Outdoor Consumption in 2018 and >0 Outdoor Consumption in 2019 (or vice versa), the asset was mistakenly included in Like-for-Like consumption amounts.

Remedy: GRESB introduced a check on the presence of consumption values for outdoor spaces, requiring values greater than 0 for both years.

Result: The effect of this change on the reports was that fewer assets had Like-for-Like eligible Outdoor Consumption.

4. Like-for-Like Eligibility: Inconsistency Between Aggregation vs. Outlier Models

Issue: Some assets were mistakenly mis-identified as “Like-for-Like eligible” in the outlier model; In some cases, extreme Like-for-Like values were included in both the scored and benchmarked values.

Specifically, the check that the data coverage had to be the same year-over-year was implemented at the asset level in the outlier model, but was implemented per floor type in the aggregation logic.

Remedy: GRESB modified the outlier model to match the logic of the aggregation calculations and re-ran the outlier calculation on all of the asset data.

Result: Additional Like-for-Like outliers were identified. The vast majority were soft (“accepted”) outliers resulting in changes to the Like-for-Like benchmarks which in turn had minor effects on the scores of specific entities.

In sum, changes to the asset aggregation calculations affected both scored values and benchmarked values visible in the reports albeit in different ways.

The 2020 GRESB Assessment and its newly introduced Performance Component mandated asset-level data collection. The method of asset-level data collection, validation, and aggregation was re-designed, and a new outlier check implemented at the asset level, replacing the portfolio-level outlier check from previous years.

Based on thoughtful 2020 Review Period observations from global participants alongside targeted internal data quality checks, GRESB is confident these asset-level data issues are remedied. GRESB intends to hold the Assessment stable in the coming year, negating the potential for new structural changes.

3. Renewable Energy Miscalculations

Issue: GRESB identified that some assets reported more Renewable Energy Consumption than total consumption. While there are validation rules present in the asset portal to prevent this, these rules were applied per operational control type (e.g., an asset marked “Tenant Controlled” could report landlord-generated renewable energy).

Impact: Some scored and benchmark values for renewable energy were larger than 100% of total energy consumed by the asset.

Finding: Preliminary 2020 benchmark reports contained incorrectly aggregated data for renewable energy.

Remedy: This issue was addressed prior to the October 26 re-opening of the Review Period by taking the non-exported renewable energy per property type, re-scaling it to 100% of the consumed energy if it was reported as greater than 100%, then adding back in the exported energy.

Result: This issue affected the scores of a very small number of participants. It also impacted the benchmark averages displayed in these specific reports. This issue is highly specific to the renewable energy reporting section. More robust validation rules for these input fields will be implemented in preparation for the 2021 benchmark.

GRESB fixed all known calculation and display issues pertaining to aggregation calculations prior to the October 26 re-release of preliminary reports.

4. Data Input Errors

The 2020 Review Period has seen 122 formal requests as of COB Friday, October 30.

Of these, 72 requests are related to additional data input based on user errors, 15 requests are related to validation decision challenges, and 35 requests contain a mix of both data input and validation challenges.

The geographic breakdown of these requests is as follows:

- Americas : 37
- Asia : 10
- EMEA : 59
- Oceania : 13
- Global : 3

GRESB does not allow users to report additional performance data that was acquired after the submission deadline of August 1.

Participants are only eligible to request reopening their response and provide additional data if they have not included all information or data that was available to them by August 1 or if the data input was incorrect. Examples of such data inputs include, but are not limited to:

- Changes to % of portfolio GAV related to property sub-types and/or country allocations.
- Additional evidence to support the indicator response in cases where manual validation requirements were not met.
- Adjusting data availability fields to align with utility bills for Energy, Water and Waste.
- Building certifications and energy ratings that were awarded during the reporting year but were overlooked in reporting.
- Technical building assessment or efficiency measures that were not captured in the original submission.

- Incomplete upload of data by consultants. For example, Renewable Energy was purchased but not reported.
- Adjusting property types to account for greater granularity [e.g. apartments - low | mid | high-rise]

5. Systemic Validation Errors

Within the 2020 Validation process, several systemic errors were identified and successfully resolved including:

RP1 - Section in Annual Report

Issue: A number of Japanese participants provided a single semi-annual report that disclosed six (6) months of ESG actions and/or performance. As only 6 months out of 12 were covered by the semi-annual report, this resulted in a validation status of 'Partially Accepted' which results in half of the points.

After engagement with GRESB stakeholders in Japan, it became evident that public entities are required by Japanese regulation to disclose their financial results every six months, therefore do not have a 12-month annual report. It can be considered the local market equivalent of an annual report because of local regulation.

Remedy: GRESB has changed the validation decision to 'Accepted' and will require in 2021 that participants with semi-annual reports provide both semi-annual reports relevant to the reporting period to receive a validation status of 'Accepted'. This decision affected 37 entities in Japan.

