

Assurance Statement related to Greenhouse Gas Emissions Inventory and Environmental Data for Calendar Year 2018 prepared for AvalonBay Communities Inc.

Terms of Engagement

This Assurance Statement has been prepared for AvalonBay Communities Inc. (AvalonBay).

Lloyd's Register Quality Assurance Inc. (LR), was commissioned by AvalonBay to assure its Greenhouse Gas (GHG) Emissions Inventory and Environmental Data Assertion for the calendar year (CY) 2018 (hereafter referred to as "the Reports").

The GHG Emissions Inventory includes direct (Scope 1) GHG emissions, energy indirect (Scope 2) GHG emissions and other indirect (Scope 3) GHG emissions (from business travel and employee commuting) reported using the operational control consolidation method.

The following were excluded from the GHG Emissions Inventory on the basis of their de minimis contribution to the total Scope 1 and Scope 2 GHG emissions and sense-checked during the engagement:

- Fugitive release of refrigerant gas; and
- Combustion emissions from burning diesel fuel in emergency generators.

The Environmental Data Assertion includes the following parameters:

- Total Scope 1 energy – operational control (MWh);
- Total Scope 2 energy – operational control (MWh);
- Water consumption - financial control (m³); and
- Waste generated at 93% of communities – financial control (Metric Tons).

Reported water consumption and waste generation are post commencement of communities and therefore do not include data from construction operations.

Management Responsibility

The management of AvalonBay was responsible for preparing the Reports and for maintaining effective internal controls over the data and information disclosed. LR's responsibility was to carry out an assurance engagement on the Reports in accordance with our contract with AvalonBay.

Ultimately, the Reports have been approved by, and remain the responsibility of AvalonBay.

LR's Approach

Our verification has been conducted in accordance with ISO-14064-3:2006 *Specification with guidance for validation and verification of greenhouse gas assertions* for the GHG data and LR's verification procedure for the Environmental Data Assertion to provide limited assurance that the data as presented in the Reports for AvalonBay have been prepared in conformance with the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) GHG Protocol, the 2018 GRESB Real Estate Reference Guide, and AvalonBay's environmental data management processes.

To form our conclusions the assurance engagement was undertaken as a sampling exercise and covered the following activities:

- Conducted phone interviews with representatives from AvalonBay and the cloud based data management platform;
- Reviewed the processes for the management of data and information related to the Scope 1, Scope 2 and Scope 3 GHG emissions, energy consumption, water consumption and waste generation used at the AvalonBay corporate level;
- Interviewed relevant staff responsible for managing and maintaining data and information and for preparing the Reports for AvalonBay; and
- Verified the Scope 1, Scope 2 and Scope 3 GHG emissions, energy consumption, water consumption and waste generation for CY 2018 at the aggregated level.

Level of Assurance and Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of a limited level of assurance and at a materiality of the professional judgement of the Verifier.

LR's Opinion

Based on LR's approach, nothing has come to our attention that would cause us to believe that the total Scope 1, Scope 2, and Scope 3 GHG emissions, and Environmental Data disclosed by AvalonBay in the Reports for CY 2018, as summarized in Table 1 below, are not materially correct and that the GHG Emissions Inventory and Environmental Data Assertion have not been prepared in conformance with WRI/WBCSD GHG Protocol, the 2018 GRESB Real Estate Reference Guide, and AvalonBay environmental data management processes.

LR's Recommendations

AvalonBay should:

- To support AvalonBay's sustainability program, and ensure a consistent and reliable reporting process going forward, consider expansion of the AvalonBay GHG Emissions and Environmental Data Inventory Management Plan to include coverage of specific topics mentioned in the LR Verification Report; and
- To enhance transparency and overall confidence in the data reporting process, ensure the various summary reports and spreadsheets used to support final reported data, including reports generated by Measurable, are correctly aligned with the total data being reported to CDP and GRESB.

Signed



Dated: June 25, 2019

Derek Markolf
LR Lead Verifier
On behalf of Lloyd's Register Quality Assurance, Inc.,
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LR Reference: UQA00000422

Table 1. Summary of AvalonBay, GHG Emissions Inventory and Environmental Data CY 2018

Item	Quantity	Units
Scope 1 Emissions	19,816	Metric Tons CO ₂ e
Scope 2 Emissions Location-Based ¹	60,936	Metric Tons CO ₂ e
Scope 2 Emissions Market-Based ¹	60,936	Metric Tons CO ₂ e
Scope 3 Emissions (business travel)	296	Metric Tons CO ₂ e
Scope 3 Emissions (employee commuting)	5,938	Metric Tons CO ₂ e
Total Scope 1 Energy	108,894	MWh
Total Scope 2 Energy	194,322	MWh
Water Consumption (Communities only) ²	11,406,495	m ³
Subset of Waste Generated (Communities only) ^{3,4}	87,478	Metric Tons

1. Scope 2, Location-based and Scope 2, Market-based are defined in the GHG Protocol Scope 2 Guidance, 2015.
2. Water consumption does not include water consumed by the AvalonBay construction division.
3. Waste generation does not include waste generated by the AvalonBay construction division.
4. Waste generation data is only representative of 93% of AvalonBay communities.

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