SE6 - Supply Chain Engagement Program

Issue: Participants have the opportunity to report an 'Other' external party to whom the ESG requirements apply to. 'Property manager' as an answer under 'Other' was 'not accepted' on the basis that this is not necessarily an external party given many participants use both internal and external property managers.

Remedy: The indicator asks to 'Select the *external* party to whom the requirements apply' and by default, 'Property manager' should be external. This was identified as a validation error and the decision has been changed to ‘Accepted’ for 6 entities. In addition, the decision was changed from ‘Not accepted’ to ‘Duplicate’ for 79 entities as ‘Property manager’ is a duplicate of the predefined option ‘Contractor’ and ‘Contractor’ was also selected by the entity. From a scoring perspective, a “Duplicate” answer is treated in the same way as a “Not accepted answer”.

T1.1 - Performance Targets

Issue: Participants have the opportunity to report an ‘Other’ target that is not included in the predefined options of the T1.1 table. GRESB defines a long-term performance target as a target that projects three or more years into the future, with the purpose of improving the portfolio’s ESG performance.

The Validation Team did not accept 'Other' targets that failed to meet the GRESB definition of long-term improvement targets (i.e. less than three years). Although the Validation Team applied this decision correctly, it was discovered that the T1.1 table did not have automatic validation logic to reject the predefined targets if the timeframe was less than or equal to three years.

Remedy: To ensure consistency, the 18 valid ‘Other’ targets with less than three-year timeframes were changed to ‘Accepted’.

6. Other Non-systemic Validation Errors

Several non-systemic validation errors were identified directly by participants.

Some of these were incorrect or inconsistent validation decisions, which have been corrected after internal review, and others were a misinterpretation of the GRESB validation guidance by the Validation Team.

In total, 210 individual validation decisions (140 systemic and 70 non-systemic) have been changed since the October 1 release of the preliminary results. This represents 0.67% of all 31,000 manual validation decisions made during the 2020 Real Estate Assessment validation process.

7. Outstanding Items

Defining the definition and boundaries of ESG performance is an iterative process, and starts with establishing a comparable baseline for ongoing measurement and benchmarking of environmental and social outcomes. This unlocks a new generation of ESG performance insights, and importantly, allows participants to track progress against sector-specific targets, as well as industry-specific standards and commitments.

In 2020, asset-level reporting requirements for all GRESB Real Estate participants was implemented using a consistent representation of asset size, with Gross Floor Area (GFA) as the common metric. Access to higher-resolution data will enable GRESB to provide more granular and reliable ESG data to the benchmark going forward.

The 2020 GRESB Real Estate Assessment also integrates with the Carbon Risk Real Estate Monitor (CRREM) methodology to show real estate carbon transition pathways at both asset and portfolio levels to remain within 1.5 and 2.0 degrees celsius aligned with the Paris Climate Accord. These pathways require the use of Gross Floor Area of the asset as aligned with the International Property measurement Standards (IPMS2) and will be an important tool to understand and mitigate the long-term systemic risk associated with the retrofit investments required to transition to a low carbon economy.

GRESB also introduced a new Reporting Boundaries Review on indicator R1.1 - Portfolio Characteristics. A subset of all reporting entities were selected for a supporting evidence check designed to corroborate the completeness and accuracy of their portfolio's reporting boundaries. If a material difference was found between the formal records of the portfolio size and the aggregate data resulting from the asset level reporting, participants were required to make the appropriate corrections. This process resulted in some entities having to amend their reporting scope, ultimately providing a more reliable and uniform dataset.

Gross Floor Area Reporting

Concepts underlying Gross Floor Area have regional differences and interpretations. The GFA requirement was first introduced to 1) create consistency in the way that participants represent their assets globally, 2) provide a homogenous baseline used in the calculation of intensity metrics, and 3) develop a baseline for regional and global comparisons against industry performance targets (e.g. CREEM decarbonisation pathways).

Participants previously reporting data using Net Lettable Area (i.e. not using GFA) were asked to estimate the size of their Common Areas using GRESB calculated estimate intervals (see Appendix 3a: Property Types Classification for suggested intervals).
These ratios are calculated based on actual floor area data reported globally from prior years, and can be found for all property sub-types in said Appendix 3a. Examples on how to apply these ratios are available in the GRESB Asset Spreadsheet, tab = <Instructions>, section = Asset Size.

Issue Description and Scope

Similar to previous years, GRESB 2020 benchmark participants can report the Energy and Water data at the Whole Building level, or separately using Base Building and Tenant Spaces.

However, the 2020 requirement for GFA-based reporting created confusion for some participants with regards to the correct representation of Data Coverage in overlapping areas (particular Common Areas and Shared Services). In cases where all consumption relating to Base Building was already reported under Shared Services, the resulting Data Coverage of Common Areas should be 100% (with a consumption of zero).

Some participants did not report in this manner, leading to situations where they were not adequately recognized for their data coverage. More specifically, some 2020 GRESB participants incorrectly reported:

- Common Areas: Data coverage = 0%
- Shared Services: Data coverage = 100%

Even if all Base Building data is captured under Shared Services, it is mandatory to provide a value that identifies the size of Common Areas. However, if the consumption value cannot be separated between Common Areas and Shared Services and is only reported under the Shared Services, the Data Coverage for Common Areas should be reported as 100%. In other words, the participant is able to report 100% consumption data corresponding to Base Building and is not lacking any information (which is what Common Areas Data coverage = 0% suggests).

During the 2020 Review Period, it came to our attention that the guidance provided was not sufficiently clear. Preliminary reports revealed potential inconsistencies in the way the new GFA reporting rules were interpreted. To inspect the GRESB guidance, please refer to the online guidance page (section = Energy), and the dedicated Portal news item dated 6 June 2020.
GRESB was asked to further investigate this issue. We concluded that:

- There are 1,836 assets globally for which Common Areas and Shared Services data coverage for Energy was reported incorrectly and resulted in a lower data coverage and a lower benchmark score. This represents 8.6% of the assets that reported data separately for Base Building and Tenant Spaces, and 2% of all assets reported to GRESB. There were no identified issues in Data coverage reporting for Water.
- These 1,836 assets are held by 81 entities globally representing 55 individual fund managers. The geographic breakdown of these entities is as follows:
    - Americas 6
    - Asia 9
    - EMEA 37 [of which 12 from the UK]
    - Oceania 29

Remedy: Entities are informed of the issue, indicating the specific assets affected, and their Assessments are reopened for corrections. This is done as part of the Review Period and no fees incur for these participants.

Next Steps and Timeline

November 2, 2020: GRESB contacts all 81 identified entities to inform them of this Gross Floor Area issue, informing them their Assessment is re-opened for corrections. This process is being done as part of the Review Period and will not result in any review fees incurring for these participants.
November 2 - November 8, 2020: All notified participants can log into the GRESB Portal to amend their data in line with the reporting requirements. The corrected response must be finalized and submitted by November 8, 23:59 PDT, when GRESB will automatically resubmit all Assessments. Participants are requested to inform GRESB if they believe this deadline isn't feasible, as they will not be able to make amendments at a later time. This means they will be scored and benchmarked based on the data that was originally submitted. We will support participants to the best of our abilities with personal guidance and direct communication.
November 8 - November 16, 2020: GRESB validates all amended information, updates the dataset, and runs new scores and benchmarks.
November 16, 2020: The final GRESB results are shared with participants and Investor Members.

This process remains aligned with the amended Review Period timeline as communicated in October, with dates based on Pacific Daylight Time (PDT).

APPENDIX 1: Data Coverage Calculation Methodology

Energy coverage percentages are calculated by dividing the sum of coverages for each energy source by the sum of the corresponding maximum coverages.

When energy is reported at the whole building level, this coverage percentage is also the total coverage percentage for the asset.

This coverage either counts toward the landlord or tenant controlled coverage depending on whether the asset is landlord or tenant controlled.

Energy can also be reported separately for the following four subspaces:

1. Common areas
2. Shared services
3. Tenant space - controlled by landlord
4. Tenant space - controlled by tenant

As such, GRESB derives four separate coverage percentages. These percentages are then combined by taking a weighted average where each percentage is weighted by the area size reported for each subspace. GRESB combines the first three subspace coverage percentages into a *Landlord controlled* coverage percentage; the last remaining coverage percentage becomes the *Tenant controlled* coverage percentage.

The benchmark complexity comes from determining how to aggregate these coverage percentages across assets. GRESB does this using a weighted average, weighted by the floor area size corresponding to each coverage percentage.

For assets reporting on the whole building this is straightforward, as the coverage percentage is always either landlord or tenant controlled allowing for the full asset size as the weight.

However, for assets reporting values per subspace, it is more complicated. This complication comes from the fact that the area reported for shared services can overlap with all of the other three sub-space areas, and the two tenant subspaces can overlap with each other.

There is no straightforward way to account for this, as it's unknown to what extent these areas overlap. This can differ per asset and as such, the following assumptions are made:

1. The two tenant spaces don't overlap
2. The shared service area overlaps with all other subspaces

This gives the following estimate for the floor area which is tenant vs. landlord controlled:

Landlord controlled area = max(common area + landlord tenant area, shared service area)max(common area + landlord tenant area, shared service area) + tenant tenant area asset size
Tenant controlled area = tenant tenant areamax(common area + landlord tenant area, shared service area) + tenant tenant area asset size

This results in landlord and tenant controlled coverage percentages, and area sizes per asset.

These percentages are used to take a weighted average of the coverage percentages per asset to calculate the landlord and tenant controlled coverage percentage as displayed in each Assessment response, per property type.

For water consumption, this calculation remains the same except for that assets don't have multiple sources of water; thus, the first step of summing up coverages from different sources is not applicable.